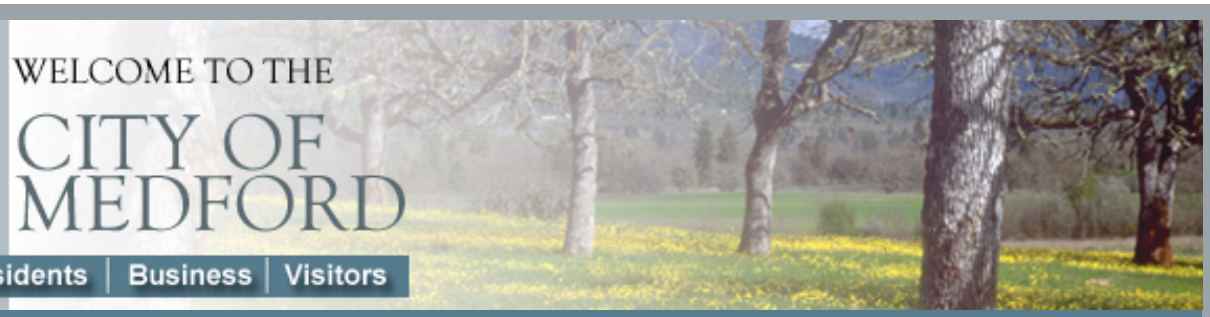

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Hours: Planners Available 8:00 AM - 4:00 PM

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Medford Comprehensive Plan

This page is under construction

The Medford Comnprehensive Plan is an extensive document that states the City's adopted goals and policies regarding land use. It also is a rich source of background information about the City of Medford including inventories, identified issues and alternatives, and discussions of alternative policies.

The Plan is divided into eleven elements, most of which are dowloadable separately below. The Comprehensive Plan also incorporates by reference several otherwise independent plans, such as the Transportation System Plan, also available from the "Plans" page of this website.

Tables of Contents for Each Element

Goals & Policies for Each Element

Environmental Element

Population Element

Economic Element

Urbanization Element

Housing Element

Public Facilities Element

General Land Use Plan Element

Neighborhoods Element

Southeast Plan Document (1 MB)
Southeast Plan Land Use Map (345 KB)
Southeast Circulation Plan Document (1.3MB)
Southeast Plan Circulation Map (1.3MB)

Bear Creek Master Plan

Transportation System Plan (TSP, 550 KB)

This element of the Comprehensive Plan is an abbreviated version of the complete TSP. The maps have been removed from this document to reduce

file size. They are available individually on the TSP page, along with the complete TSP document.

Review and Amendment Procedure

Goals Policies Implementations.pdf
(339KB)

The above document(s) are Adobe® Acrobat® PDF files and may be viewed using the free Adobe® Acrobat® Reader™. Most newer web browsers already contain the Adobe® Acrobat® Reader™ plug-in. However, if you need it, click on the "Get Acrobat® Reader™" icon to download it now.

Printer friendly version

MEDFORD COMPREHENSIVE PLAN

NOTE: The following are the tables of contents from the elements of the Medford Comprehensive Plan as of January 1, 2005. The "Citizen Involvement Element" (adopted in the 1970s) does not have a table of contents, nor does the "Review and Amendments" section (also adopted in the 1970s). The "Economic" (1994) and "Population" (1992) elements' tables of content are not in electronic form. The "Goals Policies, and Implementation Strategies" section of the Comprehensive Plan contains the Goals, Policies, and Implementation Strategies from each of the elements as well as the "Review and Amendments" section.

GOALS, POLICIES, & IMPLEMENTATION STRATEGIES

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LAST REVISED BY
MEDFORD CITY COUNCIL
DECEMBER 16, 2004
ORDINANCE NO. 2004-258

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ENVIRONMENTAL ELEMENT

OF THE MEDFORD COMPREHENSIVE PLAN

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ADOPTED BY
MEDFORD CITY COUNCIL
ON FEBRUARY 17, 2000
BY ORDINANCE NO. 1999-213
REVISED ON April 17, 2003
BY ORDINANCE NO. 2003-135

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LIST OF FIGURES

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NOVEMBER 20, 2003
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This project was partially funded by a grant from the Transportation and Growth Management (TGM) Program, a Joint Program of the Oregon Department of Transportation and the Oregon Department of Land Conservation and Development. TGM grants rely on federal Intermodal Surface Transportation Efficiency Act and Oregon Lottery funds. The contents of this document do not necessarily reflect the views or policies of the State of Oregon.

NOTE

The entire *City of Medford Transportation System Plan* document, adopted as a part of the *Medford Comprehensive Plan*, has been printed as a separate document which contains all of the chapters and appendices, and is available for review or purchase from the City of Medford Planning Department, 200 South Ivy Street, Medford, OR 97501, phone 541-774-2380, and is online on the City of Medford Website www.ci.medford.or.us.

This "Transportation System Plan Element" of the *Medford Comprehensive Plan* is an abbreviated version containing the Executive Summary, the Transportation and Land Use chapter, the Goals, Policies, and Implementation Strategies, and various other significant maps or tables. It also includes, at the end of the Element, the full Table of Contents for your reference.

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CITY OF MEDFORD COMPREHENSIVE PLAN

GENERAL LAND USE PLAN ELEMENT

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REVISED BY
MEDFORD CITY COUNCIL
DECEMBER 16, 2004
ORDINANCE NO. 2004-258

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General Land Use Plan (GLUP) Map

HOUSING ELEMENT

CITY OF MEDFORD COMPREHENSIVE PLAN

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Existing Plans

Medford has a number of separate plans for parks, streets, drainage, water, etc. These separate plans generally utilize similar future economic and population growth trends for the community and the region. However, some of them differ markedly in terms of their planning periods. They have varying lead times from original planning to construction dates. Some of the facilities, such as water and sewer systems, are expected to be operational in advance of population growth; while others that are not directly critical to health or safety are staged to coincide with or follow urban growth, for example, parks. One purpose of the "Public Facilities Element", therefore, is to review these various plans in relation to each other, and to Statewide Planning Goal 11. Key information, as well as policy direction contained in these existing plan documents is also summarized in this plan element.

The information for this element comes from existing facility plans. In addition, interviews were conducted with the respective service providers and the information from the facility plans was updated, where appropriate. The facility plans used for this element are listed below.

- Sanitary Sewer Collection - *City of Medford Sewer Master Plan*, 1990
- Sanitary Sewer Collection - *Bear Creek Valley Sanitary Authority Comprehensive Plan*, 1990.
- Sanitary Sewer Treatment - City *of Medford Facilities Plan, Water Quality Control Plant*, 1992.
- Storm Drainage - *Comprehensive Medford Area Drainage Master Plan*, 1996.
- Water Service - *Medford Water Commission Water System Facility Plan*, 1999.
- Water Service - *Medford Water Commission Water System Final Budget*, 1998.
- Water Service - *Water Curtailment Plan*, 1992.
- Water Service - *Robert A. Duff Water Treatment Facility Plan*, 1997.
- Parks and Recreation – *Parks, Recreation & Leisure Services Plan*, 1997.
- Solid Waste Management – *Solid Waste Management Plan, Jackson/Josephine Counties*, 1994.

These plans are, hereby, incorporated into this document and officially acknowledged upon adoption of the "Public Facilities Element".

NEIGHBORHOODS ELEMENT

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ADOPTED BY
MEDFORD CITY COUNCIL
DECEMBER 16, 2004
ORDINANCE NO. 2004-258

SOUTHEAST PLAN

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Southeast Medford Plan Area Neighborhood Circulation Plan and Transportation Policies and Guidelines

"Street system design is the most important element of a community."

Prepared By:

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Adopted By Medford City Council on December 16, 2004
By Ordinance No. 2004-258

Southeast Medford Plan Area Neighborhood Circulation Plan and Transportation Policies and Guidelines

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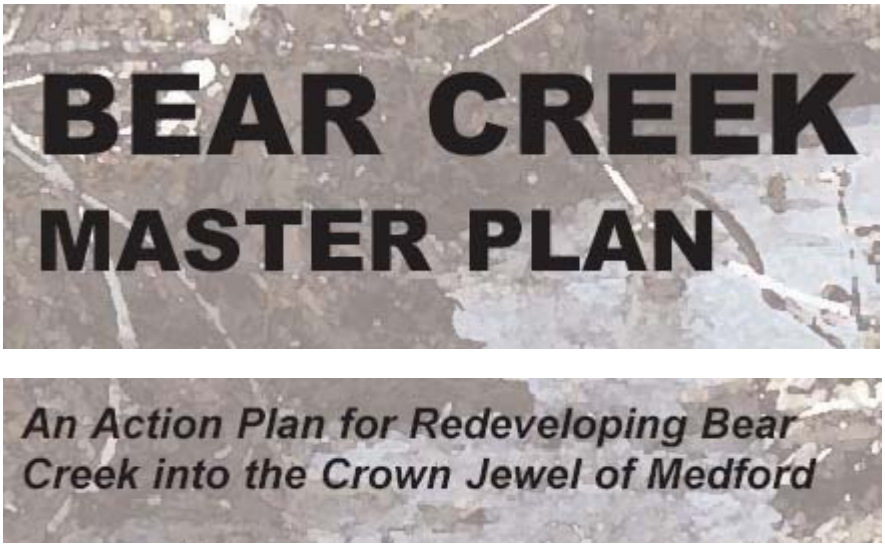

The entire *Bear Creek Master Plan* document, adopted as a part of the *Medford Comprehensive Plan*, has been printed as a separate document which contains all of the chapters and appendices, and is available for review or purchase from the City of Medford Planning Department, 200 South Ivy Street, Medford, OR 97501, phone 541-774-2380, and is online on the City of Medford Website www.ci.medford.or.us.

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NOVEMBER 6, 2003
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LAST REVISED BY
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DECEMBER 16, 2004
ORDINANCE NO. 2004-258

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ENVIRONMENTAL ELEMENT

PHYSICAL CHARACTERISTICS

Goal 1: To improve and maintain the quality of life in Medford by using land use planning strategies that have positive effects on the natural environment.

Policy 1-A: The City of Medford shall strive to minimize the negative effects of solar radiation, such as the affect concrete and asphalt surfaces have on summer air temperature.

> **Implementation 1-A (1):** Review the *Medford Land Development Code*, and propose amendments for consideration by the City Council where necessary to address the negative effects of solar radiation, such as requiring adequate vegetation in development projects, requiring retention of open waterways and wetlands, etc.
>
> See also Implementation 2-B (1) of the "Housing Element."
>
> **Implementation 1-A (2):** Prepare amendments to the *Medford Land Development Code* for consideration by the City Council to require preservation and maintenance of certain existing trees.

Goal 2: To provide and maintain open space within the Medford planning area for recreation and visual relief, and to protect natural and scenic resources.

Policy 2-A: The City of Medford shall acknowledge Prescott Park (Roxy Ann Peak) as the city's premier open space and viewshed, and recognize its value as Medford's most significant scenic view, currently and historically.

> **Implementation 2-A (1):** Investigate inclusion of Prescott Park in Medford's Urban Growth Boundary and city limits in order to enhance public safety and the feeling of ownership by city residents, protect its natural resources, preserve and enhance convenient public access, protect the public from fire hazards, and help in establishing a network of open space corridors with recreational trails.
>
> **Implementation 2-A (2):** Identify lands surrounding Prescott Park that are critical to ensuring long term protection and meeting open space/viewshed goals and policies, for acquisition or other types of public management. Seek funding sources.
>
> **Implementation 2-A (3):** Consider methods to address the interface between Prescott Park and adjacent development to assure compatibility, such as a buffering program, enhanced review of city and county development applications within a specified area surrounding Prescott Park, and joint policies or an "Area of Mutual Planning Concern" with Jackson County.

Policy 2-B: The City of Medford shall strive to preserve and protect the visual amenities offered by the foothills.

See also Goal 8 and Implementation 8-B (1), of the "Environmental Element," Policy 1-C and Implementations 1-C (1) through (3) of the "Housing Element," Goal 2 of the *Southeast Plan* section of the "General Land Use Plan Element," and the *Parks* section of the "Public Facilities Element."

NATURAL RESOURCES - AIR QUALITY

Goal 3: To enhance the livability of Medford by achieving and maintaining compliance with National Ambient Air Quality Standards (NAAQS).

Policy 3-A: The City of Medford shall continue to provide leadership in developing, adopting, and implementing regional air quality improvement strategies to achieve compliance with the National Ambient Air Quality Standards (NAAQS).

> **Implementation 3-A (1):** Continue to participate, along with state and local agencies involved in air quality attainment, in the preparation and implementation of the applicable *Air Quality Management Plans* (AQMP's) and *State Implementation Plans* (SIP's) for the Medford-Ashland Air Quality Maintenance Area (AQMA).
>
> **Implementation 3-A (2):** Continue to participate, along with Jackson County and other affected agencies, in administering air quality public education and smoke reduction programs.
>
> **Implementation 3-A (3):** Implement strategies from sources such as the *Medford Transportation System Plan*, the *State Implementation Plan*s (SIPs) and the *Oregon Transportation Planning Rule* (TPR) that reduce emissions or improve air quality, such as increasing the use of alternative modes of transportation and use of alternative motor vehicle fuels, such as compressed natural gas and electricity, and propose amendments to the *Medford Land Development Code* for consideration by the City Council where necessary to assure compliance with such plans or rules.

See also the policies of the *Medford Transportation System Plan*, Policy 9 of the "Urbanization Element" and Policy 2-C of the "Housing Element."

Policy 3-B: The City of Medford shall continue to require a well-connected circulation system and promote other techniques that foster alternative modes of transportation, such as pedestrian-oriented mixed-use development and a linked bicycle transportation system.

See also Policies 1-A and 3-C of the "Housing Element" and Goal 1 of the *Southeast Plan* section of the "General Land Use Plan Element."

> **Implementation 3-B (1):** Promote the use of incentives by Medford's larger employers to induce employees to use alternative modes of transportation or work at home in an effort to reduce motor vehicle emissions.

NATURAL RESOURCES
WATER QUALITY, WETLANDS AND, WILDLIFE HABITAT

Goal 4: To preserve and protect Medford's ground water resources and recharge zones.

Policy 4-A: The City of Medford shall ensure the protection of the Big Butte Springs domestic water source working in cooperation with Jackson County.

> **Implementation 4-A (1):** Continue to undertake efforts to protect the Big Butte Springs recharge area from improper use through implementation of a watershed management program.

See also the policies of the *Domestic Water* section of the "Public Facilities Element."

Policy 4-B: The City of Medford shall protect ground water recharge areas in the planning area by striving to restore and maintain the natural condition of watersheds, waterways, and flood plains.

> **Implementation 4-B (1):** Review the *Medford Land Development Code*, and propose amendments where necessary to assure that the amount of impervious surface in development projects is minimized and opportunities for permeation are maximized.

See also the policies of the *Wastewater Collection* section of the "Public Facilities Element."

Goal 5: To achieve and maintain water quality in Medford's waterways.

See also the goals of the *Storm Water Drainage* section of the "Public Facilities Element" and related policies and implementation strategies.

Policy 5-A: The City of Medford shall implement regulations that pertain to discharges into the Rogue River, Bear Creek, and their tributaries, such as the federal *Clean Water Act*.

> **Implementation 5-A (1):** Continue to actively participate in regional water quality monitoring and planning efforts.

Policy 5-B: The City of Medford shall implement measures to reduce polluted surface water runoff into the storm drainage system.

> **Implementation 5-B (1):** Implement the recommendations of the 1996 *Comprehensive Medford Area Drainage Master Plan,* or any updates, regarding surface water runoff quality.

> **Implementation 5-B (2):** Develop and impose design standards for filtering and slowing runoff from paved areas using such methods as vegetated swales, on-site detention ponds, or other technologies as they become feasible, to cleanse the water before entering primary waterways.

Implementation 5-B (3): Require the use of natural waterways for storm drainage wherever possible, to decrease flow speed and increase filtering prior to the runoff entering a primary waterway.

Implementation 5-B (4): Continue to assess storm drainage system development charges and utility fees to assist in the financing and maintenance of public storm drainage improvements, and periodically review for adequacy.

See also Implementation 2-B (2) of the Southeast Plan section of the "General Land Use Plan Element."

Goal 6: To recognize Medford's waterways and wetlands as essential components of the urban landscape that improve water quality, sustain wildlife habitat, and provide open space.

Policy 6-A: The City of Medford shall regulate land use activities and public improvements that could adversely impact waterways in the interest of preserving and enhancing such natural features to improve water quality and fish and wildlife habitat.

Implementation 6-A (1): Prepare amendments to the Medford *Land Development Code* for consideration by the City Council that adopt the riparian corridor "safe harbor" setback (50 feet from the top of the bank) for Bear Creek and other streams determined to contain fish habitat or significant riparian areas in compliance with Oregon Administrative Rules 660-23.

Policy 6-B: The City of Medford shall regulate land use activities and public improvements that could prevent meeting the federal performance standard of *no net loss* of wetland acreage.

Implementation 6-B (1): Prepare amendments to the Medford *Land Development Code* for consideration by the City Council to adopt "safe harbor" protections or protection developed through an ESEE (environmental, social, economic, and energy) analysis for locally significant wetlands, as defined, pursuant to Oregon Administrative Rules 660-23.

Policy 6-C: The City of Medford shall encourage the incorporation of waterways, wetlands, and natural features into site design and operation of development projects.

Implementation 6-C (1): Promote clustered development in order to avoid alteration of topographical and natural features, to reduce impervious surfaces, and to enhance the aesthetics of development projects. Investigate incentives for clustering development.

Policy 6-D: The City of Medford shall support the efforts of organizations such as the Bear Creek Watershed Council and the Bear Creek Greenway Foundation, which strive to improve the quality of Bear Creek and its tributaries with activities such as greenway formation, environmental education workshops, creek cleanup events, etc.

See also Policies 2-A and 2-B of the *Southeast Plan* section of the "General Land Use Plan Element."

Goal 7: To preserve and protect plants and wildlife habitat in Medford.

Policy 7-A: The City of Medford shall encourage the conservation of plants and wildlife habitat, especially those that are sensitive, rare, declining, unique, or that represent valuable biological resources, through the appropriate management of parks and public and private open space.

> **Implementation 7-A (1):** Develop a long range open space plan for consideration by the City Council that provides for an integrated system of parks, creekside greenways, wetlands, and paths/trails in Medford to enhance the biological diversity and long-term viability of natural resource areas. Coordinate the plan with the *Medford Parks, Recreation, and Leisure Services Plan*, the *Comprehensive Medford Area Drainage Master Plan,* and other relevant plans.
>
> **Implementation 7-A (2):** Develop and implement regional plans for greenways, wetlands, and linear parks with Jackson County, as wildlife often travel paths that cross jurisdictional boundaries.
>
> **Implementation 7-A (3):** Distinguish public greenways, waterways, wetlands, and parks with interpretive and informational signage regarding on-site natural resources.

Policy 7-B: The City of Medford shall strive to maintain, rehabilitate, and enhance Medford's waterways, using features such as gently sloped banks, natural riparian vegetation, and meandering alignment.

> **Implementation 7-B (1):** For those riparian areas within the planning area that are not subject to the safe harbor regulations, prepare amendments to the Medford *Land Development Code* using the Medford *Riparian Area Inventory and Assessment Bear Creek Tributaries*, 2002, by Wetland Consulting for consideration by the City Council, that adopt a setback or similar protection**.**
>
> **Implementation 7-B (2):** Ensure that improvements, such as multi-use paths and storm drainage facilities sited in or near riparian corridors, waterways, wetlands, or other fish and wildlife habitat, include protective buffers, preserve natural vegetation, and comply with the requirements of Oregon Administrative Rules 660-23.

Policy 7-C: The City of Medford shall strive to protect fish and wildlife habitat in accordance with Oregon Department of Fish and Wildlife's (ODFW) management plans.

NATURAL RESOURCES - SOILS

See also Policy 2-A of the "Housing Element" and Policy 12 of the "Urbanization Element."

Goal 8: To minimize erosion and hazards relating to slope and soil characteristics by assuring that urban land use activities in Medford are planned, located, and conducted consistently with prevailing soil limitations.

Policy 8-A: The City of Medford shall guide new development, particularly within the foothills, by the soil characteristics and natural features of the landscape, and shall grant development permits only after a determination that potential problems relating to soil limitations, if any, have been identified, and will be adequately mitigated prior to development.

> **Implementation 8-A (1):** Continue to actively enforce the provisions of the *Uniform Building Code* (UBC), or adopted equivalent, relating to construction on soils requiring special construction techniques.
>
> **Implementation 8-A (2):** Prepare a hillside development ordinance for consideration by the City Council that requires subdivision and site design to be compatible with, and complementary to, sloping sites, and that preserves appropriate hillside open space and viewsheds.
>
> See also Implementation 6-C (1), and Implementation 1-A (3) of the "Housing Element" and Implementation 2-B (3) of the Southeast Plan section of the "General Land Use Plan Element."

Policy 8-B: The City of Medford shall implement measures to minimize erosion and its resulting water pollution.

> **Implementation 8-B (1):** Pursuant to the recommendations of the 1996 *Comprehensive Medford Area Drainage Master Plan*, publish erosion control guidelines in a manual that explains specific objectives to be achieved to aid developers and city staff. The manual should recommend erosion controls applicable to Medford's topography, soil types, and climate.
>
> **Implementation 8-B (2):** Review the *Medford Municipal Code*, and propose amendments where necessary to assure that the effects of erosion from development activities on waterways and wetlands are mitigated. Require the use of "best management practices" in site design, grading, and erosion control.
>
> **Implementation 8-B (3):** In foothill developments, require streets and utilities to be located along existing topographic contours wherever possible, and require streets and parking facilities to be kept at the minimum size necessary, to minimize erosion resulting from development activities, and to prevent sediment from entering the storm drainage system.

Goal 9: To assure that future urban growth in Medford occurs in a compact manner that minimizes the consumption of land, including class I through IV agricultural land.

Policy 9-A: The City of Medford shall target public investments to reinforce a compact urban form.

Policy 9-B: The City of Medford shall strive to protect significant resource lands, including agricultural land, from urban expansion.

See also Policy 2-A of the "Housing Element" and Policy 12 of the "Urbanization Element."

NATURAL RESOURCES - ENERGY

Goal 10: To assure that urban land use activities are planned, located, and constructed in a manner that maximizes energy efficiency.

Policy 10-A: The City of Medford shall plan and approve growth and development with consideration to energy efficient patterns of development, utilizing existing capital infrastructure whenever possible, and incorporating compact and urban centered growth concepts.

> **Implementation 10-A (1):** Ensure that the extension of urban services is consistent with policies contained in the "Public Facilities Element" of the Medford *Comprehensive Plan* regarding energy efficiency.
>
> **Implementation 10-A (2):** Develop a design manual showing examples of energy conservation in subdivision planning, site layout, landscaping and building design.
>
> **Implementation 10-A (3):** Provide examples for developers to follow which reduce motor vehicle transportation needs by using mixed uses, urban infill projects, etc.

See also Goal 2 of the "Housing Element," and related policies and implementation strategies.

Policy 10-B: The City of Medford shall encourage energy conservation, including the adoption and implementation of programs leading to improved weatherization/insulation of new and existing structures.

> **Implementation 10-B (1):** Continue to participate in residential and non-residential weatherization programs.

Policy 10-C: The City of Medford shall encourage the use of energy efficient building materials and techniques in new public and private construction and remodeling, in accordance with building safety standards.

Policy 10-D: The City of Medford shall encourage the use of solar energy, recognizing it as a viable alternative to traditional energy sources.

> **Implementation 10-D (1):** Develop for consideration by the City Council, amendments to the *Land Development Code* that require consideration of passive solar energy techniques in subdivision design, including house orientation, street and lot layout, vegetation and protection of solar access.

Policy 10-E: The City of Medford shall strive to make all city facilities and operations as energy efficient as possible.

> **Implementation 10-E (1):** Continue to utilize opportunities for cogeneration technology in public facilities.
>
> **Implementation 10-E (2):** Investigate the conversion of the city-owned vehicle fleet to use alternative fuel sources such as compressed natural gas and electricity.

ARCHAEOLOGICAL AND HISTORIC RESOURCES

Goal 11: To preserve and protect archaeological and historic resources in Medford for their aesthetic, scientific, educational, and cultural value.

Policy 11-A: The City of Medford shall strive to identify and preserve archaeological resources and sites, and promote actions to prevent intentional and unintentional disruption or destruction of such resources.

Implementation 11-A (1): When adequate information becomes available to identify the location, quality, and quantity of Medford's archaeological resources, prepare an inventory. Special implementing measures are not appropriate or required until adequate information is available to enable review and adoption of such measures.

Implementation 11-A (2): Where probable cause for discovery of cultural or archaeological resources exists, such as indicated by a records search, or where resources have been discovered near the project site, encourage sponsors of development projects to contact the Oregon State Historic Preservation Office.

Implementation 11-A (3): When cultural or archaeological resources, as defined by state law or the state archaeologist, are discovered during clearing, grading, or construction in the city, require project operations to cease until the state archaeologist is contacted, as required by state law.

Policy 11-B: The City of Medford shall encourage and facilitate the preservation of Medford's significant historic resources by continuing to update and implement the Historic Preservation Ordinance in the *Land Development Code*.

Implementation 11-B (1): Regularly assure that city staff, such as the Planning and Building Safety Departments, are aware of historic preservation ordinances and policies, and provide training for staff in departments directly involved with historic structures.

Implementation 11-B (2): Evaluate the zoning of significant historic resources to determine if conflicts are likely based on the present use and/or permitted and conditional uses. Review the zoning of historic districts to determine if the zoning district standards, such as setbacks, density, public improvement design, parking, lot size, etc., are compatible with the historic character of the historic districts.

Implementation 11-B (3): Assure that new development located adjacent to historic resources and/or districts is reviewed for compatibility with the historic resources.

Implementation 11-B (4): Review proposed public development or improvement projects for their affect on any historic resources.

Implementation 11-B (5): Prepare a written yearly report for the Planning Commission and City Council of the activities of the Medford Historic Commission,

such as grant activity, surveys, hearings, special assessments, and new site designations and listings.

Implementation 11-B (6): Identify and evaluate historic resources on city-owned or controlled properties, and prepare historic preservation plans where appropriate. Identify underutilized historic buildings or sites for potential reuse as public facilities.

Policy 11-C: The City of Medford shall continue to maintain an official inventory of significant historic resources located in the city where the Historic Preservation Overlay of the *Land Development Code* applies.

Implementation 11-C (1): Include in the Historic Preservation Overlay, all properties in the city listed on the *National Register of Historic Places*, including all properties within National Register historic districts.

Policy 11-D: The City of Medford shall support and promote seismic retrofit of vulnerable historic buildings, as well as modification of historic buildings for accessibility to disabled persons.

Policy 11-E: The City of Medford shall continue to recognize the downtown City Center as the historic core of the city, and its historic attributes shall be a factor when developing programs for the downtown area.

Implementation 11-E (1): Prepare and implement design guidelines for Site Plan and Architectural Commission and Historic Commission review of properties in the downtown to assure that exterior alterations and new construction are compatible with the historic character. (See the "Facade Treatment Recommendations" of the 1994 *Medford City Center Design Concept* for an example.)

Policy 11-F: The City of Medford shall continue to encourage historic preservation efforts and cooperate with citizens and organizations undertaking such efforts.

Implementation 11-F (1): Continue to apply for historic preservation grants to carry out survey and inventory work, and support the grant applications of others when affecting property in the Medford Urban Growth Boundary.

Implementation 11-F (2): Investigate development of an awards program for exemplary rehabilitation of historic buildings.

Implementation 11-F (3): Investigate the concept of a historic easement program.

DISASTERS AND HAZARDS

Goal 12: To protect the citizens of Medford from the potential damage caused by hazards such as flooding, earthquakes, noise, wildfires, and airport hazards.

See also Policy 2-D of the "Housing Element."

Policy 12-A: The City of Medford shall assure that hazard mitigation standards are formally adopted as public policy through comprehensive planning, land development ordinances, permit review, and fire/building safety codes.

> **Implementation 12-A (1):** Continue to conduct hazard risk analysis, including identifying the types, magnitude, and probability of hazards which the Medford Urban Growth Boundary is susceptible to over the long term, including assessing the degree of risk that the citizens find acceptable.

Policy 12-B: The City of Medford shall ensure that the potential impacts of flooding are adequately analyzed when considering development projects.

> **Implementation 12-B (1):** Maintain and, when necessary, update the city's requirements for development in floodplains, consistent with federal and state regulations, and the *Uniform Building Code* (UBC).
>
> **Implementation 12-B (2):** Adhere to the policies outlined in the *Medford Comprehensive Drainage Master Plan* to minimize flood losses through development controls.
>
> **Implementation 12-B (3):** Encourage the re-mapping of flood-prone areas in Medford using data from the most recent flood(s) of record.
>
> **Implementation 12-B (4):** Consider flood hazards when installing public improvements such as parks and paths in flood-prone areas. Design these amenities to withstand a certain flood level.

See also the Policies of the *Storm Water Drainage* section of the "Public Facilities Element."

Policy 12-C: The City of Medford shall continue to utilize building and development standards to mitigate the potentially damaging effects of earthquakes. New construction is required to meet the standards of seismic zone 3 of the *Uniform Building Code* (UBC).

Policy 12-D: The City of Medford shall strive to upgrade all city-owned buildings and facilities to meet earthquake standards.

See also Policy 2-D and Implementation 2-D (1) of the "Housing Element."

Policy 12-E: The City of Medford shall continue to update and enforce noise attenuation strategies.

> **Implementation 12-E (1):** Periodically review the city's noise ordinances for adequacy.

Policy 12-F: The City of Medford shall strive to minimize the loss of life and property resulting from wildland fires within the Urban Growth Boundary.

Implementation 12-F (1): Undertake efforts to educate the public in wildland fire safety.

Implementation 12-F (2): Develop and adopt fire safety performance standards for development in those areas identified as being at risk of wildland fires.

Policy 12-G: The City of Medford shall designate future residential areas in coordination with the *Rogue Valley International-Medford Airport Master Plan* to minimize conflicts with flight patterns, hazard areas, and airport expansion areas.

POPULATION ELEMENT

GOAL 1: To accept the role and responsibilities of the major urban center in a large and diverse region, including portions of southwest Oregon and northern California.

Policy 1: The City of Medford shall endeavor to cooperate with other levels of government and the private sector to provide land and urban services sufficient to accommodate projected population growth.

GOAL 2: To assure that land use activities are planned, located, and conducted in a manner that recognizes the diverse characteristics and needs of Medford's existing and projected population.

Policy 1: The City of Medford shall accept 71,110 as the official population projection for the year 2010, and shall use this projection as a planning tool whenever needed. Qualitative and quantitative population data and projections shall be maintained in the most current and accurate form possible, within the limitations of city operations.

ECONOMIC ELEMENT

GOAL 1: To aggressively stimulate economic development and growth that will diversify and strengthen the mix of economic activity in the local marketplace, and provide employment opportunities for local residents.

Policy 1: The City of Medford shall explore opportunities and incentives that will encourage value-adding, family wage businesses to expand and/or locate in the community.

Policy 2: The City of Medford shall actively participate in a joint public/private business development and promotion program that identifies opportunities for growth in existing businesses, and attracts new firms to the community to diversify the mix of commerce and industry, and to provide employment opportunities for local residents.

Policy 3: The City of Medford shall encourage labor training programs that match a mix of skills and occupation types with the employment requirements of firms now operating in the community, or that are suitable prospects for locating in Medford.

Policy 4: The City of Medford shall monitor and respond to growth and development patterns in the community to enable Medford to capitalize on its changing comparative advantages in the local and regional marketplace.

Policy 5: The City of Medford shall monitor its land development requirements for industrial development, and remove any onerous restrictions and requirements.

Policy 6: The City of Medford shall continue to support the efforts of Medford Urban Renewal Agency (MURA).

GOAL 2: To assure that an adequate commercial and industrial land base exists to accommodate the type and amount of economic development and growth anticipated in the future, while encouraging efficient use of land and public facilities within the City of Medford.

Policy 1: The City of Medford shall maintain at least a five-year supply of commercial land within the city that is currently served or readily serviceable with a full range of urban public facilities and services.

Policy 2: The City of Medford shall continue to use the "Service Commercial" General Land Use Plan designation as a tool for redevelopment, and for limiting commercial activity to that which is compatible with adjacent uses.

Policy 3: The City of Medford shall endeavor to maintain the existing supply of industrial land within the Urban Growth Boundary, and to expedite the designation of additional industrial land when an appropriate location for a specific industry is identified.

Policy 4: The City of Medford shall limit the commercial uses allowed in industrial zoning districts.

GOAL 3: To develop locational criteria and site development standards for commercial and industrial development that will encourage efficient use of public facilities, particularly the city's transportation systems.

Policy 1: The City of Medford shall designate land for commercial facilities of a regional nature along freeways and highways, and designate land for commercial facilities serving the community near collector and arterial streets.

Policy 2: The City of Medford shall encourage mixed commercial and residential use developments through the use of the Planned Development Overlay Zone, site design guidelines, and site development standards.

Policy 3: The City of Medford shall encourage cohesive, integrated commercial centers and industrial centers, rather than traditional, unrelated, linear development patterns, through site design guidelines.

URBANIZATION ELEMENT

The purpose of the "Urbanization Element" of the *Comprehensive Plan* is to identify the policies that the City of Medford, in cooperation with Jackson County, has adopted to comply with Statewide Planning Goal 14: Urbanization.

> ***STATEWIDE PLANNING GOAL 14: URBANIZATION: TO PROVIDE FOR AN ORDERLY AND EFFICIENT TRANSITION FROM RURAL TO URBAN LAND USE***

To accomplish this goal, the City of Medford and Jackson County have adopted: 1) An Urban Growth Boundary; 2) Policies concerning the regulation of the land within the Urban Growth Boundary, collectively referred to as the "Urbanization Policies;" 3) Policies concerning annexation of unincorporated urbanizable land to the City of Medford, collectively referred to as the "Annexation Policies;" and, 4) An intergovernmental agreement allowing unincorporated urbanizable land to be developed with urban-level development prior to annexation, referred to as the "Intergovernmental Agreement on Contract Annexation."

URBAN GROWTH BOUNDARY

The Medford Urban Growth Boundary (UGB) includes land within the city, and selected land surrounding the city that is committed to and/or planned for future city growth, the development of which is likely to require the extension of urban services. Land surrounding the city and within the UGB is called the "unincorporated urbanizable area" in this element. In Chapter 253 of the Jackson County *Land Development Ordinance*, it is called the Medford Urban Overlay (MUO) District. The Medford UGB was amended in 1990 through a cooperative process between the City of Medford and Jackson County. It is officially delineated on the Jackson County and City of Medford Comprehensive Plan and Zoning maps.

The Medford UGB was established to comply with the state law requiring Urban Growth Boundaries around urbanized areas to identify and separate urbanizable land from rural land. Establishment and amendment of UGB's are based upon the following Goal 14 factors:

1. A demonstrated need to accommodate long-range urban population growth requirements consistent with Land Conservation and Development Commission (LCDC) goals;

2. A need for housing, employment opportunities, and livability;

3. The orderly and economic provision of public facilities and services;

4. The maximum efficiency of land uses within, and on the fringe of the existing urban area;

5. The environmental, energy, economic, and social consequences;

6. The retention of agricultural land as defined, with "Class I" having the highest priority for retention, and "Class VI" having the lowest priority; and,

7. The compatibility of proposed urban uses with nearby agricultural activities.

URBANIZATION POLICIES

The following policies guide the administration of the Medford Urban Growth Boundary:

1. An Urban Growth Boundary adopted herein, or hereinafter amended, for the Medford area will establish the limits of urban growth to the year 2010.

    a. Annexation to the City of Medford shall occur only within the officially adopted UGB.

    b. Specific annexation decisions shall be governed by the official annexation policies of the City of Medford. The city shall provide an opportunity for Jackson County to respond to pending requests for annexation.

2. The City of Medford General Land Use Plan (GLUP) Map and zoning designations for unincorporated urbanizable land, and all other city development and building safety standards, shall apply only after annexation to the city; or through a contract of annexation between the city, Jackson County, and other involved parties; or after proclamation of an annexation having a delayed effective date pursuant to ORS 222.180 (2).

    a. Urban development shall be encouraged to occur on undeveloped and underdeveloped land within city limits prior to the annexation and conversion of other land within the UGB.

3. Except in cases where a contract for annexation has been executed, or after proclamation of an annexation having a delayed effective date pursuant to ORS 222.180 (2), Jackson County shall retain jurisdiction over land use decisions within the unincorporated urbanizable area, and such decisions shall conform to these adopted policies:

    a. Prior to annexation, no land divisions shall be approved by the county which create lots of less than forty (40) acres in size.

    b. Recognizing that unincorporated areas within the UGB could ultimately become part of Medford, the city's recommendations will be given due consideration. It is the intent of the county to administer mutually adopted city/county policies in the unincorporated urbanizable area until the area is annexed to the city.

    c. The city will be requested to respond to pending applications for all land use actions in the unincorporated urbanizable area. If no response is received within 14 days, the county may assume that the city has no objections to the request.

    d. The county will be requested to respond to pending applications for all land use actions within the incorporated area that may affect land under county jurisdiction. If no response is received within 14 days, the city may assume that the county has no objections to the request.

e. If the city and county have mutually approved, and the city has adopted, "conversion plan" regulations for the orderly conversion of property from county to city jurisdiction, the county will require that applications for subdivisions, partitions, or other land divisions within the UGB be consistent with the city's *Comprehensive Plan*. Once developed, the mutually agreed upon "conversion plan" shall be the paramount document, until incorporation occurs.

4. Any land use actions within the unincorporated urbanizable area shall conform to urban standards and public improvement requirements as contained in the city and county Land Development Codes, except that in the case of a conflict between the two, the more restrictive shall apply.

5. Within the unincorporated urbanizable area, execution and recording of an Irrevocable Consent to Annex to the City, pursuant to ORS 222.115, shall be required for:

   a. Single-family residential permits

   b. Sanitary sewer and water hook-up permits *****

   c. All land use actions subject to county Site Plan Review

   * This policy, with reference to sewer hook-ups provided by Bear Creek Valley Sanitary Authority (BCVSA), has been disallowed by the Oregon Court of Appeals.

6. The city, county and affected agencies shall coordinate the expansion and development of all urban facilities and services within the urbanizable area.

   a. Urban facilities and services shall be planned in a manner which limits duplication to provide greater efficiency and economy of operation.

   b. A proposed single urban facility or service extension within the unincorporated urbanizable area must be coordinated with the planned future development of all other urban facilities and services appropriate to that area prior to approval, and shall be provided at levels necessary for expected uses as designated on the Medford *Comprehensive Plan*.

   c. The city shall be responsible for adopting and maintaining a public facilities plan for the city and unincorporated urbanizable area pursuant to OAR 660-11.

   d. When development occurs within an unincorporated urbanizable area subject to a contract for annexation, or after proclamation of an annexation having a delayed effective date pursuant to ORS 222.180 (2), any or all city services may be extended to these areas. All associated fees and charges which are applicable within the city shall be applicable to these areas, and shall be paid to the city pursuant to city regulations.

7. Provision of sewer and water services may only occur beyond the UGB after approval by the provider agency and Jackson County, and when a "danger to public health" as defined by ORS 431.705 (5) exists. The services thus authorized shall serve only the area in which the danger exists, and shall provide a level of service consistent with the Jackson County *Comprehensive Plan* designation.

8. All county road construction and reconstruction resulting from new development, redevelopment, or land divisions in the urbanizable area shall be built to urban standards, except that the term "reconstruction" does not include normal road maintenance by the county.

9. Long range transportation and air quality planning for the urbanizable area shall be a joint city/county process coordinated with all affected agencies.

10. Land within the urbanizable area which currently supports a farm use, as defined by ORS 215.203, shall be encouraged, through zoning and appropriate tax incentives, to remain in that use for as long as is "economically feasible" for the property owner.

    a. "Economically feasible," as used in this policy, is interpreted to mean feasible from the standpoint of the property owner. Implementation of this policy will be done on a voluntary basis. Exclusive Farm Use (EFU) zoning may be applied to qualifying land by the county, with the understanding that such land is considered available over a period of time for urban uses.

    b. This policy applies only to areas in the UGB identified by the city or county Comprehensive Plans as agricultural land, and shall not be used as a standard to review other land use applications within the urbanizable area.

    c. This policy is not intended to preclude the use of EFU land for essential public facilities and services to serve the urban and urbanizable areas.

11. Proposed land use changes immediately inside the UGB shall be considered in light of their impact on, and compatibility with, existing agricultural and other rural uses outside the UGB. To the extent that it is consistent with state land use law, proposed land use changes outside the UGB shall be considered in light of their impact on, and compatibility with, existing urban uses within the UGB.

12. The city and county acknowledge the importance of permanently protecting agricultural land outside the UGB zoned EFU, and acknowledge that both jurisdictions maintain, and will continue to maintain, policies regarding the buffering of said lands. Urban development will be allowed to occur on land adjacent to land zoned EFU when the controlling jurisdiction determines that such development will be compatible with the adjacent farm use. Buffering shall occur on the urbanizable land adjacent to the UGB. The amount and type of buffering required will be considered in light of the urban growth and development policies of the city, and circumstances particular to the agricultural land. The controlling jurisdiction will request and give standing to the non-controlling jurisdiction for recommendations concerning buffering of urban development proposals adjacent to lands zoned EFU. Buffering options may include:

a. Physical separation through special setbacks for new urban structures adjacent to the UGB;

b. Acquisition by public agencies;

c. Lower densities at the periphery of the UGB than those allowed elsewhere in the city;

d. Strategic location of roads, golf courses, or other visible public or semi-public open spaces;

e. Use of vegetative screens, earthen berms, and fences of sufficient height and substance to help reduce the trespass of people, animals, and vehicles;

f. Orientation of structures and fencing relative to usable exterior space, such as patios, rear yards, and courts, so that the potential impacts from spray drift, dust, odors, and noise intrusion are minimized;

g. Design and construction of all habitable buildings, including window and door locations, so that the potential impacts of spray drift, dust, odors, and noise intrusion are minimized;

In addition, a deed declaration recognizing common, customary, and accepted farming practices shall be required for all development occurring within 300 feet of EFU zoned land.

13. All UGB amendments shall include adjacent street and other transportation rights-of-way.

14. An "Area of Mutual Planning Concern" may be delineated on the county Comprehensive Plan and Zoning maps along with the UGB. This is an area within which Medford and Jackson County have mutual concern over the land use planning decisions that may occur. The area may be significant in terms of its agricultural, scenic, or open space characteristics, or may be designated as an urban reserve to facilitate long range, inter-jurisdictional planning for future urbanization. The area may also provide an important buffer between Medford and other urban areas. The Area of Mutual Planning Concern is not subject to annexation, and is an area in which the county will coordinate all land use planning and activity with Medford.

AMENDMENT PROCEDURES

The procedures for joint city/county review and amendment of the Urban Growth Boundary and Urbanization Policies are as follows:

1. Major Revisions

Major revisions in the UGB or Urbanization Policies will be considered amendments to both the city and county Comprehensive Plans, and, as such, are subject to a legislative review process. A major

revision shall include any UGB change that would necessitate revisions to the intent of city or county Comprehensive Plan goals, policies, or text, or that has widespread and significant impact beyond the immediate area, such as quantitative changes allowing for substantial changes in population, or significant increases in resource impacts, qualitative changes in the land use itself, such as conversion of residential land to industrial use, or spatial changes that affect large areas, or many different ownerships. Any change in the Urbanization Policies is considered a major revision.

Major revisions will be considered by the city and county at five year intervals from the date of adoption of the UGB and Urbanization Policies. If the city and county governing bodies find that circumstances that have a significant effect on the public health, safety, or general welfare of the community prevail, a major revision can be considered at intervals of less that five years. A request for a major revision can be initiated by an individual or group, citizen advisory committees, affected agencies, and governing bodies. The party who seeks the revision shall be responsible for filing adequate written documentation with the city and county governing bodies. The final legislative action on major revision requests shall be based on the following factors:

a. The demonstrated need for the change to accommodate unpredicted population trends, to satisfy urban housing needs, or to assure adequate employment opportunities;

b. The orderly and economic provision of key urban public facilities and services;

c. The maximum efficiency of land uses within the current urbanizable area;

d. Environmental, energy, economic, and social consequences;

e. The compatibility of the proposed change with other elements of the city and county Comprehensive Plans;

f. The other Statewide Planning Goals.

Major revision proposals shall be subject to a mutual city and county review and agreement process involving affected agencies, citizen advisory committees, and the general public. If the city and county cannot agree on a major revision, or until an acceptable revision is mutually agreed upon and adopted, both jurisdictions will continue to administer the existing UGB, Areas of Mutual Planning Concern boundaries, and Urbanization Policies.

2. Minor Urban Growth Boundary Adjustments

Minor adjustments to the UGB may be considered subject to similar procedures used by the city and county in hearing zoning requests. A minor revision is defined as one focusing on specific individual properties, and not having significant impact beyond the immediate area of the change. An application for a minor UGB adjustment can be made only by property owners, their authorized agents, or by a city or county governing body. Written application for an adjustment may be filed with the Jackson County Department of Planning and Development on forms prescribed by the county. The standards for processing an application are as follows:

a. Final action on minor UGB adjustments shall be based on the same six factors required for major revision requests as listed in the preceding section, "Major Revisions."

b. Applications shall be reviewed by the affected city and county Citizens Planning Advisory Committees annually.

c. Applications shall be reviewed at joint city/county Planning Commissions meetings held annually for the express purpose of considering minor UGB adjustments.

d. The Planning Commissions shall forward a recommendation and findings on each application to the city and county governing bodies for final consideration.

e. Adjustments cannot be made to the UGB unless mutually agreed upon by a majority from each governing body. The county governing body shall be responsible for the preparation of the actual legal instrument that officially amends the UGB.

3. Determination of Major and Minor Amendments

The Planning Directors for the county and city are responsible for determining whether an amendment is to be considered through a major or a minor amendment process. In the event that the Planning Directors cannot agree, the proposal will be forwarded to the city and county Planning Commissions, and, if necessary, to the governing bodies or other appropriate body, until mutual agreement is reached.

4. Correction of Errors

a. An error is generally considered to be a cartographic mistake, or a misprint, omission, or duplication in the text. It is technical in nature, and not the result of new information or changing attitudes or policies.

b. If the City Council and County Board of Commissioners become aware of an error in the map(s) or text of this mutually-adopted urbanization program, both bodies may cause an immediate amendment to correct the error, after mutual agreement is reached.

c. Corrections shall be made by ordinance, following a public hearing conducted by both governing bodies. Public hearings before the Planning Commissions shall not be required when an amendment is intended specifically to correct an error.

5. Definitions

Urban Growth Boundary: A site specific line imposed on the Official Comprehensive Plan and Zoning Map of Jackson County which identifies and encompasses urban and urbanizable lands within Jackson County according to the following definitions:

Urban Land: Residential areas generally comprised of parcels less than one acre in size, or highly developed commercial and industrial areas which are contained within incorporated cities, or which contain concentrations of persons who generally reside or work in the area, including lands adjacent to, and outside of, incorporated cities, and which have supporting urban facilities and services.

Urbanizable Land: Areas within an officially adopted Urban Growth Boundary which are needed for expansion of an urban area, and which have been determined to be necessary and suitable for development as future urban land, and which can be served with supporting urban facilities and services.

Urban Facilities and Services: Basic facilities that are primarily planned by local government, but which also may be provided by private enterprise, and are essential to the support of development in accordance with the city *Comprehensive Plan*. Urban facilities and services include: police protection; fire protection; sanitary facilities; public water facilities; storm drainage facilities; planning, zoning and subdivision controls; health services; recreation facilities and services; energy and communication services; and community governmental services (including schools and transportation).

ANNEXATION

The transfer of urbanizable land under county jurisdiction to city jurisdiction is called annexation. Chapter 222 of the *Oregon Revised Statutes* governs annexation in Oregon. According to state law, land may be annexed to a city only if it is within the Urban Growth Boundary, and is contiguous to the city limits. A majority of the registered voters and/or property owners within the area to be annexed must agree to the annexation, except in cases where the area is surrounded by land already under city jurisdiction.

State law also requires that annexations be based upon the following criteria:

1. The orderly, economic provision of public facilities and services;

2. The availability of sufficient land for the various uses to ensure choices in the market place;

3. The Land Conservation Development Commission (LCDC) Statewide Planning Goals or the acknowledged Comprehensive Plan; and

4. The encouragement of development within urban areas before conversion of urbanizable areas.

ANNEXATION POLICIES

The following shall be the policies of the City of Medford with regards to future annexations:

1. General Policy

The City of Medford has planned to provide areas within the Urban Growth Boundary as defined in the *Comprehensive Plan*, with public sewer and water supply facilities, zoning, police and fire protection, and with all other municipal services required to support urban levels of development. Therefore, the city does hereby encourage such areas to annex and receive the benefits offered by the city, and shall facilitate the process whereby such areas may become a part of the city.

2. City Services Outside City Limits

The City of Medford has acquired and holds its various service facilities for the benefit of residents and taxpayers within the city, and owes them a basic and primary duty to preserve the capacity of the facilities for their benefit, and to refrain from any excess use which would unnecessarily impose upon the residents and taxpayers, the financial burden of increases in such capacity. Therefore, the city shall not extend or furnish municipal services to areas beyond the city limits, except in the performance of contracts with other incorporated cities. The city will honor presently existing contracts with special districts, but only to the extent of their present boundaries. However, because fire and emergency medical services are a critical need for all citizens, when, in the opinion of the Fire Chief, other satisfactory means are not available to non-city taxpayers for this service, the City shall continue to allow the Medford Rural Fire District #2 to annex beyond their present boundaries.

3. City's Participation in the Annexation Proposal

The City of Medford shall continue to require that residents of the area initiate, and assume the task of promoting, any annexation proposal, except in areas that have been surrounded by the City, the City may initiate and promote the annexation.

4. Annexations shall comply with the requirements of the Oregon Revised Statutes and Statewide Planning Goal 14, Urbanization.

The City Council must find that the following State requirements are met in order to approve an annexation:

a. The land is within the City's Urban Growth Boundary,
b. The land is contiguous to the current City limits, and
c. Unless the land being considered for annexation is enclaved by the City or the City chooses to hold an election, a majority of the land-owners and/or electors have consented in writing to the annexation per ORS 222.125 or ORS 222.170.

5. Withdrawal from Special Districts

For any areas hereafter annexed to the City of Medford and withdrawn from the Rogue Valley Sewer Service (RVS), previously called the Bear Creek Valley Sanitary Authority, or from any sanitary, rural fire protection, domestic water, or other special service district with existing general obligation indebtedness, the city shall, pursuant to ORS 222.520, assume and agree to pay the bonded indebtedness attributable to such area in the manner provided by ORS 222.520, and will thereby relieve the real property in such areas from further district taxation for such bonded indebtedness.

HOUSING ELEMENT

Goal 1: To enhance the quality of life of all residents of the City of Medford by promoting a distinctive community character and superior residential environment, emphasizing the unique natural setting of the community.

Policy 1-A: The City of Medford shall promote a community design that emphasizes aesthetics, alternative transportation modes, and pedestrian-scale development.

Implementation 1-A (1): Prepare *community design guidelines*, which will guide the development and architectural review process, for consideration by the City Council. Emphasize such elements as mixed uses, parkways with shade trees, pedestrian ways, bicycle lanes, alley access, rearyard garages, and varied setbacks.

Implementation 1-A (2): Require planned developments in undeveloped areas with unique physical settings to achieve development that is flexible and responsive to the site and surroundings.

Implementation 1-A (3): Prepare *hillside design standards* that require subdivision and site design to be compatible with, and complementary to sloping sites, for consideration by the City Council.

Policy 1-B: The City of Medford shall promote the preservation of the existing housing stock and existing neighborhoods through continued support of programs related to housing rehabilitation and neighborhood revitalization.

Implementation 1-B (1): Institute a neighborhood planning program that arranges the community into *neighborhood planning areas*, and promotes the formulation of neighborhood identities.

Implementation 1-B (2): Continue to monitor housing conditions throughout the city, and continue to enforce against housing code violations.

Implementation 1-B (3): Prepare a plan for publicizing housing rehabilitation programs.

Implementation 1-B (4): Emphasize preservation and\or rehabilitation of the existing supply of special need and affordable housing, including manufactured homes in parks**.**

Implementation 1-B (5): Encourage annexation of unincorporated developed neighborhoods.

Implementation 1-B (6): Identify existing single-family residential areas zoned SFR-10 that may be suitable for downzoning, to reduce the concentration of SFR-10 zoning in any one particular area, by promoting a mix of housing types throughout the community, and to preserve those single-family neighborhoods in danger of

having an excessive number of duplexes. If suitable areas are identified, prepare a zone change proposal for initiation by the Planning Commission.

Policy 1-C: The City of Medford shall encourage the provision and conservation of open space throughout the community.

Implementation 1-C (1): Prepare amendments to the *Comprehensive Plan* and *Land Development Code* for consideration by the City Council that provide requirements for inclusion of open space in residential development plans, ranging from providing usable outdoor open space in all multiple-family projects, to buffering agricultural uses, to preserving open space in environmentally sensitive areas such as hilltops or ridgelines, wetlands, creeksides, wildlife habitats, etc.

Implementation 1-C (2): Prepare an inventory of areas within designated residential areas suitable for preservation as open space, such as, but not limited to hilltops or ridgelines, wetlands, creeksides, wildlife habitats, etc., and potential sites for future city parks.

Implementation 1-C (3): Encourage adjacent jurisdictions to consider the preservation of Medford's residential viewshed when scrutinizing development applications.

Policy 1-D: The City of Medford shall encourage innovative design in multiple-family development so that projects are aesthetically appealing to both the tenants and the community.

Implementation 1-D (1): Review the *Land Development Code* to assure that the standards and requirements relating to multiple-family development do not inhibit innovative design, but, at the same time, require an adequate level of aesthetics and amenities, particularly neighborhood compatibility and functional open space, including useful private outdoor living areas.

Goal 2: To ensure that residential development in the City of Medford is designed to minimize the consumption or degradation of natural resources, promote energy conservation, and reduce the potential effects of natural hazards.

Policy 2-A: The City of Medford shall strive to prevent sprawl and provide a compact urban form that preserves livability and adjacent resource lands.

Implementation 2-A (1): Prepare amendments to the *GLUP Map* for consideration by the City Council that provide for a minimum overall housing density of eight dwelling units per net acre of buildable land, including an increase in multiple-family housing types. Encourage development outside the city or UGB, where permitted, to facilitate a future urban form and density.

Policy 2-B: The City of Medford shall assure that residential development or redevelopment includes energy conservation considerations, and is designed and located to reduce transportation energy demand.

Implementation 2-B (1): Require shade trees (versus ornamental) to be installed as part of residential development projects to provide shading of streets, and, in multiple-family housing projects, shading of parking areas as well.

Implementation 2-B (2): Develop and distribute informational materials regarding the benefits of energy conservation measures, including reduced monthly housing costs, in residential subdivision, site, and building design. Consider such measures during the development review process.

Implementation 2-B (3): Develop and distribute informational materials regarding the benefits of water conservation measures in residential building and landscaping design. Consider such measures during the development review process.

Policy 2-C: The City of Medford shall continue support of weatherization and woodstove replacement programs, which enhance affordability, reduce energy use, and improve air quality.

Implementation 2-C (1): Develop and distribute informational materials regarding the availability of weatherization and woodstove replacement assistance from utility companies and housing organizations.

Policy 2-D: The City of Medford shall provide appropriate development standards for those residential areas within the UGB that may be subject to natural or manmade hazards, such as wild fires, landslides, flooding, noise, airport hazards, earthquake fault lines, etc.

Implementation 2-D (1): Identify and evaluate those areas within the UGB designated for residential use that may be subject to natural or manmade hazards. If necessary, propose *GLUP Map* amendments for consideration by the City Council that reduce the exposure of residents to natural or manmade hazards. If necessary, prepare an amendment to the *Land Development Code* for consideration by the City Council that establishes the appropriate standards.

Goal 3: To ensure a coordinated balance among the provision of public services, the location of employment centers, and the production of appropriate housing within the City of Medford.

Policy 3-A: The City of Medford shall assure that citizens and policy makers are informed about the connections in housing affordability, cost-effective urbanization, and land use policies, and shall pursuing regional planning efforts.

Implementation 3-A (1): Initiate development of a cooperative and comprehensive housing data collection system among the other local jurisdictions in the region.

Implementation 3-A (2): Cooperate in the development of a regional strategy which focuses land use policy and public investment to manage growth, including housing density and mix standards and public facility funding policies that meet urban goals.

Implementation 3-A (3): Investigate means to provide a jobs/housing balance in conjunction with new commercial or industrial development.

Policy 3-B: The City of Medford shall plan for regional transportation facilities and other major public facilities and services in advance of needed residential development.

Policy 3-C: The City of Medford shall designate areas that are or will be conveniently located close to pedestrian, bicycle, and transit or high capacity transportation routes, and community facilities and services, for higher density residential development.

> **Implementation 3-C (1):** Identify areas where upzoning would best support infrastructure improvements, including transit.

Goal 4: To provide equal opportunity for safe, decent, sanitary, and affordable housing for all residents of the City of Medford, regardless of age, race, color, religion, mental or physical disability, sex, sexual orientation, marital or family status, or national origin, in conformance with the federal Fair Housing Act of 1988 and the Americans with Disabilities Act of 1990.

Policy 4-A: The City of Medford shall continue to assure that federal laws prohibiting housing discrimination are publicized, and that allegations of discrimination are referred to the responsible enforcement agency.

> **Implementation 4-A (1):** Establish a *fair housing program* that outlines existing enforcement procedures, and utilizes existing resources for promotional activities such as workshops, advertisements, public service announcements, landlord-tenant counseling, and provision of informational materials in public places and city offices.

Policy 4-B: The City of Medford's approval standards, special conditions, and procedures regulating the development of needed housing shall be clear and objective, and shall not have the effect of discouraging needed housing through unreasonable cost or delay.

Goal 5: To ensure opportunity for the provision of adequate housing units in a quality living environment, at types and densities that are commensurate with the financial capabilities of all present and future residents of the City of Medford.

Policy 5-A: The City of Medford shall continue to assess the housing needs of all residents to determine priorities and to formulate specific strategies and activities to meet that need. Such assessments shall be regularly reported to decision makers to assure that the recommendations are considered for implementation.

> **Implementation 5-A (1):** Establish a system for reviewing all residential projects for compliance with the *Housing Element* goals and policies, including achievement of maximum permitted densities, and prepare a yearly report to decision makers.

> **Implementation 5-A (2):** Establish a housing advisory committee made up of persons representing various organizations and interest groups concerned with housing in the City of Medford.

> **Implementation 5-A (3):** Prepare an *affordable housing policy study* to determine the best means to increase housing affordability in the City of Medford.

Policy 5-B: The City of Medford shall continue to assist regional housing agencies, nonprofit organizations, private developers, and other entities in their efforts to provide affordable housing for renters and homeowners, and the homeless.

Implementation 5-B (1): Consider establishing a City of Medford Housing Office, with a Housing and Community Development Coordinator, within the structure of city government, or through a contract with a private party or organization, to concentrate resources, organize a housing program, provide technical assistance to housing providers, and administer the CDBG Program in place of the current Administrative Engineer position in the Engineering Department.

Implementation 5-B (2): Evaluate innovative affordable housing programs, such as self-help housing, cooperative housing, co-housing, density bonuses, land banking, etc., and provide support when such programs are deemed effective.

Policy 5-C: to provide greater flexibility and economy of land use, the *City of Medford Land Development Code* shall provide opportunities for alternative housing types and patterns, planned developments, mixed uses, and other innovations that reduce development costs and increase density.

Implementation 5-C (1): Prepare an amendment to the *Land Development Code* for consideration by the City Council that would permit accessory dwelling units in single-family residential areas.

Implementation 5-C (2): Prepare an amendment to the *Land Development Code* for consideration by the City Council that would encourage construction of duplexes on corner lots in single-family residential areas.

Implementation 5-C (3): Investigate methods for promoting a mix of dwelling types in new residential areas, and compatible higher density infill and redevelopment in existing residential areas.

Implementation 5-C (4): Investigate methods for promoting additional housing in the downtown through the removal of any barriers that may impede such development, as recommended by the *Downtown Vision Plan*, including preparing appropriate amendments to the *Land Development Code* for consideration by the City Council.

Policy 5-D: The City of Medford shall continue to assure that disabled and elderly persons are not excluded from living in a residential neighborhood setting because their disability or age requires them to live in groups or in modified housing units.

Implementation 5-D (1): Inventory handicapped accessible rental housing units in the city, and investigate methods for funding modifications to make additional units accessible.

Implementation 5-D (2): Review the *Land Development Code* to assure continued compliance with state laws regarding regulation of residential homes and facilities providing care, treatment or training.

Goal 6: To ensure opportunity for the provision of Medford's fair share of the region's needed housing types, densities, and prices, with sufficient buildable land in the city to accommodate the need.

Policy 6-A: The City of Medford shall assure that adequate buildable land for all housing types and price ranges is available in the city in the amount and timing necessary to meet the identified need for the planning period. Multiple-family, affordable, or assisted housing shall not be concentrated in any particular areas, but dispersed throughout the city.

Implementation 6-A (1): Prepare a schedule for the regular updating of the *housing need projection* required by state law.

Implementation 6-A (2): Prepare a schedule for the regular updating of the *buildable lands inventory* within the city and UGB required by state law for each of the various needed housing types identified in the housing need projection.

Implementation 6-A (3): Initiate GLUP Map amendments for consideration by the City Council which designate sufficient buildable land to satisfy housing need by type and density range as determined in the housing need projection.

Implementation 6-A (4): Identify residentially designated land in the city suitable for rezoning to SFR-10, MFR-20, and MFR-30 based on the land need projection for the planning period, and propose such zone changes for initiation by the Planning Commission.

Implementation 6-A (5): Initiate an amendment to the *Comprehensive Plan* for consideration by the City Council that would add an *Urban Medium Density Residential* designation, with which SFR-10 zoning would be consistent, including designation of such areas on the GLUP Map. Consider changing the name of SFR-10 to a title that would place more emphasis on the duplex use rather than the single-family use.

Implementation 6-A (6): Identify publicly-owned land that may be suitable for affordable housing development or land banking.

Implementation 6-A (7): Expand opportunities for manufactured home park development by reviewing the *Land Development Code* to assure that manufactured home park development standards are the minimum necessary, but adequate for neighborhood compatibility and to meet state laws. Consider providing fixed development standards in lieu of requiring a conditional use permit.

Implementation 6-A (8): Prepare an inventory of manufactured home park**s** that may be potentially displaced due to their location within areas planned and zoned, or

generally used for commercial, industrial, or high-density residential development as required by state law.

Implementation 6-A (9): Identify areas suitable for future manufactured home parks to assure that adequate land is available to accommodate the need identified in the housing need projection, including the potentially displaced parks.

PUBLIC FACILITIES ELEMENT

Each section of the "Public Facilities Element" contains its own goals, policies, and implementation strategies.

General Public Facilities

Goal 1: To assure that development is guided and supported by appropriate types and levels of urban facilities and services, provided in a timely, orderly, and efficient arrangement.

Policy 1-A: The City of Medford shall provide, where feasible and as sufficient funds are available from public or private sources, the following facilities and services at levels appropriate for all land use types within the City:

- Water service;
- Sanitary sewers;
- Stormwater management facilities;
- Fire and emergency services;
- Law enforcement;
- Parks and recreation;
- Planning, zoning, and subdivision control.

Policy 1-B: The City of Medford shall encourage other agencies that are responsible for the planning and/or provision of public facilities and services within Medford to coordinate public facility planning consistent with Medford's *Comprehensive Plan*. Such coordination should assure, to the greatest extent possible, the logical and efficient provision of the following public facilities and services:

- Public schools;
- Public health services;
- Justice service;
- Solid waste management;
- Energy and communication services;
- Transit services.

Policy 1-C: The City of Medford shall acknowledge its role as the principal provider of urban services within the City, and shall plan a phased improvement program that meets the service needs of individual areas of the City.

Goal 2: To assure that General Land Use Plan (GLUP) designations and the development approval process remain consistent with the City of Medford's ability to provide adequate levels of essential public facilities and services.

Policy 2-A: In cases where the timely provision of essential urban facilities and services cannot be accomplished so as to achieve minimum adequate service levels, that portion of the Medford urban growth area subject to inadequate services shall be designated a **limited service area,** and any or all development may be restricted until threshold levels of essential services can be achieved. Limited service areas should be considered as priority areas for public facility planning subject to other growth and development factors. "Timely provision of essential urban facilities and services" shall mean that such services can be provided in adequate condition and

capacity prior to or concurrent with development of the subject area. "Essential urban facilities and services" shall mean sanitary sewers, water systems, stormwater management facilities, and transportation facilities. A determination of minimum adequate service levels for essential urban facilities and services shall be based on the following:

Sanitary Sewers - Sufficient to serve any proposed development consistent with the General Land Use Plan (GLUP) designation. Sanitary sewer facilities shall be considered adequate if they are consistent with the adopted sewer plan document, as interpreted by the City Engineer.
Domestic Water - Sufficient to serve any proposed development with a permanent urban domestic water system capable of supplying minimum pressure and volume for projected domestic and fire control needs consistent with the General Land Use Plan (GLUP) designation. Water facilities shall be considered adequate if they are consistent with the adopted water system plan document, as interpreted by the Water Commission Manager.
Storm Drainage Facilities - Sufficient to serve any proposed development consistent with the General Land Use Plan (GLUP) designation. Stormwater management facilities shall be considered adequate if they are consistent with the adopted storm drainage plan document, as interpreted by the City Engineer.

Policy 2-B: The City of Medford shall strive to ensure that new development does not create public facility demands that diminish the quality of services to current residences and businesses below established minimum levels.

Implementation 2-B (1): Develop thresholds and performance criteria for use in development review to gauge ability of public services to sustain growth.

Implementation 2-B (2): Coordinate capital improvement planning for public facility infrastructure with the direction, extent, and timing of growth.

Implementation 2-B (3): Establish equitable methods for distributing development costs associated with providing water, sanitary sewer, and stormwater management services and facilities.

Implementation 2-B (4): Continue to require annexation to the City as a condition of extending urban services.

Water Service

Goal 1: To provide the City of Medford with high quality domestic water for consumption and fire protection, consistent with state, federal and industry standards.

Policy 1-A: The City of Medford shall assure that the water distribution system is designed and developed in coordination with the storage and transmission system, and phased to be consistent with Medford's growth.

Implementation 1-A (1): Extend water service to areas within the Urban Growth Boundary in conjunction with annexation of those areas, and utilize the adopted

Water System Plan as a factual basis in the land use decision-making process.

Policy 1-B: The City of Medford shall continue to encourage Jackson County to regulate development in the Big Butte Springs watershed to assure that wastewater and toxic substances do not endanger the source of the Big Butte Springs water supply.

Policy 1-C: The City of Medford shall support the continuing development of water conservation measures.

Implementation 1-C (1): Promote public education programs on water conservation.

Implementation 1-C (2): Establish guidelines for water conservation and actively promote use of water-conserving devices and practices.

Implementation 1-C (3): Develop water conservation measures to be imposed in the event that water supplies drop below acceptable levels.

Lone Pine/Foothill Limited Service Area

Goal 1: To identify the specific geographic area that is affected by the lack of a sufficient public water system as required to develop to urban densities. The area identified includes parcels that are all or partially above the 1,650 feet elevation contour in the Lone Pine/Foothill Area and within the Medford Urban Growth Boundary.

Policy 1-A: The 1,650 foot elevation contour represents the Medford Water Commission's present service boundary for the Lone Pine/Foothill Limited Service Area. This particular boundary identifies the Water Commission's present service limits for providing urban water service based on existing storage and distribution facilities.

Goal 2: To manage the development of the Lone Pine/Foothill Limited Service Area in an acknowledged manner conducive to the ultimate provision of a public water system meeting urban service requirements as per the "Water System Plan for the City of Medford Water Commission, September 1999."

Policy 2-A: Within the Medford City limits, existing parcels on January 1, 1983 designated as in the Lone Pine/Foothill Limited Service Area, are permitted to develop at a density of one single-family residence per existing tax lot. All such new development shall be serviced by an on-site private well, and, prior to the issuance of building permits, the property owner shall sign and record an agreement which runs with the land and commits same to participate in a local improvement district for the development of a public water system.

Policy 2-B: Final plats for land divisions within the City of Medford in the Lone Pine/Foothill Limited Service Area shall not be approved until a local improvement district for the development of a public water system is formed and construction commenced. However, tentative plats will be reviewed, and can be approved subject to the property owner(s) signing an agreement per Policy 2-A above. All tentative plats shall identify thereon, using City datum, the 1,650-foot elevation contour. A licensed land surveyor shall certify said contour line.

Policy 2-C: Those parcels within the Lone Pine/Foothill Limited Service Area that are only partially above the 1,650-foot elevation contour shall be permitted to subdivide and record a final plat as per City of Medford standards provided that the following is complied with:

a) Lots that are not serviceable by a public water system due to their proximity to the 1,650-foot elevation contour shall be identified on the tentative plat, and separated from the serviceable lots by a phase line drawn and identified in a manner prescribed by the Planning Director.

b) Prior to final plat approval for the serviceable phase of a subdivision, a final partition plat shall be prepared segregating the serviceable phase from the unserviceable phase of the subdivision as per the tentative plat. This final partition plat must be approved by the City and recorded with the Jackson County Recorder in conjunction with an agreement per Policy 2-A.

Policy 2-D: Lone Pine/Foothill Limited Service Area land located outside the Medford City limits, but within the Urban Growth Boundary, may subdivide and develop as per Jackson County regulations. Such development proposals that exceed RR-5 (Rural Residential – 5-acre minimum lot size) density are not permitted.

Policy 2-E: As a prerequisite to urban development within the Lone Pine/Foothill Limited Service Area, annexations may be approved subject to the Limited Service Area designation and policies. Upon annexation, existing County zoning may remain in effect and be administered by the City.

Sanitary Sewer

Sanitary Sewage Collection

Goal 1: To provide appropriate sanitary sewage collection facilities to serve the Medford Urban Growth Boundary.

Policy 1-A: The City of Medford shall plan the sanitary sewage collection system to serve all new development within the City. Existing on-site septic systems shall not be permitted to remain in use if sewage collection facilities are available within 300 feet.

Policy 1-B: The City of Medford shall extend the sanitary sewage collection system within the City as development approvals occur, consistent with the *Land Development Code* and Engineering Division standards. Sewers outside the City but within the Urban Growth Boundary are constructed pursuant to the Joint Urbanization Policies and cooperative agreements with the Bear Creek Valley Sanitary Authority.

Policy 1-C: The City of Medford shall maintain and improve the existing sanitary sewage collection system through preventative maintenance and on-going replacement or rehabilitation of deteriorated lines.

Sanitary Sewage Treatment

Goal 1: To provide appropriate sanitary sewage treatment facilities to serve the Medford Urban

Growth Boundary.

Policy 1-A: The City of Medford shall continue to operate the regional sewage treatment facilities according to the 1969 interagency agreement with Bear Creek Valley Sanitary Authority, Jackson County, and other participating cities, until such time as a new agreement is adopted.

Policy 1-B: The City of Medford shall continue expansion of the Regional Water Reclamation Facility (RWRF) capacity sufficient to provide for continued urban growth. Facility expansion should be given a high priority in capital improvement programming. In the event that necessary funding is not forthcoming, all options, including an appropriate interagency growth management program, should be explored in a timely manner, and implemented as necessary.

Stormwater Management

(See also the Environmental Element of the Comprehensive Plan for related goals and policies.)

Goal 1: To protect the citizens of Medford from the potential damage caused by flooding.

Policy 1-A: The City of Medford shall maintain a relevant stormwater management plan for all drainage basins within the Urban Growth Boundary, and implement it through upgrading existing facilities and providing new facilities identified in the plan through public and private development.

Implementation 1-A (1): Regularly update the stormwater management plan with the following information, particularly in conjunction with significant changes to the General Land Use Plan:

- Inventory of existing major facilities and assessment of condition
- Description/map of projects needed to support the General Land Use Plan for the planning period
- Estimate of timing and cost for the projects
- Estimate of ability to fund and funding mechanisms for the projects

Implementation 1-A (2): Maintain a stormwater management funding program, including use of system development charges, monthly service charges, developer-required construction in conjunction with new development, etc.

Implementation 1-A (3): Pursue cooperative stormwater management with Irrigation Districts having facilities in the Medford UGB.

Implementation 1-A (4): Through the development review process, require development and stormwater system improvements to comply with the standards in the current stormwater management plan.

Implementation 1-A (5): Through the development review process, secure real property or easement dedications prior to or at the time of development adequate for flood protection, conveyance of stormwater, channel access, and maintenance along waterways needed for public conveyance of stormwater.

Implementation 1-A (6): Require stormwater facilities to be designed to safely conduct less frequent, higher flows through or around facilities without damage to the facilities.

Policy 1-B: The City of Medford shall strive to reduce new development in flood plains in order to minimize potential flood damage through their use as open space, or for agricultural, recreational, or similar uses.

Implementation 1-B (1): Evaluate current local regulations that control development in flood plains and adopt amendments where needed to potential stormwater impacts on development in such areas.

Implementation 1-B (2): Provide incentives to encourage the use of planned unit developments and other flexible site design techniques for properties containing flood plains so that these areas can be designed for open space or recreational uses.

Policy 1-C: The City of Medford shall assure that stormwater is managed (infiltrated, detained and treated) on or as close as practicable to development sites in order to reduce the impact of new development on the stormwater management system and natural streams.

Implementation 1-C (1): Require stormwater to be infiltrated onsite to the greatest extent possible through a combination of provisions, such as site design standards, that reduce impervious surfaces and protect natural areas.

Implementation 1-C (2): Develop regulations that permit the appropriate use of porous surfacing materials such as porous asphalt, modular paving, lattice concrete blocks, and porous bricks.

Implementation 1-C (3): Require stormwater detention and treatment facilities for new development, and pursue the development of area-wide stormwater detention and treatment facilities in existing developed areas, to decrease peak downstream flows and reduce the need for extensive changes to main stems of streams.

Implementation 1-C (4): Consider designing certain public parks to also serve as area-wide stormwater detention and treatment facilities, while meeting the recreational needs of the community.

Goal 2: To achieve and maintain a high level of water quality in Medford's waterways and groundwater.

Policy 2-A: The City of Medford shall protect surface and groundwater resources, including current and potential wellhead areas, from pollution through a variety of regulatory measures relating to land use, transportation, and hazardous substance management.

Implementation 2-A (1): Inventory surface and groundwater resources, including current and potential wellhead areas (groundwater areas used for drinking water).

Implementation 2-A (2): Participate in regional stormwater programs that address

the Bear Creek watershed.

Implementation 2-A (3): Develop and require the use of best management practices (BMPs) to prevent water pollution from activities that are potential pollution sources.

Implementation 2-A (4): Require the quality of stormwater leaving a site after development to be equal to or better than that leaving the site before development.

Implementation 2-A (5): Focus street and parking standards to protect and enhance water quality, such as minimizing street pavement widths, limiting the amount of parking, allowing pervious paving surfaces where practical, etc.

Implementation 2-A (6): Undertake activities to increase public awareness of techniques and practices private individuals, groups, and associations can employ to help correct surface and groundwater quality problems. These may include minimizing the use and the appropriate disposal of polluting substances, educating residents regarding the function of stormwater detention and other water quality facilities, etc.

Policy 2-B: The City of Medford shall strive to assure that both public and private development complies with applicable state and federal water quality regulations.

Implementation 2-B (1): Develop a program to comply with the National Pollutant Discharge Elimination System (NPDES) Phase II permit requirements in a timely fashion.

Implementation 2-B (2): In response to the Total Maximum Daily Load (TMDL) determinations developed for the watershed by the Oregon Department of Environmental Quality, develop an implementation plan that includes appropriate pollutant load reduction strategies.

Implementation 2-B (3): Develop a program to comply with Oregon Department of Environmental Quality requirements related to Underground Injection Control.

Policy 2-C: The City of Medford shall utilize stormwater management strategies that sustain natural streams and wetlands consistent with Environmental Element – Water Quality Section - Goal 6 and its policies and implementation strategies.

Implementation 2-C (1): Inventory and map natural features in the Medford UGB important in stormwater management planning, including waterways, wetlands, and flood plains; lands abutting significant streams; lands with significant native vegetation (woodlands, wetlands, riparian vegetation, etc.); significant slopes; and groundwater areas used for drinking water.

Implementation 2-C (2): As part of stormwater management planning, actively address issues relating to species listed as endangered or threatened.

Implementation 2-C (3): Identify sensitive habitat areas and areas that are

important for the protection of water quality for public purchase and ownership or for protection through conservancy programs.

Implementation 2-C (4): Require buffering, setback requirements, maintenance of tree canopy and vegetative cover, and other best management practices (BMPs) as necessary to enhance water resources and protect their functions.

Policy 2-D: The City of Medford shall strive to eliminate sediment entering waterways consistent with Environmental Element - Soils Section - Goal 8 and its policies and implementation strategies.

Implementation 2-D (1): Require stormwater control facilities to be designed so that the rate of discharge is equivalent to a site's pre-development stormwater discharge for a determined storm frequency or multiple frequencies.

Implementation 2-D (2): Map constrained slopes (over 15% slope) for the purpose of creating a hillside protection overlay zone that requires utilization of special construction techniques before, during and after development that minimize erosion/sedimentation and stormwater runoff, particularly peak storm flows.

Implementation 2-D (3): Require development on slopes to be designed to preserve the vegetative cover (trees and vegetation) or mitigate its removal.

Implementation 2-D (4): Require land-disturbing activities associated with construction to employ comprehensive erosion control practices implemented in the form of an ordinance and a manual to aid developers and City staff.

Implementation 2-D (5): Require water quality control facilities to remove a specified portion of sediments (Total Suspended Solids) from the flow.

Fire and Emergency Services

Goal 1: To deliver fire an emergency services effectively and safely within the City of Medford.

Policy 1-A: The City of Medford shall strive to maintain primary response and reserve fleets of fire protection apparatus, tools and equipment inventory, and staff sufficient to deliver emergency services effectively and safely.

Implementation 1-A (1): Provide funding that enables the Fire Department to rotate and replace apparatus, tools, and equipment on a predetermined schedule.

Implementation 1-A (2): Implement the following replacement and rotation schedule for apparatus: Apparatus shall remain in front line status for no longer than 15 years, when it shall be rotated to reserve status and replaced with new apparatus. Reserve apparatus shall remain in reserve for no longer than five years, when it shall

be disposed of. Prepare a replacement and rotation schedule for tools and equipment that includes rotating them into reserve status or removing them from service.

Policy 1-B: The City of Medford shall provide staffing for the Medford Fire Department sufficient for the effective delivery of emergency services and related business functions.

Implementation 1-B (1): Add additional fire companies when statistical information indicates that the existing companies cannot provide adequate emergency response or no longer meet the demands of routine business.

Implementation 1-B (2): Maintain emergency response and routine business function statistics for human resource planning.

Goal 2: To maintain and/or reduce fire insurance costs within the City of Medford by achieving the best Insurance Services Office (ISO) rating possible, within funding capabilities.

Policy 2-A: The City of Medford shall strive to increase its Insurance Services Office (ISO) rating while continuing to meet ISO requirements for the current ratings.

Policy 2-B: The City of Medford shall provide a residential sprinkler program for those specific areas determined to be best served by requiring this form of enhanced fire protection.

Implementation 2-B (1): Develop governing criteria for requiring installation of residential sprinkler systems in the form of a Municipal Code amendment for consideration by the City Council.

Goal 3: To achieve the Medford Fire Department response time goals within the City of Medford.

Policy 3-A: The City of Medford shall strive to provide fire stations in strategic locations as identified by the 1994 *Medford Fire Station Location Study* and any updates.

Implementation 3-A (1): Secure funding to move forward with the fire station construction plan.

Policy 3-B: The City of Medford shall strive to provide the most current technology in emergency response dispatch and records management to quickly gather and process information and deploy emergency response units, and to document response time information.

Implementation 3-B (1): Use a Computer Aided Dispatch/Records Management System (CAD/RMS) for strategic planning and decision-making. Establish funding to maintain the system and provide upgrades as technology changes or is mandated, including upgrades to software, hardware, and the underlying communications network.

Policy 3-C: The City of Medford Fire Department shall provide staff to adequately review development proposals for compliance with the Uniform Fire Code.

Implementation 3-C (1): Review development proposals to assure adequate and timely access for all necessary fire apparatus.

Law Enforcement

Goal 1: To provide a safe and secure environment for people and property in the City of Medford.

Policy 1-A: The City of Medford Police Department shall strive to provide rapid and timely response to all emergencies.

Implementation 1-A (1): Analyze and monitor current response times, and compare them to past experience, to determine the effectiveness of such factors as police staffing and community policing programs.

Implementation 1-A (2): Provide training to certify personnel in First Aid and Cardiopulmonary Resuscitation (CPR).

Implementation 1-A (3): Maintain, train, and equip special response teams for extraordinary or extremely hazardous emergency incidents.

Policy 1-B: The City of Medford Police Department shall strive to control and/or intervene in conduct recognized as threatening to life and property.

Implementation 1-B (1): Provide on-scene services to restore the peace and prevent further injury to life or property.

Implementation 1-B (2): Identify evolving crime patterns; particularly those involving career criminals, and study methods to further enhance community-oriented policing.

Implementation 1-B (3): Enhance investigation and victim services abilities by providing advanced officer training.

Implementation 1-B (4): Continue and enhance property protection programs in the commercial and industrial sectors.

Implementation 1-B (5): Identify geographical areas or population groups experiencing noticeable crime victimization to improve effectiveness of crime prevention efforts, and commit resources, as appropriate, to these areas.

Policy 1-C: The City of Medford Police Department shall continue to provide investigative services directed toward successful prosecution of criminal offenders.

Implementation 1-C (1): Enhance the success of follow-up investigation and subsequent court presentation by providing quality preliminary investigations and case management.

Implementation 1-C (2): Document factors that help solve major crimes and

monitor the effectiveness and efficiency of the investigative process.

Implementation 1-C (3): Continue and enhance the investigator/victim/ witness relationship and maintain a cooperative liaison with the prosecuting attorney.

Policy 1-D: The City of Medford shall strive to coordinate law enforcement planning with local, regional, state and federal plans.

Implementation 1-D (1): Establish and maintain liaison relationships and, as appropriate, agreements for mutual aid, with local, state and federal emergency response and planning agencies.

Implementation 1-D (2): Participate in major disaster preparedness planning at all levels of government.

Goal 2: To increase and maintain public confidence in the ability of the City of Medford to provide quality law enforcement services.

Policy 2-A: The City of Medford Police Department shall strive to maintain an open channel of communication with community members.

Implementation 2-A (1): Assess community needs and expectations on an ongoing basis and report periodically to the City Council regarding citizen complaints and citizen commendations received by the Communication Advisory Committee.

Policy 2-B: The City of Medford Police Department shall strive to aid those who cannot care for themselves (intoxicated, addicted, mentally ill, physically disabled, the young, the old, etc.) and provide crisis intervention and conflict management as appropriate.

Policy 2-C: The City of Medford Police Department shall strive to reduce crime by strengthening the police/community partnership.

Implementation 2-C (1): Continue and enhance neighborhood-based crime prevention activities and programs (i.e., Neighborhood Watch) designed to reinforce positive juvenile behavior, prevent juvenile delinquency and encourage citizen involvement.

Implementation 2-C (2): Continue and enhance programs designed to prevent and reduce drug and alcohol abuse, as well as school violence, including joint education programs with city schools, such as the School Resource Officer program.

Implementation 2-C (3): Evaluate the potential for a Police Athletic League or other variety of police/youth programs to allow further police/juvenile interaction and to offer a positive action alternative to children.

Parks, Recreation, and Leisure Services

Goal 1: To provide for a full range of recreational activities and opportunities to meet the needs of all residents of Medford.

Policy 1-A: The City of Medford shall use the *Parks, Recreation and Leisure Services Plan*, and any revision thereof, as a factual basis in the land use decision-making process.

Policy 1-B: The City of Medford shall recognize the social and economic value of nearby county, state, and national recreation resources that provide in-place recreation for Medford residents, create tourist expenditures within the City of Medford, and attract businesses and industries to the City.

Implementation 1-B (1): Provide park and recreation programs that complement nearby county, state, and national recreation resources.

Goal 2: To preserve natural resources in the Medford Urban Growth Boundary that provide open space or have unique recreational potential, and to encourage appropriate development if such areas meet locational requirements for parks and recreation facilities.

Policy 2-A: The City of Medford shall emphasize acquiring park land having trees, natural features, or other values that are inadequately protected and of significant interest to the public.

Implementation 2-A (1): Develop a long-range public open space plan that provides for an interconnected system of creek corridors, greenways, wetlands, and other significant natural areas.

Implementation 2-A (2): Investigate and implement methods for developing off-street multi-use paths along appropriate creek corridors, greenways, utility corridors, and other rights-of-way, particularly where such paths would provide links to schools and parks**.**

Policy 2-B: The City of Medford shall give special consideration to the Bear Creek corridor in order to protect this dynamic natural and recreational resource for the enjoyment of present and future generations.

Implementation 2-B (1): Directly and/or cooperatively acquire, and plan appropriate park and recreation sites and public access along the Bear Creek corridor.

Policy 2-C: The City of Medford shall give special consideration to Prescott Park in order to protect this dynamic natural and recreational resource and most significant scenic view for the enjoyment of present and future generations.

Implementation 2-C (1): Follow the recommendations of the *Prescott Park Management Plan*, and regularly update the Plan.

Implementation 2-C (2): Pursue land additions to Prescott Park when opportunities become available.

Implementation 2-C (3): Pursue inclusion of Prescott Park in the Medford Urban Growth Boundary for eventual inclusion within the City of Medford.

Goal 3: To coordinate park and recreation planning, acquisition, and development processes in the City of Medford that involves a broad spectrum of citizen and institutional interests.

Policy 3-A: The City of Medford shall adequately serve each geographic area within the City of Medford with a variety of park and recreation facilities, balanced on a per capita basis.

Policy 3-B: The City of Medford shall design and maintain parks and recreation facilities in a safe, attractive manner, so as to be positive amenities for the community and the neighborhoods in which they are located.

Implementation 3-B (1): Provide signage in parks and park facilities sufficient to identify their public purpose and function.

Policy 3-C: The City of Medford shall design parks and recreation facilities that minimize operation and maintenance costs.

Policy 3-D: The City of Medford shall encourage joint acquisition of contiguous school and park sites.

Policy 3-E: The City of Medford shall allow compatible, revenue-producing concession facilities and services that enhance visitor use and enjoyment of the City's parks.

Policy 3-F: The City of Medford shall provide a fee schedule for parks and recreation programs that is uniform throughout the service area, and that does not preclude program use by disadvantaged persons living in the service area.

Goal 4: To provide a variety of public art in Medford's public places.

Policy 4-A: The City of Medford shall encourage the establishment of public art in parks, on public grounds, and in public buildings.

Implementation 4-A (1): Investigate mechanisms for getting art in public places.

Goal 5: To maintain community livability in Medford by promoting the planting of new trees and the protection of existing trees.

Policy 5-A: The City of Medford shall encourage the retention of existing trees.

Implementation 5-A (1): Develop a tree protection ordinance that protects existing trees on vacant developable property and trees of a "heritage tree" nature for consideration by the City Council.

Solid Waste Management

Goal 1: To achieve a cost-effective, locally controlled, technologically feasible, environmentally sound, and publicly acceptable solid waste management system for the City of Medford.

Policy 1-A: The City of Medford shall support and promote compliance with state and county solid waste management plans.

Policy 1-B: The City of Medford shall participate in the implementation of the regional solid waste management plan developed through a cooperative effort of local governments and the private sector.

Implementation 1-B (1): Provide City technical staff assistance, as appropriate, to ongoing interagency committees dealing with solid waste management.

Policy 1-C: The City of Medford shall review City policies and ordinances governing the siting, permit review process, and development standards for those solid waste system facilities that may be needed within the Medford Urban Growth Boundary in the future.

Policy 1-D: The City of Medford shall continue to carry out a program that effectively addresses illegal dumping of solid waste.

Policy 1-E: The City of Medford shall assure that appropriate measures are taken to secure compatibility between the development and use of the Dry Creek Landfill and Prescott Park.

Goal 2 - To achieve a steady long-term decrease in the per-capita amount of solid waste being disposed of in landfills by the residents of Medford.

Policy 2-A: The City of Medford shall strive to manage the City's solid waste according to the state management hierarchy of reduce, reuse, recycle, compost, recover energy, incinerate, and landfill.

Policy 2-B: The City of Medford shall cooperate in public/private efforts to develop, implement, and fund innovative, cost-effective waste prevention and recycling activities and programs.

Schools

Goal 1: To support excellent public education for Medford's citizens.

Policy 1-A: The City of Medford will cooperate with Medford School District 549C and Phoenix-Talent School District in providing public improvements and services needed to support adopted educational programs, and urge the school districts to participate actively in the City's comprehensive planning and development review process.

Goal 2: To utilize Medford public school facilities as positive community assets.

Policy 2-A: The City of Medford shall strive to minimize the costs of schools and parks by continuing the practice of joint location, acquisition, and use of sites for both schools and parks.

Policy 2-B: The City of Medford shall encourage the use of schools as an integral part of the

community by urging the school districts to allow community use of school facilities when the uses do not conflict with the primary use of the school facility.

Health Services

Goal 1: To support the provision of adequate health services and facilities to meet the needs of the people within the Medford Urban Growth Boundary and the region.

Policy 1-A: The City of Medford shall strive to provide transportation, utilities, and other public facilities and services needed to support health care facilities within the Urban Growth Boundary, consistent with the health care facilities' growth requirements.

Policy 1-B: The City of Medford shall encourage cooperation among local, state, federal, and private agencies in planning and providing for health and related social services.

Policy 1-C: The City of Medford shall encourage the development and/or expansion of health services to meet regional as well as local needs.

GENERAL LAND USE PLAN ELEMENT

Goal 1: To maintain and update the City of Medford General Land Use Plan Map.

Policy 1-A: The City of Medford General Land Use Plan Map shall be reviewed at least every five years, and may be amended whenever it is determined that a change is warranted. Amendment criteria are contained in the *Review and Amendment* section of the *Comprehensive Plan*, and procedural requirements are contained in "Article II" of the *Land Development Code*.

Goal 2: To administer the City of Medford General Land Use Plan Map so as to further the purposes of the Map and the Comprehensive Plan.

Policy 2-A: The City of Medford General Land Use Plan Map shall not be used as the sole justification for making decisions on zone changes. However, zone changes must be consistent with the General Land Use Plan Map designation.

Policy 2-B: Because the City of Medford General Land Use Plan Map is general and non-site-specific, ambiguities may arise. If it is unclear whether a specific property is in a particular designation, the Planning Commission shall be requested to interpret the designation boundaries. The Commission shall consider the character of surrounding uses, past interpretations, and applicable goals and policies of the *Comprehensive Plan* when making an interpretation.

NEIGHBORHOODS ELEMENT

SOUTHEAST PLAN

Goal 1: To assure that development in the SE Area occurs in a manner that reduces reliance on automobile travel within the area and promotes multi-modal travel, including pedestrian, bicycle and transit.

Policy 1-A: The City of Medford shall assure that circulation and development design in the SE Area emphasizes connectivity and promotes multi-modal transportation viability.

Implementation 1-A (1): Do not allow private streets to prevent vehicular or pedestrian connectivity or public access to greenways, parks, schools, or other activity centers.

Implementation 1-A (2): Discourage gated or "dead-end" developments because they prevent connectivity and neighborhood formation. Require adjacent developments to integrate with one another.

Implementation 1-A (3): Assure that development design and street improvements on North Phoenix Road promote non-vehicular access across this major arterial at intersections.

Implementation 1-A (4): Discourage development site design along collector and arterial streets from creating a "walled" effect near the sidewalk.

Implementation 1-A (5): Encourage the Rogue Valley Transportation District (RVTD) to serve the SE Area with transit service as soon as feasible.

Policy 1-B: The City of Medford shall assure that the Village Center is developed as a pedestrian-oriented, mixed use, higher density central core (Transit Oriented District) for the SE Area.

Implementation 1-B (1): Require special design for development within the Village Center, affecting such elements as building location and orientation, lighting, signage, parking, outdoor storage and display, greenway/wetlands treatment, etc.

Implementation 1-B (2): Limit the commercial zoning districts and permitted uses within the commercial portion of the Village Center to assure pedestrian-oriented development.

Implementation 1-B (3): Require master planning of the entire Commercial Center Core Area of the Village Center prior to development approval.

Implementation 1-B (4): Promote the location of public and quasi-public uses within the Village Center, such as a fire station, day care center, community center, church, park, public plaza, etc.

Policy 1-C: The City of Medford shall support the location of small neighborhood commercial sites in the SE Area outside the Village Center.

Goal 2: To assure that development in the SE Area occurs in a manner that preserves its abundant natural features and resources.

Policy 2-A: The City of Medford shall strive to provide a system of interconnected open spaces in the SE Area utilizing drainageways and stream corridors open to public view and access.

> **Implementation 2-A (1):** Accentuate drainageways and stream corridors by locating street rights-of-way collinear and adjacent to them in order to open them for public view and access. Such placement should be outside the Greenway, should not disturb the riparian area, and should be in conjunction with enhancement and/or restoration. Creekview Drive in particular should be so located in relation to the Middle Fork of Larson Creek.

Policy 2-B: The City of Medford shall strive to protect natural features and resources in the SE Area, including restoration when necessary.

> **Implementation 2-B (1):** Encourage clustered development to avoid alteration of important natural features.
>
> **Implementation 2-B (2):** Apply best management practices for private and public development activities that affect streams, drainageways, and wetlands, including reducing impervious surfaces so that runoff is slowed and filtered.
>
> **Implementation 2-B (3):** Require hillside development to meet stringent standards limiting grading and vegetation disturbance, and minimizing visual intrusion.
>
> **Implementation 2-B (4):** Require tree preservation plans indicating existing trees of more than six inches in diameter, in conjunction with development applications.

Policy 2-C: The City of Medford shall pursue the continuing evaluation of the SE Area's natural resources to determine which should be protected by permanent use restrictions or public ownership, and which can be included in environmentally sensitive development.

Goal 3: To provide for the implementation of the Southeast Plan.

Policy 3-A: The City of Medford shall use zone change procedures as the timing mechanism to control development within the SE Area, based upon the availability and adequacy of public facilities and services, as required by the Medford *Comprehensive Plan* and Medford *Land Development Code*. However, future zone changes in the City will be exempt from meeting the minimum transportation LOS standard for the alternatively-designed section of Barnett Road located within the Southeast Commercial Center because Barnett Road within the Commercial Center is desired to have a high level of slow moving traffic.

> **Implementation 3-A (1):** Assess *Medford Land Development Code* language related to transportation LOS to determine if changes are needed to accommodate the exemption of zone

changes in the City from meeting the minimum transportation LOS standard for the alternatively-designed section of Barnett Road located within the Southeast Commercial Center.

Policy 3-B: Where a street functions as the boundary separating two land use designations or categories in the SE Area, changes to the street location resulting from planning actions shall shift the designations or categories accordingly. Encourage similar land use types to be located facing one another across streets with changes in land use types occurring at the backs of lots where possible.

Policy 3-C: The City of Medford shall pursue the future adoption of regulations and design criteria that promote transportation oriented design in the SE Area pursuant to the recommendations of the *Rogue Valley Regional Transportation Plan, the Medford Transportation System Plan,* and other plans as adopted.

Policy 3-D: The City of Medford shall assure that notice is provided to the Medford and Phoenix-Talent School Districts that land designated for future schools and/or parks in the SE Area may be acquired by the City or school district for such purposes. The City shall notify the applicable school district of pending development permit applications on such land. The City shall not withhold the approval of zoning or development permit applications solely on the basis that a school district or the City has not acquired title to the property. Nothing in this policy prohibits the location of a school or park from changing.

Policy 3-E: The City of Medford shall seek to expend parks systems development charges (SDC's collected within the SE Area on park-related improvements within the same SE Area.

Transportation System Plan Element

Overall Transportation System

GOAL 1: To provide a multi-modal transportation system for the Medford planning area that supports the safe, efficient, and accessible movement of all people and goods, and recognizes the area's role as the financial, medical, tourism, and business hub of Southern Oregon and Northern California.

Policy 1-A: The City of Medford shall manage projected travel demand consistent with community, land use, environmental, economic and livability goals.

Implementation 1-A(1): Utilize the projections in the *Regional Transportation Plan* (RTP) regarding projected travel demand over the 20-year planning period in managing the transportation system.

Implementation 1-A(2): Utilize the *Medford Comprehensive Plan*, including the land use plan covering the 20-year planning period, in managing transportation system.

Implementation 1-A(3): Design and improve arterial streets so that the minimum overall performance during peak travel periods meets Level of Service "D."

Implementation 1-A(4): Consider revisions to the City's concurrency ordinance to manage development-related traffic impacts consistent with other community goals.

Policy 1-B: The City of Medford shall use the *Transportation System Plan* as the legal basis and policy foundation for decisions involving transportation issues.

Implementation 1-B(1): Utilize the *Medford Transportation System Plan* to identify the measures and programs to be undertaken to increase mobility for all travel modes, including implementing standards and ordinances, and design standards and construction specifications for capital construction projects that are consistent with the Plan.

Implementation 1-B(2): Update the *Medford Transportation System Plan* as necessary to remain consistent with regional and statewide plans and laws.

Implementation 1-B(4): Coordinate transportation planning and construction with appropriate agencies.

Implementation 1-B(5): Adopt the *Regional Transportation Plan* (RTP) by reference in the *Medford Comprehensive Plan* to the extent that this Plan is consistent with the *Medford Transportation System Plan*. Where inconsistencies exist, the City shall work cooperatively with the Rogue Valley Metropolitan Planning Organization (RVMPO) to resolve differences.

Implementation 1-B(6): Require *Comprehensive Plan, Land Development Code,* and Zoning Map amendments to contain findings that show how the action is in conformity with the adopted tenets of the *Medford Transportation System Plan.*

Implementation 1-B(7): Include projects and programs adopted in the *Medford Transportation System Plan* that are of regional or statewide significance, or that require the use of state or federal funding, within the Regional Transportation Improvement Program and State Transportation Improvement Program.

Overall Transportation System – Funding

Policy 1-C: The City of Medford's top priority for the use of transportation funds shall be to address the maintenance, operational, and safety needs of the transportation system.

Implementation 1-C(1): Utilize a street utility fee as the primary funding source for street system operations and maintenance activities and utilize state highway fuel tax funds to meet the financial requirements of the street operations and maintenance program.

Implementation 1-C(2): Participate in cooperative agreements with state and local jurisdictions for maintenance and operations activities, based on equitable determinations of responsibility and benefit.

Implementation 1-C(3): Pursue federal, state, and private grants to augment operations and construction.

Policy 1-D: The City of Medford's second priority for the use of transportation funds shall be to maximize efficient use of the existing transportation system through use of Transportation System Management (TSM) and Transportation Demand Management (TDM) measures prior to expending transportation funds on capacity improvements.

Implementation 1-D(1): Utilize transportation demand management measures as the first choice for accommodating travel demand and relieving congestion in a travel corridor, before street widening projects are undertaken.

Policy 1-E: The City of Medford's third priority for the use of transportation funds shall be to fund capital improvements that add capacity to the transportation system. These improvements shall be prioritized based on availability of funds, reducing reliance on the automobile, improving safety, relieving congestion, responding to growth, and system-wide benefits.

Implementation 1-E(1): Give priority to funding projects that most increase capacity and relieve congestion, such as intersection improvements as opposed to general street widening, consistent with the adopted level of service (LOS) standards.

Implementation 1-E(2): Require new development to mitigate its impacts on the transportation system through on-site system improvements consistent with the TSP required as conditions of approval. Also require off-site improvements consistent with the TSP when they can be found to be proportional to the impacts on the transportation system ("Dolan finding").

Implementation 1-E(3): Collect transportation system development charges (SDC's), as defined by *Oregon Revised Statutes* and local ordinances, to mitigate impacts of new development on area-wide transportation facilities in the Medford planning area.

Implementation 1-E(4): Utilize the projects and needs identified in the *Medford Transportation System Plan* as the basis for selecting and prioritizing transportation improvement projects in the Capital Improvement Program and into regional and state transportation improvement programs, consistent with the adopted goals and policies of the *Medford Comprehensive Plan.*

Implementation 1-E(5): Seek federal funding for capital improvements through participation in the Rogue Valley Metropolitan Planning Organization (RVMPO) or other designated distribution process as provided in federal transportation legislation.

Implementation 1-E(6): Utilize the sale of bonds as a means to finance capital improvements to the transportation system. Select such projects through authorization by the City Council or a vote of the citizens of the City.

Implementation 1-E(7): Investigate establishing a trust fund account for acquisition of property for future right-of-way opportunities

Street System

GOAL 2: To provide a comprehensive street system that serves the mobility and multi-modal transportation needs of the Medford planning area.

Street System – Classification

Policy 2-A: The City of Medford shall classify streets so as to provide an optimal balance between mobility and accessibility for all transportation modes consistent with street function.

Implementation 2-A(1): Utilize the Medford Street Functional Classification Plan Map of the *Medford Transportation System Plan* to identify land for public rights-of-way and to give advance notice to property owners and citizens regarding future expansions of the street system.

Implementation 2-A(2): Provide a grid network of higher order (i.e., Arterial and Collector) streets that link the central core and major industrial areas with major highways and that connect with each other and the lower order street system.

Implementation 2-A(3): Provide a grid network of interconnected lower order (local) streets that disperses traffic and supplies connections to higher order streets, employment centers, and neighborhood activity centers, and provides appropriate emergency access**.**

Implementation 2-A(4): Develop and adopt conceptual Neighborhood Circulation Plans as stand alone plans or as part of neighborhood or area plans to be implemented as development of these areas occurs. Such Plans shall indicate the function of proposed streets and design standards needed to minimize disruption of existing neighborhoods while assuring adequate access commensurate with the intensity of planned new development and redevelopment.

Such plans shall also identify key neighborhood destinations and an interconnected system of bicycle and pedestrian facilities to serve these destinations, as well as to connect with areas outside of the neighborhood.

Implementation 2-A(5): Develop a system of Collector and local residential streets that have adequate capacity to accommodate planned land uses, but preserve the quiet, privacy, and safety of neighborhood living by staying within their capacity.

Policy 2-B: When classifying streets, the City of Medford shall consider impacts to neighborhood livability. Prior to upgrading a street classification in a residential area to a higher order classification, the City shall consider alternatives that would preserve the livability of the affected residential neighborhood, and, if reclassification proceeds, shall consider mitigation measures.

Implementation 2-B(1): Apply the following measures to mitigate noise, aesthetic, and safety impacts when streets that are adjacent to or bisect residential areas are reclassified and constructed to Collector or Arterial street standards: (a) Connect affected residential areas to other areas of the community with safe and efficient bicycle and pedestrian improvements; and (b) Consider mitigation measures to physically buffer the affected residential areas from traffic noise. These may include installation of major landscape/streetscape components such as landscaped buffers, walls or fencing, tree plantings, and the creation of open spaces.

Street System – Design

Policy 2-C: The City of Medford shall design the street system to safely and efficiently accommodate multiple travel modes within public rights-of-way.

Implementation 2-C(1): Apply the street design standard that most safely and efficiently provides multi-modal capacity respective to the functional classification of the street, mitigating noise, energy consumption, neighborhood disruption, economic losses, and other social, environmental, or institutional disruptions. Use of adopted neighborhood plans should determine the specific look and character of each neighborhood and its street system.

Implementation 2-C(2): Limit Major Arterial streets to a total cross-section width of no more than five travel lanes, except at intersections. Accommodate travel demand that would otherwise require a width of more than five lanes through increased system connectivity, transit service, use of transportation demand management (TDM) strategies, and other alternative modes of transportation.

Implementation 2-C(3): Require pedestrian/bicycle accessways when there is not a direct street connection, to pass through long blocks, or to connect cul-de-sac streets with nearby streets, or to connect to nearby bicycle paths, etc. to create more direct non-motorized access where appropriate.

Implementation 2-C(4): Involve affected citizens in an advisory role in transportation project design.

Implementation 2-C(5): Design the transportation system with consideration of the needs of persons with disabilities by meeting the requirements in the Americans with Disabilities

Act (ADA).

Implementation 2-C(6): Assure that the design and operation of the transportation system allows for the safe and rapid movement of fire, medical, and police vehicles.

Implementation 2-C(7): Require new development and redevelopment projects, as appropriate, to connect to and extend local streets to planned future streets, to neighborhood activity centers, such as parks, schools, and retail centers, to transit routes, and to access adjoining undeveloped or underdeveloped property.

Implementation 2-C(8): Require new development and redevelopment projects to include accessibility for all travel modes and coordinate with existing and planned developments.

Implementation 2-C(9): Limit cul-de-sac streets, minimum access streets, and other "dead end" development to situations where access cannot otherwise be made by a connected street pattern due to topography or other constraints.

Implementation 2-C(10): Adopt maximum block length standards for local streets to assure good circulation.

Implementation 2-C(11): Incorporate into the *Medford Land Development Code* standards to govern the spacing of street intersections, signal installation, driveway access, and sight distance.

Policy 2-D: The City of Medford shall balance the needed street function for all travel modes with adjacent land uses through the use of context-sensitive street and streetscape design techniques.

Implementation 2-D(1): Identify unique street design treatments, such as boulevards or "main" streets, through the development and use of special area plans, neighborhood plans, or neighborhood circulation plans adopted in the *Medford Comprehensive Plan*.

Implementation 2-D(2): Utilize design techniques for local streets, such as reduced widths and lengths, curb extensions, and other traffic calming measures, to lower vehicular speeds, provide a human-scale environment, facilitate pedestrian crossing, and minimize adverse impacts on the character and livability of neighborhoods and business districts, while still allowing for emergency vehicle access.

Implementation 2-D(3): When designing new or reconstructed streets, make adjustments as necessary to avoid valuable topographical features, natural resources, historic properties, schools, cemeteries, significant cultural features, etc. that affect the livability of the community and the surrounding neighborhood.

Policy 2-E: The City of Medford shall design to enhance livability by assuring that aesthetics and landscaping are a part of Medford's transportation system.

Implementation 2-E(1): Incorporate aesthetic streetscape features into public rights-of-way, such as street trees, shrubs, and grasses; planting strips and raised medians; street furniture, planters, special lighting, public art, and paving materials which include

architectural details.

Policy 2-F: The City of Medford shall bring Arterial and Collector streets up to full design standards where appropriate, and facilitate improving existing local streets to urban design standards where appropriate.

Implementation 2-F(1): Balance the needs of pedestrians, bicyclists, and motor vehicles when reconstructing streets that cannot meet full functional classification standards.

Street System – Transportation Demand Management

Policy 2-G: The City of Medford shall undertake efforts to reduce per capita vehicle miles traveled (VMT) and single-occupancy vehicle (SOV) demand through transportation demand management (TDM) strategies.

Implementation 2-G(1): Promote the use of alternative commute options to reduce motor vehicle travel generated by employment sites and schools by serving as an institutional model for the community through participation in the Transportation Management Association (TMA), providing incentives for City of Medford employees to utilize transportation demand management (TDM) strategies, and actively participating in local, state, and national TDM activities, such as Car Free Day. (Examples of TDM strategies include free or subsidized bus passes, trip reduction planning, compressed work weeks, telecommuting options, flexible work schedules, ride matching for car/van pools, customer and employee parking management, guaranteed rides home in emergencies, indoor bicycle storage, shower/locker facilities, etc.)

Implementation 2-G(2): Encourage employers to design and implement trip-reduction plans, including strategies that encourage use of alternative transportation modes, discourage commuting in single occupancy vehicles, and promote telecommuting and the use of work hours that do not contribute to peak-hour congestion. Encourage private sector employers to take advantage of tax incentive programs for transportation demand management efforts. Encourage the formation of employer transportation management associations that allow the pooling of resources in implementing trip reduction plans, such as guaranteed emergency ride home and vanpool programs.

Implementation 2-G(3): Support and assist the efforts of the Rogue Valley Transportation District in maintaining a regional transportation demand management (TDM) program, which includes such components as a rideshare matching program, carpool/vanpool matching, park-and-ride lots, and information regarding transit service, bicycle routes, telecommuting, etc.

Implementation 2-G(4): Participate in public outreach to raise awareness about the use of transportation demand management (TDM) strategies, such as periodic newsletters for decision-makers, employers, schools, organizations, and individuals; information handouts at appropriate public events; advertising and public service announcements; school outreach; services for employers; and recognition for TDM efforts. Actively market to groups having the greatest potential for reducing single occupancy vehicle trips, such as large employment sites and commuting students.

Implementation 2-G(5): Encourage school districts to promote and utilize walking, bicycling, and school busing whenever possible to reduce motor vehicle trips needed to transport students to and from classes and events.

Street System – Transportation System Management and Safety

Policy 2-H: The City of Medford shall manage and maintain the transportation system in an efficient, clean, and safe manner.

Implementation 2-H(1): Require Traffic Impact Analyses (TIAs), as appropriate, in conjunction with development applications to assess impacts on the existing and planned transportation system, and require transportation system improvements that are identified through the TIA or by other *Medford Municipal Code* requirements as a condition of approval of development permits and land use actions.

Implementation 2-H(2): Utilize access management, including access location and spacing, to increase the capacity and safety of the transportation system. Incorporate access management techniques, such as raised medians, access management plans, driveway consolidation, driveway relocation, and closure of driveway access, into Arterial and Collector street design and development applications.

Implementation 2-H(3): Continue to modernize the traffic signal system and improve its efficiency by ultimately connecting all signals to the centralized traffic control center. Employ traffic signal timing plans that maximize efficiency during different time periods. Provide a program to identify locations for new/modified signals.

Implementation 2-H(4): Utilize Intelligent Transportation Systems (ITS) such as real-time traffic monitoring cameras and management projects, that provide motorist information and incident response/clearance programs, to alleviate traffic congestion.

Implementation 2-H(5): Provide adequate funding to preventatively maintain and manage public paved surfaces, sidewalks, bikeways, bridges, traffic control devices, street lighting, etc., at the lowest life-cycle cost.

Implementation 2-H(6): Provide a street cleaning program that uses best management practices (BMPs) to reduce impacts on air and water quality from street debris.

Policy 2-I: The City of Medford shall promote transportation safety.

Implementation 2-I(1): Maintain an inventory of traffic control devices (i.e., traffic signals, signs, striping, and markings).

Implementation 2-I(2): Require maintenance of sight-distance areas adjacent to intersections and driveways, to keep clear of fencing, landscaping, foliage, etc. that could obstruct the view of motorists, bicyclists, and pedestrians.

Implementation 2-I(3): Actively enforce motor vehicle codes related to transportation safety.

Implementation 2-I(4): Promote traffic safety education and awareness, emphasizing the responsibilities required of motor vehicle drivers, in order to reduce the per capita number of motor vehicle accidents.

Street System – Parking Management

Policy 2-J: The City of Medford shall prohibit on-street parking on Arterial and Major Collector streets in order to maximize the capacity of the transportation system except in the Downtown Parking District, in adopted Transit Oriented Districts **(**TODs), or where permitted through the development and use of special plans adopted in the *Medford Comprehensive Plan*.

Implementation 2-J(1): Remove existing on-street parking in preference to widening Arterial and Collector streets to gain additional travel lanes, bicycle lanes, and sidewalks, except where on-street parking has been determined to be essential through special plans adopted in the *Medford Comprehensive Plan.*

Implementation 2-J(2): Expand the Downtown Parking District boundaries to be consistent with the Central Business District (C-B) overlay zone boundaries and manage as a financially self-supportive operation.

Policy 2-K: The City of Medford shall manage on-street parking in the Downtown and in other adopted Transit Oriented Districts (TODs) to assist in slowing traffic, facilitating pedestrian movement, and efficiently supporting local businesses and residences consistent with the land use and mobility goals for each street.

Implementation 2-K(1): If necessary to preserve the supply of on-street parking in residential areas for use by residents, restrict the overflow parking of nearby employment centers, entertainment venues, schools, or other institutions through use of a residential parking permit program.

Implementation 2-K(2): In areas where demand exists, provide on-street carpool and vanpool parking spaces and/or loading zones having preferential location/timing over general purpose on-street parking spaces, giving consideration to locations where on-street parking is needed to support an existing business district.

Policy 2-L: The City of Medford shall require an appropriate supply and design of off-street parking facilities to promote economic vitality, neighborhood livability, efficient use of urban space, reduced reliance on single occupancy motor vehicles, and to make certain areas, such as Transit Oriented Districts (TODs), more pedestrian friendly.

Implementation 2-L(1): Require a minimum and maximum number of off-street parking spaces based on the typical daily needs of the specific land use type. **(**A parking space maximum standard assures that unnecessary consumption of land area is avoided.) Designate areas of the City where no off-street parking would be required.

Implementation 2-L(2): Set prices for city-owned public parking facilities to a level that discourages employees from using single occupancy vehicles to commute to work, and that reflects the relative demand for parking and the cost of constructing, maintaining, and operating such facilities. Offer free or discounted prices for carpool parking in public

parking facilities.

Implementation 2-L(3): For off-street parking lots over three (3) acres in size, require street-like features along major driveways and safe pedestrian access facilities between the street, locations within the lot, and buildings.

Policy 2-M: The City of Medford shall undertake efforts to contribute to a reduction in the regional per capita parking supply to promote the use of alternatives to the single occupancy motor vehicle.

Implementation 2-M(1): Every five years, estimate the parking supply in areas designated for commercial, industrial, and institutional uses by the *Medford Comprehensive Plan* in order to monitor progress toward meeting the goal of reducing parking supply per capita by ten percent over the 20-year planning period.

Implementation 2-M(2): Allow non-residential development to satisfy off-street parking requirements through preparation and implementation of a trip reduction plan to increase the use of alternative modes of transportation by employees and customers.

Implementation 2-M(3): Assure that major facilities with a high parking demand meet the demand through a combination of shared, leased, and new off-street parking facilities, access by transit, and encourage designs that reduce parking need.

Implementation 2-M(4): Encourage employers to charge for employee parking.

Public Transportation System

GOAL 3: To facilitate the increased use of public transportation in the Medford planning area, as the adequacy of transit service is a measure of the quality of life in a community.

Policy 3-A: The City of Medford shall undertake efforts to increase the percentage of total daily trips taken in the Medford planning area by transit, consistent with the target benchmarks in the "Alternative Measures" of the *2001-2023 Rogue Valley Regional Transportation Plan* (RTP).

Policy 3-B: The City of Medford shall support the provision of convenient and accessible transit service to, from, and within the Medford planning area, especially to higher density residential areas, employment centers, and major commercial areas.

Implementation 3-B(1): Support efforts to implement funding strategies that provide adequate, long-term, and stable revenue sources for the transit system, including fares that balance the need for passenger revenues with the goal of maximizing ridership.

Implementation 3-B(2): Support efforts by the Rogue Valley Transportation District to develop and implement a transit system that effectively combines components of radial, neighborhood, and circumferential services, with a minimum of required transfers, to best serve the citizens of and visitors to Medford.

Implementation 3-B(3): Support efforts by the Rogue Valley Transportation District to increase transit service, including increasing the frequency of service (shorter headways), extending the hours of operation, expanding weekend service, and providing express transit service during peak travel periods.

Implementation 3-B(4): Assure that land use planning activities promote transit service viability and accessibility, including locating mixed residential-commercial, multiple-family residential, and employment land uses on or near (within ¼-mile walking distance) transit corridors.

Implementation 3-B(5): Provide transit-supportive street system, streetscape, land division, and site design and operation requirements that promote efficient bus operations and pedestrian connectivity, convenience, and safety.

Implementation 3-B(6): In conjunction with the Rogue Valley Transportation District, establish designs for and implement effective and safe transit stops on Arterial and Collector streets.

Implementation 3-B(7): Work with the Rogue Valley Transportation District to ensure that transit transfer stations and park-and-ride facilities are accessible by pedestrian, bicycle, transit, and motor vehicle travel modes, including provisions for secured bicycle parking, passenger loading, and taxi service, and encourage transit service to intercity passenger bus and aviation terminals.

Implementation 3-B(8): Work with employers to increase commuter transit ridership through employer-based incentives, such as subsidized transit passes.

Policy 3-C: The City of Medford shall undertake efforts to increase the percentage of dwelling units in the Medford planning area located within one-quarter mile walking distance of transit routes, consistent with the target benchmarks in the "Alternative Measures" of the *2001-2023 Rogue Valley Regional Transportation Plan* (RTP).

Policy 3-D: The City of Medford shall link intercity passenger transportation facilities in central Medford to adequate pedestrian facilities, and strive to link all intercity passenger transportation facilities to transit, taxi, and/or shuttle services. The City shall encourage continued operations and future expansion of intercity bus service to and from Medford.

Policy 3-E: The City of Medford shall encourage efforts to make intercity passenger rail service available to the Medford planning area.

Bicycle System

GOAL 4: To facilitate the increased use of bicycle transportation in the Medford planning area, as bicycle facilities are a measure of the quality of life in a community.

Policy 4-A: The City of Medford shall undertake efforts to increase the percentage of total daily trips taken by bicycling in Medford consistent with the target benchmarks in the "Alternative Measures" of the *2001-2023 Rogue Valley Regional Transportation Plan* (RTP).

Implementation 4-A(1): Develop a network of bicycle facilities linking Downtown, other Transit Oriented Districts (TODs), residential neighborhoods, commercial/employment centers, schools, parks and greenways, community centers, civic and recreational facilities, and transit centers.

Implementation 4-A(2): Design streets and other public improvement projects to facilitate bicycling by providing bicycle-friendly paving, lane width, traffic control, storm drainage grates, striping, signage, lighting, etc.

Implementation 4-A(3): Review all development plans for bicycle system continuity and expansion of the system.

Implementation 4-A(4): Work with the Oregon Department of Transportation to improve bicycling conditions on state highways within the Medford planning area.

Implementation 4-A(5): Provide interconnected off-street multi-use paths along stream and waterway corridors, such as Bear Creek and Larson Creek, and in other suitable locations where multiple street or driveway crossings are unlikely and where such facilities can be constructed without causing significant environmental degradation.

Implementation 4-A(6): Regularly review Medford *Land Development Code* provisions to assure that bicycle facility standards for development projects are adequate to achieve the goals and policies of the *Medford Comprehensive Plan*, including the *Transportation System Plan.*

Implementation 4-A(7): Consider development of on-street "bicycle boulevard" treatments using local streets to enhance the connectivity of this system

Policy 4-B: The City of Medford shall undertake efforts to increase the percentage of Arterial and Collector street miles in Medford having bicycle facilities, consistent with the targeted benchmarks in the "Alternative Measures" of the *Rogue Valley Regional Transportation Plan* (RTP).

Implementation 4-B(1): Assure that bicycle facility improvements are a factor in Medford's annual capital improvement programming and budgeting, using the *Medford Transportation System Plan* as the basis to determine priorities.

Implementation 4-B(2): Utilize all opportunities to add bike lanes on Collector and Arterial streets, such as during reconstruction and re-striping projects. Give priority to bicycle traffic over on-street parking on Collector and Arterial streets designated in the *Transportation System Plan* as, or otherwise determined to be, important bicycling routes. Alternatives should be considered where on-street parking is determined to be essential to the success of adjacent businesses in a pedestrian-friendly environment, such as in Downtown, other TODS, activity centers, etc.

Policy 4-C: The City of Medford shall encourage bicycling as an alternative mode of transportation as well as a recreational activity.

Implementation 4-C(1): Form a bicycle advisory and planning committee to support the City's bicycle transportation goals and advise the City on issues related to bicycles.

Implementation 4-C(2): Continue to coordinate with local and regional bicycling proponents, such as the Jackson County Bicycle Advisory Committee and the Bear Creek

Greenway Committee.

Implementation 4-C(3): Regularly maintain bicycle facilities and take actions to improve crossings of railroad tracks, creeks, major streets, etc.

Implementation 4-C(4): Perform accurate record keeping of bicycle volume and accident counts.

Implementation 4-C(5): Whenever feasible, provide public bicycle storage facilities at critical locations within the Downtown and at other activity centers.

Implementation 4-C(6): Install "Share the Road" signage on those Collector and Arterial streets that do not yet have bike lanes.

Implementation 4-C(7): Assure that City of Medford employees, particularly Police Department staff, have adequate training regarding bicycle safety and enforcement issues. Continue and enhance the "Cops on Bikes" program.

Implementation 4-C(8): Initiate a "Share the Road" or similar public information campaign, coordinated with agencies such as the Rogue Valley Transportation District, the Rogue Valley Council of Governments, Jackson County, local bicycling organizations, and nearby municipalities, etc.

Implementation 4-C(9): Support the Rogue Valley Transportation District efforts to facilitate transportation demand management (TDM) strategies that integrate bicycling and transit, such as "bikes on buses", bicycle storage facilities at transit stations and stops, etc.

Implementation 4-C(10): Encourage and support efforts by Medford schools or other community organizations to develop and use a bicycle safety curriculum for students.

Pedestrian System

GOAL 5: To facilitate the increased use of pedestrian transportation in the Medford planning area.

Policy 5-A: The City of Medford shall develop a connected, comprehensive system of pedestrian facilities that provides accessibility for pedestrians of all ages, focusing on activity centers such as Downtown, other Transit Oriented Districts (TODs), commercial centers, schools, parks/greenways, community centers, civic and recreational facilities, and transit centers.

Implementation 5-A(1): Require development and street construction/renovation projects to include sidewalks and walkways.

Implementation 5-A(2): Design street intersections, particularly Arterial and Collector street intersections, with convenient, safe, and accessible pedestrian crossing facilities.

Implementation 5-A(3): Require development within activity centers, business districts, and Transit Oriented Districts (TODs) to focus on and encourage pedestrian travel, and require sidewalks, accessways, and walkways to complement access to transit stations/stops

and multi-use paths.

Implementation 5-A(4): Utilize an interconnecting network of multi-use paths and trails to compliment and connect to the sidewalk system, using linear corridors such as creeks, canals, utility easements, railroad rights-of-way, etc.

Policy 5-B: The City of Medford's first priority for pedestrian system improvements shall be access to schools; the second priority shall be access to transit stops.

Implementation 5-B(1): Complete the pedestrian facility network based on the priorities established in the *Transportation System Plan*, with emphasis on gaps in the system.

Policy 5-C: The City of Medford shall undertake efforts to increase the percentage of total daily trips taken by walking in Medford consistent with the targeted benchmarks in the "Alternative Measures" of the *2001-2023 Rogue Valley Regional Transportation Plan* (RTP).

Implementation 5-C(1): Encourage walking for both travel and recreation, emphasizing the health, economic, and environmental benefits for the individual and community.

Implementation 5-C(2): Prepare for consideration by the City Council ordinances that require pedestrian-friendly development design that encourages walking.

Policy 5-D: The City of Medford shall undertake efforts to increase the percentage of Collector and Arterial street miles in Medford's adopted Transit Oriented District (TODs) having sidewalks, consistent with the targeted benchmarks in the "Alternative Measures" of the *2001-2023 Rogue Valley Regional Transportation Plan* (RTP).

Policy 5-E: The City of Medford shall promote pedestrian safety and awareness.

Implementation 5-E(1): Develop crosswalk marking and traffic calming policies that address pedestrian safety in appropriate locations, including signalized intersections, controlled intersections near schools, activity centers, Transit Oriented Districts (TODs), and other locations of high pedestrian volumes.

Implementation 5-E(2): Establish standards for maintenance of pedestrian facilities, accessways and paths, including the removal of hazards and obstacles, and maintenance of benches, landscaping, etc.

Implementation 5-E(3): Comply with the requirements of the Americans with Disabilities Act (ADA) regarding the location and design of sidewalks, walkways, and multi-use paths, and discourage the placement of obstructions within sidewalks.

Implementation 5-E(4): Increase enforcement of pedestrian safety laws and regulations, focusing attention on areas of high pedestrian volumes and in activity centers and Transit Oriented Districts (TODs).

Implementation 5-E(5): Encourage schools, safety organizations, and law enforcement agencies to provide information/instruction regarding pedestrian safety, focusing on accident prevention and education of roadway users regarding their responsibilities when driving, bicycling, and walking.

Implementation 5-E(6): Work toward completion of street lighting systems on all Arterial and Collector streets, and facilitate the formation of neighborhood street lighting districts to provide appropriate street lighting on local streets.

Air Transportation System

GOAL 6: To facilitate the provision of efficient, safe, and competitive movement of people and goods to and from the Rogue Valley International-Medford Airport, recognizing the value of the Rogue Valley International-Medford Airport as a regional resource.

Policy 6-A: The City of Medford shall encourage and support the operation, maintenance, and expansion of facilities and services provided at or near the Rogue Valley International - Medford Airport that accommodate domestic and international passenger air travel services, air cargo, charter flight operations, and airport shuttle service, while balancing adverse community impacts.

Implementation 6-A(1): Encourage the Jackson County Airport Authority to coordinate implementation of the *Rogue Valley International-Medford Airport Master Plan*, and any updates, with the City.

Implementation 6-A(2): Provide for transportation improvements that increase vehicular, pedestrian, bicycle, and public transportation connections to the Rogue Valley International-Medford Airport, and encourage direct transit service to the airport passenger terminal when warranted.

Implementation 6-A(3): Prepare for consideration by the City Council, amendments to the *Medford Comprehensive Plan* that provide for the types and levels of public facilities and services needed to support development located at or planned for the airport, including transportation facilities and services, as required by OAR 660-013 "Airport Planning". Consider the airport environs as a priority area for providing urban levels of public facilities and services.

Implementation 6-A(4): Prepare for consideration by the City Council, amendments to the *Medford Comprehensive Plan* that include the maps and information required by OAR 660-013 "Airport Planning". If the airport sponsor does not provide the economic and use forecast information required by the OAR, the City may limit the airport boundary to areas currently devoted to the airport uses described in the OAR.

Implementation 6-A(5): Prepare for consideration by the City Council ordinances to carry out the requirements of OAR 660-013 "Airport Planning", which require an Airport Safety Overlay Zone to promote aviation safety, if the currently adopted Airport Approach (A-A) and Airport Radar (A-R) Overlay Zoning Districts are not in compliance.

Implementation 6-A(6): Prepare for consideration by the City Council ordinances to carry

out the requirements of OAR 660-013 "Airport Planning" regarding airport compatibility, consistent with applicable statewide planning requirements.

Implementation 6-A(7): Regularly review the *Medford Comprehensive Plan Map* and *Land Development Code* provisions to assure adequate mitigation of aviation impacts, and to assure that land uses near the Rogue Valley International-Medford Airport are compatible with and support airport operations, and minimize noise and safety conflicts and community impacts.

Freight Movement

GOAL 7: To facilitate the provision of a multi-modal transport system for the efficient, safe, and competitive movement of goods and services to, from, and within the Medford planning area.

Policy 7-A: The City of Medford shall promote accessibility to transport modes that fulfill the needs of freight shippers.

Implementation 7-A(1): Develop and adequately sign a street system that provides direct and efficient access to and between industrial and commercial centers, regional intermodal freight facilities, and statewide transport corridors.

Implementation 7-A(2): Utilize street design standards that meet the weight and dimensional needs of trucks for streets that serve industrial and commercial areas and those designated as "truck routes".

Implementation 7-A(3): Encourage the development of railroad freight services to industrial and commercial areas.

Implementation 7-A(4): Encourage the development of air freight services at the Rogue Valley International-Medford Airport.

Implementation 7-A(5): Encourage the development of intermodal freight transfer facilities.

Implementation 7-A(6): Review results of Rogue Valley Metropolitan Planning Organization (RVMPO) "Freight Study" and incorporate these into the *Medford Transportation System Plan* as appropriate.

Policy 7-B: The City of Medford shall strive to balance the needs of moving freight with community livability.

Implementation 7-B(1): Work to increase freight transport safety awareness, and promote commercial vehicle safety programs provided by public or private agencies and organizations.

Implementation 7-B(2): Work with public agencies and private freight service providers to reduce the number and severity of commercial transport-related accidents.

Implementation 7-B(3): Encourage responsible agencies to develop and enforce regulations assuring the safe transport of hazardous materials through the Medford planning area, and prepare to respond to emergencies involving the transport of hazardous materials.

Implementation 7-B(4): Employ physical and/or legal measures to reduce through-commercial vehicle traffic on residential streets.

Implementation 7-B(5): Work with railroads and appropriate state agencies to minimize the blockage of public streets at railroad crossings to facilitate traffic movement, especially emergency service vehicles.

Implementation 7-B(6): Consistent with the Oregon Rail Plan, establish City policy that seeks to avoid or minimize the number of future railroad at-grade crossings when new streets are planned; avoids creating intersections of major streets and railroads where possible, locates new parallel streets at least 500 feet from railroads to allow for industrial development between the tracks and the roadway, and plans community development with sensitivity to rail noise and other potential conflicts.

Implementation 7-B(7): Coordinate on-going maintenance and repair of streets at existing at-grade rail crossings with applicable owner/operator of railroad trackage.

Policy 7-C: The City of Medford shall promote accessibility to, protection of, and the appropriate location of regional pipeline systems.

Transportation and Land Use

GOAL 8: To maximize the efficiency of Medford's transportation system through effective land use planning.

Policy 8-A: The City of Medford shall facilitate development or redevelopment on sites located where best supported by the overall transportation system that reduces motor vehicle dependency by promoting walking, bicycling and transit use. This includes altering land use patterns through changes to type, density, and design.

Implementation 8-A(1): Through revisions to the *Medford Comprehensive Plan* and *Land Development Code*, provide opportunities for increasing residential and employment density in locations that support increased use of alternative travel modes, such as along transit corridors.

Implementation 8-A(2): Maintain and continue enforcement of the *Medford Land Development Code* provisions which require new development to accommodate multi-modal trips by providing bicycle racks, connecting sidewalks, building entrances near the street, and transit facilities.

Policy 8-B: The City of Medford shall undertake efforts to increase the percentage of dwelling units

and employment located in Medford's adopted Transit Oriented Districts (TODs), consistent with the targeted benchmarks in the "Alternative Measures" of the *2001-2023 Rogue Valley Regional Transportation Plan* (RTP).

Implementation 8-B(1): Through revisions to the *Medford Comprehensive Plan* and *Land Development Code*, pursue changes to planned land uses to concentrate employment, commercial, and high density residential land uses in Transit Oriented Districts (TODs).

Implementation 8-B(2): Complete and adopt a land use/transportation plan, design guidelines, street and streetscape standards and implementing ordinances for the Southeast Medford TOD, the West Medford TOD and the Delta Waters TOD, and mixed-use areas.

Implementation 8-B(3): Review and revise the *Land Development Code* to define "mixed-use development" for purposes of tracking this type of development. In the interim, the definition of mixed-use development contained in the Oregon Transportation Planning Rule (TPR) will be used.

Implementation 8-B(4): Establish a mechanism like that discussed in Appendix I of the *Medford Transportation System Plan* entitled "Development Tracking" for the purpose of tracking mixed-use development within the City consistent with the requirements of "Alternative Measures" 5 and 6 of the *2001-2023 Rogue Valley Regional Transportation Plan* (RTP).

REVIEW AND AMENDMENT PROCEDURES

Planning is a process. It is naive to assume that a single document can answer all of the questions, or solve all of the problems for all times. Conditions change, resources are shifted, and community goals are altered. For this reason, it is essential that the means exist to keep the Medford *Comprehensive Plan* dynamic. Oregon's statewide land use planning program addresses this need in two ways. First, a post acknowledgment review process exists to assure that local amendments to a state acknowledged plan, or to its implementing ordinances, are consistent with the Statewide Planning Goals, and with the plans of other affected agencies. The second statewide approach to assuring the maintenance of local Comprehensive Plans is a more thorough Periodic Review Program, which occurs cyclically beginning at least five years after Comprehensive Plan acknowledgment. The Periodic Review Program emphasizes internal consistency within a Plan, as well as overall compliance with new and revised State rules and statutes.

In addition to these State administered programs, a well defined local process to review and revise the Comprehensive Plan is essential. The local amendment process should reflect a balance between the desire for maintaining a dynamic and locally responsive Plan, and the need to provide a reasonable degree of certainty and stability in the rules and processes governing land use. Such a plan amendment process is presented within this section.

TYPES OF AMENDMENTS

Because of the diverse structural nature of the Medford *Comprehensive Plan*, it is necessary to categorize Plan amendments in several ways (bearing in mind that all Plan amendments are land use actions as defined by state statute). It is apparent that the Medford *Comprehensive Plan* contains a variety of components; i.e., data, conclusions, goals and policies, implementation strategies, a General Land Use Plan (GLUP) Map, and an Urban Growth Boundary (UGB) with Urbanization Policies adopted by the City of Medford and Jackson County, among other components. Specific procedural requirements for all land use actions are codified in "Article II" of the Medford *Land Development Code*.

Two different procedural categories apply to amendment of the various *Comprehensive Plan* components, as follows:

Class "A"	**Class "B"**
Conclusions	General Land Use Plan Map (minor)
Goals and Policies	Urban Growth Boundary (minor)
Implementation Strategies	
General Land Use Plan Map (major)	
Urban Growth Boundary (major)	
Citizen Involvement Program	
Review and Amendment Procedures	

The distinction between "major" and "minor" *Comprehensive Plan* amendments is based on the following definitions, which were derived from the guidelines associated with Statewide Planning Goal 2:

"Major" amendments are those land use changes that have widespread and significant impact beyond an immediate area, such as quantitative changes producing large volumes of traffic; a qualitative change in the character of the land use itself, such as conversion of residential land to industrial use; or a spatial change that affects large areas, or many different ownerships.

"Minor" amendments are those land use changes that do not have significant effect beyond an immediate area, and should be based upon special studies, or other information that serves as the factual basis to support the change. The public need and justification for the particular change should be established.

CRITERIA FOR PLAN AMENDMENTS

Because of the important functional difference among the various *Comprehensive Plan* components, no common set of criteria can be used to assess all proposed Plan amendments. Following are the criteria that must be considered when evaluating proposed amendments to each of the specified Plan components. While all of the criteria may not apply to each proposed amendment, all must be considered when developing substantive findings supporting final action on the amendment, and those criteria which are applicable must be identified and distinguished from those which are not.

Conclusions

Amendments shall be based on the following:

A change or addition to the text, data, inventories, or graphics that substantively affects the nature of one or more conclusion.

Goals and Policies

Amendments shall be based on the following:

1. A significant change in one or more conclusion.
2. Information reflecting new or previously undisclosed public needs.
3. A significant change in community attitudes or priorities.
4. Demonstrable inconsistency with another *Comprehensive Plan* provision.
5. Statutory changes affecting the *Comprehensive Plan*.
6. All applicable Statewide Planning Goals.

Implementation Strategies

Amendments shall be based on the following:

1. A significant change in one or more goal or policy.
2. Availability of new and better strategies, such as those resulting from technological or economic changes.
3. Demonstrable ineffectiveness of a present strategy(s).
4. Statutory changes affecting the *Comprehensive Plan*.
5. Demonstrable budgetary constraints in association with at least one of the above criteria.
6. All applicable Statewide Planning Goals.

General Land Use Plan Map Designations

Amendments shall be based on the following:

1. A significant change in one or more goal, policy, or implementation strategy.
2. Demonstrated need for the change to accommodate unpredicted population trends, to satisfy urban housing needs, or to assure adequate employment opportunities.
3. The orderly and economic provision of key public facilities.
4. Maximum efficiency of land uses within the current urbanizable area.
5. Environmental, energy, economic, and social consequences.
6. Compatibility of the proposed change with other elements of the *Comprehensive Plan*.
7. All applicable Statewide Planning Goals.

Urban Growth Boundary

Amendments shall be based on the following:

1. A significant change in one or more goal, policy, or implementation strategy.
2. Demonstrated need for the change to accommodate unpredicted population trends, to satisfy urban housing needs, or to assure adequate employment opportunities.
3. The orderly and economic provision of key public facilities.
4. Maximum efficiency of land uses within the current urbanizable area.
5. Environmental, energy, economic and social consequences.
6. Compatibility of the proposed change with other elements of the Medford and Jackson County *Comprehensive Plan*s.
7. All applicable Statewide Planning Goals.

It should also be noted that amendments to the Urban Growth Boundary and Urbanization Policies must be approved by a majority vote of the Jackson County Board of Commissioners, as well as the Medford City Council, pursuant to applicable county procedures, and the joint Urban Area Management Agreement. (This amendment procedure is further described under Urbanization Policies in the Urbanization Element.)

Citizen Involvement Program

Amendments shall be based on recommendations from the Committee for Citizen Involvement (CCI), and on Statewide Planning Goal 1, and any other applicable Statewide Planning Goals.

Review and Amendment Procedure

Amendments shall be based on Statewide Planning Goal 2, and any other applicable Statewide Planning Goals.

Revisions of Data, Inventories, and Graphics

Revisions of those portions of the *Comprehensive Plan* document which do not affect a Plan conclusion, goal, policy, implementation strategy, General Land Use Plan Map designation, the Urban Growth Boundary, the Citizen Involvement Program, or the Review and Amendment Procedures may be made when needed by order of the Planning Director. Such revisions shall be transmitted to the Planning Commission, City Council, and all other recorded holders of the *Comprehensive Plan*.

CITY OF MEDFORD
COMPREHENSIVE PLAN
ENVIRONMENTAL ELEMENT

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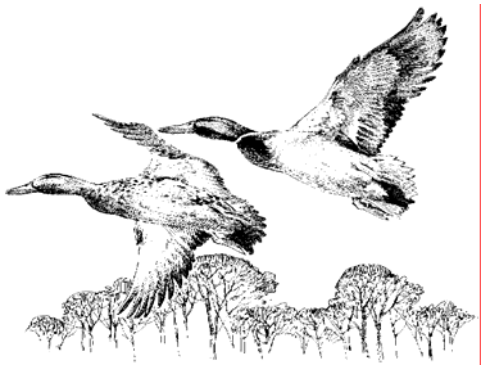


A pressing issue in many Northwest communities is the declining environmental quality that accompanies urban growth. The Bear Creek Valley has an abundance of diverse natural resources that provide recreation, wildlife habitat, and valuable urban open space, and contribute to the quality of life in Medford. Urbanization has negatively impacted the valley's natural resources, and, therefore, our quality of life. Diminishing supplies of developable land have forced many communities such as Medford to face the difficult challenge of balancing natural resource protection with the needs and rights of property owners and competing land uses. The impacts of development on the natural environment and its scenic values are evident. Cities, farms, drainage projects, dams, channelized streams, and roads have shaped the local landscape. In many instances, development has out-stepped environmental planning efforts.

This "Environmental Element" of the *Medford Comprehensive Plan* provides goals, policies, and implementation strategies for improving and maintaining environmental quality in Medford, while accommodating continued growth. The *Statewide Planning Goals* that oversee the protection and conservation of natural resources in Oregon are *Goal 5: Open Spaces, Scenic and Historic Areas, and Natural Resources,* and Goal *6: Air, Water and Land Resources Quality*. Consistent with the objectives of Goals 5 and 6, the "Environmental Element" is a guiding document that strives to protect the natural environment and ensure that long-term growth does not adversely affect the natural resources that contribute to Medford's livability. Other *Statewide Planning Goals* that are pertinent to the "Environmental Element" include *Goal 3: Agricultural Lands*; *Goal 7: Areas Subject to Natural Disasters and Hazards*; and *Goal 13: Energy Conservation*. Most of these *Statewide Planning Goals* are also addressed in other elements of the *Comprehensive Plan,* such as in the "Public Facilities Element," and in related plan documents such as the *Medford Parks, Recreation, and Leisure Services Plan.*

An overriding concept in the goals, policies, and implementation strategies in this element is to incorporate *preventive*, rather than *corrective* measures in land use planning. The goals, policies, and implementation strategies emphasize the importance of developing and maintaining an integrated open space system that incorporates parks and recreation, biological resources, agriculture, and waterways. They must be evaluated and updated regularly, with new information added to the "Environmental Element" as necessary.

GOAL 5

The "Environmental Element" is primarily guided by the provisions set forth in *Statewide Planning Goal 5*, which outline policies and objectives for local land use planning to better protect and restore natural resources. Goal 5 is a broad *Statewide Planning Goal* that covers over a dozen resources, including riparian corridors, wetlands, wildlife and fish habitat, mineral and aggregate resources,

energy sources, natural areas, scenic views and sites, open space, ground water resources, wilderness areas, historic resources, cultural areas, adopted Oregon Recreation Trails, and federal Wild and Scenic Waterways. The "goal" of Goal 5 is: *"To protect natural resources, and conserve scenic and historic areas and open spaces."*[1] Its provisions provide a critical framework for local land use regulation, particularly in growing urban areas such as Medford.

Goal 5 requirements are contained in the *Oregon Administrative Rules* (OAR) 660, Divisions 16 and 23. Recent (1996) revisions to these OARs call for reform of the conservation efforts of the resources originally covered by the Goal, with an increased emphasis on the protection of three specific resources: wetlands, riparian areas, and wildlife habitat. The means to achieve the objectives of Goal 5 must be set forth in Medford's land use guiding documents: the *Comprehensive Plan* and *Land Development Code.*

A fairly recent concept directing resource planning in many urban areas entails reclaiming existing streams, drainageways, wetlands, and canals to serve several functions. These may include stormwater filtration, flood control, preservation of fish and wildlife habitat, and as greenways with paths to link land uses. Preservation of a city's waterways assists in fostering sustainable urban growth, in satisfying the requirements of Goal 5, and in attaining federal and state environmental quality standards. The City of Medford is exploring these possibilities and pursuing policies and strategies to take advantage of existing waterways, ultimately balancing environmental concerns with development needs.

To comply with Goal 5, a plan or course of action that prohibits, limits, or allows uses that may adversely affect a significant Goal 5 resource must be adopted as part of the *Comprehensive Plan* and *Land Development Code*. These may include zoning standards, easement requirements, clustered development, preferential assessments, or public acquisition of land or development rights.[2] For example, the cities of Eugene, Oregon, and Chico, California, have developed and implemented comprehensive Natural Resource zoning districts, Resource Conservation Areas, or Waterside Protection ordinances.[3] Medford's Bear Creek Overlay Zoning District, adopted in 1989, functioned similarly. It is proposed to be replaced with a riparian corridor ordinance that would provide protections for streams that provide habitat for salmon and steelhead, including Bear Creek, Larson Creek, and a portion of Lone Pine Creek. Certain wetland areas in Medford would be protected through a proposed wetland protection ordinance.

[1] *Oregon's Statewide Planning Goals and Guidelines*, 1995 Edition, Oregon Department of Land Conservation and Development.

[2] *Oregon Administrative Rules*, 660-23-010 (6), Oregon Department of Land Conservation and Development, September 1, 1996.

[3] *West Eugene Wetlands Plan*, City of Eugene and Lane Council of Governments, December, 1992, and *City of Chico General Plan*, Blayney-Dyett Urban and Regional Planners, November, 1994.

FORMAT

The "Environmental Element" is divided into four major sections: *Physical Characteristics; Natural Resources; Archaeological and Historic Resources*; and *Disasters and Hazards*. Except for the Natural Resources section, each section concludes with *Conclusions* and *Goals, Policies, and Implementation Measures* that pertain to the resources or issues analyzed in that section. The Natural Resources section is further subdivided into *Air Quality*, *Water Quality/Wetlands/Wildlife Habitat*, *Soils*, and *Energy*, each with their own Conclusions and Goals, Policies, and Implementation Measures. As in many urban areas, water quality, wetlands and wildlife habitat are highly interrelated in Medford, where a majority of the important habitat exists near waterways. The "Environmental Element" ends with several Appendices containing inventories of various resources and a list of environmental agencies and laws.

PHYSICAL CHARACTERISTICS

This section of the "Environmental Element" discusses Medford's physical characteristics, including location, climate, and geology, and presents the Conclusions and Goals, Policies, and Implementation Measures pertinent to these factors.

LOCATION

Medford lies within the upper Rogue Valley, bounded by the Siskiyou Mountain Range to the south, the Cascade Mountains to the east, and the Coast Range to the west. The Rogue Valley has the lowest precipitation among Oregon's western interior valleys, with Medford averaging about 20 inches of rain per year.[4] Bear Creek, one of the Rogue River's primary tributaries, flows through the City of Medford, which has an elevation of 1,300 to 1,400 feet. The Pacific Ocean lies approximately 80 miles to the west.

Medford (Township 37 South, Ranges 1 and 2 West, of the Willamette Meridian) is located in Jackson County, one of Oregon's southernmost counties, abutting California. For the smaller outlying communities, Medford is the only nearby city of substantial size. Consequently, Medford has developed into a regional service center. As the Jackson County Seat, Medford provides governmental, commercial, and medical services for an estimated market area of 400,000 to 450,000 people - a population area extending to the coast, into Northern California, and on both sides of the Cascades in Southern Oregon.[5] It is anticipated that Medford's role as a regional service center will continue into the future.

Medford's location in the Rogue Valley first attracted settlers and commerce in the mid-1800s. Resources such as gold, timber, and agricultural products led to economic "booms" in the late 1800s and early 1900s. (See the "Economic Element" of the *Comprehensive Plan* for a full description of Medford's economic history.) While its position as a regional service center is advantageous for Medford's economy, it can conflict with the goal of conserving and sustaining natural resources. As noted in the 1996 *Comprehensive Medford Area Drainage Master Plan*:

> *"Until the 1800's, the Medford area consisted largely of ponderosa pine and grassland, interrupted by a large number of wetlands. After about 1860, settlers arrived in increasing numbers from the east. They logged forests, plowed under native grasses, and drained wetlands. These actions increased the erosion of topsoil and decreased the habitat available for native species. Although the effects on the natural hydrological cycle were limited at first, they were greatly accelerated as*

[4] *Local Wetlands Inventory and Oregon Freshwater Assessment of Method Analysis, City of Medford,* Brown and Caldwell and Woodward-Clyde Consultants, October 1995.

[5] "Medford now finds stores fruitful", *The Oregonian*, December 26, 1996.

> *urbanization increased in the early twentieth century, bringing with it increased density of homes, businesses, and industry, and the advent of paved roadways."*[6]

As Medford continues to be a service center for the region's population, the city must strive to maintain and improve the environmental quality of its air, waterways, and other natural resources, consistent with *Statewide Planning Goal 5* provisions. For example, maintaining federal air quality standards, discussed in the *Air Quality* section of the "Environmental Element," has been difficult at times. Being a major node along the Interstate 5 corridor, with congestion from commuters and visitors, combined with the effects of wood burning and industry, led to high concentrations of air pollutants in the past.

Within Medford's viewshed lies Roxy Ann Peak, elevation 3,571 feet, the dominating topographic feature east of the City. It is designated as an outstanding scenic resource comprising both a "scenic viewpoint" and a "scenic site" in the Jackson County *Comprehensive Plan*. Additionally, it is listed on the *Oregon Natural Areas* inventory, and is identified as winter range for black tailed deer. The 1,200-acre Prescott Park, owned and maintained by the City of Medford, encompasses Roxy Ann Peak, and functions as Medford's premier open space. Currently Prescott Park is located outside Medford's UGB. Because residential hillside development continues to encroach upon Roxy Ann Peak, the city must strive to preserve and protect this valuable resource, in cooperation with Jackson County.

CLIMATE

Medford has a moderate, seasonal climate. Late fall, winter, and early spring months are damp, cloudy, and cool, influenced by marine air. Late spring, summer, and early fall are warm, dry, and sunny due to the dry nature of the prevailing winds. The Siskiyou and Coast Mountain Ranges produce a "rain shadow" effect that causes light annual rainfall. Snow falls on the valley floor occasionally; however, it is normally abundant in the surrounding mountains during the winter, providing excellent winter recreation opportunities.

Medford's average annual rainfall had been decreasing in recent years, but this trend may be reversing. Medford's annual rainfall was more than 30 inches in 1996 and 1997, and more than 28 inches in 1998, while the annual average over the previous 50 years was less than 20 inches. Flooding in late 1996 and early 1997 created important questions about floodplain development. This issue is discussed under *Flooding*, in the *Natural Disasters and Hazards* section below.

The average daily high temperature in Medford is between 80 and 95 degrees in the summer, and between 25 and 45 degrees in the winter. The average growing season lasts 170 days, from April 30 to October 17. Normally, winds average less than five miles per hour (mph), prevailing from the south in the winter and from the northwest during the remainder of the year. Summer thunderstorms often bring gusty winds of 40 or 50 mph from any direction. While most climatic factors are beyond control, urbanization can cause changes in atmospheric conditions. Generally, the urban climate, especially in larger cities, tends to be warmer, less windy, foggier, more polluted, and often rainier

[6] *Comprehensive Medford Area Drainage Master Plan*, Brown and Caldwell, September 1996.

than the natural climate.[7] Historically, the geography and climate characteristic to Medford has resulted in atmospheric inversion layers, particularly during the winter, and, consequently, increased air pollution.

Land use regulations and policies can assist in improving the quality of an urban environment. The use of preventive land use planning measures, such as minimizing paved surfaces, reducing the number of motor vehicle trips, adding vegetation and shade trees to streets and parking lots, preserving open waterways, and land use regulations that move to reduce auto use and that promote "pedestrian-friendly" neighborhoods and commercial centers assist in mitigating some of the adverse climatic conditions inherent to cities. Landscaping and waterways are assets to the community, and offset the effects of substantial concrete and asphalt, contributing to livability.

GEOLOGY

The Rogue Valley is located on the edge of the Siskiyou Mountains, which are part of the Klamath Mountain Range that extends to the Pacific Ocean, and divides southern Oregon from northern California. Medford is situated on stream deposits and sedimentary rock deposited 50 million years ago, during the Eocene Epoch, and shaped primarily by erosion and other weathering forces. The Klamath Mountains are a result of processes that occurred 200 million years ago, when molten rock was injected between formations below the surface and cooled. They are composed primarily of volcanic and sedimentary materials that have been folded, faulted, and intruded, and contain intrusive (granodiorite) and metamorphic rock (schists). Subsequent erosion and other mountain-building forces occurred to produce prominent geological features near Medford, such as the Table Rocks and Roxy Ann Peak. Older marine sedimentary rock deposited during the late Cretaceous Era, about 75 million years ago, is found on the eastern margins of the Klamath Mountains, along with the oldest rock (metamorphic) found in western Oregon, possibly as old as the Triassic Era.

The Klamath Mountains are characterized by steep ridges with rugged, deeply dissected slopes, well-defined V-shaped valleys, and few undrained areas. They have elevations ranging from 2,000 to 5,000 feet, and peaks from 4,000 to 7,500 feet. Mount Ashland, at 7,533 feet, is the highest peak in the Klamath Mountain Range in Oregon. The Klamath Mountains have been continuously vegetated for 65 million years, and are home to diverse ecosystems and wildlife habitats.

The Western Cascade Mountains, which stretch toward the communities of Butte Falls and Prospect, are steeper on the east and slope more gently to the west. The terrain is characterized by slopes with rounded mountaintops that have timber-producing vegetation. Many ridge crests are 4,500 to 4,800 feet in elevation, and are composed of thick rock, with exposed outcrops. Most of the waterways in the Western Cascades drain westerly.

The more recently formed High Cascades, located to the east of the Western Cascades, contain gently rolling high plateau terrain, interrupted by glacial channels, some of which carry west-flowing streams. The High Cascades are characterized by scattered dormant volcanic peaks like Mount McLoughlin located northeast of Medford, and smaller cinder cones rising 1,500 to 6,000 feet. Bedrock lies beneath successive layers of material deposited by melting glaciers, or beneath a mantle

[7] *Landscape Planning: Environmental Applications*, 2nd Edition, William M. Marsh, 1991.

of pumice and ash from volcanic eruptions. The Cascade Mountains generally have poorly defined drainage, hanging valleys, areas subject to inundation, ill-defined stream courses, and small amounts of weathered material.

The contact zones between the various geologic formations have resulted in deposits of ore that contributed to the rich mining history of the area. The United States Geological Survey (USGS) quadrangle map of the Medford area shows two particular contact zones with distinct types of deposits. The contact along the Klamath Mountains has ore deposits containing gold and quartz, and the intruded granodiorite areas near Mount Ashland have minor deposits of tungsten. Other deposits in the area include silver, molybdenum, and zinc. The contact zone along the Cascade Range provides for a greater variety of ore deposits, including manganese, clay, mercury, and coal.

The predominant rock types west of Medford are metamorphic rock in the form of metavolcanics and breccias, intrusive diorites and granodiorites, and older Cretaceous sedimentary rock. The intrusive granites are 150 million years old and the metamorphic rock is 200 million years old. To the east of Medford, the foothills consist of dark volcanic rock, andesite, and basalt, deposited when the Western Cascade volcanic chain was active.[8] The geologic units to the east were deposited as recently as 50 million years ago during the Eocene Era. The Table Rocks and similar formations are composed of sandstone topped with a basalt flow about one million years old. Erosion removed most of the surrounding flow leaving these spectacular rock features.

Southwest Oregon's western interior valleys, which lie in the rain shadow of the Klamath/Siskiyou Mountains, tend to contain the urban areas, communities such as Medford, Ashland, Jacksonville, Gold Hill, Eagle Point, and Shady Cove. The valleys consist of flood plains, stream terraces, and flat to gentle slopes. Most development has occurred on quaternary alluvial and fluvial deposits, which eroded from the surrounding mountains and were subsequently deposited on the valley floor. A variety of soils developed on these deposits, ranging from deep, dark-colored prairie soils on well-drained terrace locations, to rocky, drought-prone soils to the northeast of Medford.

Pursuant to Goal 5, jurisdictions must inventory *aggregate resources*, which are defined as naturally occurring concentrations of stone, rock, sand and gravel, decomposed granite, lime, pumice, cinders, and other solid materials used in construction. Although deposits of sand and gravel can be found in the northerly part of Medford in the vicinity of Bear Creek, no significant aggregate resources are known to exist in the Medford Urban Growth Boundary (UGB).

[8] *Roadside Geology of Oregon*, David D. Alt and Donald W. Hyndman, 1988.

PHYSICAL CHARACTERISTICS CONCLUSIONS

1. Most of the Medford planning area is located on the Bear Creek Valley floor, which is made up of floodplains, stream terraces, and flat to gently sloping land often having soils with high agricultural capability.

2. Medford has developed into a regional service center for commerce, government, education, and health care for a large geographical area because of its physical isolation from other major urban areas and location on Interstate 5, the West Coast's primary north-south travel corridor.

3. Urban growth and congestion due to Medford's position as a regional service center have had a marked influence on Medford's "western interior valley" ecosystem and its diverse natural resources. The impacts of urban growth have negatively affected the quality of the natural environment. Medford faces the difficult challenge of balancing natural resource protection with the needs of property owners and competing land uses.

4. The dominating topographic feature of the Medford area is Roxy Ann Peak, designated as an outstanding scenic resource in the *Jackson County Comprehensive Plan*, and located in the 1,700-acre Prescott Park, owned and operated by the City of Medford, but currently outside the Medford Urban Growth Boundary. Residential hillside development, both inside and outside the UGB, continues to encroach upon Roxy Ann Peak.

5. Medford's climate includes higher summer temperatures and lower average rainfall than the remainder of the region due to a "rain shadow" effect caused by the surrounding mountains.

PHYSICAL CHARACTERISTICS GOALS, POLICIES, AND IMPLEMENTATION MEASURES

Goal 1: To improve and maintain the quality of life in Medford by using land use planning strategies that have positive effects on the natural environment.

Policy 1-A: The City of Medford shall strive to minimize the negative effects of solar radiation, such as the affect concrete and asphalt surfaces have on summer air temperature.

> **Implementation 1-A (1):** Review the *Medford Land Development Code,* and propose amendments for consideration by the City Council where necessary to address the negative effects of solar radiation, such as requiring adequate vegetation in development projects, requiring retention of open waterways and wetlands, etc.
>
> See also Implementation 2-B (1) of the "Housing Element."

Implementation 1-A (2): Prepare amendments to the *Medford Land Development Code* for consideration by the City Council to require preservation and maintenance of certain existing trees.

Goal 2: To provide and maintain open space within the Medford planning area for recreation and visual relief, and to protect natural and scenic resources.

Policy 2-A: The City of Medford shall acknowledge Prescott Park (Roxy Ann Peak) as the city's premier open space and viewshed, and recognize its value as Medford's most significant scenic view, currently and historically.

Implementation 2-A (1): Investigate inclusion of Prescott Park in Medford's Urban Growth Boundary and city limits in order to enhance public safety and the feeling of ownership by city residents, protect its natural resources, preserve and enhance convenient public access, protect the public from fire hazards, and help in establishing a network of open space corridors with recreational trails.

Implementation 2-A (2): Identify lands surrounding Prescott Park that are critical to ensuring long term protection and meeting open space/viewshed goals and policies, for acquisition or other types of public management. Seek funding sources.

Implementation 2-A (3): Consider methods to address the interface between Prescott Park and adjacent development to assure compatibility, such as a buffering program, enhanced review of city and county development applications within a specified area surrounding Prescott Park, and joint policies or an "Area of Mutual Planning Concern" with Jackson County.

Policy 2-B: The City of Medford shall strive to preserve and protect the visual amenities offered by the foothills.

See also Goal 8 and Implementation 8-B (1), of the "Environmental Element," Policy 1-C and Implementations 1-C (1) through (3) of the "Housing Element," Goal 2 of the *Southeast Plan* section of the "General Land Use Plan Element," and the *Parks* section of the "Public Facilities Element."

NATURAL RESOURCES

Goal 6 of Oregon's *Statewide Planning Goals*, "Air, Water, and Land Resources Quality," strives *"to maintain and improve the quality of the air, water, and land resources of the state."* This section of the "Environmental Element" discusses Medford's natural resources, including air quality, water quality, wetlands, wildlife habitat, soils, and energy, and presents the conclusions, goals, policies, and implementation strategies pertinent to these factors. Because water quality, wetlands, and wildlife habitat are interrelated, their Conclusions and Goals, Policies and Implementation Measures are combined.

AIR QUALITY

Statewide Planning Goal 6 requires Comprehensive Plans to provide for the maintenance and improvement of air resources. In air sheds, such as Medford's, that are *"described or included in state environmental quality statutes, rules, standards and implementation plans"* air emissions *"shall not (1) exceed the carrying capacity of such resources, considering long range needs; (2) degrade such resources; or (3) threaten the availability of such resources."*[9]

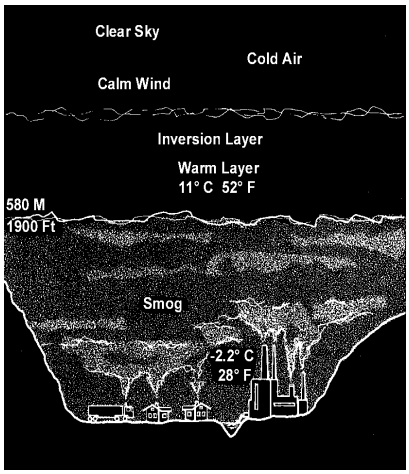
In the past, the largest sources of air pollution in the region included industry and wood stoves, which emit particulate matter and carbon monoxide. Substantial efforts (discussed below) have been made to reduce these emissions. More recently, motor vehicle emissions have become the major source of air pollution. According to one source, *"Motor vehicles are the single largest source of ozone and carbon monoxide emissions in the United States today. Cars, buses, and trucks are responsible for 50 percent of the smog, and 90 percent of the carbon monoxide that exists in urban areas."*[10] Medford is prone to accumulations of air pollution from motor vehicle emissions. As noted previously, Medford provides services to an estimated population of 400,000 to 450,000, exacerbating traffic congestion. The high number of commuters traveling to Medford for work, services, education, and recreation will continue to increase in the future, especially from outlying communities such as Ashland, Grants Pass, and even Yreka, California, affecting Medford's air quality.

As noted in the *Physical Characteristics* section, historically, the Rogue Valley, from Ashland to Grants Pass, has had a high propensity toward periods of air stagnation and atmospheric temperature inversions that trap pollution, particularly during the months of December, January, and February. During these months, the temperature near the ground decreases rapidly toward sunset. As the surface air cools, it flows down the mountain slopes, forming a pool of cold air on the valley floor with the warmer air above acting as a lid. The cooling within this layer typically produces fog, and, as air pollutants are discharged, they become trapped. During these stagnant conditions, the fog and trapped air can remain under this "lid" for several days, becoming increasingly polluted. **Figure 1** illustrates the temperature inversion process.

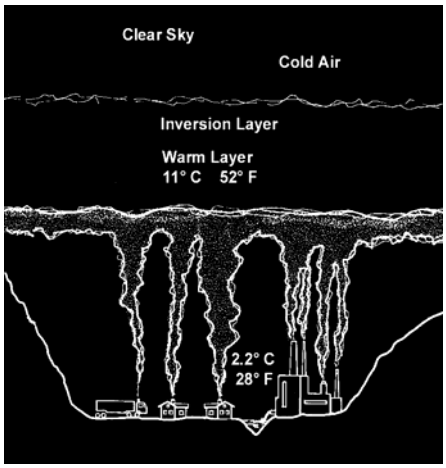
[9] *Oregon's Statewide Planning Goals and Guidelines, 1995 Edition,* Oregon Department of Land Conservation and Development.

[10] *Clean Air Act: Law and Explanation*, Commerce Clearing House, Inc., 1990.

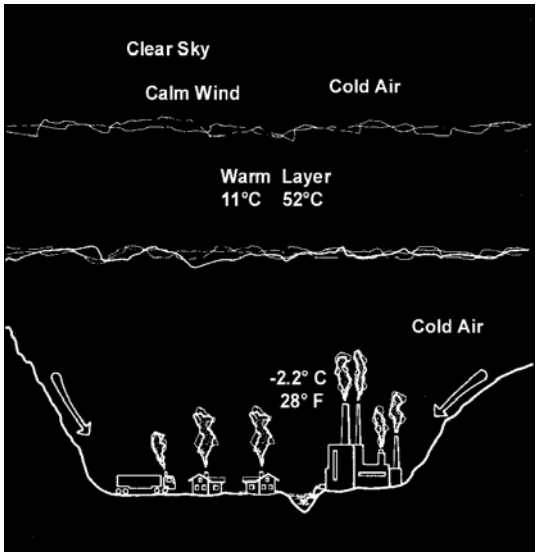
Figure 1
Temperature Inversion



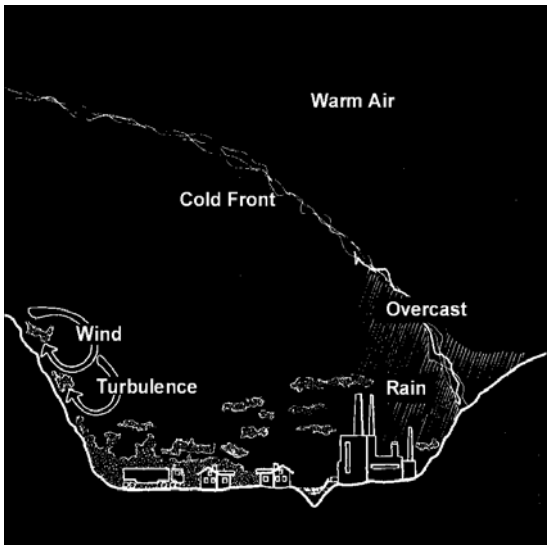
As nighttime comes, the surface air cools and moves down into the valley.



During the day, emissions rise, but become trapped by the warm air layer above.



Since there is no wind to carry the emissions away, the pollution remains under the “lid” of warmer air, accumulating until the inversion layer is broken up.



Breakup of the inversion layer may come from increased temperatures during the day, which increases the depth of the mixing layer, or from the arrival of a new air mass accompanied by stronger wind and precipitation.

Currently, local and state agencies are working to develop an air quality plan for the region that will not only maintain federal air quality standards, but continue to improve air quality, while satisfying the provisions of the *Statewide Planning Goals*. The City of Medford has also begun undertaking preventive strategies to reduce motor vehicle emissions. For example, mixed residential and commercial development, which lessens the number and length of auto trips for work or shopping, is being required in areas such as Southeast Medford.

The Rogue Valley Transportation District (RVTD) is one of the local agencies who is active in air quality issues through their efforts to reduce single-occupancy vehicle trips and their use of compressed natural gas to fuel their buses. Mass transit vehicles operating on compressed natural gas are virtually non-polluting. Other public and private entities in the Medford-Ashland AQMA have turned to use of compressed natural gas as a fuel source, including Jackson County and Avista Utilities Company.

FEDERAL AND STATE REGULATIONS

Federal "Clean Air" legislation began in 1950s, and has undergone subsequent amendments, including revisions in 1960s, 1970s, and 1990s. While initial legislation concentrated on satisfying federal air quality standards, more recent revisions have incorporated the critical role of transportation planning in maintaining and improving air quality. In 1955, Congress took the first step in implementing regulations to improve air quality by passing the *Air Pollution Act*, which authorized the first federally funded air pollution research. Later, the passage of the *Motor Vehicle Pollution Control Act of 1965* expanded federal activity to include setting emission standards for automobiles.

In 1967, the *Air Quality Act* became law, followed in 1969 by the *National Environmental Policy Act* (NEPA), which established the Council on Environmental Quality. The *Clean Air Act of 1970* established the existing system of national air quality standards, and issued a generalized compliance schedule to all states. In the 1970 amendments, National Ambient Air Quality Standards (NAAQS) were developed for seven major pollutants. The seven pollutants assigned NAAQS were total suspended particulate (TSP), sulfur oxides (SO_X), carbon monoxide (CO), hydrocarbons (HC), nitrogen dioxide (NO_2), photochemical oxidants (O_X), and lead (Pb). As part of the *Clean Air Act*, states were required to develop State Implementation Plans (SIPs) for attaining and maintaining the NAAQS.

The federal Environmental Protection Agency (EPA) is responsible for approving or disapproving SIPs. Although the 1970 *Clean Air Act* established the NAAQS, many jurisdictions concentrated on attaining standards through emission controls, instead of fully addressing the prevention of air pollution and maintenance of air quality on a broad, regional level. In the early 1970s, the EPA disapproved all SIPs because many lacked effective mechanisms for maintaining federal standards. The EPA required states to identify areas that had air quality problems or where future growth rates would result in exceeding the NAAQS as "Air Quality Maintenance Areas" (AQMAs). The Medford-Ashland area was designated as an AQMA in 1974, encompassing the communities of Medford, Ashland, Central Point, Phoenix, Talent, White City, Eagle Point, and Jacksonville (228 square miles). The Oregon Department of Environmental Quality (DEQ) was given primary responsibility for enforcing air quality standards in Oregon.

An AQMA that does not meet the NAAQS for a particular pollutant is labeled a "non-attainment area" for that pollutant. **Figure 2** illustrates the steps in developing a SIP in a non-attainment area under the *Clean Air Act*. Strategies for bringing the AQMA into compliance are required as a component of the SIP, as is a detailed analysis of the impact of projected future growth on air quality. Where the analysis indicates that an area may not maintain the NAAQS for the ten years after attainment, the state is required to submit an Air Quality Maintenance Plan.

Figure 2

Steps to Developing a State Implementation Plan (SIP) Under the *Clean Air Act*

(1) National Ambient Air Quality Standards (NAAQS) promulgated by Environmental Protection Agency (EPA).

(2) States and EPA collect/evaluate ambient air quality data.

(3) EPA/states designate and classify areas based on NAAQS attainment status. *If area in attainment, no new SIP required.*

(4) If area found in non-attainment for one or more pollutant, SIP required.

(5) States develop emissions inventory.

(6) States develop SIP, consisting of rules, mobile source strategies, etc., to attain standards by *Clean Air Act* deadline.

(7) States demonstrate to EPA that SIP works, usually through modeling.

(8) States hold public hearing, adopt SIP, and submit to EPA for review and approval.

(9) SIP completeness determined by EPA within six months.

(10) If incomplete, SIP sent back to state to revise and re-submit; *OR*, if complete, EPA must approve, disapprove, or develop Federal Replacement SIP.

Source: Rogue Valley Council of Governments, 1997

Comprehensive amendments to the *Clean Air Act* in 1977 mandated significant involvement by local governments and elected officials in the development, implementation, and enforcement of plans to attain the NAAQS. The increased responsibility of local governments was identified specifically for areas subject to transportation-related photochemical oxidants (ozone or "smog") and carbon monoxide standards that would not be met before 1979. In 1978, the Jackson County Board of Commissioners was identified as the lead agency responsible for controlling mobile air pollution sources in Jackson County. They appointed an Air Quality Advisory Committee to make recommendations on transportation-related air quality control measures for the Medford-Ashland AQMA.

Congress again amended the *Clean Air Act* in 1990, resulting in stricter standards and deadlines for compliance for non-attainment areas, with tougher sanctions for those areas that did not comply. A more recent requirement for non-attainment areas in Oregon is the *Oregon Transportation Conformity Rule*, approved by the state Environmental Quality Commission in April 1995. The *Transportation Conformity Rule* requires jurisdictions to consider air quality in transportation planning, or risk suffering a loss of federal funding and potentially violating the NAAQS in the future. For example, a "particulate matter conformity determination" must be made for future, regionally significant transportation projects in Jackson County. In 1998, additional amendments to the *Clean Air Act* set new standards for particulate matter and ozone.

AIR QUALITY MAINTENANCE AREA STATUS

The Medford UGB was established as the non-attainment boundary for carbon monoxide (CO) in 1978, and, in 1987, the Medford-Ashland AQMA was designated as the non-attainment boundary for particulate matter (PM_{10}). As required by federal law, SIPs were prepared for these two pollutants that exceeded the NAAQS in the Medford-Ashland AQMA. A SIP for CO was developed in 1982 by Jackson County, and later approved by the EPA. However, the SIP for PM_{10}, developed in 1991, was not approved, and has been withdrawn. A revised SIP for PM_{10} and an Air Quality Maintenance Plan for CO are currently being developed. Representatives from industry, government, and public interest organizations comprise the local working group (Medford-Ashland Air Quality Advisory Committee) overseeing the development of these two plans.

The original emission control measures in the PM_{10} SIP included the following:

- Mandatory woodstove curtailment program
- Industrial source-control technology requirements
- Local open burning ordinances
- Slash burning restrictions on "red days"
- Cleaner road sanding materials

New emission control measures recommended by the Medford-Ashland Air Quality Advisory Committee include:

- Unified woodstove curtailment program for all jurisdictions in the AQMA
- Roadway paving projects in Medford and White City
- Education program regarding "track out"[11] for orchard owners
- Unified "track out" ordinance for all jurisdictions in the AQMA
- Improved street vacuuming programs in Medford and White City
- New industrial toxic air emission control standards

NATIONAL AMBIENT AIR QUALITY STANDARDS

Air pollution reduction efforts have succeeded in reducing emissions in the Medford-Ashland AQMA due to increased public awareness and proactive programs, but the potential to revert to previous conditions still exists. The topography of the Rogue Valley, the abundance of motor vehicles, and the continued growth in population in the region are all factors that contribute to the potential for poor air quality. Moreover, the 1998 revisions to the *Clean Air Act*, making the NAAQS stricter for both ozone and PM_{10}, could result in future violations.

Federal air quality standards were developed to address health, safety, and welfare concerns. The NAAQS are divided into two levels, "primary" and "secondary." *Primary* standards are designed to protect the public health with a built-in margin of safety. *Secondary* air quality standards, which are more stringent than primary standards, are designed to protect the public welfare from adverse effects, such as injury to crops and livestock, decreased visibility, deterioration of materials and

[11] Track-out describes dirt and mud deposited onto streets and roads from equipment and vehicle tires.

property, and other types of environmental damage. Oregon's air pollution control strategies are directed to meet the more stringent *secondary* air quality standards. Where the secondary standard is identical to the primary standard, the primary standard is also protective of public welfare. **Figure 3** displays the ambient air quality standards currently in effect in Oregon.

Figure 3
State and National Ambient Air Quality Standards

Pollutant	*Average Time*	*Primary (Health)*	*Secondary (Welfare)*	*Proposed Standard*
Carbon Monoxide (CO)	8 hours 1 hour	9 ppm 35 ppm	9 ppm 35 ppm	NA
Lead (Pb)	Calendar Quarter	1.5 mg/m^3	1.5 mg/m^3	NA
Nitrogen Dioxides (NOx)	Annual Arithmetic Mean	.053 ppm	.053 ppm	NA
Ozone (O_3)	1 hour	.12 ppm	.12 ppm	.08 ppm
Sulfur Oxides (SOx)	Annual Arithmetic Mean 24 hours 3 hours	.03 ppm .14 ppm .50 ppm	.02 ppm .10 ppm .50 ppm	NA
Particulate Matter (PM_{10})	Annual Arithmetic Mean 24 hours	- -	50 mg/m^3 150 mg/m^3	15 mg/m^{3*} 65 mg/m^{3*}
Total Suspended Particulate (TSP)	Annual Geometric Mean 24 hours	NA NA	60 mg/m^3 150 mg/m^3	NA

Source: *1995 Oregon Air Quality Annual Data Summary*, Oregon Department of Environmental Quality, Air Quality Division

Notes: Oregon standards are the same as the federal secondary standards.
ppm = parts per million
mg/m3 = micrograms per cubic meter
NA = not applicable
* These are the new standards for $PM_{2.5}$. It is expected that there will be stricter standards developed for PM_{10} as well.

While there are NAAQS for seven pollutants, there are currently three pollutants of significant concern for Medford: ozone, carbon monoxide, and particulate matter.

Ozone (O_3)

Ozone (smog) typically forms on days when the temperature exceeds 95 degrees and there is a high volume of motor vehicle traffic, typical conditions during the summer in Medford. According to data in the *Jackson County Air Quality Annual Report, 1995-1996,* the annual average ozone level in Medford was below the proposed new higher standard of .08 parts per million (ppm) for several years; however, several days in July and September of 1998 exceeded the existing standard of .12 ppm. Continued population growth and its accompanying traffic increases could lead to more violations of the federal and state standards in the future.

Carbon Monoxide (CO)

The NAAQS for carbon monoxide was exceeded throughout most of the 1980s in Medford, yet levels have decreased in recent years. CO, a colorless, odorless, deadly gas that interferes with the body's ability to use oxygen, is produced by all forms of combustion, including motor vehicle internal combustion engines. Between 1991 and 1999, CO standards were exceeded in the AQMA only once (in 1994) due to a car rally event in Medford. This was not considered a violation because it occurred only once. Sources of CO emissions include mobile "non-road" and "on-road" sources. *Non-road* sources include equipment, off-road vehicles, aircraft, and railroads. *On-road* sources are gas and diesel vehicles and trucks driven on roads. "Light duty gas vehicles" (generally cars) account for nearly 66% of CO emissions within the Medford AQMA, and most CO emissions occur on arterial streets.[12] Monitoring systems for CO have been installed by the DEQ in Medford at two highly congested areas - near the Rogue Valley Mall and at Main Street and Central Avenue.

Particulate Matter (PM_{10} and $PM_{2.5}$)

The *Clean Air Act* requires the EPA to review and revise air quality standards to ensure that citizens are protected from the harmful effects of air pollution. "Particulate matter" comes mostly from smoke, dust, and vehicle exhaust. The current standard for particulate set in 1987 covers particles that are 10 microns or less in diameter (PM_{10}). A comprehensive review of the human health effects of PM_{10} revealed that the standards were not sufficient to protect human health. Health studies show harmful effects from breathing particles as small as 2.5 microns in diameter ($PM_{2.5}$). This smaller particle is inhaled deeper into the lungs and can potentially cause more damage than larger particles. The new $PM_{2.5}$ standard will require new monitoring equipment to collect data. According to the Oregon DEQ, any population center in the state may potentially violate the new $PM_{2.5}$ standards. Particular areas of concern include Bend, Eugene-Springfield, La Grande, Portland, Grants Pass, and Medford. Areas designated as out of compliance will have up to ten years to attain the new standards.[13]

In 1989, Jackson County began programs to improve PM_{10} levels, including regulating industry, outdoor burning, and wood stoves to reduce the regional smoke problem. The most heavily polluted areas had more than double the hazardous level of PM_{10}.[14] The more populated areas, such as Medford, were especially affected, although all portions of Jackson and Josephine Counties were affected to some degree. The severity of the wood smoke problem has decreased in recent years because of the smoke reduction measures and a decline in the wood products industry. PM_{10} levels have been drastically reduced, to roughly 12.5% of their 1989 levels. The last exceedance of the 24-hour PM_{10} standard in the Medford area occurred in 1991. The more recent standards for $PM_{2.5}$ will create further challenges for the Medford-Ashland AQMA, however.

Land use strategies, implemented through the *Land Development Code* and *Comprehensive Plan*, such as those that reduce vehicle miles traveled (VMT) and retain vegetation can assist in achieving and maintaining compliance with the new standards. The present primary contributor of PM_{10} is

[12] *Oregon 90 SIP: Introduction and Overview,* Draft Plan.

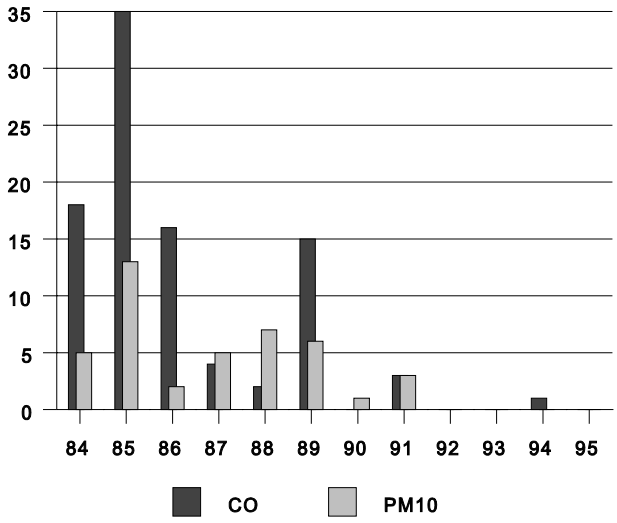
[13] *Proposed New Air Standards and How They Might Affect Oregon Communities,* U.S. Environmental Protection Agency, December, 1996.

[14] *Jackson County Air Quality 1995/96 Annual Report,* Jackson County Environmental Health Division.

road dust from use by motor vehicles (55%), although industry (24%) could once again become a significant contributor according to DEQ.

Figure 4 lists a history of the air quality status of the two pollutants (CO and PM10) in violation of the NAAQS in the Medford-Ashland AQMA. While the reduction in the number of days of NAAQS violations is notable, the region is still considered a non-attainment area, since the AQMA has no federally-approved SIP for PM_{10}.

Figure 4
Number of Days Exceeding the NAAQS for CO and PM_{10}
Medford-Ashland AQMA, 1984-1995



Source: *Jackson County Air Quality Annual Report, 1995-96.*

AIR QUALITY IMPROVEMENT PROGRAMS

As noted, air quality in the Medford-Ashland AQMA has improved dramatically in recent years, due, in part, to programs implemented in Medford and the Rogue Valley to reduce emissions and bring the area into attainment with the NAAQS. Although air quality has improved, there is a continuing need for the programs, especially with the arrival of the EPA's stricter 1998 provisions. Each air quality improvement program is briefly described in the following section.

- Vehicle Inspection and Maintenance (I & M) Program
- Oxygenated Fuel Program
- Small Business Assistance Program
- Woodstove Certification Program
- Woodstove Replacement Program
- Liaison Activities
- Daily Wood Stove Advisory
- Outdoor Burning Regulations

- Public Education
- Congestion Mitigation and Air Quality Improvement Program (CMAQ)
- Traffic Signal Timing Program

Vehicle Inspection and Maintenance (I & M) Program
All motor vehicles, with few exceptions, belonging to residents of the Medford-Ashland AQMA are required to be tested for excessive emissions through the state Vehicle Inspection and Maintenance (I & M) Program. The vehicles must meet specific standards each time licensing is required.

Oxygenated Fuel Program
In 1992, the *Clean Air Act* began requiring the sale of oxygenated fuel during the winter in Jackson County, Grants Pass, and Klamath Falls, along with Multnomah, Clackamas, Washington, and Yamhill Counties, to reduce CO emissions. CO comes chiefly from motor vehicle exhaust, and can reduce the ability of the human body to process oxygen. The "oxy-gas" program is in effect from November 1 through February 28, the season with typically the worst air quality conditions.

Small Business Assistance Program
The Small Business Assistance Program provides information and technical assistance to small businesses regarding air quality regulations and related environmental issues. Small businesses that produce air emissions, such as dry cleaners, auto-body shops, printers, and small manufacturers, must address regulations in the *Clean Air Act*, and this program is designed to help them meet the most recent emission standards. The program, administered by the Oregon DEQ, is educational and informational in nature, and does not provide any direct financial assistance to the businesses.

Oregon's Wood Stove Certification Program
In 1983, the Oregon legislature mandated a Wood Stove Certification Program to assure use of wood stoves that were less polluting. By 1986, only wood stoves certified as meeting new emission standards were permitted to be sold in Oregon. The certification program required new stoves to achieve a 50% reduction in emissions by 1986, and an approximate 75% reduction by 1988. Later, the EPA adopted nationwide standards for wood stove emissions. In 1991, the sale or installation of uncertified stoves by private parties was banned in Oregon, and uncertified stoves were required to be removed upon sale of a home in a PM_{10} non-attainment area. Few installation permits are now issued in the City of Medford for new wood stoves, and weatherization of the home is required when a new wood stove is installed. Most new fireplaces are equipped with natural gas, with more of a decorative purpose than as a heating source. Some communities, such as the City of Ashland, issue rebates for the removal of wood stoves to expedite the elimination of uncertified stoves, and provide financial incentives to low-income residents.

Wood Stove Replacement Program
The Housing Authority of Jackson County administers programs for lower income households that replace wood stoves used as a sole source of home heating. Most are replaced with natural gas furnaces. The Housing Authority receives federal Community Development Block Grant (CDBG) funds through the City of Medford for such "emergency" repairs. These programs replaced 253 wood stoves in Medford since 1989, and 305 wood stoves countywide.

Liaison Activities

Medford is part of the *Interagency Air Quality Team*, consisting of representatives from Ashland, Central Point, Jackson County, ACCESS, Inc., the Housing Authority of Jackson County, Pacific Power, Avista Natural Gas, and the Oregon DEQ. The Jackson County Environmental Health Division conducts training for air quality staff to reduce duplication of services, and to provide a consistent unified approach to monitoring, surveying, and education. Medford's Air Quality Technicians operate out of the Jackson County office, and participate in joint activities. This cooperation indicates the practicality and cost-effectiveness of a regional approach to air quality issues in the Rogue Valley. Survey activities are conducted throughout the AQMA to obtain information concerning excessive wood smoke emissions. Specific areas have been surveyed every year since 1985. These surveys indicate a decrease in the number of households using wood as a heating source. The increased use of heat sources such as natural gas and electric heat pumps has contributed to the reduction in homes heated by wood stoves.

Wood Burning Curtailment and Enforcement Activities

The Wood Burning Advisory program is used to permit or prohibit smoke emissions in the *Critical PM_{10} Curtailment Area*. It serves to inform the public of the status of PM_{10} levels in the atmosphere relative to federal standards. The Jackson County Environmental Health Division staff establishes the daily advisory by 6:00 a.m. each day from November 1 through February 28. The familiar *green, yellow,* or *red* day status indicators are broadcast on most television and radio stations in the region, are published in local newspapers, and are available by phone. Green indicates that PM_{10} levels are low and good air circulation is predicted. Yellow indicates that PM_{10} levels are rising and poor air circulation is predicted, and red indicates that PM_{10} levels are approaching an unhealthy level and stagnant air conditions are predicted.

On *yellow* and *red* days during the wood burning season, generation of smoke is restricted and enforcement monitoring takes place. Technicians are dispatched to observe smoke emissions. Violators are contacted by mail and targeted for special programs to aid in reducing or eliminating their wood smoke emissions. The winter of 97-98 marked the seventh consecutive winter with no *red* days. Like CO, PM_{10} is considered a wintertime issue. The cold, stagnant air characteristic to the season traps pollution in the Rogue Valley, accumulating to unhealthy levels. While the Medford-Ashland AQMA once regularly violated federal standards for PM_{10} and CO due to excessive wood smoke, the standards have not been exceeded for a number of years (See Figure 4.). A key factor, according to air quality experts, is public cooperation in pollution reduction programs.

Outdoor Burning Restrictions

Outdoor burning is not permitted within the City of Medford, and, in Jackson County, is permitted only when the *predicted afternoon ventilation index* is 400 or greater. From November 1 through February 28, all outdoor burning within the Medford-Ashland AQMA is prohibited. Special allowances have been made for agricultural burning to control diseases and pests. These allowances, mostly for orchard prunings, have been renewed annually as alternate disposal methods for pruned material are investigated. Further restrictions on outdoor burning occur during the fire season, resulting in outdoor burn "windows" in the AQMA outside of cities only in the spring and fall. The City of Medford also administers a fall leaf pick-up program throughout the city to reduce the need for fall burning.

Public Education

Educating the public about ways that individuals can help improve and maintain air quality in the Rogue Valley is one of the most effective means of improving air quality. Public education involves a mix of newspaper, radio, and television announcements and advertising, field and phone contacts, brochure distribution, and community and classroom presentations. The goal of these educational programs is to teach residents that continued compliance with air quality improvement programs is necessary, and that air quality continues to improve because of public cooperation.

Congestion Mitigation and Air Quality Improvement Program

The federal Congestion Mitigation and Air Quality Improvement (CMAQ) Program has provided considerable funding to jurisdictions within the Medford-Ashland AQMA for dust and motor vehicle emission reduction programs. More than $4.7 million was apportioned from the CMAQ program between 1992 and 1997. The City of Medford was allocated funds to pave alleys, install curbs, gutters, sidewalks, and bicycle lanes, and enhance street sweeping. Additional funds have extended the Bear Creek Greenway multi-use path, and aided in the construction of a park-n-ride lot and transit transfer station at the South Gateway Shopping Center for the Rogue Valley Transportation District (RVTD) and a compressed natural gas fueling station in Medford.

Traffic Signal Timing System

The City of Medford has implemented a computerized traffic signal control system designed to minimize overall delay for motorists. Inefficient traffic movement produces increased CO emissions from idling automobiles. As population and vehicle use increases, traffic control has become more critical in maintaining standards for CO. Main arterial streets are favored by the system, so that high traffic streets move vehicles more efficiently. Traffic studies are used to engineer changes within the system. The system has the capability of having "real time" traffic monitoring and dynamic traffic controls that change in response to demand in the future. One innovation in use in Medford, designed to minimize waiting times at signals, and, thereby, air emissions from idling vehicles, is the Protective/Permissive Left Turn Indicator. This feature allows motorists to make a *protected* left turn at intersections when the left arrow is green, and a *permissive* left turn when the light is green *and* oncoming traffic permits.

NATURAL RESOURCES - AIR QUALITY CONCLUSIONS

1. Medford's location in the Rogue Valley below substantial mountain ranges (the Cascades, the Siskiyous, and the Coast Range) increases the difficulty of maintaining federal air quality standards. Medford's climate is influenced by atmospheric inversion layers in the fall and winter months which trap air emissions in the valley.

2. The City of Medford has little influence on the air pollution emissions caused by travelers and freight shippers traveling through the planning area on state highways such as Interstate 5.

3. The Medford-Ashland Air Quality Maintenance Area (AQMA) is a "non-attainment area" for carbon monoxide (CO) and the Medford Urban Growth Boundary is a "non-attainment area" for particulate matter (PM_{10}).

4. While Medford's air quality has improved due to proactive Air Quality Maintenance Area (AQMA) programs and increased public awareness, particularly relating to wood smoke, the potential to revert to previous poor air quality conditions exists. The Rogue Valley's topography, its many motor vehicles, and continued population growth have the potential to further degrade Medford's air quality in the future.

5. The *State Implementation Plan* (SIP) for PM_{10} for the Medford-Ashland Air Quality Maintenance Area (AQMA) is being revised to meet the *National Ambient Air Quality Standards* (NAAQS), including new, stricter standards for particulate matter (PM_{10} and $PM_{2.5}$).

NATURAL RESOURCES - AIR QUALITY
GOALS, POLICIES, AND IMPLEMENTATION MEASURES

Goal 3: To enhance the livability of Medford by achieving and maintaining compliance with National Ambient Air Quality Standards (NAAQS).

Policy 3-A: The City of Medford shall continue to provide leadership in developing, adopting, and implementing regional air quality improvement strategies to achieve compliance with the National Ambient Air Quality Standards (NAAQS).

> **Implementation 3-A (1):** Continue to participate, along with state and local agencies involved in air quality attainment, in the preparation and implementation of the applicable *Air Quality Management Plans* (AQMP's) and *State Implementation Plans* (SIP's) for the Medford-Ashland Air Quality Maintenance Area (AQMA).
>
> **Implementation 3-A (2):** Continue to participate, along with Jackson County and other affected agencies, in administering air quality public education and smoke reduction programs.
>
> **Implementation 3-A (3):** Implement strategies from sources such as the *Medford Transportation System Plan*, the *State Implementation Plan*s (SIPs) and the *Oregon Transportation Planning Rule* (TPR) that reduce emissions or improve air quality, such as increasing the use of alternative modes of transportation and use of alternative motor vehicle fuels, such as compressed natural gas and electricity, and propose amendments to the *Medford Land Development Code* for consideration by the City Council where necessary to assure compliance with such plans or rules.

See also the policies of the *Medford Transportation System Plan*, Policy 9 of the "Urbanization Element" and Policy 2-C of the "Housing Element."

Policy 3-B: The City of Medford shall continue to require a well-connected circulation system and promote other techniques that foster alternative modes of transportation, such as pedestrian-oriented mixed-use development and a linked bicycle transportation system.

See also Policies 1-A and 3-C of the "Housing Element" and Goal 1 of the *Southeast Plan* section of the "General Land Use Plan Element."

> **Implementation 3-B (1):** Promote the use of incentives by Medford's larger employers to induce employees to use alternative modes of transportation or work at home in an effort to reduce motor vehicle emissions.

WATER QUALITY

FEDERAL AND STATE REGULATIONS

Oregon's Department of Environmental Quality (DEQ) has primary responsibility for managing water quality in the state, operating under federal and state statutes, rules, and standards. Generally, DEQ implements its water quality program through the issuance of permits for discharge into the *waters of the state*. Permits are issued if an applicant can show consistency with federal rules, and state and river basin water quality management plans. Statutory language governing water quality in Oregon is found primarily in ORS Chapter 468 and OAR 340-41-001.

Forestry, agriculture, and urbanization have negatively affected Oregon's water quality. Under the federal *Water Pollution Control Act of 1972*, each state is required to address farm and forestry-related nonpoint sources of surface water pollution, such as sedimentation, stream clogging debris, nitrogen from fertilizers and slash burning, and herbicides and insecticides.[15] Guidelines and best management practices for controlling water pollution from forestry are provided in the *Oregon Forest Practices Act* which is enforced by the Oregon Department of Forestry. While there are no forest lands within the Medford UGB, the surrounding forest lands affect the quality of the surface water in the valley below.

The effects of urbanization on stormwater runoff are addressed by the federal *National Pollutant Discharge Elimination System* (NPDES) program, which has implications for the City of Medford. Under the *Clean Water Act*, the federal Environmental Protection Agency (EPA) established NPDES Phase I stormwater discharge standards for municipalities with populations of 100,000 or more. The NPDES requirements included a prohibition on non-stormwater discharges and a reduction in polluted stormwater discharges to the maximum extent possible. New rules established in 1999, known as NPDES Phase II, affect cities smaller than 100,000 persons, such as Medford. This permit program is intended to provide flexibility for cities. The Phase II program must include:

- Public education and outreach
- Public involvement and participation
- Illicit discharge detection and elimination
- Construction site storm water runoff control
- Post-construction storm water management
- Pollution prevention for municipal operations

In addition, operators of construction sites that disturb more than one acre will be required to obtain NPDES permits. They will be required to filter sediment caused by erosion through methods such as filter fencing, inlet protections, and temporary mulching and seeding. Medford will have until 2003 to develop programs and regulations to comply with the new rules.

[15] *Jackson County Comprehensive Plan*, Jackson County Planning Department, 1989.

GROUNDWATER

Historically, the main consideration given to groundwater in land use planning was to assure adequate water supplies. Since groundwater is an important source of water for many residential, industrial, and agricultural uses, recent concerns involve the increasing incidences of pollution and contamination. Medford is fortunate to have a substantial supply of domestic water from the Big Butte Springs, with the Rogue River as a secondary source, and, subsequently, does not use the groundwater beneath the city for domestic use. However, there are many households in the unincorporated areas in and near the UGB that depend on domestic wells. It is therefore important that the City of Medford strive to maintain the quality of the groundwater resource that lies beneath the UGB.

Figure 5

Primary Contributors to the Contamination of Ground Water

Landfills: Buried wastes discharge leachate, the composition of which varies with the composition of the landfill. Leachate can be heavy in organic compounds, such as methane and benzene, or in trace elements and other contaminants from industrial waste.

Agriculture: Fertilizers and pesticides, composed principally of nitrogen and phosphorus, are carried through the soil to aquifers, and pose serious health problems when found in water supplies.

Urban Stormwater: Runoff from developed areas, especially streets, parking lots, and industrial and residential surfaces, often contains a wide variety of contaminants. Most stormwater is discharged into streams, but a significant amount goes directly into the soil. This source of ground water contamination should be regarded as a potentially important one in Medford.

Drain Fields: Nitrogen, sodium, and chlorinated organic compounds from household or community sewage effluent can be discharged into ground water through septic tank drain fields.

Mining: Mineral extraction and related operations discharge a variety of contaminants into both surface and ground water.

Spills and Leakage: Underground leakage and spills of petroleum products, various organic compounds, fertilizers, metals, and acids are potential hazards from commercial and industrial uses.

Source: *Landscape Planning: Environmental Applications*

Groundwater is contained in aquifers, underground geologic formations made up of permeable rock material. Aquifers function like natural underground storage reservoirs, constantly adapting to surface and groundwater withdrawals, infiltration, and recharge. Ground water occupies complex three-dimensional spaces that operate with fluctuating levels. It percolates into different zones of saturation, which occur at varying depths within the same aquifer or geologic formation. Groundwater becomes recharged or replenished by infiltration of rain, snowmelt, and surface water, or by underground seepage from streams, lakes, or rivers. Unlike surface water that is visible, and its quality easily monitored, groundwater quality is far more elusive. Substances and materials at the surface or just below it can reduce the quality of an underlying aquifer through infiltration. Infiltrating water can dissolve and transport contaminants to the aquifer.

Certain land uses have the greatest potential for contaminating ground water:

- Industrial facilities, including manufacturing, fuel and chemical storage facilities, railroad yards; urban complexes, including highway systems, landfills, utility lines, and sewage treatment plants; and automotive repair facilities

- Agricultural operations, including crop cultivation, feedlots, chemical storage facilities, and processing plants

Other activities, such as grading, construction, use of motor vehicles and equipment, use of pesticides and herbicides, sewer system leakage, etc. must also be regulated to protect groundwater. **Figure 5** discusses the primary contributors to the contamination of groundwater.

The low base flows of local streams reflect a lack of large producing aquifers in the region. The primary aquifer present in the Bear Creek Valley is south of Medford, toward Talent and Ashland, located in the alluvial deposits found on the valley floor. This aquifer is recharged by precipitation that infiltrates the land surface. Other aquifers are found in the northern portion of the valley, in the North Medford/Agate Desert area, and along the southwest margin of the valley, in the Hornbrook geologic formation.

Medford, located on alluvium rock underlain with recent deposits of sand, gravel, clay, and bedrock, has a shallow water-bearing zone, averaging less than 50 feet. Generally, the more shallow the aquifer, the greater the risk of contamination of the groundwater supply. Groundwater in the Bear Creek Valley generally flows in a northerly direction, and, consequently, there is a risk of contamination of sources north of Medford, where residents rely on private wells. Rural development served by private wells poses additional problems, including lowering the water table in the region. As noted in the report, *Bear Creek Valley 2050 Water Supply Plan, Phase I*, there are more than 26,000 wells in Jackson County, serving between 40,000 and 50,000 people. Nearly all of these wells provide water for domestic needs, with few used for agricultural irrigation.

Groundwater resources are addressed by *Statewide Planning Goal 5*, which requires protection of *critical groundwater areas* and *ground water-limited areas*, as designated by the Oregon Water Resources Commission. In addition, the watershed for Medford's Big Butte Springs, which produce approximately 26.4 million gallons per day (MGD), is identified as a state-certified *Drinking Water Protection Area* by the Oregon Health Department.[16] For service areas with populations greater than 10,000, such as the Medford Water Commission's, a Drinking Water Protection Area is considered a significant Goal 5 resource. The Big Butte Springs, through the Medford Water Commission, provide domestic water for several communities, including Medford, Central Point, and Jacksonville.

The Big Butte Springs Drinking Water Protection Area is the land surface that overlies the recharge area for the springs plus the underlying aquifer. The watershed contains 56,000 acres located in Jackson County approximately 30 miles northeast of Medford, seven miles east of Butte Falls on the westerly slopes of Mount McLoughlin. It is primarily under federal ownership, with smaller portions owned by the Medford Water Commission and private timber companies. Although outside the Medford UGB, the Medford Water Commission and the City of Medford participate with Jackson County in protecting this significant resource. The Water Commission is developing a watershed management program and protection strategy to safeguard water quality, based on an inventory of potential contaminant sources and an analysis that determined susceptibility to those contaminants.

[16]The state-certified *Drinking Water Protection Area Program* was previously known as the *Wellhead Protection Program.*

SURFACE WATER POLLUTION

Planning for environmental quality in Medford is a regional issue, and any thorough plan for improving surface water quality must involve other communities. Many communities in the region use surface water as a domestic water source. The Rogue River is a source for communities such as Shady Cove, Gold Hill, Rogue River, and Grants Pass. The Medford Water Commission uses Rogue River water as a secondary source of domestic water through the Duff Water Treatment Plant located just upstream of Medford's Regional Water Reclamation Facility. This source is primarily utilized during the drier summer months**.**

Sources of surface water pollution are identified as either *point* or *nonpoint* sources. *Point* sources are characterized by a concentrated outfall such as treated municipal sewage or industrial process water. *Nonpoint* sources are diffused sources of water pollution that emanate from large areas, and enter streams via stormwater, precipitation, inter-system seepage, air pollution, or agricultural runoff. The City of Medford operates the Regional Water Reclamation Facility (sewage treatment plant) which discharges reclaimed wastewater (a *point* source) into the Rogue River from its facility near Table Rock Road. It is located downstream of the Duff Water Treatment Plant. In addition to the City of Medford, the RWRF serves a number of other cities and unincorporated areas, from Jacksonville to Eagle Point. The facility treated an average daily dry weather flow in 1997 of 16.7 million gallons per day (MGD). Some wastewater is reused for on-site landscape irrigation and for a pilot agricultural reuse project, which grows Poplar trees and plants for pulp fiber and lumber. The facility has conducted a DEQ-approved Industrial Waste Pretreatment Program since 1983. Sixteen significant industrial users discharge to the facility, eight of which have specific federal requirements as "categorical" industrial users. The facility also has had a DEQ-approved Biosolids (sludge) Management Plan and program since 1988, conducted according to federal and state regulations, including the NPDES. The biosolids are "beneficially used" through application on local farmland as crop nutrients.

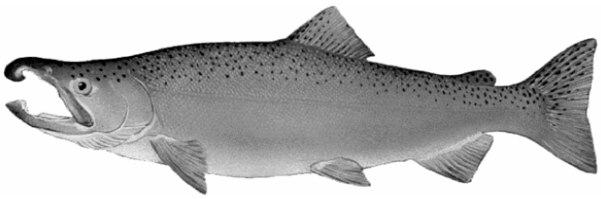
The magnitude of nonpoint pollution is more severe than scientists originally estimated, due to the size of the source areas, the many outfalls involved, and the sporadic nature of the flows. Consequently, nonpoint pollution does not lend itself to abatement using treatment or other conventional methods. Instead, nonpoint pollution abatement must be approached as an environmental management issue, focusing on the activities and conditions that produce the pollutants, and integrating long range planning strategies to develop solutions. The Oregon DEQ and DLCD have produced a guide entitled *Nonpoint Source Pollution Control Guidebook for Local Government*, June 1994, which provides an introduction to nonpoint pollution in a format designed for local planners, engineers, elected officials, citizens, etc.

One of the most serious impacts of urban development is the increase in the rate and amount of surface water runoff reaching streams and rivers.[17] As noted in the 1996 *Comprehensive Medford Area Drainage Master Plan, Volume II, Technical and Stormwater Management Appendices,* urban development, with its considerable impervious surfaces, modifies the natural runoff characteristics of a drainage system. Typically, peak flow, total flow, and flow velocity increases, resulting in less

[17] *Landscape Planning: Environmental Applications*, 2nd Edition, William M. Marsh, 1991.

time to filter the runoff, and, therefore, reducing water quality. Untreated urban runoff contains pollution that subsequently flows into larger water bodies, continuing to pollute water downstream.

Currently, Bear Creek and its tributaries in Medford (Larson, Lone Pine, Lazy, and Crooked Creeks) are considered *water quality limited* streams by the DEQ.[18] This designation is given to waters (primarily streams) in Oregon that do not meet established water quality standards, indicating a need for increased treatment of discharges.[19] Additionally, the temperature of Bear Creek at certain times of the year is too warm to meet requirements. One of the most significant sources of pollution in Bear Creek is the City of Ashland's municipal wastewater discharge.[20] In 1988, waterways upstream of the Medford UGB were studied by DEQ to assess water quality and the sources of nonpoint pollution (*Oregon Statewide Assessment of Nonpoint Sources of Water Pollution*). Waterways within the Bear Creek watershed considered *severely impaired* included portions of Wagner and Griffin Creeks. *Moderately impaired* waterways included Myer Creek, upper Wagner Creek, Coleman Creek, upper Griffin Creek, Willow Creek, Neil Creek, and the lower portion of Emigrant Creek.[21] Ashland Creek, a tributary of Bear Creek, is also considered *water quality limited*, because of ammonia and carbonaceous oxygen demand.



Since Bear Creek is a water quality limited stream, a *total daily maximum load* (TMDL) strategy has been developed to bring the Bear Creek basin into compliance with federal standards. The City of Medford is among the local agencies (designated management agencies - DMA's) contributing to the nonpoint source pollution of the Bear Creek basin. The Rogue Valley Council of Governments (RVCOG), through the Bear Creek Watershed Council, is facilitating the work of the DMA's to develop and implement a strategy to bring the basin into compliance with water quality standards. Groups such as the Bear Creek Watershed Education Partners and the Bear Creek Greenway Foundation are involving the public, including schools, in watershed education and cleanup programs to improve the quality of the region's waterways while educating the public about natural resources.

GOAL 5 AND THE *OREGON PLAN*

Statewide Planning Goal 5 provides another framework for improving water quality. Under the 1996 revisions to the OAR's that implement Goal 5, local governments are required to protect

[18]Bear Creek violates standards for dissolved oxygen, fecal coliform, and phosphorus from its mouth through river mile 24, and violates standards for pH from its mouth through river mile 14.2.

[19]*Local Wetlands Inventory and Oregon Freshwater Assessment Method Analysis, City of Medford*, Brown and Caldwell and Woodward-Clyde Consultants, October 1995.

[20]*Comprehensive Medford Area Drainage Master Plan, Volume II*, Brown and Caldwell, September 1996.

[21]*Local Wetlands Inventory and Oregon Freshwater Assessment Method Analysis, City of Medford*, Brown and Caldwell and Woodward-Clyde Consultants, October 1995.

riparian corridors[22] and locally significant wetlands (defined later in the Wetlands section under *Determination of Significance*) by adopting the requirements of a *safe harbor*, which prescribes certain protection standards, or by proceeding with an "ESEE" process. A safe harbor imposes certain development standards that ensure compliance with Goal 5 by a local jurisdiction, and does not require elaborate studies by the jurisdiction to justify the standards. It also reduces the risk or impact of litigation by involving the state. The ESEE process requires an in-depth analysis of the *economic, social, environmental, and energy* consequences of allowing, prohibiting, or limiting uses that conflict with each resource. The safe harbor for riparian corridors includes a structural setback requirement measured from the top of the bank along certain waterways, and a limitation on vegetation removal. The safe harbor for locally significant wetlands includes restrictions on grading, excavation, fill, and vegetation removal within the wetland area.

The changes in the Goal 5 rules aid in implementing salmon recovery measures on a local level and complement the provisions of the *Oregon Plan for Salmon and Watershed Restoration*. The Oregon Plan is the official local-state-federal program for restoring salmon and steelhead populations in Oregon's streams. Southern Oregon and Northern California are considered as having an "evolutionarily significant unit" of coho salmon, which were listed as *threatened* under the Endangered Species Act in 1997. Chinook salmon and steelhead have also been proposed for listing. The *Oregon Plan* was adopted by the 1997 Oregon legislature, and addresses both water quality and endangered species issues. Much of it focuses on local responsibility for the salmon recovery effort in order to retain state authority over management of Oregon's natural resources. As Medford implements the new Goal 5 rules, the water quality of Bear Creek and its tributaries will continue to improve, as will fish habitat.

STORM DRAINAGE

The use, management, and perception of open channel storm drainage systems within the urban environment changed considerably in the 1990s. Current views of stormwater planning, as noted in the *Drainage Master Plan*, advocate open systems that use mostly unaltered natural drainageways for conveying stormwater runoff, which can increase the potential for fish and wildlife habitat preservation. In addition, the vegetation in natural drainageways can filter pollutants from runoff. The quantity of pollutants removed varies with the type of vegetation. For example, herbaceous wetland plants are more effective in filtering and absorbing pollutants than woody vegetation. Woody shrubs and trees are more effective in bank stabilization than herbaceous plants, and therefore, more effective at preventing erosion.[23]

[22] A riparian corridor is a Goal 5 resource that includes the water area, fish habitat, adjacent riparian areas, and wetlands within the riparian area boundary. "Fish habitat" is those areas upon which certain fish depend to meet their requirements for spawning, rearing, food supply, and migration. "Riparian area" is the area adjacent to a river, lake, or stream of transition from an aquatic to a terrestrial ecosystem. Goal 5 states that, for waterways with an average annual flow of less than 1000 cubic feet per second (cfs), the setback requirement is 50 feet from top-of-bank, and, greater than 1000 cfs, the setback requirement is 75 feet from top-of-bank.

[23] *Stormwater Related Natural Resources and Water Quality* Discharges, Draft Report, City of Eugene, Public Works Engineering Division, April 26, 1995.

Storm drainage system improvements recommended by the *Drainage Master Plan* are intended to reduce the risk and associated costs of flooding, while aiding in water quality improvement. The document specifies the advantages of an innovative storm drainage system: *"Specific water quality facilities are not directly identified other than design of the detention ponds to perform a dual role: Flood protection and water quality treatment. However, a number of water quality treatment opportunities exist. Sedimentation facilities, vegetated swales, sand and compost filters, treatment wetlands, etc., can be added to the storm drainage system to improve water quality. Recently, stream bank restoration projects have been identified as having a significant water quality benefit. The city should start considering these types of facilities to meet future water quality objectives."*

Population density in a city or region affects the *per capita loading rate*, defined as the amount of stormwater pollution produced per person. The per capita loading rate proportionately decreases with higher residential densities. Large residential lots of one to two acres in size tend to be more damaging to water quality. This is because they typically have larger houses, more motor vehicles, and relatively large expanses of roads and drives, which increases the amount of water pollution on a per-person basis.[24]

Strategies to reduce and improve stormwater runoff should include preventive measures incorporated into site design. For example, impervious surface materials can be reduced, assigning priority to preservation of open space instead. Clustered development is one means of improving the ratio of impervious to permeable surface area, while incorporating natural features. Hillside areas are desirable for clustered development, to reduce the extensive grading and subsequent erosion that typically accompanies hillside development. Other examples of strategies to reduce impervious surface include the use of "Hollywood" driveways (those with two narrow strips of cement for vehicle wheels) in residential areas, and the use of structural setbacks along waterways. The use of on-site storm drainage detention basins is also an excellent means of improving stormwater quality.[25] For these reasons, Medford should promote clustered development that provides open spaces, and encourage on-site detention ponds, while continuing to discourage large lot development on the urban fringe.

The Conclusions and Goals, Policies, and Implementation Measures for the Natural Resources - Water Quality section are listed below in conjunction with those for the Wetlands and Wildlife Habitat sections.

[24] *Landscape Planning: Environmental Applications*, 2nd Edition, William M. Marsh, 1991.

[25] *Landscape Planning: Environmental Applications*, 2nd Edition, William M. Marsh, 1991.

WETLANDS

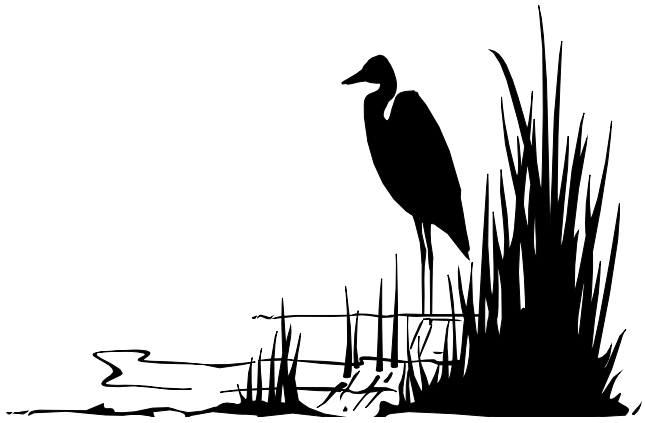
In the past, few standards regulated the planning, development, or preservation of wetlands in Oregon's urban areas. Further, variations from one locale to another across the state resulted in inconsistent policies for preservation or development. More recently, a renewed appreciation of wetlands has led to the development and enforcement of greater federal and state regulations to guide wetland planning in urban areas. There has been increased recognition of wetlands as:

- Important habitats necessary for the survival of many aquatic and terrestrial species
- Integral parts of the hydrologic system necessary for the maintenance of water supplies and water quality

FEDERAL AND STATE REGULATIONS

The principal federal law that regulates activities in wetlands is *Section 404* of the *Clean Water Act*. Section 404 restricts the discharge of wastes, including fill material, into the *waters of the United States*, which are broadly defined as coastal waters, rivers, streams, estuaries, and wetlands. The U.S. Army Corps of Engineers is responsible for administering Section 404. Wetlands are defined as "*those areas that are inundated or saturated with surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions."*[26]

To be considered a *jurisdictional wetland*, or one regulated by *Clean Water Act* regulations, the wetland must contain wetland plants, hydric soils, and saturated or inundated substrate. Permits are required from the U.S. Army Corps of Engineers and the Oregon Division of State Lands (DSL) to fill or drain a jurisdictional wetland. If the activity cannot be justified, permits are not issued. If the activity is justified, the permits are likely to require *compensatory mitigation*, to replace the acreage and values of the wetland area lost.[27]



Planning efforts to satisfy federal and state wetland regulations are shifting to the local level. The Oregon Department of Land Conservation and Development (DLCD) has established the responsibilities that cities and counties have regarding wetlands under Goal 5. To comply with the wetlands requirements of Goal 5, local governments must conduct a Local Wetland Inventory (LWI) and adopt a "safe harbor" or similar ordinance that protects locally significant wetlands, and/or develop protections through an ESEE analysis process as described in the previous section.

[26] *Comprehensive Medford Area Drainage Master Plan*, September 1996.

[27] *West Eugene Wetlands Plan*, City of Eugene and Lane Council of Governments, December 1992.

In 1995, the City of Medford completed its first "*Local Wetlands Inventory (LWI) and Oregon Fresh Water Wetland Assessment Method Analysis*," which documented the presence, location and size of the wetlands in the UGB. The LWI and OFWAM analyses were updated and approved by DSL in 2002 (*Medford Local Wetland Inventory and Locally Significant Wetland Determinations*, 2002 by Wetland Consulting). See **Figure 6** for a general vicinity map of Medford area wetlands. The official LWI maps are available in the Medford Planning Department. A qualitative assessment of the wetlands was conducted according to the Oregon Freshwater Wetland Assessment Method (OFWAM)[28]. DSL is required to be notified of all applications to the City of Medford for development activities, including applications for plan authorizations, development permits, or building permits, and of development proposals by the City of Medford, that may affect any wetlands, streams, or waterways identified and/or mapped in the *Local Wetlands Inventory.*

The 2002 LWI inventoried and mapped 134 wetland sites in the UGB, and mapped, but did not inventory the waterways. The waterways were inventoried, mapped, and assessed in a separate process. See the *Medford Riparian Inventory and Assessment Bear Creek Tributaries*, 2002 by Wetland Consulting There was a total of 293 acres of wetlands inventoried, including created ponds in addition to the natural wetlands. *Palustrine forested* and *scrub-shrub* wetland plant communities are common along stream corridors, typically confined to a narrow strip along steep banked watercourses. Dominant tree species include black cottonwood, white alder, and Oregon ash. Understory shrubs include willow, choke cherry, wild rose, and snowberry. Himalayan blackberry vines, an invasive introduced species, often dominate understory areas, especially those that have been disturbed. The *palustrine emergent* wetlands are dominated by herbaceous plants such as cattails, rushes, sedges, and reed-canary grass in inundated areas, and teasel, tall fescue, buttercup, and velvet grass adjacent to the water.

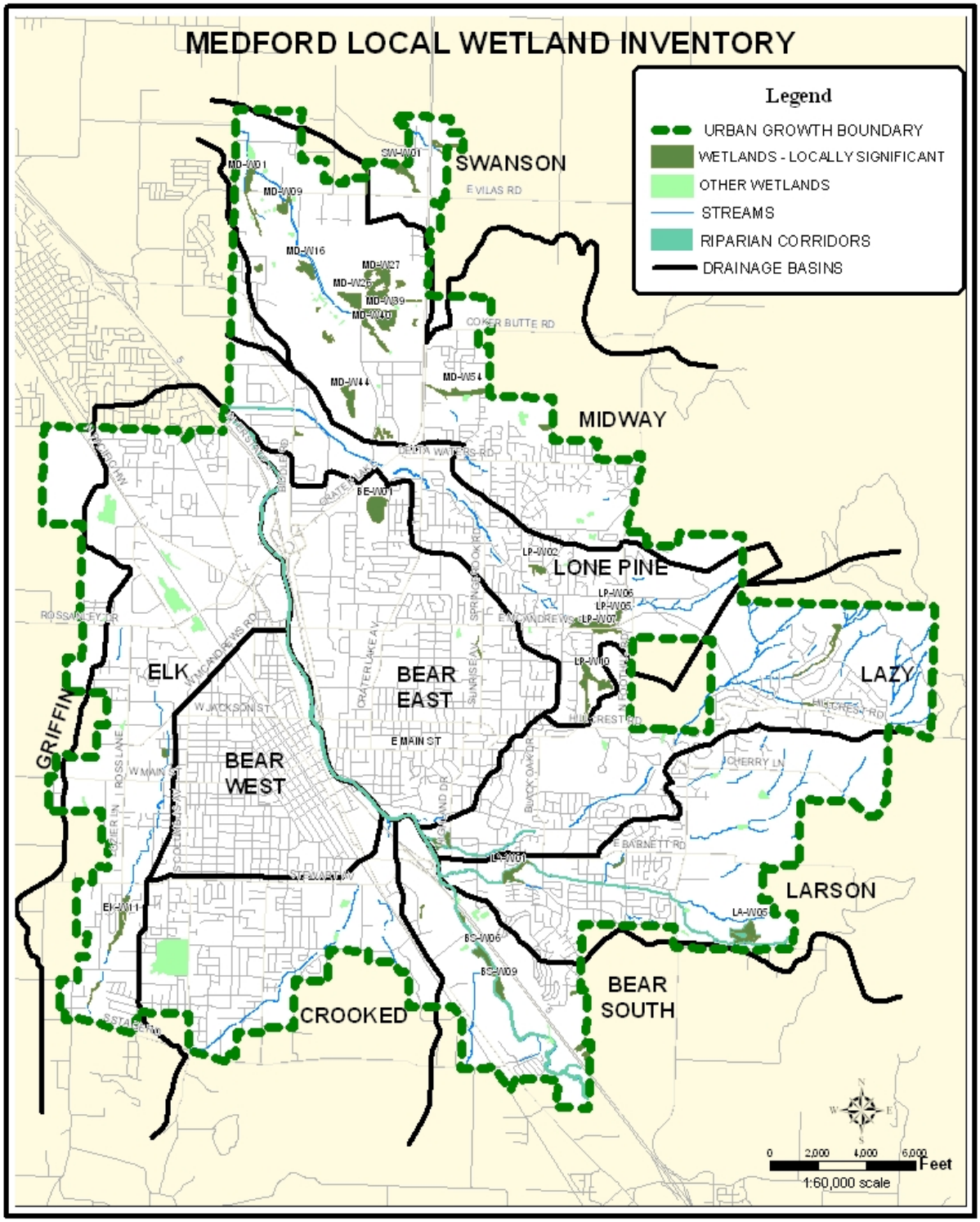
Vernal pools, which are rare rain-fed seasonal wetlands, have been found in the Agate Desert area north of the Medford UGB and in the northern portion of the UGB in and near the Airport in areas having Agate-Winslo soils. The hard pan underlying the soil restricts infiltration, causing prolonged inundation. An inventory and assessment of the vernal pools in the Agate Desert area was completed by DSL in 1997. Most historic vernal pools located within the Medford UGB have been severely altered or obliterated due to grading and vegetation alterations, although some may still be identified as wetlands.

Some threatened or endangered plant species are known to occur in conjunction with vernal pools in Jackson County, including Cooks (Agate Desert) lomatium and large-flowered wooly meadowfoam. Both are listed as Endangered Species by the state of Oregon and Candidate Species under the federal *Endangered Species Act*. Agate Desert lomatium (*loamtium cookii*), which is known to occur only in Jackson and Josephine Counties, has been identified on the grounds of the Rogue Valley International-Medford Airport, which is within the UGB.[29] The RVCOG is managing a cooperative effort, the Agate Desert Vernal Pools Project, initiated to develop a wetland conservation plan for the Agate Desert vernal pool area. Jackson County, the City of Medford, the Nature Conservancy, DSL, ODFW, the U.S. Army Corps, and the U.S. EPA are among the participating agencies.

[28] Statewide methodology used in the *Local Wetlands Inventory* for assessing and determining the significance of the wetlands in Medford.

[29] *Draft Environmental Assessment, Rogue Valley International-Medford Airport, Proposed Improvements*, March 1999, David Evans and Associates, Inc.

Figure 6: Medford Area Wetlands



The City of Medford owns property in the vicinity of the Water Reclamation Facility and Whetstone Creek, located outside the UGB near Antelope Road that contains vernal pools and other wetlands. Some of this land is potentially suitable as mitigation sites for wetland impacts caused by City infrastructure projects..

Determination of Local Significance

The LWI/OFWAM is a "first layer" planning tool for identifying the most valuable wetlands in the Medford UGB. OFWAM assessments of the wetlands are used in making a determination of *significance* according to state standards (OAR 141-86-350). In addition, other wetlands may be adopted by the City Council as *locally significant*. Using the OFWAM criteria, 45 of the inventoried wetlands in the Medford UGB were determined to be locally significant. . Nearly half are locally significant due to having a water quality function and being located within one-quarter mile of a "water quality limited stream". Several significant wetlands have direct surface water connections to Bear Creek and Larson Creek, which are habitat for "indigenous anadromous salmonids". See **Appendix C** for the inventory of locally significant wetlands.

Uses Conflicting with Wetland Protection

Occasionally, the protection of a locally significant wetland may conflict with other important community goals. After a sound ESEE analysis, the City Council may make a finding that a particular "conflicting use" is more important to the long term needs of the citizens than preservation of the wetland area. The most common conflicting uses have been critical links in the City's arterial and collector street system. In many cases, a street crossing can be accomplished without serious disruption of a wetland, such as along a riparian corridor. In other cases, fill and compensatory mitigation may be required if an alternative location is not available. The ESEE analysis will result in a determination that the identified conflicting use will be permitted, limited, or prohibited.

Wetland Mitigation

Under current federal and state laws, any wetland losses must be compensated through creation of new wetlands, restoration of former wetlands, and/or enhancement of existing wetlands. Mitigation efforts not only satisfy federal and state laws, but attempt to achieve a balance between competing land uses. The 1995 LWI recommended that *"an active land acquisition plan and schedule are required to acquire key locations for future wetlands mitigation. Without such a plan, many potential sites may be permanently lost."* A *Wetlands Mitigation Concept Plan* prepared for the City of Medford in 1996, presented methods for mitigating wetland losses. The 2002 LWI identified some potential mitigation sites within the UGB.

One means to achieve wetland preservation objectives is through the establishment of a regional wetland mitigation bank. Freshwater mitigation banking is addressed in the *Oregon Mitigation Bank Act of 1987*. Often, wetland loss compensation is conducted on a piecemeal basis as individual development projects are completed. As a result, many newly created wetlands are small, isolated, and of marginal value as wildlife habitat, a primary intent of wetland mitigation. In some circumstances, development is slowed by a lack of suitable wetland mitigation sites. As noted in the LWI, the most appropriate mitigation sites in the Medford UGB are those that are made up of dewatered hydric soils over five acres in size. They are often located near existing drainageways, including one in the undeveloped Southeast Medford area near Larson Creek, a primary tributary of Bear Creek, that could serve several functions, including water quality control and open space connections, possibly through the designation of conservation areas and greenways. The Bear Creek corridor is also being evaluated to determine if suitable mitigation sites are located along the

waterway. Refer to the *Wetlands Mitigation Concept Plan* for a more detailed description of the suggested wetland mitigation strategies.

WETLAND FUNCTIONS IN AN URBAN ENVIRONMENT

Wetlands in urban areas serve a variety of roles in achieving community needs and objectives, including the provision of educational and recreational opportunities. Locally significant wetlands are those that have been determined to serve one or more of the following functions: preservation/diversification of wildlife, maintenance of fish habitat, improvement of water quality, or hydrologic control.

The critical functions wetlands can provide within urban areas include, but are not limited to:

Stormwater Management

The use of open channels and wetlands in an integrated storm drainage system provides a better balance between stormwater conveyance and flood control needs, and environmental and community needs. The *Drainage Master Plan* recommends the development and implementation of a local wetlands management plan that incorporates flood control, water quality control, and principles of natural resource management. Such efforts, in the long term, will assist in reducing stormwater pollution, improving water quality, and creating pleasant urban open spaces and waterways.

Water Quality Improvements

Wetlands can contribute to the improvement of water quality. The vegetation in both natural and constructed wetlands functions as a biological filter in removing sediments, excessive nutrients, and other water pollutants from stormwater runoff resulting in cleaner surface water and improved aquatic habitat.

Improved Flood Control

Additional flood storage capacity can be gained by protecting existing wetlands, by creating new wetlands, and by widening and returning channels to their natural meandering patterns. Design conventions, such as widened channel bottoms, allow the resulting low flow channels to meander among wetlands, re-establishing the original stream bank habitat, and reducing the downstream impacts of stormwater runoff that originates in urban areas. Other flood storage improvements such as on-site detention ponds can provide multiple benefits, for example, provision of flood control, open space, and wildlife habitat.

Improved Plant and Animal Habitat

Greater protection of wildlife habitat is a priority of Goal 5, and wetland areas provide critical wildlife habitat. By protecting and restoring a variety of wetland types, and buffering them from the impacts of nearby development, diversity of habitats can be sustained and improved.

Recreation, Education, and Research

Trails, multi-use paths, and wildlife observation areas within a diverse system of wetlands and stream corridors can provide opportunities for public enjoyment of the natural environment. Wetland environments provide excellent opportunities for education and recreation, particularly if utilized by elementary and secondary schools. The completion of the Bear Creek Greenway from Ashland to Central Point and beyond is progressing, and encompasses many habitat types along Bear Creek, including wetlands. The Greenway is already used for educational purposes, combining

classroom learning with field experience in environmental programs, such as those where students adopt creek sections, plant trees, and release salmon fry. The Bear Creek Watershed Education Partners, a committee of the Bear Creek Watershed Council, is currently overseeing such programs.

Corridors and Connections

By providing greenways and open space along existing waterways and wetlands, a connected system could be established throughout the UGB, and ultimately linking communities in the Bear Creek Valley. Greenways provide corridors for wildlife movement and species interchange, as well as connections for human use. One example is the riparian corridor and proposed multi-use path along Larson Creek, which would connect the Southeast area with the Bear Creek Greenway.

WETLAND PROTECTION ORDINANCE

As noted above, to comply with Goal 5 requirements for wetland protection, specific regulations must be adopted in the Medford *Land Development Code*. Medford's proposed Wetland Protection ordinances would address locally significant wetlands and could address other wetlands. . In the case of some wetlands, a "safe harbor ordinance" may be adopted, which forbids disturbance of the wetland, but does not include buffer areas. In other cases, after the ESEE analysis is completed, ordinances that address permitting, limiting, or allowing conflicting uses would be adopted. These may include required buffers. When reviewing development permit or plan authorization applications for properties containing a Wetland Protection Area, the approving authority would consider how well the proposal satisfies the objectives of the ordinance. The objectives of Medford's proposed Wetland Protection Ordinance include:

- To implement the goals and policies of the "Environmental Element" of the Medford *Comprehensive Plan* and achieve their purposes.

- To protect and restore Medford's wetland areas, thereby protecting and restoring the hydrologic, ecologic, and land conservation functions these areas provide for the community.

- To protect fish and wildlife habitat, enhance water quality, control erosion and sedimentation, and reduce the effects of flooding.

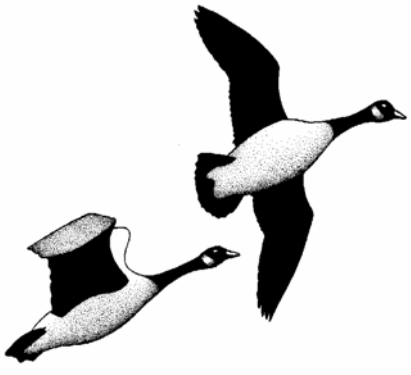
- To protect and restore the natural beauty and distinctive character of Medford's wetlands as community assets.

- To enhance the value of properties near wetlands by utilizing the wetland as a visual amenity.

- To enhance coordination among local, state, and federal agencies regarding development activities near wetlands.

The Conclusions and Goals, Policies, and Implementation Measures for the Natural Resources - Wetlands section are listed below in conjunction with those for the Water Quality and Wildlife Habitat sections.

WILDLIFE HABITAT



Statewide Planning Goal 5 emphasizes the importance of maintaining and improving Oregon's natural areas:

"This includes land and water that has substantially retained its natural character and land and water that, although altered in character, is important as habitat for plant, animal or marine life, for the study of its natural historical, scientific or paleontological features, or for the appreciation of its natural features."[30]

In OAR 660-16, *wildlife habitat* is defined as *"an area upon which wildlife depend in order to meet their requirements for food, water, shelter, and reproduction. Examples include wildlife migration corridors, big game winter range, and nesting and roosting sites."*[31]

FEDERAL AND STATE REGULATIONS

The federal *Endangered Species Act of 1973* prohibits any actions that would harm an endangered species. Such actions are called a "take," which is defined as *"to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect."* The definitions of harm and harass include taking any actions that would modify or degrade the habitat of the species if it significantly impairs or disrupts breeding, spawning, migrating, feeding, sheltering, etc. The *Oregon Endangered Species Act* (OESA), adopted in 1987, requires state agencies to develop programs for the management and protection of *endangered* species. It also requires state agencies to comply with adopted guidelines for *threatened* species. The OESA also covers some species that are not listed by the federal *Endangered Species Act*.

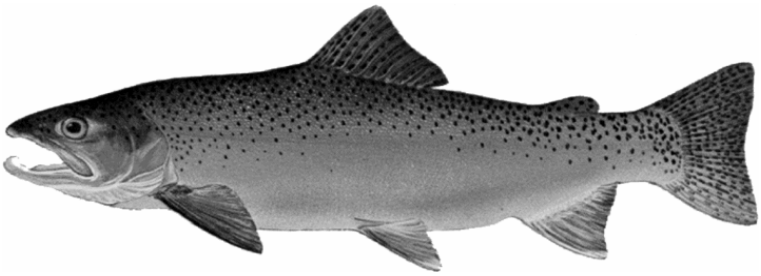
Local governments must utilize information from state and federal agencies, including the Oregon Department of Fish and Wildlife (ODFW), to inventory significant wildlife habitat under the prescribed Goal 5 process. Under the safe harbor provisions, a local government may determine that *significant* wildlife habitat occurs only under certain circumstances, and does not include fish habitat. (Fish habitat is addressed later under riparian corridor protections.) Jurisdictions are then required to develop plans to protect significant wildlife habitat. Significant wildlife habitat includes sites where the habitat performs a life support function or has more than incidental use by a wildlife species listed by the federal government as *threatened* or *endangered*, or by the state as *threatened*, *endangered,* or *sensitive*. It also includes documented nesting or roosting sites for osprey or great blue herons, and sites identified as habitat for a *wildlife species of concern* or *habitat of concern* by the ODFW. The Medford UGB has not been found to contain any of these types of wildlife habitats; however, should any be identified in the future, a protection plan will be formulated by the city.

[30] *Oregon's Statewide Planning Goals and Guidelines, 1995 Edition*, Oregon Department of Land Conservation and Development.

[31] *Oregon Administrative Rules*, 660-23-110, Oregon Department of Land Conservation and Development, September 1, 1996.

A wide variety of animal species exist in Medford's riparian, wetland, savanna (scattered trees and shrubs), grassland, and woodland environments. Agricultural and residential areas are also home to certain wildlife species. Southeast Medford contains some of the most natural stream, riparian, and wetland habitats within the city. Additionally, it has most of Medford's savanna, grassland, and woodland environments. Each of these habitats is significant to various species of mammals, fish, birds, reptiles, amphibians, and insects. The foothills above the Medford UGB provide habitat for black tailed deer, cougars, and coyote. While instream and wetland habitats are important, the dry land habitats, such as oak woodlands and open meadows, play an important role in the resident and transitory wildlife of the Bear Creek Valley. Through the various tributary streams, the surrounding forested uplands are connected to the Bear Creek riparian corridor, providing avenues for plant and animal dispersement and interchange.

An inventory of the wildlife in the Medford UGB and the types of habitat they are dependent upon is contained in **Appendix A.**



RIPARIAN CORRIDORS

A *riparian area* is defined as the area of transition from an aquatic ecosystem to a terrestrial ecosystem. A *riparian corridor* is the area within a boundary established along both sides of a waterway, including the riparian area and any associated wetlands. Goal 5 requires riparian corridor regulations to be applied to those waterways identified as being *fish-bearing streams*, and any other waterways having riparian areas determined to be significant. A fish-bearing stream is one inhabited anytime of the year by anadromous or game fish, or fish listed as *threatened* or *endangered* under federal or state *Endangered Species Acts*. According to ODFW, fish-bearing streams in the Medford UGB include Bear Creek, Larson Creek, and Lone Pine Creek downstream of Biddle Road[32]. Due to their use by indigenous anadromous salmonids, these streams are considered "essential salmon habitat" by DSL. See **Figure 7** for a map indicating the riparian corridors in the Medford UGB.

BEAR CREEK

Bear Creek, which traverses north/south through the center of the Medford UGB, and its riparian areas provide a particularly valuable habitat for riparian mammals, reptiles, and amphibians, and a wide variety of migratory and resident bird species. Both anadromous and resident fish species are present in Bear Creek. However, the long range potential for preservation and maintenance of aquatic life is limited unless the water quality of Bear Creek is improved. By implementing the provisions of Goal 5 for riparian corridors, fish populations found in Bear Creek, including winter and summer steelhead, coho salmon, spring and fall chinook salmon, cutthroat trout, and resident rainbow trout, will continue to improve. **Figure 8** suggests measures individuals and landowners can take to help improve instream salmon and habitats.

[32]Oregon Department of Fish and Wildlife (ODFW), Rogue District Office, 1998 verbal communication.

Figure 7: Medford Area Riparian Corridors

The Bear Creek Greenway, a linear park that also provides valuable habitat for wildlife, was first conceived in the 1960s. The ultimate goal of the Bear Creek Greenway Foundation is the completion of the Greenway from Ashland to Central Point, and eventually to the confluence with the Rogue River near Gold Hill. The multi-use path, which follows the creek within the Bear Creek Greenway, was designated as a National Scenic Trail in 1975, and is part of the Oregon Recreational Trail system. In the Medford area, the path, from Barnett Road north to East Pine Street in Central Point near the Jackson County Expo (fairgrounds), is complete. With access points to the path at a number of major arterial streets in Medford, the path serves as a primary means to travel by bicycle or foot in a north-south direction through central Medford. A missing link in the Greenway path especially important to Medford is the 6.3-mile section between Barnett Road and the city of Talent. The Bear Creek riparian corridor within the Medford UGB north of Barnett Road is highly developed to within 20 or 25 feet of the creek, but south of Barnett Road, contains significant wildlife habitat and is relatively undeveloped.

Figure 8

Things You Can do to Help Restore Salmon Habitats

1) Plant native trees and shrubs along streams to help stabilize the banks and provide cooling shade for the water.

2) Use fencing to keep livestock from damaging stream banks.

3) Avoid operating heavy equipment in streams, which can ruin spawning beds, create sediment problems, and cause other long-term damage.

4) Limit impacts on waterways to only those essential to your operation. Consult with necessary agencies before you act. Oregon and federal laws prohibit diking, channelizing, and water diversions without a permit, and provide a clear set of operational guidelines. Dredging or removing material from rivers is also tightly regulated. **You may not place any artificial structure in a stream or river that blocks fish passage.**

5) Check with DEQ about responsible runoff management at your site. Construction can cause serious sediment problems, even well away from a waterway, if stormwater is not properly contained. State law requires larger earth-disturbing developments to go through a permitting process. While smaller operations may not need permits, they can still have impacts.

6) If you must use a septic tank, be sure it is properly designed, located, and well maintained. Poorly performing septic tanks can contaminate groundwater and nearby streams.

7) Dispose of household chemicals, such as used motor oil, antifreeze, pesticides, paints, etc., at approved collection facilities in your area. Call your local DEQ office for your disposal options.

Source: Oregon Department of Environmental Quality

Medford undertook the protection of its most valuable wildlife habitat by adopting the Bear Creek (B-C) Overlay Zoning District in 1989. According to the *Medford Land Development Code*, the purpose of the Bear Creek overlay zone was to *"preserve, protect, and develop the natural beauty and distinctive character of the principal waterway for both private and public outdoor recreation and scenic use, and to protect the public health and the property values in the vicinity."*

The Bear Creek overlay zone was applied to parcels within and adjoining Bear Creek, and was intended to accomplish a number of objectives. One clearly defined objective of the overlay zone was to address the importance of wildlife habitat preservation. Other objectives included enhancing the environment, coordinating the implementation of the Bear Creek Greenway within the city, promoting stream-oriented activities, increasing the value of properties abutting Bear Creek, preventing visual and physical pollution of the creek, and restoring Bear Creek and its tributaries as a community asset. The ordinance applied a 20 or 25-foot structural setback from the top of the bank and required Site Plan and Architectural Commission review for development projects within the overlay zone. Activities within the waterway required a Conditional Use Permit. A Riparian Corridor Ordinance that meets the new

requirements of Goal 5 and applies to all riparian corridors within the city, is proposed to replace the Bear Creek overlay zone. (See the following Riparian Corridor Ordinance section.)

LARSON CREEK

The Larson Creek stream system is another significant stream system within the UGB that has the potential to become a showcase anadromous fish-bearing streams system. Although needing enhancement, it still has the potential to return to a properly functioning condition.[33] Many of the branches and tributaries of Larson Creek are intermittent streams that run low or under gravel during the summer months. Those that are not intermittent may be supplemented by irrigation activities. Although impacted by urban development, the section of the creek between Bear Creek and North Phoenix Road contains some important riparian areas and wetlands, and is suitable for enhancement and restoration activities. A multi-use path has been planned along this section of the creek since the 1970s, although only a small section, between Black Oak Drive and Murphy Road, has been constructed.

The three forks of Larson Creek that traverse the Southeast Area were once all fish-bearing streams that provided steelhead spawning and rearing habitat. A Medford Irrigation District (MID) canal along North Phoenix Road intercepts each fork, reducing or preventing fish. It has been suggested that, if the South Fork were to be reconnected with the Middle Fork before reaching the canal, it would enhance fish passage. A "tread lightly" approach is also important in storm drainage planning for Southeast Medford. Riparian improvements could potentially be used to mitigate for lost riparian wetlands.

Recognizing that Southeast Medford is significant to the overall health of Larson Creek, the Southeast Plan of the "General Land Use Plan Element" and the Southeast (S-E) Overlay Zoning District, adopted in 1998, provide for a "Greenway" designation applied to all three forks of the creek. The overlay district provides a 50-foot structural setback and restrictions on activities within the setback area. Riparian and instream enhancement activities are encouraged. The vegetative cover is also encouraged to remain as close to natural conditions as possible. Healthy, lush vegetation provides not only cover from fish predation and regulation of water temperature, but also habitat for food sources (insects), and reduces stress by limiting disturbance to the fish.

RIPARIAN CORRIDOR ORDINANCE

As noted in the "Water Quality" section, to comply with Goal 5 requirements for riparian corridors, specific regulations must be adopted in the Medford *Land Development Code*. The objectives of Medford's proposed Riparian Corridor Ordinance include:

- To protect and restore Medford's waterways and associated riparian areas, thereby protecting and restoring the hydrologic, ecologic, and land conservation functions these areas provide for the community.

[33] Letter from Mark Prevost, Rogue Valley Council of Governments Water Resources Program, March 16, 1998.

- To protect fish and wildlife habitat, enhance water quality, control erosion and sedimentation, and reduce the effects of flooding.

- To protect and restore the natural beauty and distinctive character of Medford's waterways as community assets.

- To provide a means for coordinating the implementation of the Bear Creek Greenway within the City of Medford.

- To enhance the value of properties near waterways by utilizing the riparian corridor as a visual amenity.

When reviewing development applications for properties containing a riparian corridor, the approving authority will consider how well the proposal satisfies these objectives. As required by Goal 5, the ordinance provides for a riparian corridor boundary of 50 feet, measured from the top-of-bank along both sides of waterways with an average annual flow of less than 1,000 cubic feet per second (cfs) and identified as being fish-bearing streams, or other waterways having riparian areas determined to be significant.

To sustain and enhance Medford's existing wildlife habitats, both aquatic and terrestrial, it is important to identify and designate areas as riparian corridors, greenways, wetlands, and other open space preserves. These areas will not only sustain wildlife habitat, but also satisfy the requirements for its protection as mandated by Goal 5. Preserving the existing natural corridors is critical to the preservation and enhancement of wildlife for several reasons. For terrestrial wildlife, particularly those species that require large home ranges, connecting corridors are an essential habitat element, as they permit access into areas that may be otherwise too small to use if isolated. For less transient species, corridors are important in the long-term as they allow movement between populations, providing for genetic exchange and more healthy individuals.

NATURAL RESOURCES
WATER QUALITY, WETLANDS, AND WILDLIFE HABITAT
CONCLUSIONS

1. While the groundwater beneath the valley floor is not the domestic water source for the Medford planning area, it is a regionally important natural resource primarily due to its use as a domestic water source for individual wells.

2. Bear Creek and its tributaries are critically important natural resources, yet suffer from poor water quality due to forest and agricultural practices and urban point and non-point discharges.

3. The poor water quality of Bear Creek and its tributaries is partially attributable to non-point pollution from diffuse sources, such as stormwater, agricultural runoff, and septic system seepage. Non-point pollution sources can significantly damage water quality, yet are more difficult to pinpoint and treat than conventional point sources of water pollution.

4. Natural resource cleanup programs involving local schools, clubs, and civic organizations, such as those sponsored by the Bear Creek Watershed Council, are excellent means to engage the public in environmental education. The presence of waterways such as Bear Creek and Larson Creek, and various wetlands in Medford provides a platform for such programs.

5. The City of Medford recognizes wetlands as valuable urban resources that can provide water quality maintenance, stormwater detention, wildlife habitat, and open space. Medford's 2002 Medford *Local Wetlands Inventory and Locally Significant Wetland Determinations* by Wetland Consulting identified and assessed most of the wetlands, in the Urban Growth Boundary. The 2002 *Medford Riparian Inventory and Assessment Bear Creek Tributaries* by Wetland Consulting inventoried and assessed the waterways that are tributary to Bear Creek.

6. Occasionally, the protection of a locally significant wetland (one that has been determined to have significant value according to state criteria) must be balanced against other important community goals. An exceptional "conflicting use" may be more important to the long-term needs of the citizens than preservation of the wetland area.

7. The Medford UGB has been evaluated for potential wetland mitigation sites. Wetland mitigation involves the restoration, enhancement, or creation of wetlands to compensate for permitted wetland losses elsewhere. Restoration and enhancement of existing wetlands is the wetland mitigation most likely to be successful in Medford due to its ecologic and climatic characteristics.

8. Although Bear Creek and the Bear Creek Greenway contain Medford's most valuable fish and wildlife habitat, fish and wildlife habitat exists elsewhere within the Urban Growth Boundary.

NATURAL RESOURCES
WATER QUALITY, WETLANDS AND, WILDLIFE HABITAT
GOALS, POLICIES, AND IMPLEMENTATION MEASURES

Goal 4: To preserve and protect Medford's ground water resources and recharge zones.

Policy 4-A: The City of Medford shall ensure the protection of the Big Butte Springs domestic water source working in cooperation with Jackson County.

> **Implementation 4-A (1):** Continue to undertake efforts to protect the Big Butte Springs recharge area from improper use through implementation of a watershed management program.

See also the policies of the *Domestic Water* section of the "Public Facilities Element."

Policy 4-B: The City of Medford shall protect ground water recharge areas in the planning area by striving to restore and maintain the natural condition of watersheds, waterways, and flood plains.

> **Implementation 4-B (1):** Review the *Medford Land Development Code,* and propose amendments where necessary to assure that the amount of impervious surface in development projects is minimized and opportunities for permeation are maximized.

See also the policies of the *Wastewater Collection* section of the "Public Facilities Element."

Goal 5: To achieve and maintain water quality in Medford's waterways.

See also the goals of the *Storm Water Drainage* section of the "Public Facilities Element" and related policies and implementation strategies.

Policy 5-A: The City of Medford shall implement regulations that pertain to discharges into the Rogue River, Bear Creek, and their tributaries, such as the federal *Clean Water Act.*

> **Implementation 5-A (1):** Continue to actively participate in regional water quality monitoring and planning efforts.

Policy 5-B: The City of Medford shall implement measures to reduce polluted surface water runoff into the storm drainage system.

> **Implementation 5-B (1):** Implement the recommendations of the 1996 *Comprehensive Medford Area Drainage Master Plan,* or any updates, regarding surface water runoff quality.

Implementation 5-B (2): Develop and impose design standards for filtering and slowing runoff from paved areas using such methods as vegetated swales, on-site detention ponds, or other technologies as they become feasible, to cleanse the water before entering primary waterways.

Implementation 5-B (3): Require the use of natural waterways for storm drainage wherever possible, to decrease flow speed and increase filtering prior to the runoff entering a primary waterway.

Implementation 5-B (4): Continue to assess storm drainage system development charges and utility fees to assist in the financing and maintenance of public storm drainage improvements, and periodically review for adequacy.

See also Implementation 2-B (2) of the Southeast Plan section of the "General Land Use Plan Element."

Goal 6: To recognize Medford's waterways and wetlands as essential components of the urban landscape that improve water quality, sustain wildlife habitat, and provide open space.

Policy 6-A: The City of Medford shall regulate land use activities and public improvements that could adversely impact waterways in the interest of preserving and enhancing such natural features to improve water quality and fish and wildlife habitat.

Implementation 6-A (1): Prepare amendments to the Medford *Land Development Code* for consideration by the City Council that adopt the riparian corridor "safe harbor" setback (50 feet from the top of the bank) for Bear Creek and other streams determined to contain fish habitat or significant riparian areas in compliance with Oregon Administrative Rules 660-23.

Policy 6-B: The City of Medford shall regulate land use activities and public improvements that could prevent meeting the federal performance standard of *no net loss* of wetland acreage.

Implementation 6-B (1): Prepare amendments to the Medford *Land Development Code* for consideration by the City Council to adopt "safe harbor" protections or protection developed through an ESEE (environmental, social, economic, and energy) analysis for locally significant wetlands, as defined, pursuant to Oregon Administrative Rules 660-23.

Policy 6-C: The City of Medford shall encourage the incorporation of waterways, wetlands, and natural features into site design and operation of development projects.

Implementation 6-C (1): Promote clustered development in order to avoid alteration of topographical and natural features, to reduce impervious surfaces, and to enhance the aesthetics of development projects. Investigate incentives for clustering development.

Policy 6-D: The City of Medford shall support the efforts of organizations such as the Bear Creek Watershed Council and the Bear Creek Greenway Foundation, which strive to improve the quality of Bear Creek and its tributaries with activities such as greenway formation, environmental education workshops, creek cleanup events, etc.

See also Policies 2-A and 2-B of the *Southeast Plan* section of the "General Land Use Plan Element."

Goal 7: To preserve and protect plants and wildlife habitat in Medford.

Policy 7-A: The City of Medford shall encourage the conservation of plants and wildlife habitat, especially those that are sensitive, rare, declining, unique, or that represent valuable biological resources, through the appropriate management of parks and public and private open space.

> **Implementation 7-A (1):** Develop a long range open space plan for consideration by the City Council that provides for an integrated system of parks, creekside greenways, wetlands, and paths/trails in Medford to enhance the biological diversity and long-term viability of natural resource areas. Coordinate the plan with the *Medford Parks, Recreation, and Leisure Services Plan*, the *Comprehensive Medford Area Drainage Master Plan*, and other relevant plans.
>
> **Implementation 7-A (2):** Develop and implement regional plans for greenways, wetlands, and linear parks with Jackson County, as wildlife often travel paths that cross jurisdictional boundaries.
>
> **Implementation 7-A (3):** Distinguish public greenways, waterways, wetlands, and parks with interpretive and informational signage regarding on-site natural resources.

Policy 7-B: The City of Medford shall strive to maintain, rehabilitate, and enhance Medford's waterways, using features such as gently sloped banks, natural riparian vegetation, and meandering alignment.

> **Implementation 7-B (1):** For those riparian areas within the planning area that are not subject to the safe harbor regulations, prepare amendments to the Medford *Land Development Code* using the Medford *Riparian Area Inventory and Assessment Bear Creek Tributaries*, 2002, by Wetland Consulting for consideration by the City Council, that adopt a setback or similar protection**.**
>
> **Implementation 7-B (2):** Ensure that improvements, such as multi-use paths and storm drainage facilities sited in or near riparian corridors, waterways, wetlands, or other fish and wildlife habitat, include protective buffers, preserve natural vegetation, and comply with the requirements of Oregon Administrative Rules 660-23.

Policy 7-C: The City of Medford shall strive to protect fish and wildlife habitat in accordance with Oregon Department of Fish and Wildlife's (ODFW) management plans.

SOILS

SOIL SURVEYS

Soil surveys, conducted by the U.S. Soil Conservation Service (SCS), are the most widely used sources of soil information. Surveys provide soil descriptions, soil distribution maps, and various data and guidelines on soil uses and limitations on a county-wide basis. In the past, soil mapping focused on suitability for crops, but has more recently taken a role in planning and architecture, focusing on the suitability of soils for roads and buildings. Understanding varying physical properties of soils, particularly composition, texture, and permeability, is important not only in siting facilities, but also in designing stormwater systems, and in determining long term soil stability.

SOIL CHARACTERISTICS

The soil characteristics in an area are critical in determining the nature of appropriate land development. The major features or properties used to describe soils are *composition* and *texture*. These properties can be used to determine permeability, bearing capacity, erodibility, and slope stability. The materials that make up soil (*composition*) are mineral particles, organic matter, water, and air. The relative amounts of the various mineral particles (clay, silt, sand, gravel) determine the soil *texture*.

The ability of the soil to move water downward is usually referred to as permeability, infiltration capacity, or percolation. Soils within the Medford UGB range from SCS Class B (moderate infiltration) to Class D (low infiltration). They range from deep, moderately-permeable soils in lower elevations (the most permeable soils are found near Bear Creek), to shallow soils of low permeability at intermediate elevations, and exposed bedrock (least permeable) in the foothills.[34] The latter, especially when combined with steep slopes, is prone to high stormwater runoff rates, an important factor to consider with the trend toward increased hillside development.

Soil permeability, bearing capacity, shrink/swell potential, erodibility, and stability are critical properties when making decisions regarding development. Given thorough consideration of the soils in the Medford UGB, most types of urban development can occur in most locations. In some areas, however, structural alterations are necessary to balance poor soil. In other areas, especially where development is anticipated to place heavy loads on the soil, excavation of the existing topsoil and replacement with more stable, compactible material is required. Construction techniques and materials must be suited to the type of soil to limit the potential for damage to structures. A foundation analysis conducted by a registered engineer is required by the City of Medford for projects on *expansive soils* to determine if corrective measures are necessary before construction. Highly expansive soils can cause structural damage to foundations and roads, and are less suited for development, primarily because they absorb water and swell, then shrink during drying.

[34] *Comprehensive Medford Area Drainage Master Plan, Volume II, Technical and Stormwater Management Appendices, Brown and Caldwell,* September, 1996.

AGRICULTURAL SOILS

Goal 3 of the *Statewide Planning Goals*, "Agricultural Lands," promotes the preservation and maintenance of agricultural lands, stating, *"Agricultural lands shall be preserved and maintained for farm use, consistent with existing and future needs for agricultural products, forest and open space and with the state's agricultural land use policy."*[35] It suggests that urban development be separated from agricultural lands by buffers or transitional areas of open space. To alleviate some problems inherent to having agricultural uses adjacent to urban development (vandalism, noise, dust, overspray), the City of Medford adopted an agricultural buffering ordinance in the 1980s.

Consideration of soil fertility, grazing suitability, climatic conditions, existing and future availability of irrigation water, land-use patterns, technological and energy inputs required, and accepted farming practices are criteria for classifying soils suited for agriculture.[36] In western Oregon, agricultural lands, as classified by the SCS Soil Capability Classification System, are predominantly Classes I - VI, considered suitable for farm use. Agricultural lands are ranked by Goal 3, with Class I soils assigned the highest priority for preservation, and Class VI the lowest. The City of Medford took an "exception" to Goal 3, and was permitted to include some agricultural lands within the UGB for urban development in 1990. One agricultural area, however, the 240-acre Hillcrest Orchard, was left out of Medford's UGB in 1990, and is completely surrounded by land inside the UGB.

According to a 1993 *Mail Tribune* series on growth in the Rogue Valley, urbanization has historically been the most critical factor affecting agriculture in the region.[37] Growth often infers utilizing prime agricultural land; however, Medford's future growth is being directed to the east, where the agricultural capability is lower, conserving the more fertile land to the west for agriculture. In the "Urbanization Element" of the Medford *Comprehensive Plan*, both the city and Jackson County acknowledge that protecting agricultural soils outside the UGB is an important priority, not only on a local level, but on a statewide level, and policies to maintain and buffer these lands have been adopted by both jurisdictions.

HILLSIDE DEVELOPMENT AND EROSION

Figure 9, *Slope Map for the Medford Area*, adapted from a geological hazard map prepared by the Oregon Department of Geology and Mineral Industries (DOGAMI) in 1977, illustrates the varying degrees of slope within the Medford UGB. Overall, west Medford is relatively flat, with slopes of 0 to 5%. Slopes increase toward the east to more than 15%, and become steeper into the foothills, where slopes of 30 to 50% or greater exist. The maximum slope advisable for urban development is usually less than 25%.[38]

[35] *Oregon's Statewide Planning Goals and Guidelines*, 5th Edition, Oregon Department of Land Conservation and Development, September 1, 1996.

[36] Ibid.

[37] "Growth's pains for farmers", *The Mail Tribune*, December 19, 1993.

[38] *Landscape Planning: Environmental Applications*, 2nd Edition, William M. Marsh, 1991.

Figure 9
Slope Map for the Medford Area

Given a choice of sites on which to live, many people prefer hillier terrain with open views. While level or gently sloping sites are usually necessary for most industrial and commercial uses, hillsides in or near urban areas are popular for residential development. Hillside development is typically more expensive than development on level ground. The preparation of a site, grading for streets, and provision of sewer and water service is all more costly, as is the actual building construction. The costly nature of hillside development has serious implications in producing neighborhoods of mixed housing types and income levels. Additionally, emergency response situations, such as firefighting, are more difficult on steeper grades.

Slopes altered to suit urban development can also result in difficulties due to (1) the placement of structures and facilities on slopes that are already unstable, or (2) the disturbance of stable slopes, resulting in failure, accelerated erosion, and ecological deterioration of the slope environment.[39] Often, hillside soils consist of expansive clay and are characterized by instability. Landslides and soil erosion from development are particularly common in areas where the soils have low *shear resistance*, or the inability to withstand downward movement. Unstable ground exists in areas of east Medford south of Prescott Park on the slopes of Roxy Ann Peak, which was caused by earthflow or landslides that occurred before recorded history. Expansive clay soils, averaging four to five feet in depth, exist in this area, and extend toward the valley floor. In some areas where there has been earthflow or downslope "creep," the clay can be more than 20 feet in depth. The shrink-swell area, affected by fluctuations in moisture content, can extend up to eight feet beneath the surface.[40] As noted above, since expansive soil can cause structural damage to foundations, a foundation analysis is required for construction in this area.

Besides creating difficulties in structure, road, and utility construction, and in establishing a connected street system, hillside development can have profound effects on the quality of stormwater runoff. Urban development, particularly activities such as land clearing, deforestation, and the use of impervious materials, increases the rate of runoff and produces difficulties with maintaining or improving water quality.[41] **Figure 10** describes strategies to minimize erosion and environmental degradation in hillside development. The City of Medford regulates erosion through development permit and inspection processes. Prior to development, a drainage grading plan depicting existing and proposed drainage conditions must be prepared. In addition, the *National Pollutant Discharge Elimination System* (NPDES) permitting process implemented by the Oregon Department of Environmental Quality (DEQ) requires stormwater permits and erosion control plans for all construction sites of one acre or larger.

Soil erosion can result in land surface and stream bank deterioration, and the eroded materials can clog pipes, culverts, channels, ponds, and other drainage structures. If these factors ultimately reduce capacity, flooding can result. Additionally, *sediment loading* in receiving streams increases the turbidity, negatively impacting fish and other aquatic life.[42] Erosion and the effects of

[39] Ibid.

[40] *Geologic Hazards of the Roxy Ann Butte/East Medford Area*, Ferrero Geologic, Ashland, Oregon, 1995.

[41] *Landscape Planning: Environmental Applications*, 2nd Edition, William M. Marsh, 1991.

[42] *Comprehensive Medford Area Drainage Master Plan*, Brown and Caldwell, September 1996.

Figure 10

Critical Questions for Planning Residential, Industrial, and Commercial Projects to Minimize Soil Erosion and Environmental Degradation

1) What percentage of the site exceeds 15% slope, and, of this area, how much is proposed for development? If developed, what percentage will be affected by construction?

2) What percentage of the site is forested or grassy, or shrub covered, and what percentage of ground cover will be destroyed as a result of the development?

3) What is the minimum distance between the proposed development zone, water features (wetlands, streams, ponds), and existing drainage facilities (storm sewers, stormwater retention ponds, and streams)?

4) What are the proposed erosion and sedimentation control measures for the construction and operational phases of the proposed project?

5) What is the anticipated length of the construction period, and which months of the year are proposed for land clearing, excavation and grading, construction of building and facilities, and landscaping? How does the proposed construction period relate to the seasonal pattern of rainfall, especially the heaviest months?

Source: *Landscape Planning: Environmental Applications*

development on soils are important planning issues, and land use regulations should strive to minimize the negative consequences and potential environmental degradation. The *Comprehensive Medford Area Drainage Master Plan* discusses management techniques for soil erosion and enforcement of drainage system standards. It suggests that the City develop an erosion control guidance document for new development.

Vegetation is critical in controlling soil erosion, particularly on steep slopes. Urban development often leads to removal of natural vegetation, leaving slopes exposed and more susceptible to stormwater runoff and erosion, and more visually barren. Vegetation interrupts raindrops, reducing their force as they hit the soil surface, and roots bind with soil particles, increasing the soil's resistance to the force of running water. Density of vegetation is probably the most important aspect of mitigating soil erosion. The heavier the vegetated cover, the lower the risk of soil loss to runoff.[43]

Specific design and construction techniques can be employed to lessen the impacts of developing on hillsides, such as:

- Adherence to the grading provisions of the *Uniform Building Code* for cuts and fills
- Construction of roads parallel to, rather than perpendicular to contour lines
- Retention of vegetative cover
- Designation of potential landslide areas for low intensity uses
- Use of house plans designed for hillsides

[43] *Landscape Planning: Environmental Applications*, 2nd Edition, William M. Marsh, 1991.

NATURAL RESOURCES - SOILS
CONCLUSIONS

1. Medford is located on Class I through IV soil capability types, with the best agricultural soil to the west of the Urban Growth Boundary. Consequently, Medford's growth is being directed to the east of the city, where greater slopes exist.

2. While the soils characteristic to Medford lend themselves to most types of development, the hillside development trend is increasing soil erosion potential, which can result in polluted runoff and decreased water quality.

3. Unstable ground exists in some areas of east Medford on the slopes of Roxy Ann Peak. Expansive clay soils exist in this area, which can cause structural damage to foundations if not properly constructed.

NATURAL RESOURCES - SOILS
GOALS, POLICIES, AND IMPLEMENTATION MEASURES

See also Policy 2-A of the "Housing Element" and Policy 12 of the "Urbanization Element."

Goal 8: To minimize erosion and hazards relating to slope and soil characteristics by assuring that urban land use activities in Medford are planned, located, and conducted consistently with prevailing soil limitations.

Policy 8-A: The City of Medford shall guide new development, particularly within the foothills, by the soil characteristics and natural features of the landscape, and shall grant development permits only after a determination that potential problems relating to soil limitations, if any, have been identified, and will be adequately mitigated prior to development.

> **Implementation 8-A (1):** Continue to actively enforce the provisions of the *Uniform Building Code* (UBC), or adopted equivalent, relating to construction on soils requiring special construction techniques.
>
> **Implementation 8-A (2):** Prepare a hillside development ordinance for consideration by the City Council that requires subdivision and site design to be compatible with, and complementary to, sloping sites, and that preserves appropriate hillside open space and viewsheds.
>
> See also Implementation 6-C (1), and Implementation 1-A (3) of the "Housing Element" and Implementation 2-B (3) of the Southeast Plan section of the "General Land Use Plan Element."

Policy 8-B: The City of Medford shall implement measures to minimize erosion and its resulting water pollution.

Implementation 8-B (1): Pursuant to the recommendations of the 1996 *Comprehensive Medford Area Drainage Master Plan*, publish erosion control guidelines in a manual that explains specific objectives to be achieved to aid developers and city staff. The manual should recommend erosion controls applicable to Medford's topography, soil types, and climate.

Implementation 8-B (2): Review the *Medford Municipal Code*, and propose amendments where necessary to assure that the effects of erosion from development activities on waterways and wetlands are mitigated. Require the use of "best management practices" in site design, grading, and erosion control.

Implementation 8-B (3): In foothill developments, require streets and utilities to be located along existing topographic contours wherever possible, and require streets and parking facilities to be kept at the minimum size necessary, to minimize erosion resulting from development activities, and to prevent sediment from entering the storm drainage system.

Goal 9: To assure that future urban growth in Medford occurs in a compact manner that minimizes the consumption of land, including class I through IV agricultural land.

Policy 9-A: The City of Medford shall target public investments to reinforce a compact urban form.

Policy 9-B: The City of Medford shall strive to protect significant resource lands, including agricultural land, from urban expansion.

See also Policy 2-A of the "Housing Element" and Policy 12 of the "Urbanization Element."

ENERGY

The primary purpose of this section is to incorporate the significance of energy consumption and the fundamental principles of energy conservation into Medford's planning efforts. It is the intent to show that both the long and short-term benefits of energy conservation, and the use of renewable energy sources, are timely and cost-effective. Almost every aspect of land development affects energy-efficiency, from minute architectural details to broad considerations of urban density.

In 1976, *Goal 13: Energy Conservation* was added to the *Statewide Planning Goals*. This goal states: *"Land, and uses developed on the land, will be managed and controlled so as to maximize the conservation of all forms of energy, based on sound economic principles."* In addition, the *Oregon Municipal Policy Governing Energy* states *"Cities must provide leadership through the adoption of local laws that encourage energy conservation and the use of alternative, and renewable, resources."*

The League of Oregon Cities suggests that a city's land use policies:

- Encourage clustering of housing and services to avoid unnecessary travel
- Encourage energy efficiency by the vigorous enforcement of up-to-date building codes
- Encourage the use of waste heat recovery from industry
- Encourage the use of solar energy by guaranteeing solar access through appropriate ordinances

Further, the League recommends that *"Cities should develop planning and decision-making processes that relate energy to employment, the environment, urban conservation, and other public priorities."*[44]

TRADITIONAL ENERGY SOURCES

Medford, like most cities with limited planning areas, is an energy consumer. Although Medford-specific energy consumption data is not available, it can be assumed that the trends and distributions cited for the state are indicative of energy issues in Medford. About 40% of the energy Oregonians use is for transportation, 35% for industry, 15% for household use, and 10% for commercial, institutional, and other uses. Oil supplies half the energy used in Oregon, although Oregon has no oil resources or refineries. Electricity accounts for more than 20% of total energy used in Oregon; natural gas, less than 20%; and wood and other fuels supply 10%. For residential uses, transportation comprises more than half the energy used by a household, and space/water heating over one-third. The remaining residential energy use is through activities such as refrigeration, cooking, lighting, clothes drying, etc.

[44] *Report to the League Legislative Committee, Proposed Amendments*, League of Oregon Cities, September, 1996.

Electricity

In 1995, Oregonians used 45.7 billion kilowatt-hours of electricity. Industry and households each accounted for about 35% of the electricity, and commercial, institutional, and other uses utilized 30%. The electrical power system in Oregon is part of the Bonneville Power Administration's (BPA) regional network. More than half of Oregon's electricity is supplied by the Columbia River hydroelectric power system. Another one-third comes from coal-fired plants; 8% from gas-fired plants, and 3% from a nuclear power plant (Hanford). The BPA serves Oregon's 36 customer-owned and three investor-owned electric utilities. Investor-owned Portland General Electric and Pacific Power provide about 70% of the electricity that utilities supply in Oregon. In Jackson County, Pacific Power is the primary supplier of electricity.

A comprehensive review of the northwest energy system was undertaken in 1996, and recommendations from the review are expected to produce changes in the structure of the region's electrical power industry. New federal and state legislation will most likely follow. Once characterized as a monopoly, the emerging system, which will allow customers to choose their power supplier, will be more competitive, decentralized, and less price regulated. The intent of the review was to allow the northwest to shape the transition of the electrical power industry to assure that the region's natural resources are protected, that costs and benefits of a more competitive marketplace are distributed with greater equity, and that an adequate, efficient, economical, and reliable power system is maintained. In 1998, Portland General Electric and Pacific Power conducted pilot programs to learn how the mechanics of restructuring would work. Some customers were able to choose their supplier based on factors such as price and the environmental impacts of the electricity sources.

Natural Gas

More than 1.3 billion therms of natural gas were used in Oregon in 1995, with about 65% used by manufacturers, 30% used for home water and space heating, and 5% used by commercial, institutional, and other users, primarily for space and water heating. Natural gas in Medford is provided by Avista, one of the three natural gas utilities serving Oregon. Propane and butane, also natural gases, are distributed locally through a variety of independent outlets.

Compressed natural gas (CNG) is being utilized in the Rogue Valley as a cleaner burning alternative for motor vehicles. As noted in the Air Quality section, the Rogue Valley Transportation District operates much of its fleet of buses on CNG, and operates a CNG fueling station in Medford. Other agencies, such as Jackson County are acquiring fleet vehicles that operate on CNG.

Petroleum

Petroleum is available in many forms, including residual oil, distillate oil, gasoline, and diesel fuel. These petroleum products are not supplied by utilities, but through a multitude of private companies, distributors, and retail outlets. Residual oil is used primarily for large-scale commercial and industrial space and hot water heating, and for industrial process heat. Distillate oil is also used primarily for heat generation, though usually for smaller applications such as residential space heating. Gasoline and diesel fuel are used almost exclusively for vehicular purposes, mostly for street and highway transportation.

Of the various petroleum types, gasoline is by far the most heavily relied-upon fuel source, with private transportation consuming the greatest percentage. More than 80% of the oil used in Oregon is for transportation. The rest is used in manufacturing, agriculture, and for space heating. In 1995,

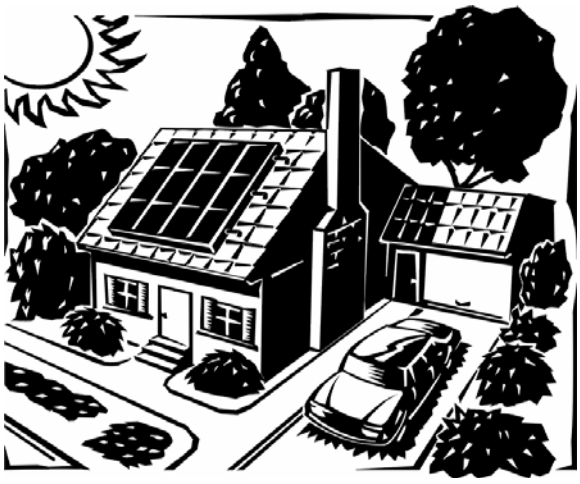
Oregonians used more than 2.7 billion gallons of oil products, including gasoline, liquefied petroleum gases, kerosene and jet fuels. Gasoline accounted for more than half the oil use, which increased 18% between 1985 and 1995, similar to population growth.

ALTERNATIVE ENERGY SOURCES

Consumption of most types of energy, especially petroleum, has created numerous environmental problems in the United States and internationally. The oil crisis of the late 1970s brought alternative energy sources, such as solar, into the mainstream. In the 1980s, however, cheap energy costs and an abundant supply of fossil fuels placed alternative forms of energy on the back burner. Today, the options afforded by alternative energy sources have come to the forefront again, as the safety of nuclear energy is questioned, and the use of coal and petroleum is attributed to air pollution and global warming.

Often, conservation is the most readily available alternative to an increasing dependency on nonrenewable energy, and is one of the major ways to protect the environment. Since 1978, energy savings in Oregon have resulted from a variety of conservation efforts, including requiring energy standards for new buildings and providing state income tax credits, loans, and rebates for energy efficiency improvements. Conservation has also occurred in manufacturing processes and equipment, lighting and heating for schools and governmental agencies, transportation alternatives for commuters, more efficient home appliances, and home weatherization.

In addition to conservation, the City of Medford has several potential sources of renewable energy, including solar and convertible waste. Cogeneration, including waste to energy production, is an area of potential growth. Local wastes that can and are being used for cogeneration purposes include wood slash, agricultural, residential yard, and other biomass wastes. Historically, the reliance on burning wood for space heating purposes was a common practice in Medford and the Rogue Valley. More stringent air quality control measures and the increased use of natural gas and electricity for space heating have significantly reduced reliance on wood heating.



Solar Energy

The potential for solar energy use in Oregon is excellent, according to a study by the U.S. Department of Energy. *"Solar energy in Oregon cannot completely replace other fuels for space and/or water heating, but solar systems, both active and passive, can economically provide between 25 and 75 percent of space and/or water heating needs for many homes."*[45] Southern Oregon, from Grants Pass to the California border, and particularly Medford, has been identified as having among the best solar energy attributes of any area in the Pacific Northwest. Although Medford has a reputation for being prone to fog, climatological data suggests that the total number of foggy days in Medford represents only 14% of the year. The state offers a tax credit for homeowners and renters who install solar energy systems for space or

[45] *Jackson County Comprehensive Plan*, Jackson County Planning Department, 1989.

water heating.

Wind Energy Generation

Oregon contains areas with significant wind energy generation potential, such as coastal and mountainous areas, where the winds are particularly strong and constant. Studies have shown that with today's technology, a network of wind turbine generators in the state could have a capacity of nearly three times that of Oregon's decommissioned Trojan Nuclear Plant, but at a lower cost. The newest wind generation facility, in Umatilla County, produces up to 24.9 megawatts. Medford's location in the broad floor of an inland valley results in virtually no wind turbine generation potential; however, there are other locations in Jackson County that may be suited to wind energy generation.

Convertible Waste Energy

Jackson County, like the Pacific Northwest, is well-endowed with substantial quantities of convertible wastes from several sources, including forestry, agriculture, municipal sewage, and solid waste. One example of a convertible waste facility in Jackson County is Biomass One, a White City business that produces electricity from wood waste - a clean, viable alternative to traditional waste disposal methods, such as landfills or open burning. Biomass One has a 25-megawatt, woodwaste-fired cogeneration plant that annually converts 355,000 tons of wood waste into steam and electricity. Most clean wood (free of dirt, rock, and metal) or wood-based waste material is accepted. The steam is sold locally for drying lumber and veneer, and the electricity is sold to Pacific Power for distribution to customers in the Rogue Valley. Biomass One produces enough power to satisfy the needs of more than 20,000 homes in the Rogue Valley. Lumber mills, although no longer as plentiful in Medford as they once were, also commonly utilize wood waste for producing energy.

Another example of a local facility that produces energy from waste is Medford's Regional Water Reclamation Facility, which uses cogeneration to generate electricity from waste methane gas. Landfills, such as the regional Dry Creek Landfill located northeast of the Medford UGB, have the potential for similar cogeneration facilities using methane.

ENERGY-EFFICIENT DEVELOPMENT PRACTICES

Land development regulations can promote energy conservation at the community level. Energy-efficient development techniques are wide-ranging in scope, cost, and effectiveness. Passive solar orientation, for example, is a relatively simple, low cost way to reduce the heating and cooling needs of a new building. Utilizing building insulation practices, such as outlined in the Oregon Energy Code, significantly improves the thermal efficiency of structures. Other options are more complex to design and implement, such as using mixed-use development to reduce the number and length of automobile trips.

In addition, reliance on wood products as the primary material in residential construction maintains dependency on a forest products industry that is becoming less able to meet demand, resulting in increased construction costs and reduced home affordability. Over-reliance on wood products may damage remaining forests, including siltation and pollution of streams and rivers, loss of fish and wildlife habitats, and reduced recreation potential. To address these issues, the conservation of this resource through the use of alternative building materials, consistent with safe construction practices, should be encouraged.

Below is a brief overview of development practices that save energy and address the requirements of State Planning Goal 13.

Reducing Heating and Cooling Needs

The energy required to heat and cool buildings is determined in part by the amount of insulation, and the design of buildings and sites with respect to the climate. Sun, cold winds, warm breezes, vegetation, and topography affect a building's heating and cooling needs, and can be utilized to reduce such needs. The orientation and arrangement of buildings with respect to the sun and wind, and the use of landscaping are examples of actions that can be taken to moderate climate extremes, create a more comfortable living environment, and save energy.

Some options for reducing heating and cooling needs are:

Natural Solar Heating

- Design developments so that buildings are oriented to the path of the sun. This includes designing streets to run from east to west; the long axis of lots to run from north to south; and the long axis of buildings to run from east to west.

- Develop south-facing slopes. South-facing slopes are warmer in winter than slopes facing other directions.

- Facilitate the use of solar energy systems by assuring that access to sunlight is protected. The arrangement and height of structures and vegetation affects the location of shadows that may block sunlight to solar collectors.

Natural Cooling

- Use landscaping to shade buildings, parking lots, streets, and other paved areas. This prevents overheating of buildings in summer, and lowers summer air temperatures near the pavement.

- Design developments to take advantage of cooling breezes. The placement of vegetation and the arrangement of buildings can channel breezes through buildings. This is especially effective in areas subject to high summer air temperatures such as Medford.

Wind Protection

- Use windbreaks (trees, hedges, fences, earthworks) to protect buildings from winter winds. Windbreaks reduce the infiltration of cold air into buildings.

- Arrange buildings so that they protect one another from the wind. Often such an arrangement is compatible with taking advantage of summer breezes, in that winter and summer wind directions differ.

Building Insulation

- Increase a building's thermal efficiency through use of proven insulation methods.

Reducing Private Automobile Transportation Needs

The amount of energy used to move people and goods in a community is determined in large part by patterns of development. "*The spatial relationships of individual buildings and entire*

neighborhoods - their density and the degree to which different kinds of uses are integrated - determine in part how far and by what means people travel."[46] Compact development with a mixture of different land uses, where goods, services, jobs, residences, and recreation are closer together, reduces travel needs and increases the feasibility of public transportation.

Some means to reduce automobile transportation needs are:

Density

- Develop and re-develop at increased densities, especially near activity centers, public transportation, and in areas with existing sewer, water, and street capacity.

- Use clustering to shorten distances within developments.

- Develop vacant parcels that are located within existing development (urban infill).

Integrating Uses

- Combine different types of land uses within developments and neighborhoods.

- Develop multiple-use buildings. Large complexes with residential, lodging, entertainment, office, and commercial uses under one roof are an example. This can also be done on a smaller scale - an apartment building with a few shops, for example.

- Provide convenience shopping and service facilities in residential neighborhoods. Convenience stores in residential areas provide an alternative to driving long distances for minor purchases.

Bicycling - Walking - Public Transit

- Provide facilities that encourage bicycling and walking. Walkways, landscaping, and other amenities can encourage people to walk or bicycle.

- Locate higher density residential development near existing public transportation. Provide amenities and facilities that encourage public transportation use, such as shelters for waiting and walkway connections from residential areas.

[46] *Energy-conserving Development Regulations: Current Practices*, Report Number 352, American Planning Association, August, 1980.

NATURAL RESOURCES - ENERGY
CONCLUSIONS

1. Medford is an energy consumer rather than an energy producer, utilizing primarily imported, nonrenewable energy sources, with the greatest share used for transportation.

2. Conservation is the most readily available and cost effective alternative to the increasing dependency on non-renewable energy sources.

3. Of the possible local sources of renewable energy, solar energy has the greatest potential for supplying a portion of Medford's energy needs, particularly residential needs, because it is cost effective and locally abundant.

4. Other renewable energy sources in the region include cogeneration from convertible waste, such as woodwaste and methane, which produce electricity and steam. The City of Medford's Regional Water Reclamation Facility produces electricity from methane gas.

5. The City of Medford requires new construction to comply with standards set forth in the Oregon Energy Code.

NATURAL RESOURCES - ENERGY
GOALS, POLICIES, AND IMPLEMENTATION MEASURES

Goal 10: To assure that urban land use activities are planned, located, and constructed in a manner that maximizes energy efficiency.

Policy 10-A: The City of Medford shall plan and approve growth and development with consideration to energy efficient patterns of development, utilizing existing capital infrastructure whenever possible, and incorporating compact and urban centered growth concepts.

> **Implementation 10-A (1):** Ensure that the extension of urban services is consistent with policies contained in the "Public Facilities Element" of the Medford *Comprehensive Plan* regarding energy efficiency.
>
> **Implementation 10-A (2):** Develop a design manual showing examples of energy conservation in subdivision planning, site layout, landscaping and building design.
>
> **Implementation 10-A (3):** Provide examples for developers to follow which reduce motor vehicle transportation needs by using mixed uses, urban infill projects, etc.

See also Goal 2 of the "Housing Element," and related policies and implementation strategies.

Policy 10-B: The City of Medford shall encourage energy conservation, including the adoption and implementation of programs leading to improved weatherization/insulation of new and existing

structures.

> **Implementation 10-B (1):** Continue to participate in residential and non-residential weatherization programs.

Policy 10-C: The City of Medford shall encourage the use of energy efficient building materials and techniques in new public and private construction and remodeling, in accordance with building safety standards.

Policy 10-D: The City of Medford shall encourage the use of solar energy, recognizing it as a viable alternative to traditional energy sources.

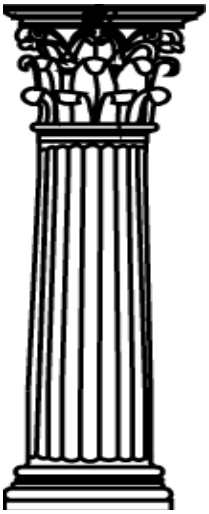
> **Implementation 10-D (1):** Develop for consideration by the City Council, amendments to the *Land Development Code* that require consideration of passive solar energy techniques in subdivision design, including house orientation, street and lot layout, vegetation and protection of solar access.

Policy 10-E: The City of Medford shall strive to make all city facilities and operations as energy efficient as possible.

> **Implementation 10-E (1):** Continue to utilize opportunities for cogeneration technology in public facilities.

> **Implementation 10-E (2):** Investigate the conversion of the city-owned vehicle fleet to use alternative fuel sources such as compressed natural gas and electricity.

ARCHAEOLOGICAL AND HISTORIC RESOURCES



This section of the "Environmental Element" discusses Medford's archaeological and historic resources, and presents the pertinent Conclusions and Goals, Policies, and Implementation Measures.

In addition to natural resources, archaeological and historic resources are required to be addressed and inventoried in comprehensive plans by Goal 5 of the *Statewide Planning Goals*. State law defines *archaeological areas* as those *"characterized with evidence of an ethnic, religious, or social group with distinctive traits, beliefs, and social forms"*; and defines *historic areas* as *"lands with sites, structures, and objects that have local, regional, statewide, or national historical significance."* An example of a historic resource with national significance located in the Medford area is the Applegate Trail, which was an alternate route along the Oregon Trail that brought 45,000 emigrants to Oregon in the 1800s. The Applegate Trail is designated as a National Historic Trail.

A strong commitment to archaeological and historic preservation exists at the federal, state, county, and local levels. In Oregon Revised Statute 358.605, the state legislature makes the following findings:

"The Legislative Assembly declares that the cultural heritage of Oregon is one of the state's most valuable and important assets; that the public has an interest in the preservation and management of all antiquities, historic and prehistoric ruins, sites, structures, objects, districts, buildings, and similar places, and things, for their scientific and historic information, and cultural and economic value; and that the neglect, desecration, and destruction of cultural sites, structures, places, and objects results in an irreplaceable loss to the public.

The Legislative Assembly finds that the preservation and rehabilitation of historic resources are important as a prime attraction for all visitors; that they help attract new industry by being an influence in business relocation decisions; and that rehabilitation projects are labor intensive, with subsequent benefits of payroll and energy savings, and are important to the revitalization of deteriorating neighborhoods and downtowns.

It is, therefore, the purpose of this state to identify, foster, encourage, and develop the preservation, management, and enhancement of structures, sites, and objects of cultural significance within the state in a manner conforming with, but not limited by, the provisions of the National Historic Preservation Act of 1966."

PREHISTORIC RESOURCES

While there is a high probability that prehistoric resources exist within the Medford Urban Growth Boundary (UGB), little is known about their exact locations. Historically, the lower Bear Creek Valley was inhabited by the Upland Takelma Native American Tribe. Prehistoric resources are likely to be found near Bear Creek, above the normal winter flood levels. This area has been somewhat protected from disturbance by the city's Bear Creek (BC) overlay zoning district and Jackson County's Bear Creek Greenway. The City's proposed Riparian Corridor Ordinance, which

will impose a greater setback along Bear Creek, will further restrict disturbance. Much of the Bear Creek Greenway is already in public ownership, particularly outside the city's core. The little archaeological survey work completed in the Medford UGB is primarily the result of public facility and road construction. Most identified prehistoric sites in the general vicinity are located outside the UGB.

ARCHAEOLOGICAL ISSUES IN DEVELOPMENT

Since available information indicates the existence of archaeological resources, but is currently inadequate to identify the location, quality, or quantity of the resources, the inventory of such resources required by Goal 5 can be postponed. According to Goal 5, however, the City must express its intent, through plan policies, to address such resources in the future, including a time-frame for this review. Special implementing measures are not appropriate nor required until adequate information is available to enable review and adoption of such measures.

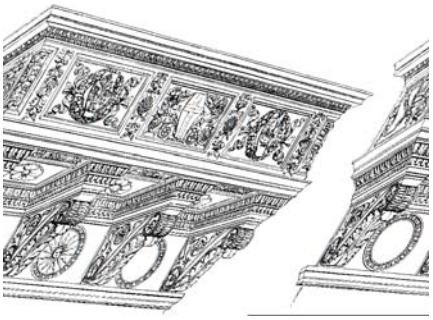
Development of land in the Medford UGB could disturb surface or subsurface archaeological resources. Pursuant to Oregon state law, a person may not knowingly and intentionally excavate, injure, destroy, or alter a prehistoric site or object, or remove an archaeological object from private lands, unless that activity is authorized by a state permit. State guidelines strongly recommend that those considering development on previously undisturbed private lands contact the Oregon State Historic Preservation Office (SHPO) and the appropriate Native American tribes to determine whether archaeological sites and/or objects are likely to be present. This contact reduces the chance that a project will be delayed due to discovery of archaeological resources. Before excavating a known site or removing objects, a person is required to satisfy the state archaeological permit process. The requirements differ slightly if the actions are to occur on public rather than private land.

For development on private land, permits are **not** required for the following:

- For exploratory excavation to determine the presence of an archaeological site;
- For those persons who unintentionally discover an archaeological object exposed by the forces of nature, and who retain the object for personal use, except sacred objects, human remains, funerary objects, or objects of cultural patrimony; and,
- For collecting of an arrowhead from the surface of private land, if collecting can be accomplished without the use of any tool.

In state law, an archaeological site is defined as a *"geographic locality that contains archaeological objects and the contextual associations of those objects with each other, or with biotic or geological remains or deposits."* Examples of archaeological sites include shipwrecks, lithic quarries, house pit villages, camps, burials, lithic scatters, homesteads, and town sites. An archaeological object or artifact is defined as an *"object that is at least 75 years old, comprises the physical record of an indigenous or other culture, and is the material remains of past human life or activity that has archaeological significance."* Examples of archaeological objects include monuments, symbols, tools, facilities, technological by-products, and dietary by-products. Excavation is defined as *"breaking the ground surface to remove any artifact, or to remove an embedded artifact, feature or non-artifactual material in an archaeological site for the purposes of anthropological research."*

HISTORIC RESOURCES



The archaeological record is a continuum that includes materials from prehistoric and historic times. There are many potential historic archaeological sites within the Medford UGB. Under Goal 5 and its implementing Oregon Administrative Rules, OAR 660-23-200, comprehensive plans must foster and encourage the preservation, management, and enhancement of significant historic resources. State law requires the city to designate "significant" historic resources, and protect them through local review of proposed exterior alterations and demolitions. Such regulation must occur through adopted land use ordinances. Historic resources can be buildings, structures, objects, districts, or sites. Designation is a decision by the city declaring that a historic resource is significant. A historic resource listed on the National Register of Historic Places (National Register) or located within a National Register historic district is considered to have "statewide significance." The city must protect historic resources having statewide significance whether or not they have been officially "designated" by the city. In addition, the state, counties, cities, school districts, and other governmental units owning historic resources are required to conserve such resources, and assure that they are not inadvertently transferred, sold, substantially altered, or allowed to deteriorate. Many of Medford's significant historic resources are under such public ownership.

FEDERAL AND STATE HISTORIC PRESERVATION PROGRAMS

Listing on the National Register of Historic Places honors properties significant in local, state, or national history. The Oregon SHPO manages the nomination process, and, although anyone can submit a nomination, properties cannot be listed without the consent of the owner. In the case of historic districts, if a majority of owners object, the nomination will not proceed. The SHPO also provides technical assistance and advice on matters concerning prehistoric and historic resources regardless of their designation status. The SHPO administers several tax incentive programs that are available to National Register properties. Within historic districts, all properties deemed to contribute to the historic character of the district are potentially eligible for these benefits.

One program, the Special Assessment of Historic Property, offers a fifteen-year "freeze" of the assessed value of a property if interior and exterior rehabilitation meeting certain standards occurs. See **Figure 11** for the state policy regarding Special Assessments. Fully depreciable properties, generally commercial properties and residential properties in which the owner does not reside, are eligible for a second fifteen-year term if seismic reinforcement, energy code, or Americans with Disabilities Act (ADA) compliance measures that respect the historic character of the building are undertaken.

Properties with special assessments must be open for public viewing one day each year, and they must display a plaque identifying the property as historic and receiving a public benefit. The Medford City Council reviews applications for the special assessment program relative to the public benefit, and makes recommendations to the SHPO. In 1997, 49 historic properties in the City of Medford were participants in this program. A second incentive program, the Federal Historic Rehabilitation Tax Credit, is available only to fully depreciable buildings. It offers an income tax credit equal to 20 % of the cost of qualifying rehabilitation work over a five-year period.

HISTORIC PRESERVATION ORDINANCE

The City of Medford acknowledged the importance of historic preservation by adopting a Historic Preservation Ordinance in 1986. The ordinance created a Historic Preservation Overlay, and provided for Historic Review of proposed exterior alterations and demolitions in designated historic areas by a Historic Commission.

Special Historic Assessments

O.R.S. 358.475 Policy
The Legislative Assembly hereby declares that it is in the best interest of the state to maintain, preserve and rehabilitate properties of Oregon historical significance. Special assessment provides public benefit by encouraging preservation and appropriate rehabilitation of significant historic properties. These historically significant portions of the built environment contain the visual and intellectual record of our irreplaceable cultural heritage. They link us with our past traditions and values, establish standards and perspectives for measuring our present achievements and set goals for future accomplishments. To the extent that Oregon's special assessment program encourages the preservation and appropriate rehabilitation of significant historical property, it creates a positive partnership between the public good and private property that promotes economic development; tourism; energy and resource conservation; neighborhood, downtown and rural revitalization; efficient use of public infrastructure; and civic pride in our shared historical and cultural foundations.

The purposes of Medford's Historic Preservation Overlay are to:

- Affect and accomplish the protection, enhancement, perpetuation, and improvement of such buildings, structures, objects, sites, and districts that represent elements of Medford's cultural, social, economic, political, or architectural history;
- Safeguard Medford's historic, aesthetic, and cultural heritage as embodied in such buildings, structures, objects, sites, and districts;
- Complement the *National Historic Preservation Act* and *National Register of Historic Places* designations;
- Stabilize and improve property values of such buildings, structures, objects, sites, and districts;
- Foster civic pride in the beauty and noble accomplishments of the past;
- Protect and enhance Medford's visitor and tourist attractions, and support and stimulate business and industry;
- Promote the use of such buildings, structures, objects, sites, and districts for the education, pleasure, and public welfare of the residents of Medford;
- Further the provisions of *Statewide Planning Goal 5*; and,
- Implement and supplement the *Medford Comprehensive Plan*.

The primary duties of the Medford Historic Commission are to:

- Review and investigate any historic resources in the City of Medford that may have historic significance, and initiate proceedings and consider applications to adopt or remove Historic

Preservation Overlays.

- Consider proposed exterior alteration and/or new construction within Historic Preservation Overlays.

- Consider proposed demolitions or relocations within Historic Preservation Overlays, and authorize either delayed or immediate issuance of a demolition or relocation permit.

- Study proposed *Comprehensive Plan* and *Land Development Code* amendments relating to historic preservation, and submit recommendations regarding such proposals to the Planning Commission and City Council.

- Institute and support programs and projects that further the historic policies of the City of Medford.

HISTORIC DESIGNATION

Many of the significant historic resources within the city (the "1-A" inventory) were placed within the Historic Preservation Overlay early in 1987. These properties are on the National Register, and most are also under the special assessment program. A number of additional properties were approved by the City Council in 1995 for designation. A list of "potentially significant" historic resources in the city (the "1-B" inventory) was compiled in 1982 by a subcommittee of the Citizens Planning Advisory Committee (CPAC). The 1-B resources required additional evaluation to determine significance. In 1995, some of the 1-B resources were also approved for designation. An inventory of Medford's historic resources is contained in **Appendix B**.

Changes to state law in 1995 required that property owners be permitted to refuse local designation as a significant historic resource anytime before adoption by the local decision-making body, and be permitted to remove their property from local designation. A revised Historic Preservation Ordinance for the City of Medford is proposed to address the changes in state law, as well as to clarify the review process.

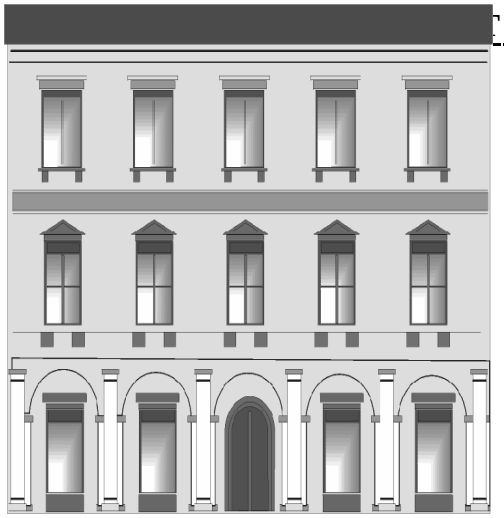
Medford's Historic Preservation Overlay finds that a historic resource has significance if it:

- Is associated with a person, group, organization, or event that made a significant contribution, or is illustrative of the broad patterns of cultural, social, political, economic, or industrial history of the city, region, state, or nation; or,

- Retains sufficient original design, craft work, or material in its original setting to serve as an example of a particular architectural period, building type, or style having design or artistic quality; or,

- Is a rare or unique surviving example of a development type, architectural style, or structural type significant to the city's history; or,

- Significantly contributes to the historic character, identity, and continuity of the street, neighborhood or city, or is a visual landmark; or,



- Represents a noteworthy work of a developer, architect, builder, or engineer noted in the history or architecture of the region; or,

- Significantly contributes to the character and identity of a grouping (ensemble) of resources that, together, share a distinct and intact historic identity.

HISTORIC REVIEW

State law requires the city to evaluate "conflicting uses" relating to significant historic resources. The most common conflicting uses are typically either improper exterior alterations or demolition of the resource. Medford's Historic Preservation Ordinance addresses the issue of conflicting uses through the required review of proposals for alteration or demolition in designated historic areas by the Medford Historic Commission. The ordinance provides general criteria to be used in this review process; however, preparation of design guidelines for the Historic Preservation Overlay would provide property owners and the Historic Commission with additional guidance to achieve consistency and predictability in the review process. Such guidelines, if prepared, should be consistent with the *Secretary of the Interior's Standards for Rehabilitation*.

HISTORIC RESOURCES IN MEDFORD

In addition to the many individual properties in the city on the National Register, four historic districts have been formed and listed on the National Register. These are described below.

South Oakdale Historic District

The South Oakdale Historic District, which was on the city's original 1-A inventory of significant historic resources, was entered on the National Register in 1979. The area predominantly consists of well-maintained historic homes on both sides of South Oakdale Avenue, between West Tenth Street and Stewart Avenue. The district contains 60 individual parcels of land. The oldest home is from 1884, and 26 homes have historic significance. The 1931 Art Deco-style Medford Senior High School building (now South Medford High School) and the 1928 Romanesque Revival-style Sacred Heart Catholic Church are also included in the District.

Geneva-Minnesota Historic District

The Geneva-Minnesota Historic District was listed on the National Register in 1993. This district consists of 34 homes constructed between 1911 and 1924, primarily of the Craftsman, Bungalow, and Period Revival styles. It represents one of Southern Oregon's most intact early 20th century residential areas, including a unique roadbed on Geneva Street, and original raised-concrete retaining walls along both Geneva and Minnesota Streets. The roadbed is paved with a surface made of cement slurry mixed with crushed rock referred to as "hassam" that has endured since 1911. A cobblestone-like design was impressed onto the surface.

Medford Downtown Historic District

The Medford Downtown Historic District was listed on the National Register in 1998. Downtown Medford, the historic commercial core of the city, contains many historic properties that provide some of the city's most attractive urban features. A historical survey was conducted in two phases in

1994-1995 in preparation for creation of the Historic District. The survey is reported in a document entitled *Survey of Historic and Cultural Resources, City of Medford, Oregon, Downtown Commercial Area* which was funded in part by state and federal historic preservation grants

A 1993 document, *Medford, Oregon: Historic Context 1846-1946*, provided the historic framework for the analysis and evaluation of the identified resources in the survey. The Historic Context document was produced by the City of Medford in conjunction with the Southern Oregon Historical Society and the Oregon SHPO. It identified the top priority for survey/inventory work in Medford as the "Original Town" area, which comprises the historic commercial core and surrounding neighborhoods. It noted that commercial development and road expansions, as well as inappropriate remodeling, are the primary threats to the older neighborhoods in Medford.

The Medford Downtown Historic District is bounded by Riverside Avenue, Fourth Street, Oakdale Avenue, and Eighth/Ninth Streets, including more than 35 blocks with 193 structures or sites. Although predominantly commercial, the district also contains numerous residential structures, evidence of its past and continuing mixed-use nature. All structures built within the historic period (1884-1948) were documented in the downtown commercial area survey. Such surveys rank resources as "primary," "secondary," or "non-contributing." Those ranked as primary (having high significance and integrity, and a substantial role in the historic landscape) were approved by the City Council in 1995 for addition to the 1-A inventory.

The district falls within Medford's "City Center" *Comprehensive Plan* designation, and within the Central Business (CB) overlay zoning district. According to the Medford *Land Development Code*, the purpose of the CB overlay is to *"recognize the unique and historic character of the downtown area as an asset to the community, and to provide standards and criteria necessary for its continued development and redevelopment as a vital part of this community."* A plan prepared in 1994 for Medford's downtown, the *Downtown City Center Vision Plan*, found that the:

> *"Downtown City Center should be enhanced and developed in a manner that places priority on its older architecture. These structures give the area its visual uniqueness, and must be valued as an economic resource - their visual appeal can, and should, be used to attract tenants and users to the downtown city center. This emphasis on preservation is critical in the downtown central district... As new infill development and redevelopment is completed in each of the (downtown) districts, the new construction should be undertaken with a sensitivity and respect for the existing historic fabric of the downtown city center."*

The accompanying *Medford City Center Design Concept* document states that:

> *"Respectful rehabilitation of the architectural fabric of the City Center should be encouraged. Downtown Medford possesses great built resources that reflect several economic booms, several stylistic periods, and represent the work of significant local architects. (New) treatments should respect the traditional organizing characteristics of later 19th and early 20th Century commercial retail buildings."*

In response to these studies, the Medford Urban Renewal Agency has begun the process of establishing design guidelines for the downtown, which extends beyond the boundaries of the Historic District, to further regulate building alterations and new construction. These guidelines

would assist in the city's Site Plan and Architectural Review and Historic Review processes by assuring that alterations and new construction within the downtown are compatible with the existing historic character. Often a hodgepodge of incompatible facades exist within a single block.

Hillcrest Orchard Historic District

The Hillcrest Orchard Historic District is located in a 240-acre block of land that is entirely surrounded by the Medford UGB, although outside the UGB. It was placed on the National Register in 1984. One of the oldest local orchards, the first fruit trees were planted in 1897, although most of the buildings were built between 1917 and 1926. The historic district encompasses a complex of Period Colonial-style buildings that include a main house, barns, packing house, office, wagon shed, garages, guest house, tennis courts, and a recreation building with an indoor pool. The complex was built to serve as the summer home of the Parsons family, who bought the orchard in 1908. Most of the buildings were designed by Frank Clark, who continued on to design many of the Bear Creek Valley's distinctive homes and buildings. The orchard continues to be a commercial farm producing a variety of pears. Due to its location outside the Medford UGB, this historic district is not subject to Medford's Historic Preservation Ordinance.

OTHER HISTORIC RESOURCES

The Historic Context document identified a number of other historic interest areas outside the "Original Town" area of Medford, such as the "Old East Side" and "Siskiyou Heights." The architecture represented in these areas includes Vernacular, Queen Anne, Period Tudor, Italianate, Spanish Colonial, Bungalow/Craftsman, and Period Colonial Revival styles. Streets such as Queen Anne Avenue, Oregon Terrace, East Main Street, Berkeley Way, and Reddy Avenue contain many of the city's residential historic resources. Additional single sites are scattered throughout the city in areas that were once agricultural, such as on Kings Highway south of Stewart Avenue. There are other significant historic resources located in the Medford UGB, but outside the present city limits, such as the Bear Creek Orchards Packing House on South Pacific Highway and the Oak Grove School on Jacksonville Highway. Resources having primary historic significance are also located in the city's Prescott Park, which is on Roxy Ann Peak. Although under the city's ownership, the park is immediately outside the Medford UGB. The historic park facilities, which include a spring house, picnic shelter, and restrooms, were constructed in 1936 by the Civilian Conservation Corps (CCC).

A county wide property tax base (Historical Fund) provides funds utilized throughout the county to support historic preservation efforts and museums. The Southern Oregon Historical Society, located in the Southern Oregon History Center in downtown Medford, is one of the larger historical organizations in the county. The History Center is located in a historic building, the 1948 Moderne style J. C. Penney's Building, which was occupied by the retailer for 38 years.

ARCHAEOLOGICAL AND HISTORIC RESOURCES CONCLUSIONS

1. A commitment to archaeological and historic preservation exists at the federal, state, county, and local levels.

2. There is a probability that the Medford Urban Growth Boundary contains archaeological resources; however, current information is inadequate to identify the location, quality, and quantity of the resources. Special implementing measures are not appropriate or required until adequate information is available to enable review and adoption of such measures.

3. Development of land in the Medford Urban Growth Boundary that has been vacant or in agricultural use could disturb surface or subsurface archaeological resources.

4. Medford has categorized inventoried historic resources as those designated as significant (1A), and those that have not been designated, but are potentially significant (1B).

5. There is a probability that the Medford Urban Growth Boundary contains significant historic resources. To more fully protect these resources, survey of the remainder of the Urban Growth Boundary is needed, to evaluate whether additional sites should be designated as significant or potentially significant.

6. Medford's Historic Preservation Ordinance and Overlay aid in preserving and protecting significant historic resources from inappropriate exterior alterations or demolition through required review of such proposals by the Medford Historic Commission.

ARCHAEOLOGICAL AND HISTORIC RESOURCES GOALS, POLICIES, AND IMPLEMENTATION MEASURES

Goal 11: To preserve and protect archaeological and historic resources in Medford for their aesthetic, scientific, educational, and cultural value.

Policy 11-A: The City of Medford shall strive to identify and preserve archaeological resources and sites, and promote actions to prevent intentional and unintentional disruption or destruction of such resources.

Implementation 11-A (1): When adequate information becomes available to identify the location, quality, and quantity of Medford's archaeological resources, prepare an inventory. Special implementing measures are not appropriate or required until adequate information is available to enable review and adoption of such measures.

Implementation 11-A (2): Where probable cause for discovery of cultural or archaeological resources exists, such as indicated by a records search, or where resources have been discovered near the project site, encourage sponsors of development projects to contact the Oregon State Historic Preservation Office.

Implementation 11-A (3): When cultural or archaeological resources, as defined by state law or the state archaeologist, are discovered during clearing, grading, or construction in the city, require project operations to cease until the state archaeologist is contacted, as required by state law.

Policy 11-B: The City of Medford shall encourage and facilitate the preservation of Medford's significant historic resources by continuing to update and implement the Historic Preservation Ordinance in the *Land Development Code*.

Implementation 11-B (1): Regularly assure that city staff, such as the Planning and Building Safety Departments, are aware of historic preservation ordinances and policies, and provide training for staff in departments directly involved with historic structures.

Implementation 11-B (2): Evaluate the zoning of significant historic resources to determine if conflicts are likely based on the present use and/or permitted and conditional uses. Review the zoning of historic districts to determine if the zoning district standards, such as setbacks, density, public improvement design, parking, lot size, etc., are compatible with the historic character of the historic districts.

Implementation 11-B (3): Assure that new development located adjacent to historic resources and/or districts is reviewed for compatibility with the historic resources.

Implementation 11-B (4): Review proposed public development or improvement projects for their affect on any historic resources.

Implementation 11-B (5): Prepare a written yearly report for the Planning Commission and City Council of the activities of the Medford Historic Commission, such as grant activity,

surveys, hearings, special assessments, and new site designations and listings.

Implementation 11-B (6): Identify and evaluate historic resources on city-owned or controlled properties, and prepare historic preservation plans where appropriate. Identify underutilized historic buildings or sites for potential reuse as public facilities.

Policy 11-C: The City of Medford shall continue to maintain an official inventory of significant historic resources located in the city where the Historic Preservation Overlay of the *Land Development Code* applies.

Implementation 11-C (1): Include in the Historic Preservation Overlay, all properties in the city listed on the *National Register of Historic Places*, including all properties within National Register historic districts.

Policy 11-D: The City of Medford shall support and promote seismic retrofit of vulnerable historic buildings, as well as modification of historic buildings for accessibility to disabled persons.

Policy 11-E: The City of Medford shall continue to recognize the downtown City Center as the historic core of the city, and its historic attributes shall be a factor when developing programs for the downtown area.

Implementation 11-E (1): Prepare and implement design guidelines for Site Plan and Architectural Commission and Historic Commission review of properties in the downtown to assure that exterior alterations and new construction are compatible with the historic character. (See the "Facade Treatment Recommendations" of the 1994 *Medford City Center Design Concept* for an example.)

Policy 11-F: The City of Medford shall continue to encourage historic preservation efforts and cooperate with citizens and organizations undertaking such efforts.

Implementation 11-F (1): Continue to apply for historic preservation grants to carry out survey and inventory work, and support the grant applications of others when affecting property in the Medford Urban Growth Boundary.

Implementation 11-F (2): Investigate development of an awards program for exemplary rehabilitation of historic buildings.

Implementation 11-F (3): Investigate the concept of a historic easement program.

DISASTERS AND HAZARDS

This section of the "Environmental Element" discusses potential disasters and hazards in Medford, *including natural* and *human-caused*, and the city's emergency management efforts, and presents the conclusions, goals, policies, and implementation strategies pertinent to these factors.

EMERGENCY MANAGEMENT PLANNING

The City of Medford has an *Emergency Management Plan* (EMP) to guide efforts in mitigating, preparing for, responding to, and recovering from major emergencies and disasters. The EMP is part of a *Comprehensive Emergency Management Program* that coordinates federal, state, and local governmental agencies in an operating partnership. The responsibility for maintaining the EMP is borne by the city's Emergency Management Coordinator though the Emergency Management Planning Team. The Coordinator is responsible for all emergency planning activities, including periodic reviews of the Plan, planning and conducting disaster training exercises, coordinating mitigation efforts, and assisting in acquisition of state and/or federal assistance for these efforts.

All disaster mitigation and preparedness activities are coordinated by the Emergency Management Planning Team, which consists of the City Manager and various department heads, including the Fire Chief, Police Chief, Public Works Director, Building Safety Official, and the Emergency Management Coordinator. The City of Medford's primary Emergency Command Center (ECC) is located in the City Hall Lausmann Annex at 200 South Ivy Street, with a backup ECC in the Jackson County Building, 10 South Oakdale Street. The city responds to disasters within the city, within Medford Rural Fire Protection District #2, and at other city-owned facilities when the response will benefit the City.

Mitigation and preparedness planning include advance preparations to minimize public risk from potential disasters, to reduce the likelihood of a major emergency or disaster, and to reduce the anticipated damage. Mitigation can reduce loss of life and property damage through land use regulations and construction practices. Identifying the types, magnitude, and probability of hazards to which an area is susceptible over a significant length of time (hazard risk analysis) is necessary, as well as assessing the degree of hazard risk that the jurisdiction finds acceptable. The cost of mitigating certain risks may be more than a community can afford. Risk standards should be formally adopted as public policy by the local legislative body through comprehensive planning, land development ordinances, permit review, and fire/building safety codes.

NATURAL DISASTERS AND HAZARDS

Goal 7 of the *Statewide Planning Goals*, "Areas Subject to Natural Disasters and Hazards," requires land use planning in Oregon to consider known areas of natural disasters and hazards. It requires plans to be based on an inventory of such natural hazard areas. Although one of the State of Oregon's main focuses is on flooding, other natural hazards have the potential to disrupt life and commerce in Medford, including earthquakes and wildfires. (Landslides and soil-related problems were discussed previously under "Soils.")

FLOODING

Over the past 50 years, major floods occurred in the Rogue Valley in 1955, 1962, 1964, 1974, and, more recently, in 1997. These floods threatened public health, safety, and welfare by destroying or isolating structures, disrupting transportation systems, polluting water supplies, and destroying basic public facilities, such as sewerage and electric services. Recent incidences of record rainfall and flooding across Oregon have renewed concerns about the potential for flooding in the Medford UGB, and have rekindled interest in preparing for potential floods. To minimize the hazards posed by floods, the City of Medford should continue to implement the recommendations of the *Comprehensive Medford Area Drainage Master Plan* through revisions to Medford's *Comprehensive Plan* and *Land Development Code,* in addition to implementing state and federal regulations.

Floodplain Mapping

The sale of federal flood insurance in Medford, through the *National Flood Insurance Act of 1968*, was authorized in 1974. The Federal Emergency Management Agency (FEMA) developed a 100-year or *base flood* for use in mapping floodplains as part of the national flood insurance program. Federal law requires the first floor of a new building to be *at* or *above* the 100-year flood level, while Oregon law is more restrictive, requiring the first floor of a new building to be one foot *above* the line. Stricter development restrictions can be imposed by cities and counties, such as zoning restrictions that limit vulnerable land uses in floodplains, and programs developed to inform property owners of the hazards posed by waterways. Specialists in natural hazards planning note that the 100-year designation is only a tool, and does not guarantee that flooding will occur only within this floodplain designation.

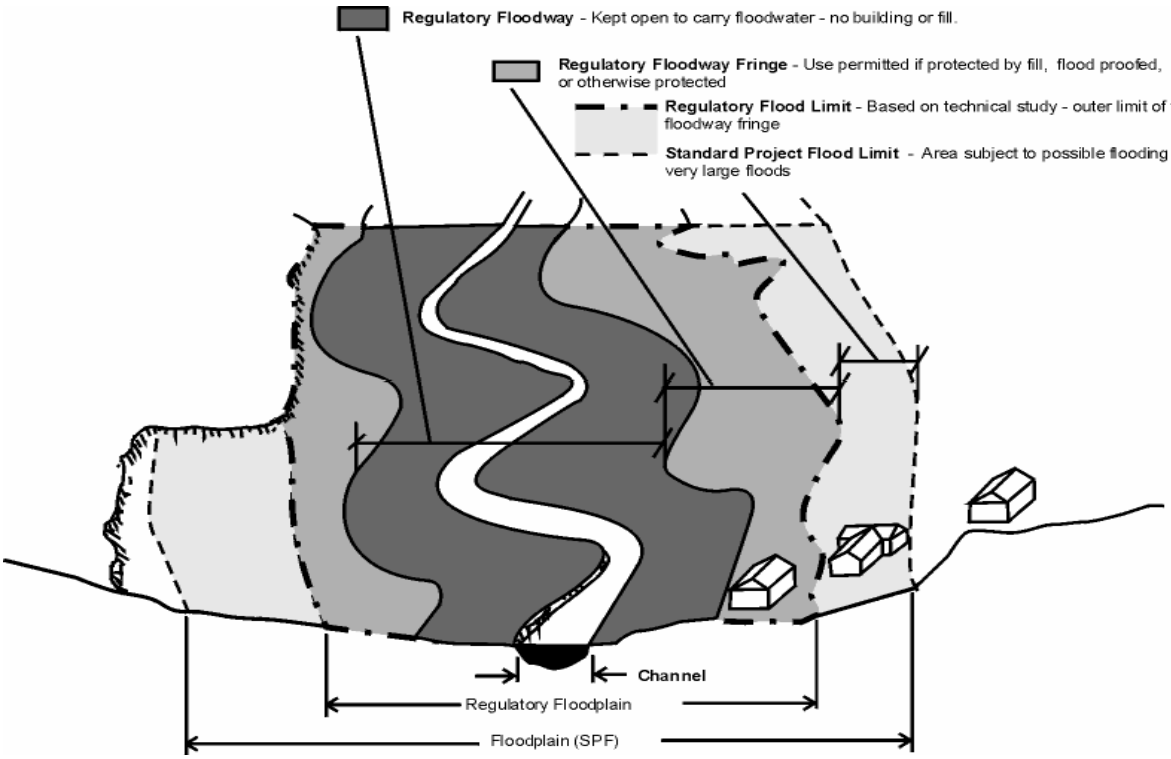
Floodplains can be delineated according to topography, vegetation, soils, or the extent of past floods.[47] When defined according to geomorphic features, the floodplain includes the low-lying land along the stream, the outer limits of which may be marked by steep slopes or valley walls. See **Figure 12** for a graphic representation of a floodplain as defined by FEMA. The *regulatory floodway* is the lowest part of the floodplain where most frequent flood flows occur. This area is not eligible for federal flood insurance. The *floodway fringe* is the area that would be lightly inundated by a 100-year flood, and is eligible for flood insurance if flood proofing has been undertaken. Of all the features of a river valley, the floodplain is the most important from a planning standpoint for three reasons. First, excluding the stream channel itself, the floodplain is the lowest part of the stream valley, and consequently, prone to flooding. Second, floodplain soils are often poorly drained because of the high water tables and saturation by flood waters. Third, floodplains are formed by incremental erosion and deposition that accompany the meandering of streams through valleys.

As a prerequisite to obtaining federal flood insurance, the City of Medford was required to identify flood hazard areas, and to control development in floodplains. In Medford, flood hazard areas are located along Bear Creek and most other waterways. Federal Insurance Rate Maps (floodplain maps) are available in the Medford Building Safety Department. In 1974, the City Council established a review process to assure that proper construction methods and utility locations were

[47] *Landscape Planning: Environmental Applications,* William M. Marsh, 1991.

undertaken in flood hazard areas. For example, new and replacement water and sanitary sewer systems are required to be designed to minimize or eliminate the infiltration of flood waters into the systems, and discharge from the systems into flood waters.

Figure 12



U.S. National Flood Insurance Program
100-Year Floodplain

Source: *Landscape Planning: Environmental Applications*, 2nd Edition, William M. Marsh, 1991.

While floodplain maps are helpful, Oregon's short recorded weather history and changing climatic conditions make flood estimating unpredictable. Additionally, the state's expanding population and fast rate of development continue to alter the landscape and natural waterways.[48] As a result, many floodplain maps are outdated. A FEMA expert noted in a 1997 *Oregonian* article, that many watersheds in Oregon have changed since floodplains were mapped, and, that *"(n)ew houses and pavement in the place of fields and woods mean quicker runoff into streams. 'We're seeing a lot more urban flooding than was occurring in past decades.'"*

[48] Ibid.

Medford is similar to many Northwest communities located in valleys prone to flooding that were formerly used for agriculture. As the FEMA expert noted, *"Many streams in rural areas weren't seen as priorities when maps were being drawn and weren't included in the studies. Now communities have sprouted on former pastures. In addition to areas that need to be restudied, there are many areas that we have not yet studied at all. So just because you don't live in an area that we say is subject to a 100-year flood, it may mean that we haven't gotten around to studying it."*[49] The State of Oregon has requested that FEMA place a high priority on updating Oregon's floodplain maps.

Flood Damage Reduction

The City of Medford is one of the few Oregon communities to take part in the Community Rating System (CRS) program, which is intended to aid in reducing flood losses, to facilitate accurate insurance ratings, and to promote awareness of flood insurance. The program provides flood insurance premium discounts as an incentive for cities to develop extra flood protection measures beyond what the national program requires. Communities can qualify for up to a 45% discount. In 1999, Medford qualified for a 5% discount in premiums. The discount is based on a point system. A high number of additional points can be earned through such activities as collecting and maintain flood data, protecting open space, stormwater management, higher regulatory requirements, and acquisition/relocation or retrofitting of flood prone properties or structures.

The *Medford Municipal Code* section entitled "Flood Damage Prevention" states: *It is the purpose of these sections to minimize public and private losses due to flood conditions in specific areas by methods and provisions designed for:*

(1) Restricting or prohibiting uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities;
(2) Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
(3) Controlling the alteration of natural flood plains, stream channels, and natural protective barriers, which help accommodate or channel flood waters;
(4) Controlling filling, grading, dredging, and other development which may increase flood damage; and
(5) Preventing or regulating the construction of flood barriers which will unnaturally divert flood waters or may increase flood hazards in other areas.

While Medford's infrastructure handled the most recent (1997) flood well, there was damage in some areas along Bear Creek and Larson Creek, emphasizing the continuing need to update and refine the city's floodplain regulations. Development and redevelopment should be highly scrutinized when located in floodplains. The proposed riparian corridor and wetland building setback requirement will aid in reducing future flood damages to structures and improvements. Existing and proposed requirements for on-site detention of stormwater will aid in regulating storm water flows during peak events.

[49] Ibid.

Some of the recommendations of the Oregon Office of Emergency Management *Interagency Mitigation Team Report* made in response to the 1997 floods in Oregon include the following:

- Strengthen the public facility planning review process to encourage consideration of stormwater system limitations and coordinate plans with a regional perspective, including upstream and downstream communities. Systems often become inadequate because of growth beyond anticipated levels (i.e., increased amount of impervious surface increases runoff). This growth often occurs without subsequent increases to stormwater capacity or recognition of system limitations.

- Water storage through various means, such as creation of wetlands, retention areas, detention basins, and dams can assist in flood control. Encourage flood control projects and development of local flood mitigation plans. These plans should incorporate regional concerns and should consider the watershed as a whole. Encourage the establishment of drainage management plans.

- Where appropriate, allow rivers to reclaim floodplain areas, allowing waterways room to naturally meander and expand. This can be accomplished using conservation easements, land acquisition, riparian trust, and creating wetlands and retention/detention areas, especially in headwater areas.

EARTHQUAKES

While historically, California has been perceived as the most earthquake-prone state in the west, recently seismologists and geo-scientists have recognized that Oregon, as well as the entire Pacific Northwest, may be subject to earthquakes of substantial magnitude. Oregon had not experienced a substantial earthquake for almost a century until 1993, when the state suffered three significant quakes: the first near Salem, in Scotts Mill (magnitude 5.6 on the Richter scale), and two earthquakes later in Klamath Falls (magnitudes 5.9 and 6.0) felt in Medford. Researchers in geo-science have also become more aware of the potential for moderate earthquakes in Oregon, and, during the last decade, have noted the likelihood of an earthquake of great magnitude striking offshore.

Earthquakes that occur in Oregon are typically crustal, intra plate, or great subduction earthquakes. *Crustal* earthquakes are most common, and occur along relatively shallow faults, normally within 10 miles of the earth's surface. *Intraplate* earthquakes occur at greater depths, approximately 20 to 40 miles beneath the surface. *Great subduction* earthquakes occur along an offshore fault that parallels the Oregon and Washington coasts.[50]

[50] *Earthquakes Hazard Maps for Oregon, 1996,* Oregon Department of Geology and Mineral Industries, Donald Hull, State Geologist and I. P. Madin and M.A. Mabey.

The 1993 Salem and Klamath Falls earthquakes were crustal earthquakes, which occur along short, shallow faults that are commonly visible at the earth's surface. Historically, these earthquakes have rarely exceeded magnitude 6.0, but the historic record is too short to provide a true representation of the probable threats of crustal quakes. Many geo-scientists maintain that, while rare, faults exist in Oregon that could produce earthquakes as large as magnitude 6.5 to 7.0.[51] Crustal earthquakes are relatively common in the Portland area and the northern Willamette Valley, off the southern coast of Oregon, in northeastern Oregon, and in scattered areas throughout southeastern Oregon. In areas east of the Cascades, the majority of the earthquakes originate in crustal faults.

Intraplate earthquakes occur within the remains of the ocean floor that has been subducted beneath North America. It is believed that this type of earthquake could occur anywhere beneath the Coast Range or the western Willamette Valley with a magnitude as large as 7.0 to 7.5.[52] In 1949, and later in 1965, intra plate earthquakes severely rocked Washington's Puget Sound region.

Great subduction earthquakes occur worldwide in subduction zones, where continent-sized pieces of the earth's crust are shoved deep into the earth, and are consistently the most powerful type of earthquake recorded, often registering magnitude 8.0 or 9.0. The Cascadia Subduction Zone, a 750-mile fault located off the West Coast, from British Columbia to Northern California, has not experienced any large earthquakes during the short 200-year recorded history of earthquakes. However, a variety of studies over the past decade indicate that these earthquakes occurred repeatedly in the past, every 350 to 500 years.[53] According to available evidence, the last major subduction zone earthquake occurred off the Oregon coast approximately 300 years ago. According to seismologists, should the entire subduction zone rupture, a magnitude 9.0 earthquake would result, similar to a 1960 Chilean subduction zone earthquake that resulted in nearly 5,000 deaths. **Figure 13** indicates earthquakes 5.0 or greater on the Richter Scale felt during Oregon's brief recorded history.

Western Oregon is the most likely region of the state to be severely affected by substantial earthquakes in the future, particularly near the southern coastal town of Brookings. State geologists maintain that *"Brookings and the entire coast are the most likely to have peak ground acceleration*

[51] Ibid.

[52] Ibid.

[53] Ibid.

because of the subduction zone."[54] The Cascadia Subduction Zone houses the oceanic Juan de Fuca Plate, which plunges under the continental North American Plate approximately 60 to 150 miles offshore.[55] The North American and Juan de Fuca plates are in constant motion, and, if the plates lock up as they move past each other, the stored energy released could result in an earthquake of magnitude 8.0 or 9.0.[56]

Because the Cascadia Subduction Zone could produce a very large earthquake affecting nearly all of western Oregon, land use planning and development must incorporate principles of earthquake preparedness and up-to-date seismic construction standards. Medford was rated by the Oregon Department of Geology and Mineral Industries at approximately 26-28 on a scale of potential damage from earthquakes, with zero being the lowest possible score and 115 being the highest. Moving westward, the potential for damage increases dramatically. Grants Pass, only 29 miles northwest of Medford, received a rating of 36, and Brookings, the highest at 85.

[54] Ibid.

[55] "Experts Deliver Earthshaking News", *The Oregonian*, Richard Hill, April 23, 1996.

[56] "Quakes: Mapping the Hazards", *The Oregonian*, Richard L. Hill, November 14, 1996.

Figure 13
Earthquakes Centered or Felt in Oregon
Magnitude 5.0 or Greater on the Richter Scale

Sep. 20, 1993	An earthquake of magnitude 6.0 centered about 10 miles northwest of Klamath Falls caused light damage to buildings.
Sep. 20, 1993	An earthquake of magnitude 5.9 centered 15 miles northwest of Klamath Falls closed some highways and bridges.
Mar. 25, 1993	An earthquake of magnitude 5.6 centered near Woodburn rocked most of the state, and caused damage to bridges and the State Capitol Building in Salem.
Feb. 13, 1981	An earthquake of magnitude 5.5 centered near Mount St. Helens shook the Portland area.
May 30, 1968	An earthquake of magnitude 5.1 hit the Adel-Warner Lakes area near Lakeview in south central Oregon.
Apr. 29, 1965	An earthquake of magnitude 6.5 centered between Seattle and Tacoma, Washington was felt in the Portland area.
Oct. 1, 1964	An earthquake of magnitude 5.3 hit Portland's Sauvie Island in the Columbia River.
Nov. 5, 1962	An earthquake of magnitude 5.5 centered in Vancouver, Washington, was the largest quake then recorded in the immediate vicinity of Portland.
Dec. 16, 1953	An earthquake of magnitude 5.6 hit the Portland area.
Apr. 13, 1949	An earthquake of magnitude 7.1 centered between Olympia and Tacoma, Washington caused damage in Portland.
Jul. 16, 1936	An earthquake of magnitude 6.1 was centered in the Milton-Freewater area.
May 13, 1916	An earthquake of an estimated magnitude of 5.7 was centered in Richland, Washington.
Mar. 7, 1893	An earthquake of an estimated magnitude of 5.7 was centered in Umatilla.
Feb. 4, 1892	An earthquake of an estimated magnitude of 5.6 hit the Portland area.
Oct. 12, 1897	An earthquake of an estimated magnitude of 6.7 shook the Gresham area.
Nov. 23, 1873	An earthquake of an estimated magnitude of 6.3 was centered in the Crescent City, California area.

Since 1993, when the Seismic Zone rating of Oregon was revised from Zone 2 to Zone 3, new buildings in Oregon have been required to meet more stringent seismic construction standards; however, local jurisdictions can designate seismic standards for existing structures. State and local government buildings and facilities are required to be inspected and meet higher standards. In 1995, the Oregon Legislature created a task force to examine and develop recommendations concerning the threat of earthquakes to structures. The task force recommendations address unreinforced masonry buildings, where the greatest amount of upgrading is required to meet current standards. Downtown Medford, like the downtowns of many Oregon cities, is especially prone to earthquake damage, due to the large number of these structures.

WILDLAND FIRES

Nationally, more and more homes are being constructed in or adjacent to wildland areas. A desire for a rural or suburban living environment on the fringe of urban areas has increased the risks in what is termed the urban/wildland interface. The interface is the area where residential development comes into contact with areas of natural vegetation that can contribute to rapid fire spread and additional fuel loading. Although Medford has few of these types of areas, the hazard will increase

as the City grows farther into the eastern foothills. Some of the fire protection problems that can occur in urban/wildland interface areas include use of combustible exterior construction materials, inadequate access for fire apparatus, lack of fire protection water, lack of residential sprinkler systems, inadequate fuel breaks around structures, driveways that are not clearly addressed, and lack of knowledge by property owners regarding how to act when a fire threatens.

Areas within the Medford UGB that could be susceptible to wildland fires include the far eastern section of the community on the southern and western slopes of Roxy Ann Butte, and generally in the area east of North Phoenix Road wherever steep slopes and thick natural vegetation exist. The City of Medford, Jackson County, and the Oregon Department of Forestry respond in these areas according to the location of the fire and mutual aid agreements.

Wildland fires often require special equipment, such as four-wheel drive vehicles, to reach inaccessible areas that are typical of wildland areas. The City has specialized equipment designed specifically for wildland terrain, including four and six-wheel drive vehicles; and employs a combination of standard fire fighting equipment with forces of fire fighters on the ground to fight wildland fires effectively. Jackson County has identified areas outside UGB's where the interface exists, prepared a program to inform the public of the special conditions that may threaten public safety and property, and adopted interface fire protection principles into enforceable codes.

OTHER HAZARDS

Although Goal 7 addresses natural disasters and hazards, human caused hazards, such as noise and airport hazards, also have the potential to disrupt the livability of a community, threaten human health and well-being, or harm the environment.

NOISE

The most common noise sources in Medford are transportation-related and include automobiles, trucks, motorcycles, railroads, and aircraft. Motor vehicle noise is a pressing concern because it often occurs in areas sensitive to noise exposure, such as residential areas, and continues to increase with urban growth and increasing numbers of motor vehicles. Other urban sources of noise include air conditioners, lawn mowers, leaf blowers, radio/stereo/television equipment, sports arenas, schools, and similar entertainment and commercial activities. Construction noise sources, such as diesel engines and air compressors, can generate noise for extended periods with intermittent high noise levels.

Sound is measured in terms of its loudness and pitch. The loudness or magnitude of sound is commonly measured in decibels (dB); the pitch, or frequency is normally expressed in Hertz (Hz) or cycles per second. For human beings, the audible spectrum ranges between 20 and 20,000 Hz, and from zero to 140 dB. An illustration of this scale, along with common noise situations and their impacts is provided in **Figure 14.**

Figure 14
Loudness Range of Common Sounds
Measured at Source or Indicated Distance

Sound Source	dB	Typical Response
Sonic Boom	140	Painfully Loud
Jet Takeoff (200 feet)	120	Limits of Amplified Speech
Auto Horn (3 feet)	110	Maximum Vocal Effort
Shout (0.5 feet)	100	Very Annoying
Heavy Truck (50 feet)	90	Annoying
Pneumatic Drill (50 feet)	80	Telephone Use Difficult
Freeway Traffic (50 feet)	70	
Air-conditioning Unit (20 feet)	60	
Living Room	50	Quiet
Library	40	
Soft Whisper	30	Very Quiet
Leaves Rustling	10	Just Audible
	5	Threshold of Hearing

SOURCE: Environmental Quality, the First Annual Report (Washington, D.C.: CEQ, August 1970)
NOTES: dB=decibel

FEDERAL AND STATE NOISE REGULATIONS

The *Federal Noise Control Act of 1972* placed a number of noise-related programs under the authority of the Environmental Protection Agency (EPA). The EPA's major roles consist of regulating aircraft noise (with the Federal Aviation Administration), product noise, and interstate railroads and motor carrier noise.

Oregon's *Noise Control Act of 1971* gave the Oregon Department of Environmental Quality (DEQ) authority to adopt standards for motor vehicles, industry, motor raceways, airports, and commerce. The standards establish motor vehicle noise emission limits and set ambient noise limits for commercial and industrial operations. The standards vary according to time of day and proximity to *noise sensitive properties*. DEQ becomes involved in noise problems when it receives a citizen complaint about a noise source under DEQ authority.

NOISE REDUCTION STRATEGIES

Vehicle-Related Noise Reduction Techniques

In Medford, high vehicle-related noise is associated with Interstate 5 and Highway 62, as well as high-volume arterial streets. There are a variety of means a city can undertake to reduce motor vehicle-related noise impacts. These may include:

- Enforcement of vehicle noise emission standards
- Proper location of truck routes
- Limitation of traffic volume on certain street types

- Requirements for fencing, walls, berms, landscaping, etc., along certain street types

Airport-Related Noise Compatibility
Airport-related noise compatibility is discussed below under "Airport Hazards."

Building and Site Design
Noise can be attenuated through proper building design. For example, windows, vents, and other openings can be positioned away from a noise source such as a freeway. Buildings located close to noise-producing uses can be built with thicker walls or insulation, and proper windows. Similarly, sources of noise within a development, such as air conditioners, can be designed and located to direct noise away from noise sensitive areas. Site design is one of the most effective means of protecting dwelling units in a noisy environment. As an illustration, if a project is proposed adjacent to a freeway, the building layout can effectively attenuate noise by placing the dwelling units as far away from the noise source as possible, with the non-dwelling buildings, parking, and driveways located between the dwellings and the noise source.

Noise Ordinance
Medford's Noise Ordinance, located in the *Land Development Code*, regulates the level of commercial and industrial noise, based on the proximity to noise sensitive properties. The ordinance was prepared in the 1980s to comply with DEQ standards and procedures. Some noise sources are exempt from the ordinance, such as construction and landscape maintenance, but are subject to other sections of the *Medford Municipal Code*. Review of the Noise Ordinance is necessary to determine if revisions are needed.

Bufferyards
Medford's *Land Development Code* requires bufferyards which use setbacks, fencing/walls/berms, and vegetation to mitigate potential adverse impacts between adjacent land use types. Bufferyard standards are intended to minimize potential conflicts caused by nuisances, such as glare and noise. The width of the bufferyard, as well as the types and numbers of trees and shrubs contained in the bufferyard, and the type and height of fencing are dependent upon the zoning of the abutting properties.

Agricultural Buffering
Medford and Jackson County jointly implement policies and regulations to minimize the potential adverse impacts of urban development on abutting agricultural uses. An integral part is the mitigation of noise generated by agricultural machinery such as tractors, sprayers, and crop-dusters. The required buffer is intended to reduce noise complaints from residents of new abutting development. Deed declarations are required for those properties abutting agricultural uses, to recognize the right to use accepted farming practices. The agricultural buffering ordinance is in the Medford *Land Development Code*.

AIRPORT HAZARDS

The Rogue Valley International-Medford Airport encompasses more than 925 acres in the northern portion of the City. It is the major airport serving southwestern Oregon and the far northern part of California. Use of the facilities continues to increase steadily, although in 1998, the airport was operating at about 50% of capacity. The 1986 *Airport Master Plan and Noise Compatibility Study for the Medford-Jackson County Airport*, Coffman Associates, studied land uses surrounding the airport as related to hazards and noise. Most of the actions recommended by the study to address

incompatible land uses have been completed by the airport, which is managed by Jackson County.

Most of the safety hazards associated with airports are related to takeoffs and landings. In 1985, the Airport constructed an aircraft rescue and firefighting station with room for seven firefighters. It is located near the terminal, with three engines having a response time of two to five minutes.

Airport approach and departure paths are critical areas in terms of land use compatibility. The FAA has adopted Federal Aviation Regulations regarding "*objects affecting navigable airspace and safety zones.*" Safety zones consist of Runway Protection Zones (formerly Clear Zones), Runway Safety Areas, and Runway Object-Free Areas. The Runway Safety Areas and Object-Free Areas are located within the airport proper, but Protection Areas often extend beyond the boundaries of an airport, although the FAA recommends that airports own as much of the Protection Areas as possible. For most of the Protection Areas identified in the 1986 Airport Master Plan, the airport undertook a noise compatibility program that prioritized the areas for purchase, and then acquired them. The *Medford-Jackson County Airport Master Plan Update, 1993*, prepared by Airport Technology and Planning Group, Inc. identified the "Imaginary Surfaces" used to determine potential obstructions to air navigation. The plan identified the existing obstructions within these areas, such as trees, buildings, antennas, navigation aids, etc.

Prior to annexation to the City of Medford, the airport was governed under several Jackson County zoning districts. These included the Airport Development - Mixed Use (AD-MU) zoning district which restricts residential uses, and limits light and glare; the Airport Approach (A-A) Overlay Zone, which also prohibits electrical interference, and the Airport Concern (A-C) Overlay Zone, which limits height and requires residential deed restrictions (Avigation Easements) recognizing the existence of the airport and its inherent noise.

Within the City of Medford, the airport and its environs are generally designated and zoned for industrial uses. The City adopted an Airport Approach (A-A) Overlay Zone in 1991. The area encompassed by the A-A Overlay Zone, the "Approach Surface," is one of the FAA "Imaginary Surfaces" noted above. The A-A Overlay Zone prohibits places of assembly, and restricts light, glare, and other causes of impaired visibility. Avigation easements are required for plan authorizations and other development approvals for properties located within the A-A Overlay Zone. An Airport Radar (A-R) Overlay Zone was adopted in 1992. It prohibits objects in excess of 40 feet in height, and requires all construction to be reviewed and approved by the FAA. The airport, which previously had no radar, installed a $23 million radar system in 1995 located near Crater Lake Highway. The A-R Overlay Zone generally encompasses an area extending east of the airport to Crater Lake Highway, and south of Vilas Road to the westerly extension of Coker Butte Road.

While local governments must strive to assure land use compatibility with airport operations, airports usually take on the responsibility of minimizing their noise impacts. Airports can often affect noise impacts through a variety of means, including proper airport design, runway use, curfews, takeoff, climbing, and landing procedures, noise monitoring, etc. The FAA has guidelines for land use compatibility related to airport-generated noise. Most land uses are considered incompatible with noise levels exceeding 75DNL[57], and residential development is considered incompatible with noise levels exceeding 65DNL.

[57] DNL - Yearly day-night average sound level noise contour - a method for measuring noise generated by an airport.

The 1986 noise compatibility study established the runway noise contour lines for the Medford Airport. These were updated in 1999 as part of the environmental assessment by David Evans and Associates for a runway expansion project. (See **Figure 15** for the year 2000 noise contours.) In Medford, the airport has few residentially designated areas nearby, although the Central Point UGB is in close proximity to the northwest. The residential areas most impacted by airport noise (within the 65DNL contour) are located between Corona Avenue and Crater Lake Avenue, north of Johnson Street in Medford, and the area west and north of the intersection of Table Rock Road and Vilas/Hamrick Road in the Central Point UGB.

Since residential and other noise-sensitive development should be well-separated from airports, new development must be coordinated with future airport expansion plans to prevent conflicts as flights increase. Future designation of residential areas by the City of Medford, City of Central Point, and Jackson County must be coordinated with the Airport Master Plan to avoid conflicts with flight patterns, hazard areas, and expansion areas. The 1986 study recommended that no new residential development be allowed inside the 65DNL, and that new residential development inside the 60 DNL be required to attain, through construction techniques, a maximum indoor noise level of 45DNL.

DISASTERS AND HAZARDS
CONCLUSIONS

1. The Medford Urban Growth Boundary contains streams and waterways that have a history of flooding occasionally.

2. The *National Flood Insurance Program* is available in communities that implement comprehensive floodplain regulations to reduce flood damage. As a participant in this program, Medford adopted regulatory provisions to minimize flood losses through development controls such as building codes and development regulations that place restrictions on new construction or improvements to flood-prone structures.

3. According to seismologists, the likelihood of an earthquake of serious magnitude in the Northwest is high. Medford is at risk for potential earthquake damage because many older buildings have not been built or upgraded to current earthquake standards. Medford's emergency management planning recognizes this possibility.

4. The threat of wildland fires within the Medford Urban Growth Boundary is relatively slight, but will increase as development abuts or increases in areas prone to wildland fire dangers, such as steep slopes, dense natural vegetation, etc.

5. The threat of loss of life and/or property damage in areas that may be impacted by wildland fires can be reduced through the use of less combustible construction material, adequate fire response apparatus, availability of fire protection water, adequate fuel breaks surrounding structures, appropriate road widths to accommodate fire fighting vehicles, and response and evacuation plans that are understood by the residents of these areas.

6. The most common noise sources in Medford are transportation-related, and include automobiles, trucks, motorcycles, railroads, and aircraft. Motor vehicle noise is a pressing concern, because it often occurs in areas sensitive to noise exposure, such as residential areas, and continues to increase with urban growth and increasing numbers of motor vehicles.

7. The City of Medford has adopted noise reduction strategies in the *Land Development Code* to mitigate the harmful effects of noise, including a noise ordinance, which regulates the level of commercial and industrial noise based on the proximity to noise-sensitive properties; bufferyards, which use setbacks, fencing/walls/berms, and vegetation to mitigate adverse impacts between adjacent land use types, and agricultural buffering, in which Medford and Jackson County jointly implement policies to minimize the impacts of urban development on abutting agricultural uses.

8. Airports can adversely impact residential and other sensitive development through noise and accident hazards. Future airport expansion plans could create land use conflicts as flights increase.

DISASTERS AND HAZARDS

GOALS, POLICIES, AND IMPLEMENTATION MEASURES

Goal 12: To protect the citizens of Medford from the potential damage caused by hazards such as flooding, earthquakes, noise, wildfires, and airport hazards.

See also Policy 2-D of the "Housing Element."

Policy 12-A: The City of Medford shall assure that hazard mitigation standards are formally adopted as public policy through comprehensive planning, land development ordinances, permit review, and fire/building safety codes.

Implementation 12-A (1): Continue to conduct hazard risk analysis, including identifying the types, magnitude, and probability of hazards which the Medford Urban Growth Boundary is susceptible to over the long term, including assessing the degree of risk that the citizens find acceptable.

Policy 12-B: The City of Medford shall ensure that the potential impacts of flooding are adequately analyzed when considering development projects.

Implementation 12-B (1): Maintain and, when necessary, update the city's requirements for development in floodplains, consistent with federal and state regulations, and the *Uniform Building Code* (UBC).

Implementation 12-B (2): Adhere to the policies outlined in the *Medford Comprehensive Drainage Master Plan* to minimize flood losses through development controls.

Implementation 12-B (3): Encourage the re-mapping of flood-prone areas in Medford using data from the most recent flood(s) of record.

Implementation 12-B (4): Consider flood hazards when installing public improvements such as parks and paths in flood-prone areas. Design these amenities to withstand a certain flood level.

See also the Policies of the *Storm Water Drainage* section of the "Public Facilities Element."

Policy 12-C: The City of Medford shall continue to utilize building and development standards to mitigate the potentially damaging effects of earthquakes. New construction is required to meet the standards of seismic zone 3 of the *Uniform Building Code* (UBC).

Policy 12-D: The City of Medford shall strive to upgrade all city-owned buildings and facilities to meet earthquake standards.

See also Policy 2-D and Implementation 2-D (1) of the "Housing Element."

Policy 12-E: The City of Medford shall continue to update and enforce noise attenuation strategies.

Implementation 12-E (1): Periodically review the city's noise ordinances for adequacy.

Policy 12-F: The City of Medford shall strive to minimize the loss of life and property resulting from wildland fires within the Urban Growth Boundary.

Implementation 12-F (1): Undertake efforts to educate the public in wildland fire safety.

Implementation 12-F (2): Develop and adopt fire safety performance standards for development in those areas identified as being at risk of wildland fires.

Policy 12-G: The City of Medford shall designate future residential areas in coordination with the *Rogue Valley International-Medford Airport Master Plan* to minimize conflicts with flight patterns, hazard areas, and airport expansion areas.

APPENDIX A
WILDLIFE HABITAT
MEDFORD URBAN GROWTH BOUNDARY

HABITAT TYPES

Commercial (C): Areas with business buildings and associated surfaced and fenced land, usually classified as commercial on city and county zoning maps.

Residential (Rs): Areas generally with more than one dwelling per two hectares (five acres), using 20-hectare (50-acre) plots for averaging.

Agricultural (A): Areas generally of parcels more than two hectares (five acres) in size managed for commercial agriculture within the prior six years, excluding timber production and open range grazing. Usually in river valleys.

Grassland (G): Open grassland with no trees (not agricultural).

Savanna (S): Grassland or rocky shrub land with scattered trees.

Woodland (W): Conifer, deciduous, or mixed forest.

Riparian (Rp): Terrestrial habitat within 20 meters (66 feet) of permanent streams, lakes, or intermittent water courses or basins that contain water at least six months of the year.

Riparian habitat also contains the following **aquatic** habitats:

Intermittent (I): Water courses and basins that contain water six to eleven months of the year, including grasslands or agricultural fields that are flooded six to eleven months per year.

Streams (St): Water channels less than ten meters (33 feet) wide.

Rivers (Rv): Water channels more than ten meters (33 feet) wide.

Lakes (L): Water basins or reservoirs more than two hectares (five acres) in size.

WILDLIFE INVENTORY

Terrestrial Species

Birds

Common Name	*Habitat*	*Common Name*	*Habitat*
Turkey vulture	A, G, S, Rp, W	Northern mockingbird	Rs, A, G, S, W
Cooper's hawk	Rs, S, G, S, Rp, W	Townsend's solitaire	G, S, A, W
Northern goshawk	Rp, W	Western bluebird	G, S, W
Sharp-shinned hawk	A, G, S, Rp, W, Rs	Mountain bluebird	G, S, W
Northern Harrier	A, G, S, Rp	Blue-gray gnatcatcher	S, Rp, W
Rough-legged hawk	A, G, S, Rp, W	Golden-crowned kinglet	S, Rp, W, Rs
Red-tailed hawk	A, G, S, Rp, W	Ruby-crowned kinglet	S, Rp, W, Rs
Swainson's hawk	S, Rp, W	Bohemian waxwing	Rp, Rs, S
Common nighthawk	C, Rs, A, G, S, Rp, W	Cedar waxwing	Rs, A, S, Rp, W
Golden eagle	G, S, Rp, W	Northern shrike	G, S, Rp
Bald eagle	S, Rp, W	Loggerhead shrike	G, S, Rp
Prairie falcon	G, S, Rp	European starling	C, Rs, A, G, S, Rp, W
Black-shouldered kite	G, S, Rp, A	Solitary vireo	Rp, W, Rs
American kestrel	Rs, A, G, S, Sp	Warbling vireo	Rp, W, Rs
Blue grouse	Rs, A, G, S Rp, W	Hutton's vireo	W, Rs, Rp
Ruffed grouse	S, Rp, W	Nashville warbler	Rp, W, S
California quail	Rs, A, G, Rp	Yellow warbler	Rs, Rp
Mountain quail	S, Rp, W	Yellow-rumped warbler	Rs, Rp, W, S
Ring-necked pheasant	Rs, A, G, Rp	Townsend's warbler	Rp, W, S
Band-tailed pigeon	S, Rp, W	Black-throated gray warbler	Rp, W, Rs
Rock dove	C, Rs, A, G, S, Rp, W	MacGillivray's warbler	Rp, W, Rs
Mourning dove	Rs, A, G, S	Orange-crowned warbler	Rp, W, Rs
Western screech owl	Rs, A, G, S, Rp, W	Wilson's warbler	Rs, Rp, W
Great horned owl	Rs, A, G, S, Rp, W	Western meadowlark	Rs, A, G, S, Rp
Short-eared owl	A, G	Red-winged blackbird	C, Rs, A, S, Rp, W
Barn owl	A, G, S, Rp, W	Say's phoebe	G, S, Rp, W
Northern spotted owl	Rp, W	Western wood-peewee	Rp, W
Northern saw-whet owl	S, Rp, W	Common poorwill	G, S

Common Name	***Habitat***	***Common Name***	***Habitat***
Northern pygmy owl	G, Rp, W, R	Horned lark	R, S
Burrowing owl	A, G, S	Barn swallow	Rs, A, Rp
Long-eared owl	S, Rp, W	House sparrow	C, Rs, A, G, S, Rp, W
Peregrine falcon	A, G, S, Rp	Tri-colored blackbird	Rs, A, G, S, Rp
Vaux's swift	G, S, Rp, W, C, Rs	Brewer's blackbird	C, Rs, A, S, Rp, W
Anna's hummingbird	Rs, S, Rp	Yellow-headed blackbird	A, G, Rp
Rufous hummingbird	Rs, A, G, S, Rp	Northern oriole	Rs, Rp, W
Allen's hummingbird	G, S, Rp, W	Western tanager	Rs, A, Rp, W
Black-chinned hummingbird	Rs, S, Rp	Savannah sparrow	S, Rp, A, G
Calliope hummingbird	W	Lark sparrow	G, S, Rp, A
Merlin	G, S, Rp, W, Rs	Chipping sparrow	Rs, A, G, S, Rp, W
Northern flicker	Rs, A, S, Rp, W	Harris's sparrow	G, s, Rp, Rs
Acorn woodpecker	Rs, A, S, Rp, W	White-crowned sparrow	Rs, A, G, S, Rp
Lewis' woodpecker	Rs, A, S, Rp, W	Golden-crowned sparrow	G, S, Rp, Rs, A
Hairy woodpecker	Rs, A, S, Rp, W	Black-throated sparrow	S
Downy woodpecker	Rs, A, S, Rp, W	Black-chinned sparrow	S
Pileated woodpecker	Rp, W	White-throated sparrow	Rs, A, G, S, Rp
Red-breasted sapsucker	Rs, A, S, Rp, W	Fox sparrow	A, Rp, W, Rs
Hammond's flycatcher	Rp, W	Song sparrow	A, S, Rp, W
Ash-throated flycatcher	G, S, Rp, W	Lincoln's sparrow	Rs, A, S, Rp
Willow flycatcher	Rp, W	Brown-headed grosbeak	Rs, A, Rp, W
Western flycatcher	Rp, W	Evening grosbeak	Rp, W, Rs
Dusky flycatcher	Rp, W	Purple finch	Rs, A, S, Rp, W
Olive-sided flycatcher	Rp, W	Cassin's finch	S, Rp, W, Rs
Cordilleran (western) kingbird	Rs, A, G, S, Rp	House finch	Rs, A, S, Rp, W
Eastern king bird	Rs, A, S, Rp	American goldfinch	Rs, A, G, S, Rp
Black phoebe	Rp, W	Lesser goldfinch	Rs, A, G, S, Rp
Cliff swallow	Rs, A, Rp	Pine siskin	S, Rp, W, Rs
Violet-green swallow	Rs, A, Rp	Lazuli bunting	S, Rp, W
Tree swallow	Rs, A, Rp, W	Rufous-sided towhee	Rs, A, Rp, W, S
Mountain chickadee	S, Rp, W, Rs	California (brown) towhee	Rs, A, Rp, W, S
Chestnut-backed chickadee	S, Rp, W, Rs	Dark eyed junco	Rs, A, G, S, Rp, W
Northern rough-winged	Rp, W	Plain titmouse	S, Rp, W, Rs

Common Name	*Habitat*	*Common Name*	*Habitat*
swallow			
Purple martin	Rs, A, Rp	Bushtit	S, Rp, W, Rs
Steller's jay	Rs, A, S, Rp, W	White-breasted nuthatch	S, Rp, W, Rs
Scrub jay	Rs, A, S, Rp, W	American crow	C, Rs, A, G, S, Rp, W
Black-billed magpie	A, S, Rp	Black-capped chickadee	S, Rp, W, Rs
Vesper sparrow	G, S	Common raven	A, S, W

Mammals

Common Name	*Habitat*	*Common Name*	*Habitat*
Virginia opossum	Rp, W, S, G, Rs	Deer mouse	Rs, A, S, Rp, W
Trowbridge's shrew	W	Pinon mouse	S
Pacific shrew	Rp, W	House mouse	C, Rs
Vagrant shrew	Rp	Western jumping mouse	G, Rp
Shrew mole	Rp, W	Pacific jumping mouse	G, Rp
Broad-footed mole	A, G, S, W	California red-backed vole	W
Townsend's mole	A, G, S, W	California meadow vole	A, G, Rp
Pallid bat	Rs, A, S, Rp, W	Townsend's vole	A, G, Rp
Townsend's big-eared bat	Rs, A, S, Rp, W	Oregon vole	S, Rp, W
Silver-haired bat	Rs, A, W	Porcupine	S, W
Hoary bat	W	Red fox	A, G, S
Big brown bat	Rs, A, S, Rp, W	Gray fox	S, W
Brazilian free-tailed bat	Rs, A, S, Rp, W	Coyote	A, G, S, Rp, W
Fringed myotis	Rs, A, S, Rp, W	Black Bear	S, Rp, W
Long-eared myotis	Rs, A, S, Rp, W	Raccoon	Rs, A, S, Rp, W
Long-legged myotis	Rs, A, S, Rp, W	Ringtail	S, Rp, W
California myotis	Rs, A, S, Rp, W	Long-tailed weasel	A, S, Rp, W
Small-footed myotis	Rs, A, S, Rp, W	Ermine	A, S, Rp, W
Yuma myotis	Rs, A, S	Badger	A, G, S
Little brown myotis	Rs, A, S, Rp, W	Striped skunk	Rs, A, G, S, Rp, W
Brush rabbit	Rs, A, Rp, W	Spotted skunk	S, Rp, W
Black-tailed jackrabbit	A, G, S	Mountain lion	S, W
Mountain beaver	Rp, W	Bobcat	S, Rp, W

Common Name	*Habitat*	*Common Name*	*Habitat*
Yellow-pine chipmunk	S , Rp, W	Black-tailed deer	S, Rp, W

Reptiles

Common Name	*Habitat*	*Common Name*	*Habitat*
Western fence lizard	Rs, A, S, W	Rubber boa	S, Rp, W
Sagebrush lizard		Common garter snake	Rs, A, S, Rp, W
Southern alligator lizard	Rs, A, S, Rp, W	Western terrestrial garter snake	Rp
Northern alligator lizard	Rs, A, S, Rp, W	Northwestern garter snake	Rp
Western skink	Rs, A, S, Rp, W	Ring-necked snake	Rp, W
Harvest mouse	A, G	Sharp-tailed snake	Rp
Common king snake	G, S, Rp	Striped whip snake	G, S
Mountain king snake	G, S, Rp	Racer	Rs, A, S, Rp, W
Western rattlesnake	Rp	Gopher snake	Rs, A, G, S, Rp, W

Amphibians

Common Name	*Habitat*	*Common Name*	*Habitat*
Western toad	Rs, A, S, Rp, W	Spotted frog (threatened)	Rp
Pacific tree frog	Rs, A, Rp, W	Long-toed salamander	Rs, A, G, S, Rp, W
Foothill yellow-legged frog	Rp	Pacific giant salamander	Rp, W
Red-legged frog	Rp	Del Norte salamander	Rp, W
Bull frog	Rp	Black salamander	Rs, A, G, S, Rp, W
Tailed frog	Rp	Clouded salamander	Rp, W
Cascades frog	Rp	Rough-skinned newt	Rs, A, Rp, W
Ensatina	Rp		

Aquatic Species

Birds

Common Name	*Habitat*	*Common Name*	*Habitat*
Western grebe	Rv, P, L	Least sandpiper	Rp, I, Rv, P, L

Common Name	*Habitat*	*Common Name*	*Habitat*
Horned grebe	Rv, P, L	Western sandpiper	Rp, Rv, P, L
Pied-billed grebe	Rv, L	Greater yellowlegs	Rp, I, P, L
Eared grebe	Rv, P, L	Long-billed dowitcher	Rp, I, P
Tundra swan	Rp, Rv, L	Dunlin	Rp, I, P, L
Canada Goose	Rp, Rv, L	Sanderling	Rp, I, P
White-fronted goose	Rp, I, Rv, P, L	Wilson's phalarope	Rp, I, St, Rv, P, L
Northern pintail	Rp, I, St, P, Rv, L	Red-necked phalarope	Rp, I, St, Rv, P, L
American widgeon	Rp, I, St, Rv, P, L	Common snipe	Rp, I, Rv, P, L
Northern shoveler	Rp, I, St, Rv, P, L	California gull	Rp, I, Rv, P, L
Blue-winged teal	Rp, I, St, Rv, P, L	Ring-billed gull	Rp, I, Rv, P, L
Cinnamon teal	Rp, I, St, Rv, P, L	Bonaparte's gull	Rv, L
Green-winged teal	Rp, I, St, Rv, P, L	Forester's tern	Rv, P, L
Wood duck	Rp, I, St, Rv, P, L	Caspian tern	L
Canvasback	Rv, L	Black tern	L
Ring-necked duck	Rv, P, L	Belted kingfisher	Rp, Rv, L, P
Lesser scaup	Rv, L	American dipper	Rp, St, Rv
Common goldeneye	Rp, St, Rv, P, L	Marsh wren	Rp
Barrow's goldeneye	Rv, L	American pipit	Rp, St, L
Bufflehead	St, Rv, P, L	American bittern	Rp, Rv, L
Ruddy duck	St, Rv, P, L	Redhead	Rv, P, L
Common merganser	Rv, P, L	Osprey	Rp, Rv, L
Hooded merganser	St, Rv, P, L	Great egret	Rp, P, L
Double-crested cormorant	Rv, L	Great blue heron	Rp, Rv, P, L
Mallard	Rp, I, St, Rv, P, L	Green-backed heron	Rp, Rv, P, L
Gadwall	Rp, I, St, Rv, P, L	Black-crowned Night-Heron	Rp, P, L
Virginia rail	Rp, P	Black-bellied plover	L
Sora	Rp, P, L	Spotted sandpiper	Rp, I, Rv, P, L
American Coot	Rp, I, St, Rv, P, L	Pectoral sandpiper	Rp, I, P, L
Semi-palmated plover	Rp, I, P	Baird's sandpiper	L

Mammals

Common Name	*Habitat*	*Common Name*	*Habitat*

Water shrew	Rp	Muskrat	Rp, St, Rv, P, L
Marsh shrew	Rp	Mink	Rp, St, Rv, P, L
Beaver	Rp, St, Rv, P, L	River otter	Rp, St, Rv, P, L

Reptiles

Common Name	*Habitat*	*Common Name*	*Habitat*
Western pond turtle (threatened)	Rp, St, Rv, P, L	Western aquatic garter snake	Rp, I, St, P

Amphibians
(Also See Terrestrial Species)

Common Name	*Habitat*	*Common Name*	*Habitat*
Long-toed salamander	St, P, L	Pacific tree frog	Rp, I, St, P
Pacific giant salamander	Rp, St, Rv, L	Foothill yellow-legged frog	Rp, St
Del Norte salamander	Rp	Red-legged frog	Rp, St
Black salamander	Rp	Bullfrog	Rp, St, Rv, P, L
Clouded salamander	Rp, St	Tailed frog	Rp, St, Rv
Dunn's salamander	Rp, I	Cascades frog	Rp, I, St, P, L
Rough-skinned newt	Rp, I, P, L	Spotted frog	Rp, St, Rv, P, L
Western toad	Rp, P, L	Rough-skinned newt	Rp, I, St, Rv, P, L

10/89, Dr. Stephen Cross, (Mammals, Reptiles, Amphibians); Otis D. Swisher (Birds),Department of Biology, SOU, Ashland

APPENDIX B
HISTORIC RESOURCES INVENTORY
MEDFORD URBAN GROWTH BOUNDARY

1A LIST
SIGNIFICANT HISTORIC RESOURCES
CITY OF MEDFORD

See the Historic Resources Inventory Data Base List
Copies Available in the Medford Planning Department

1A LIST
SIGNIFICANT HISTORIC RESOURCES (PARTIAL)
CITY OF MEDFORD

Not updated with the Medford Downtown Historic District unless previously listed on the National Register. See the Historic Resources Data Base List for the full 1A list.

HISTORIC NAME	ZONE	ADDRESS
A.J. Fredenburg House	C-SP/H	243 South Holly Street
Acme Hardware Building	C-C/CB	1 West 6th Street
Adkins-Childers Building	C-C/CB	226 East Main Street
Alfred Evan Reames House	C-S/P	816 West 10th Street
Barnum (Grand) Hotel	C-C/CB/H	216 North Front Street
Bates Candy Warehouse	C-G/CB	160 North Fir Street
Bates Barber Shop	C-C/CB	126 West Main Street
Beck Apartments	C-C/CB	24 South Grape Street
BPOE (Elks) Lodge	C-C/CB/H	202 North Central Avenue
C. Fridiger Building	C-C/CB	111 North Central Avenue
~~Cargill Court Apartments~~ *delisted*		~~331 West 6th Street~~
C.A. Winetrout Building (Crater Lake Motors)	C-C/CB	29 West Main Street
C.E. “Pops” Gates House	SFR-6	1307 Queen Anne Avenue
Central Fire Hall/City Hall	C-C/CB	110 East Sixth Street
Charles Sweeney House	C-S/P	2336 Table Rock Road
Childers Building-Dreamland Ballroom	C-C/CB	417 East Main Street
Clara Barkdull Building	C-C/CB	117 North Central Avenue
Clemons-Brandon House	C-C/CB	211 North Ivy Street
Cooley Building - Craterian Theater	C-C/CB	23 South Central Avenue
Corning Court Ensemble	C-S/P	5, 6, 11, 15, & 16 Corning Court
Crater Lake Garage	C-C/CB	123 South Front Street
Daniel L. McNary	C-C/CB	243 North Ivy Street
Davis Building	C-C/CB	30 North Central Avenue
Davis Cornwall Building-North	C-C/CB	127 South Bartlett Street
De Voes Confectionary	C-C/CB	2 North Oakdale Avenue

Derrick's Cafeteria	C-C/CB/BC	17 South Riverside Avenue
Dillon Hill House		1307 Kings Highway
Dr. E.B. Pickel Rental House	C-C/H	815 West Main Street
Dr. John F. Reddy House	SFR-4	122 Oregon Terrace
Edgar Hafer House	C-C/CB/H	426 West 6th Street
Evelyn Apartments	C-C/CB	107 North Ivy Street
Fehl Building	C-C/CB	332 West 6th Street
First National Bank Building	C-C/CB	120 East Main Street
Florence Graves House	C-C/CB	220 North Oakdale Avenue
Fluhrer Bakery Building	C-C/CB/H	29 North Holly Street
Fluhrer Pastry Plant	C-G/CB	125 West 4th Street
Frank Clark-Jackson House	SFR-4/H	1917 East Main Street
Garnett-Cory (Liberty) Building	C-C/CB/H	201 West Main Street
Getchell Building	C-C/CB	115 West Main Street
Halley Block	C-C/CB	26 South Central Avenue
Hamilton Patton House	SFR-4	245 Valley View Drive
Hamlin Building (East)	C-C/CB	130 East Main Street
Hamlin Building (West)	C-C/CB	128 East Main Street
Haskins Drug Store	C-C/CB	214 East Main Street
Hight Realty	C-C/CB	221 North Central Avenue
Holly Apartments	C-C/CB	135 North Holly Street
Holly Theater	C-C/CB	226 West 6th Street
Holly Court Apartments	C-C/CB	240 North Holly Street
Home Telephone & Telegraph	C-C/CB	218 West 6th Street
Hoover-Cooper Building	C-C/CB	232 East Main Street
Hotel Medford Sample Rooms	C-C/CB	23 North Ivy Street
Hubbard Brothers Hardware-Woods Blk.	C-C/CB	335 East Main Street
Huggins & Robinson Auto	C-C/CB	32 South Bartlett Street
J.C. Penney's	C-C/CB	102 North Central Avenue
J.H. Thorndike House	C-C/CB	221 North Holly Street
Jackson County Courthouse	C-S/P	10 South Oakdale Avenue
Jackson County Bank Building	C-C/CB	2 North Central Avenue

James W. Bass House	C-C/CB	215 North Ivy Street
Jerome Building - Auto Parts & Supply	C-C/CB/BC	3 South Riverside Avenue
Jerome Building - Eastside Pharmacy	C-C/CB/BC	3 South Riverside Avenue
John F. White Building	C-C/CB	207 West Main Street
Johnson-Childers Building	C-C/CB	318 East Main Street
Kay Building	C-C/CB	34 South Fir Street
Leverette Block	C-C/CB	117 South Central Avenue
Library Park (Alba Park)	C-SP/CB	North Holly & West Main Streets
McAndrews-Barnum Block (West)	C-C/CB	315 East Main Street
McAndrews-Barnum Block (East)	C-C/CB	317 East Main Street
Medford Carnegie Library	C-SP/CB/H	413 West Main Street
Medford Plaza Apartments NOT ON NATIONAL REGISTER	C-SP/CB	235 South Oakdale Avenue
Medford Central Market	C-C/CB	127 North Central Avenue
Medford IOOF Cemetery	SFR-6	Siskiyou Boulevard
Medford Furniture & Hardware Building	C-C/CB	29 North Central Avenue
~~Medford Hotel~~ *delisted*		~~406 West Main Street~~
Meeker-Stang Building	C-C/CB	231 East Main Street
Meydinski-Palmer Building	C-C/CB	134 East Main Street
Moore Annex-Pottenger Building	C-C/CB	123 West Main Street
P.T. Young/Humphrey Motors	C-C/CB/BC	33 South Riverside Avenue
Pacific Telephone & Telegraph	C-C/CB	145 North Bartlett Street
Pacific Greyhound Bus Depot	C-C/CB	212 North Bartlett Street
Pacific-Record Herald Building	C-C/CB	324 West 6th Street
Palm Rental Store	C-C/CB	20 South Fir Street
Palm (Goldy) Building	C-C/CB	107 East Main Street
Palm-Niedermeyer Building	C-C/CB	132 West Main Street
Pinnacle Packing Plant # 3	C-G/CB	220 North Fir Street
Presbyterian Church	C-C/CB	85 South Holly Street
Raymond H. Toft House	C-C/CB	243 North Holly Street
Richfield Station	C-C/CB	145 North Central Avenue
Root-Slover House	C-C/CB	203 North Holly Street

Roots-Banks House	C-C	11 North Peach Street /1000 W. Main
Safeway/Littrell Building	C-C/CB	313 East Sixth Street
Sam Jennings Building	C-C/CB	229 North Riverside Avenue
Schuler Apartment Building	C-C/CB	38 North Oakdale Avenue
Shone-Charley House	MFR-20/H	305 North Grape Street
Sophenia Ish (Ashpole) House		902 West McAndrews Road
Southern Pacific Rail Passenger Depot	C-C/CB	147 North Front Street
Sparta Building	C-C/CB	12 North Riverside Avenue
St. Mark's Church	C-C/CB	212 North Oakdale Avenue
Stewart Building	C-C/CB	237 East Main Street
Tayler-Phipps Building	C-C/CB	221 East Main Street
Thomas Building No. 2 (Oregon Rooms)	C-C/CB	225 West Main Street
U.S. Post Office - Courthouse	C-C/CB/H	310 West 6th Street
Vawter-Brophy Building	C-C/CB	209 East Main Street
Warner, Wortman & Gore Building	C-C/CB	307 East Main Street
Weeks & Orr Furniture	C-C/CB	114 West Main Street
West Side Feed & Sale Stable	C-C/CB/H	29 South Grape Street
Wilkenson-Swem Building	C-C/CB/H	217 East Main Street
Woodman of the World	C-C/CB	143 North Grape Street

SOUTH OAKDALE HISTORIC DISTRICT

	C-SP/H	326 South Oakdale Avenue
	C-SP/H	358 South Oakdale Avenue
	C-SP/H	408 South Oakdale Avenue
	C-SP/H	412 South Oakdale Avenue
	SFR-10/H	418 South Oakdale Avenue
	SFR-10/H	426 South Oakdale Avenue
	SFR-10/H	503 South Oakdale Avenue
	SFR-10/H	504 South Oakdale Avenue
	SFR-10/H	507 South Oakdale Avenue
	SFR-10/H	511 South Oakdale Avenue
	SFR-10/H	512 South Oakdale Avenue

SFR-10/H	518 South Oakdale Avenue
SFR-10/H	519 South Oakdale Avenue
SFR-10/H	522 South Oakdale Avenue
SFR-10/H	608 South Oakdale Avenue
SFR-10/H	609 South Oakdale Avenue
SFR-10/H	610 South Oakdale Avenue
SFR-10/H	611 South Oakdale Avenue
SFR-10/H	615 South Oakdale Avenue
SFR-10/H	616 South Oakdale Avenue
SFR-10/H	619 South Oakdale Avenue
SFR-10/H	620 South Oakdale Avenue
SFR-10/H	701 South Oakdale Avenue
SFR-10/H	704 South Oakdale Avenue
SFR-10/H	705 South Oakdale Avenue
SFR-10/H	706 South Oakdale Avenue
SFR-10/H	707 South Oakdale Avenue
SFR-10/H	710 South Oakdale Avenue
SFR-10/H	714 South Oakdale Avenue
SFR-10/H	715 South Oakdale Avenue
SFR-10/H	718 South Oakdale Avenue
MFR-20/H	800 South Oakdale Avenue
SFR-10/H	810 South Oakdale Avenue
SFR-10/H	815 South Oakdale Avenue
SFR-10/H	822 South Oakdale Avenue
SFR-10/H	900 South Oakdale Avenue
SFR-6/H	907 South Oakdale Avenue
SFR-10/H	912 South Oakdale Avenue
SFR-6/H	922 South Oakdale Avenue
SFR-6/H	989 South Oakdale Avenue
SFR-6/H	995 South Oakdale Avenue
SFR-6/H	1001 South Oakdale Avenue
SFR-6/H	1002 South Oakdale Avenue

SFR-6/H	1006 South Oakdale Avenue
SFR-6/H	1009 South Oakdale Avenue
SFR-6/H	1010 South Oakdale Avenue
SFR-6/H	1013 South Oakdale Avenue
SFR-6/H	1018 South Oakdale Avenue
SFR-6/H	1019 South Oakdale Avenue
SFR-6/H	1100 South Oakdale Avenue
SFR-6/H	1101 South Oakdale Avenue
SFR-6/H	1108 South Oakdale Avenue
SFR-6/H	1113 South Oakdale Avenue
SFR-6/H	1114 South Oakdale Avenue
SFR-6/H	1120 South Oakdale Avenue
SFR-6/H	1121 South Oakdale Avenue
C-SP/H	517 West 10th Street
SFR-10	511 Dakota Avenue
SFR-10	516 Belmont Avenue

GENEVA-MINNESOTA HISTORIC DISTRICT

C-S/P	801 East Main Street
C-S/P	815 East Main Street
C-S/P	8 Geneva Street
SFR-6	15 Geneva Street
SFR-6	16 Geneva Street
SFR-6	19 Geneva Street
SFR-6	21 Geneva Street
SFR-6	22 Geneva Street
SFR-6	27 Geneva Street
SFR-6	28 Geneva Street
SFR-6	31 Geneva Street
SFR-6	32 Geneva Street
SFR-6	35 Geneva Street

SFR-6	38 Geneva Street
SFR-6	101 Geneva Street
SFR-6	104 Geneva Street
SFR-6	105 Geneva Street
SFR-6	108 Geneva Street
SFR-6	109 Geneva Street
SFR-6	112 Geneva Street
SFR-6	113 Geneva Street
SFR-6	Geneva Street Roadbed
SFR-6	813 Minnesota Avenue
SFR-6	819 Minnesota Avenue
SFR-6	821 Minnesota Avenue
SFR-6	822 Minnesota Avenue
SFR-6	826 Minnesota Avenue
SFR-6	828 Minnesota Avenue
SFR-6	829 Minnesota Avenue
SFR-6	830 Minnesota Avenue
SFR-6	831 Minnesota Avenue
SFR-6	832 Minnesota Avenue
SFR-6	836 Minnesota Avenue
SFR-6	839 Minnesota Avenue
SFR-6	31 Crater Lake Avenue
SFR-6	35 Crater Lake Avenue
SFR-6	101 Crater Lake Avenue
SFR-6	103 Crater Lake Avenue
SFR-6	107 Crater Lake Avenue

1B LIST
POTENTIALLY SIGNIFICANT HISTORIC RESOURCES
CITY OF MEDFORD

NOT LISTED ON THE HISTORIC REGISTER OR IN A HISTORIC DISTRICT

	HISTORIC NAME	ZONE	ADDRESS
*	American Fruit Growers Warehouse	C-G/CB	102 South Fir Street
	David Holmes House	SFR-4	6 North Modoc Avenue
	Earhart House		945 North Riverside Avenue
	H. Fluhrer House		Portland Avenue
	Hiron Tripp House	C-S/P	11 Tripp Street
*	J.F. Erickson House	C-S/P	231 South Holly Street
	Jackson School	SFR-10	630 West Jackson Street
*	Lewis C. Jenkins House	C-S/P	205 South Holly Street
*	Older Tire Service - Firestone Tire & Rubber		202 South Riverside Avenue
	Powers House & Carriage House	SFR-10	101 Portland Avenue
	Roberts House	SFR-4	1815 Crown Avenue
	Sheppard-Muirhead House	SFR-4	2003 Hillcrest Road
*	Smith-Dynage Lumber Co.	C-G/CB	102 South Fir Street
*	Stoddard-Evanson Duplex	C-S/P	240 South Grape Street
*	Thomas Apartment House	C-S/P	108 South Grape Street
	United Grocers Warehouse		40 East Tenth Street
*	W.G. Gannaway House	C-S/P	232 South Grape Street
*	William Ulrich Rental	C-S/P	141 South Holly Street
*	Wilson Court Apartments	C-S/P	122 South Grape Street
	“Stone” House	SFR-6	1202 East Main Street

* Listed on the *“Survey of Historic & Cultural Resources - Downtown Commercial Area - Phase I and Phase II”* as a primary resource.

SIGNIFICANT HISTORIC RESOURCES
MEDFORD URBAN GROWTH BOUNDARY

HISTORIC NAME	ADDRESS
Robert Vinton Beall House	1253 Beall Lane
Bear Creek Orchard Packing House	2518 South Pacific Highway
Leonard Carpenter House	2895 Hillcrest Road

SIGNIFICANT HISTORIC RESOURCES
NEAR MEDFORD URBAN GROWTH BOUNDARY
(LISTED ON THE NATIONAL REGISTER)

HISTORIC NAME	ADDRESS
Prescott Park Facilities (City of Medford Owned)	Roxy Ann Butte
Frederic E. Furry House	1720 North Phoenix Road 371W33 1000 1,500 feet Southwest of Coal Mine Road - North Phoenix Road Intersection
Hillcrest Orchard Historic District	3285 Hillcrest Road
John W. Merritt Store and Residence	117 East Pine Street, Central Point 372W10AA 200
Conro Fiero House (Mon Desir Restaurant)	4615 Hamrick Road, Central Point 372W01B 4000 West of Table Rock Road

APPENDIX C

Medford Local Wetlands Inventory and Locally Significant Wetland Determinations

The document *"Medford Local Wetlands Inventory and Locally Significant Wetland Determinations, September 2002"* prepared by Wetland Consulting of Portland, Oregon was adopted by the Medford City Council on April 17, 2003. This document was prepared and adopted pursuant to Goal 5 of the Oregon Statewide Planning Goals and the Oregon Revised Statutes (ORS). The Locally Significant Wetlands are considered "Goal 5 Significant Resources".

The contents of the document, including the Local Wetland Inventory (LWI) maps, are on file in the City of Medford Planning Department. The Local wetland Inventory Maps are also available for viewing on the City of Medford website (www.ci.medford.or.us) under the Planning Department.

The document contents include:

APPENDIX C - Medford Local Wetlands Inventory and Locally Significant Wetland Determinations - Continued

Tables

Figures

Appendices

APPENDIX D
ENVIRONMENTAL AGENCIES, LAWS AND REGULATIONS

Biology, Water Resources, Wetlands

Oregon Department of Fish and Wildlife (ODFW)
District Office
1495 Gregory Road
Central Point, OR 97502

Oregon Division of State Lands (DSL)
775 Summer Street NE
Salem, OR 97301
(503) 378-3805

Oregon Department of Environmental Quality (DEQ)
Western Region - Medford
201 West Main Street #2D
Medford, OR 97504
(541) 776-6010

Federal Endangered Species Act (1973)
50 CFR 402
Requires the protection of federally-designated threatened and endangered animal and plant species. Avoidance of taking individuals or jeopardizing populations is required. Agencies are required under Section 7 to consult with appropriate federal resource agencies before taking action.

Oregon Endangered Species Act (1987)
OAR 603-73... and 496 et seq.
Establishes a program for the protection and conservation of wildlife and plant species that are threatened or endangered. Requires state agencies to inventory populations on state lands and establish protection and conservation programs.

Waterway Habitat Policies
ORS 496...506... and 635...
Various Oregon statutes that charge Oregon Department of Fish and Wildlife with the protection of fish and wildlife habitat.

Executive Order 11990 and U.S. DOT Order 5660.1A (1977)
23 CFR 777
Declares that it is the policy of the federal government to avoid new construction in wetlands and to minimize their destruction.

Clean Water Act (1972, 1977, 1987)

33 USC 1251, 1342, & 1344 and 33 CFR 230 and 40 CFR 131
This umbrella legislation covers the protection of waters of the U.S. including wetlands. It establishes various programs, such as the National Pollution Discharge Elimination System (NPDES), an indirect source control program, the 404 Process, and permitting programs for controlling pollution and fill in wetlands and deep water habitat.

Oregon Removal-Fill Law
ORS 196.800-196.990
Regulates the removal of material from the beds and banks of, and the filling of the waters of the state.

Oregon Freshwater Wetland Compensatory Mitigation Rules
OAR 141-85-005 through 141-85-690
Regulates the removal of material from the beds and banks of, and filling of the waters of the state, including wetlands. Requires a review for avoidance, need, and mitigation of effects of fills and removals, particularly in wetlands.

Executive Order 11988 and Location and Hydraulic Design of Encroachments on Floodplains
FHPM 6-7-3-2 (1984)
Requires Federal agencies to avoid adverse impacts associated with the occupancy and modification of floodplains. They must further avoid support of floodplain development wherever there are practicable alternatives.

Executive Memorandum on Environmentally Beneficial Landscaping (1977, 1979)

Oregon Standards and Criteria for Stream-Road Crossings
ORS 498.351 and ORS 509.605

Cultural, Social, Land Use, Aesthetics

Oregon State Historic Preservation Office (SHPO)
1115 Commercial Street NE
Salem, OR 97310-5001
(503) 378-5001

Executive Order 11593 and National Historic Preservation Act (1971)
36 CFR et seq. and 36 CFR 66
Establishes national policy to identify and protect cultural resources, and historic and archaeological sites. Requires agencies to inventory significant properties and address impacts. Requires concurrence of State Historic Preservation Officer and the President's Advisory Council on Historic Places before commencing with actions that may cause impact.

Native American Graves Protection and Repatriation Act (1990)
43 CFR 10
Gives rights to lineal descendants and Native American tribes regarding human remains, funerary objects, sacred objects, or objects of cultural patrimony with which they are affiliated. This and other legislation give a high degree of control to Native Americans over archaeological site

mitigation and protection.

Oregon Statewide Planning Goals (1973) and Land Use Planning Program
Oregon Department of Land Conservation and Development (DLCD)
Establishes Oregon's land use planning program. Requires the identification of certain land use categories and natural resources, and the development of mechanisms for their protection. Also requires the development of agency land use coordination agreements that spell out how state agencies will pursue their missions while fulfilling the goals of the land use program.

Noise, Air Quality, and Hazardous Materials

Jackson County Health and Human Services - Environmental Health Services
1005 East Main Street, Bldg. A
Medford, OR 97504
(Air Quality) (541) 776-7318
(Open Burning Advisory) (541) 776-7007
(Wood Burning Advisory) (541) 776-9000

Rogue Valley Inspection and Maintenance (I & M) Testing Station
3030 Biddle Road
Medford, OR 97504

Abatement of Highway Traffic and Construction Noise
Federal High Way Administration (FHWA) FHPM 7-7-3
Establishes FHWA policies on noise analysis, disclosure, and mitigation. Supplies noise abatement criteria. Directs the sharing of information with local government officials for use in planning and design.

Clean Air Act, (1970, last amended 1990), EPA/DOT Conformity Guidance, Air Quality Conformity and Priority Procedures for Use in Federal-Aid Highway and Federally-Funded Transit Programs (1984)
42 USC 7401 et seq., FHPM 7-7-9
The Clean Air Act established a national policy on controlling air pollution. The 1990 Amendments to the Clean Air Act attempt to limit air pollution through changes to industrial operations, advanced control technologies, and community action.

Oregon Air Pollution Control Laws
OAR 340-20-710 et seq.

City of Medford Comprehensive Plan
Economic Element
(Text Only)
Adopted May 5, 1994

INTRODUCTION

The purpose of the "Economic Element" of the Comprehensive Plan is to determine the city's economic goals and policies concerning commercial and industrial development within the city and urban growth boundary. In order to make these determinations, the first four parts of the Element, which will be referred to collectively as the Economic Opportunities Analysis, are devoted to analyzing the past, present, and future economic opportunities for the city and surrounding region. The final part of the "Economic Element" outlines the city's economic goals and policies that will guide the city through the next planning period.

The Economic Opportunities Analysis is broken down into four sections. The first section primarily discusses trends in employment. It includes a history of the region, followed by national, state, and local trends of the past decade. The second section is an inventory and analysis of vacant land within the city and urban growth boundary, which is currently designated for commercial or industrial development. The third section examines future commercial and industrial land needs based on the preceding discussion on trends, as well as, on past absorption rates of land in various categories. Finally, the fourth section reviews the comparative advantages and disadvantages for economic development in Medford.

This entire element is based on the requirements of the Oregon Administrative Rules, Chapter 660, Division 9, and as near as possible, follows the format outlined within that division.

THE TRENDS

This section is intended to aid in determining the economic future of Medford by examining past trends. It begins with an account of Medford and the surrounding area's history, and is followed by a discussion of national, state, and local employment trends and other economic trends that have been important to Medford during the past decade.

MEDFORD'S ECONOMIC HISTORY

Medford's economic history is one highlighted by the search for gold, the development of major natural resource-based industries involving forest products and agriculture, and the evolution of the area as a major tourism center. As early as 1850, the settlement potential of the fertile land in the Rogue River Valley was recognized by the forty-niners on their way to the California gold fields. Soon thereafter, gold was discovered in Jackson County itself. The mining boom that resulted gave way eventually to the more stable economic bases of agriculture and lumber, which remain important elements in Medford's livelihood today.

One of the most exciting periods in Jackson County history was the gold mining boom. The area's "gold rush" lasted from 1850 to 1856. In 1851, the area's three houses provided residences for pilots of the ferryboats that carried early pioneers across the Rogue River. In 1852, gold placers

were discovered. The settlers' population in the Valley numbered 28 in January 1852, but by March of that year had increased to 150. With the arrival of summer in 1852, the local population had soared to include 1,000 miners who were new residents of the Rogue Valley.

Jacksonville was the center of trade activity for the area's economy during this period. Prosperity that accompanied the gold rush was apparent. In 1884, a Wells Fargo agent testified to having forwarded $10,000,000 worth of gold from the company's Jacksonville office during the preceding two decades. He estimated that at least that much more had gone out of the area in other ways. Meanwhile, some settlers began planting crops, and moved to take advantage of the bountiful resources of the surrounding timberlands. In 1852 the area's first lumber mill was built. By 1854 there were two flouring mills in operation, processing wheat and other grains planted by those hoping to make a living supplying the demand of the miners for basic staples.

In 1855, Jackson County was the most populous and wealthiest county in the region of the Oregon Territory that would, four years later, become a state. The “boom” prosperity brought by mining was destined to be short-lived, however. Marked declines in annual mining income and shipments were apparent as early as 1860. As miners left the area, the economy began to change. Without the market created by the miners residing in the area, the local demand for wheat fell. The farmers' markets deteriorated because of the lack of transportation to export goods to other markets on the West Coast. Farmers recognized that maintaining their incomes would require cultivation of higher-priced crops as the mining boom slowed. As a result, wheat was replaced by apple and pear orchards, many of which were planted in the following two decades.

By 1884, the Medford settlement had grown into a community of some note in the region. According to an account written that year, there were about 40 wooden buildings, and the foundations of a brick building “of considerable size” were laid. Up until this time, Jacksonville continued to serve as the trade center for the Rogue Valley. When the railroad came to southern Oregon, however, Jacksonville was bypassed. The decision was made to create a formally-established town at the middle ford of Bear Creek. The town was named by a railroad engineer from Medford, Massachusetts. Thus, in 1884, the town of Medford was incorporated, although residents of Jacksonville continued to refer to their new neighbor as “Chaparral City.” Medford was to become the outbound shipping point for the agricultural and forest products of the Rogue River Valley. During the next few years, the community began to take shape. By 1885, a school, a newspaper and a railroad station were in operation. In 1888, $5,000 worth of bonds were sold to finance a fire water main, sewerage, purchase of fire apparatus, and the construction of a reservoir.

Another boom in growth and development began in Medford in the “Gay Nineties” and lasted until the Depression. In 1890, 967 persons lived in the town. By 1906, nearly 3,000 people lived in what had become the home of many wealthy easterners eager to invest in pear orchards. The same year marked the first effort to secure an integrated irrigation system for the area. This, along with the completion of the Pacific and Redwood Highways, marked the direction Medford had taken after the gold boom ended.

In 1909, the Medford Commercial Club (forerunner of the Chamber of Commerce) published a brochure urging young men at universities on the East Coast to come west to a valley of fertile soil, beautiful scenery and wildlife, mountains with gold, copper and coal, and "a contented, progressive people." Farmers claimed to clear $500 - $1,500 an acre yearly. Meanwhile, families on their way to California were urged by Union Pacific men to first consider the Rogue River Valley.

With the completion of the Gold Ray Dam in 1903, the city's inhabitants were assured a reliable supply of electricity. Rogue River Electric merged with Siskiyou Power and Light in 1913 to become the predecessor to Pacific Power & Light. In 1910, Main Street was paved. Medford pears were bringing premium prices in the markets of New York and London. The many orchards planted in response to these prices caused a short-term oversupply of pears. More export markets were developed and pear farming flourished. The shipping of fruit, in turn, created a demand for wooden boxes, and the expanding population needed housing. Pine and fir mills were built to provide the needed lumber. In the early 1920s, lumber businessmen arrived from the south with established lumber manufacturing businesses. Among them was James Owen, who established the Owen-Oregon Lumber Company, the predecessor of today's Medford Corporation.

The twenties roared in Medford as elsewhere. The population was nearly 11,000 by 1930, a 92 percent gain from the resident tally a decade earlier. In 1929, the 3,660 carloads of pears that were shipped represented more than a fourfold increase during the decade. A total of $12,000,000 worth of various products was shipped in 1929, including 4,000 carloads of lumber. By this time, 21 fruit packing and exporting firms and five modern cold storage plants were in operation. There were 11,700 acres of pear trees in the district that year, which accounted for four-fifths of the world's production capacity of Bosc pears.

The county seat had been moved to Medford from Jacksonville in 1926. An airport serving the city and Rogue Valley was completed in 1930, one of the first in the state. Medford was advertised in travel brochures as the heart of the southern Oregon recreation district, within a few hours' drive of Crater Lake, Diamond Lake, Crescent City, and numerous other tourist attractions. Throughout the 1920s, the community prospered. Medford had four major banks with deposits of more than $7 million. The city also boasted five "modern" theaters, four with talking picture equipment. The town had established a reputation for being progressive, with plenty of diversions to attract both wealthy residents and tourists.

The lumber business did well during the post-World War I building boom of the early 20s, but construction activity had slowed by 1927. In addition, the premium prices of the past ten years had created more competition within the industry. Difficulties in maintaining and expanding markets were compounded by the stock market crash in 1929, which marked a sharp decline in the demand for housing. The fruit industry suffered as well during the Great Depression. Harry and David, one of the area's major fruit processors, rescued their operation in 1933 by creating a new market for their products with gift packages. This proved to be a lucrative solution. Harry and David is, to this day, world famous for its gift packages.

The onset of World War II brought another surge of prosperity and technology to the lumber industry. Several new factors began to affect the forest products business. By 1944, much of the

lumber came from federal timber holdings. At the same time, railroad logging had become outdated and was supplanted by the increased use of logging trucks. The market for lumber continued to be strong after the war as the demand for housing, stifled during the war, rose. This demand, for the first time, exceeded supply - many areas had been overcut during the war. Despite short term difficulties, the lumber and wood products industry continued its dominance of the area's manufacturing sector.

Between 1940 and 1958, the population in Medford again doubled to more than 23,500. A brochure published by the Jackson County Chamber of Commerce in 1958 listed Medford's attributes as a growing city. Effective buying income in the city was $1,717 per capita, compared to a $1,601 state average. New construction projects were underway to remedy a slight housing shortage. Bank deposits totaled nearly $51 million and loans exceeded $22.7 million. The community was in a stage of development that would allow the business and commercial sector to establish the growth patterns that persist today.

During the 1960s, the lumber industry was forced to diversify its production base to more fully utilize the available timber. Plywood mills sprang up, and a growing volume of wood chips was exported to Japan. The emergence of new industries also began to influence the community during this time. Firms from the urban centers of California, the Mid-West, and the Atlantic seaboard states began to recognize that the Pacific Northwest offered a desirable “quality of life” and could still provide ready access to western markets. This attraction drew many new firms of varying size and production to the region. The Rogue Valley shared in this popularity and became a favorable locale for immigrants.

Tourism, strong on the heels of national prosperity, drew increasing numbers of visitors to the area. Completion of the Interstate through Medford in the mid 60s further enhanced this trend creating more jobs for local residents. Today, tourism continues as a key element of the economies of Medford and the Rogue Valley.

In the past, the commercial sector of the community's economy functioned mainly in support of the manufacturing and industrial sectors. This changed during the 1960s. As with the nation as a whole, rising incomes set the stage for a decade of growth in trade and commerce, particularly in the service industries. By 1970, Medford had established a solid position as the commercial center for the Rogue Valley, as well as a broader market area that reached into northern California and north toward the Willamette Valley.

By the end of the 1960s, the evolution of the area economy away from its historical roots was solidly underway. The wood products industry, however, again brought a boom to the area. This occurred as a result of low interest rates, which encouraged a strong long-term demand for housing nationwide. A forty percent growth in the population of Jackson County during the 1970s further fueled the demand for goods and services, but the nationwide recession that began in 1979, brought evidence that the area was still too heavily reliant on the timber industry. The early 80s saw a high unemployment rate, as people began to leave the area in search of jobs. Only continued growth in the retired population, drawn by the excellent health care services and quality of life, kept the area from losing population between 1979 and 1982.

The following discussion examines the period from 1983 through 1993 in more detail.

NATIONAL, STATE, AND LOCAL TRENDS

TRENDS IN EMPLOYMENT

To discuss the national, state, and local trends affecting commercial and industrial development within the City of Medford during the past decade, three tables are used, indicating employment in various categories. The tables are for the United States (1A), Oregon (1B), and Jackson County (1C). All three tables display the total number of people employed in each category for the years 1980 and 1990. As the population increases, as it has for all three geographic areas being considered, the number of people employed in each sector also generally increases. Therefore, a more meaningful statistic to consider when comparing different years is the percent of the total number of people employed in each industry. The tables include this percentage as the market share for each category of employment.

The final column in each of the tables indicates the percentage point change in the market share of employment for each category. This final column from each table has been used to produce Chart 1. Chart 1 is a graphic representation of the relative changes that have occurred in employment within each of the geographic areas being discussed. It can be used to obtain a quick comparison of changes in each industry and geographic area.

The table for the United States was derived using the 1991 Statistical Abstract, and the September 1992, Monthly Labor Review. In both cases, the data was collected by the U.S. Bureau of Labor Statistics. The data for Oregon and Jackson County is from the State of Oregon Department of Human Resources, Employment Division, and can be found in their yearly publication called Business and Employment Outlook. In all cases, the data included only those employees who were on a payroll covered by state or federal unemployment insurance. The data did not include anyone who was self-employed, nor did it include employees in the agricultural sector due to its highly seasonal nature.

Chart 1 Manufacturing

In both the United States and Oregon, the market share of jobs in the manufacturing sector (goods production) decreased substantially between 1980 and 1990. In the United States, it went from 22.53 percent to 17.41 percent, and in Oregon it went from 20.59 percent to 17.60 percent. There are two primary reasons for this trend. One is the availability of low wage production workers in foreign countries resulting in the exportation of jobs outside the country. A second reason for the decrease in the number of people employed in the manufacturing sector is the increased use of automation causing a decline in the number of workers required to supply the same product.

In Jackson County, the share of manufacturing jobs decreased slightly less than that for the Nation and the State between 1980 and 1990, with the most notable decrease in the category of Lumber and Wood manufacturing. As noted previously, this region has traditionally relied on the timber industry as a primary source of income for the area. The timber industry is, therefore, referred to as

a “basic industry” or “income-generating” industry. The other sectors which primarily respond to the needs of the workers employed by the basic industry are referred to as “non-basic” industries. In the past, when the demand for one of the area's basic industries (such as lumber) fell nationally, the area generally saw a decline in activity in all non-basic sectors of the economy. This occurred because other sectors were dependent on the basic industry for income generation. A decline of this nature was particularly evident in the early 80s when interest rates rose, causing a slump in new home construction nationally, and a coinciding decrease in the demand for lumber.

As with other industries in the manufacturing sector, the trend toward automation has cut down on the number of workers employed by the timber industry through the years. More recently, however, the decline in the number of jobs in the timber industry has resulted from a decrease in the supply of federally-owned timber due to previous harvesting techniques and an attempt by environmentalists to preserve stands of old-growth timber by having the Northern Spotted Owl listed as an endangered species. Thus, there is less timber available for harvest, and much of what is left is being protected as owl habitat.

The reason there has not been an even greater decrease in the share of jobs in the manufacturing sector in Jackson County is that manufacturing industries outside of the primary timber industry have grown. There has been a shift towards the manufacture of secondary wood products, meaning that, rather than shipping raw logs out of the area for production of finished products, there has been an effort to produce more finished wood products locally. Other manufacturing industries in the Rogue Valley which grew notably during the 1980s were electronics-related industries producing scientific and measuring equipment, industries involved in printing and publishing, and fabricated metals and machinery production. These are all included in the categories “other non-durable” and “other durable,” both of which increased slightly during the decade in Jackson County. Such was not the case statewide or nationally, however, as both the state and nation saw a decrease in all categories of manufacturing including the “other durable and non-durable” categories.

Service Sector

In the non-manufacturing (service producing) sector, there was an increase in the market share of jobs nationally, statewide, and locally. The greatest contributor to the increase was the service category which includes personal, business, health, amusement and recreation, legal, social, educational, auto, and miscellaneous repair services, as well as hotels and other lodging places. The service sector employment increased its market share by 6.13 percent nationally, 5.34 percent statewide, and 4.58 percent in Jackson County. As a result, it has been said that the country is moving away from a manufacturing economy to that of a service economy.

Medford contributed a great deal to the increase in service sector employment in Jackson County due to the broad array of services that satisfy the needs of the regional population, particularly in the health services field. In 1990, according to the August 1991 Labor Trends Newsletter from the Oregon Employment Division, 36 percent of all service jobs in Jackson County were in the health services field. Most of these jobs were located at the two major medical facilities in Medford - the Rogue Valley Medical Center and Providence Hospital. The Rogue Valley Medical Center is the largest medical facility between Eugene and San Francisco employing over 1400 people (91-92

Chamber Directory). It is expected that the health services sector will continue to attract health professionals to the area in the future, as well as those within the region in need of their services.

Trade Sector

The second largest sector to show an increase in its market share for all three geographic areas was that of trade. This category includes both retail and wholesale trade. Here the market share increases were 1.01 percent nationally, 0.54 percent statewide, and 2.06 percent in Jackson County. A partial explanation for the notable increase in trade in Jackson County is the fact that throughout the 70s and 80s, Medford established itself as a regional commercial trade center, as well as a regional service center for a market area population of approximately 350,000 people. This market area includes all or parts of seven (7) counties in northern California and southern Oregon.

Prior to the development of the Rogue Valley Mall, leakage to other regional trade and service areas like Eugene, Portland, and, in some cases, the San Francisco area, occurred. However, with the construction of the Rogue Valley Mall in 1986, the draw to Medford became even stronger as a big jump in retail employment and sales occurred in the valley. According to the 1987 Census of Retail Trade, Jackson County had more than one billion dollars worth of retail sales in 1987 and ranked third in the state for retail sales per resident. At $7,400 per person, Jackson County was 18 percent above the state's per capita retail sales figure of $6,253 per person.

After the development or redevelopment throughout the 80s of facilities like Fred Meyer\Poplar Square, and Medford Center, other major retailers began to recognize the market potential in Medford. A Target store located in Medford in 1990, followed by a Costco in 1991. Wal-Mart opened on the north end of town, and an Ernst opened on the south end of town in late 1993. A second Fred Meyer store is also scheduled to open on the south end of town in early 1994. In addition, a factory outlet facility has opened in another city just south of Medford. This activity could attract even more people to shop in Medford that would not normally come to the area.

Government Sector

There was a decrease in the market share of government employment in all three geographic areas. In the United States, there was a drop of 1.37 percent. For Oregon the decrease was 1.6 percent, and in Jackson County the market share went from 21.72 percent to 17.47 percent for a decrease of 4.25 percent. While all three areas saw a decrease in market share of government employment, Jackson County experienced an actual decline in the total number of people employed in government jobs. It should be noted here that the government sector includes those employed in the public school system.

Much of the decrease in government programs during the 80s was due to national policy. While a change in administration at the federal level may cause a reverse in this trend nationally, at the state and local level the market share of government employment is expected to level off, and possibly continue to decline. Jackson County employment is expected to decline, because one of the factors which caused the significant decrease in County government employment during the 80s is still in effect. That factor is, and will continue to be, a decrease in the Oregon and California Railroad (O and C) revenues upon which the County relies heavily for operating expenses. The O and C revenues come from an old agreement whereby a portion of the money from timber cut on

land once owned by the Oregon and California Railroad, went back to the county in which the land was located. There was a drop in that revenue in the early 80s when a recession caused a decrease in the amount of logging on federally owned land, and there has since been a gradual decrease in the funds coming from that revenue source, as the amount of timber available for harvest on those lands becomes scarcer.

A second reason that there is expected to be a decline in government jobs at the local level, as well as at the state level, is the recent passage of a statewide property tax limitation initiative (Measure 5), which requires that school districts gradually decrease the amount of revenues collected from property taxes and that the state replace that money with general funds. The measure also limits the property taxes that can be collected by other local governments, so even if another funding source is found for schools, other government employment can be expected to decrease in market share.

Other Non-manufacturing Sectors

For the nation, state, and county, the category of construction and mining decreased its market share slightly, while the overall employment in that category increased between 4 and 11 percent.

The market share in the category of Transportation/Communications/ Utilities decreased slightly in Oregon and the United States from 5.79 percent to 5.15 percent and from 5.97 percent to 5.32 percent, respectively. In Jackson County, however, the market share increased in that category for a total increase in the category's employment of 31 percent. According to the Oregon Employment Division, this increase was primarily due to an increase in the motor freight and broadcasting industries in Jackson County.

FIRE stands for finance, insurance, and real estate. In this category there was a decrease in the market share of employment for both the county and the state, while the nation saw an increase in the market share for that category. Certainly, this category has been affected by deregulation, and the savings and loan crisis.

OTHER SIGNIFICANT TRENDS AFFECTING MEDFORD

The following three categories have had a significant effect on the economy of the Rogue Valley in the past. While none of the three can claim a sector in the employment tables presented earlier, a discussion of trends affecting the Rogue Valley would not be complete without mentioning them.

Agriculture

According to the U.S. Department of Commerce, the number of farms in the United States decreased from 2,440,000 in 1980 to 2,140,000 in 1990. At the same time, the average farm size increased from 426 acres to 461 acres per farm, with a decrease in the total number of acres being farmed from 1039 million acres to 987 million acres. So, while the number of farms has decreased nationally, the size of the average farm has increased. It appears that as small farms go up for sale, they are being purchased by neighboring larger farms in an attempt to boost productivity. Generally, larger farms are more cost efficient which tends to drive small-scale operations out of business.

In contrast, during the last decade, Oregon has seen an increase in the number of farms: from 35,000 in 1980 to 37,000 in 1990. While the number of acres of farmland in Oregon has remained approximately the same (18 million acres), the average size of the farms has decreased from 517 acres per farm in 1980 to 488 acres per farm in 1990. Despite the economy of scale, there is an increasing number of smaller farms being created in Oregon. This trend can be attributed to the increase in the number of 5-10 acre hobby farms being created in the Northwest in general. This trend is evident in Jackson County, although the city opposes this type of development, particularly immediately outside the city limits. The development of these 5 to 10-acre farms discourages development to urban densities once the area becomes eligible for annexation to the city, thus encouraging urban sprawl and increasing the cost of providing urban services. This trend hinders another basic effort of statewide land use law, which is to protect agricultural and forest land from development so that it can continue to be productive and play a vital role in the area's economy.

As discussed earlier, agriculture has long been an important basic industry in the Rogue Valley, particularly the growing of pears. In 1990, the Oregon State Extension Service estimated that 37 percent of the total gross farm sales in Jackson County were from tree fruits and nuts. That same year they estimated that in Jackson and Josephine County, there was a total of approximately 8,600 acres in orchards, with 90 percent devoted to the raising of pears. While this is substantially less than the 12,000 acres devoted to orchards after World War II in Jackson County alone, the pear industry continues to play an important role in the Rogue Valley economy.

Although the orchards are primarily located in the county, several of the pear packing plants are located in the city, which certainly affects the city's economy. It is difficult to estimate the total economic impact of agriculture on the area's economy, as employment in this sector is highly seasonal. According to the Oregon Employment Division, the average employment in agriculture in 1990 was about 2000 for Jackson County. However, during harvest season, between mid-August and early-October there may have been as many as 3500 employees. Another method of determining the economic importance of the agricultural sector to the area's economy is to determine the amount of income generated from farm sales. According to the Oregon State University Extension Service Economist, the income multiplier would be two to two and one-half times the total gross farm sales. In other words, for every dollar of income generated by the sales of crops and livestock, another dollar to a dollar and one half is generated in other economic sectors. In 1990 the total gross farm sales figure for Jackson County was near 53 million dollars, with tree fruits and nuts sales making up nearly half of that total.

Tourism

Medford is surrounded by many recreational opportunities, which attract tourists to the area every year. The Rogue River is famous for its fishing and boating; and opportunities for skiing, fishing, swimming, boating, hiking, and snowmobiling abound in the area. In addition, the historic town of Jacksonville - home of the Britt Festival 5 miles to the west, and the Shakespeare Festival in Ashland located 15 miles south, are only two of the areas many cultural attractions.

The number of jobs created by an increase in the number of tourists visiting an area is generally counted in service and trade sectors of the economy. This makes it difficult to determine the

market share of the number of jobs created as a result of tourism. For example, according to the Visitors and Convention Bureau, Greater Medford Chamber of Commerce 1992-1993 Marketing Plan, “In 1990, tourism accounted for just under 4600 jobs in Jackson County,” while a state tourism study indicated that in 1990, 2,438 jobs were created as a result of travel in Jackson County.

Another way to measure the impact of tourism on the local economy is to examine the growth in the transient occupancy tax revenue for the City of Medford. Revenue from this tax grew steadily from $508,697 in 1985-86 to $834,347 in 1990-91. This is a growth rate of approximately 10.6 percent per year. While some of the increase can be attributed to inflation, much of the increase can be attributed to an increase in visitors staying in lodging in the city. A second statistic that indicates that tourism to the area has been steadily increasing in recent years is the number of visitors to the Medford Visitors and Convention Bureau Information Center. In 1989, the center had 19,097 visitors. The center had 19,260 visitors in 1990, and 23,018 visitors in 1991. Since many of the attractions which bring visitors to the area are here to stay, it seems safe to assume that tourism will continue to be an important element of the area's economy.

Retirement

In the last decade, nationally, statewide, and locally there has been an increase in the number of retired people. This is partially a result of the fact that Americans are living longer. When they are no longer tied to a specific location for their livelihood, many retired people relocate to an area with a better quality of life and a lower cost of living. Medford's temperate climate and rural setting, together with its relatively inexpensive housing market and well-developed health services sector, have caused it to become a sort of “Mecca” for the retired. Attracted originally by the area's numerous cultural and recreational opportunities, many retirees have decided to make Medford their permanent home. Between 1980 and 1990, according to the Bureau of the Census, the number of people 65 and over living in Medford went from 5,431 to 8,166, an increase of over 50 percent.

At the same time, the over 65 population of the United States increased from 25,549,000 to 31,224,000; an increase of only 22 percent. While both are noteworthy increases, considering the general population of the United States increased by only 10 percent, the increase is particularly outstanding in Medford. As a result, Medford has been discussed by several major business magazines as a growing market for retirees. As the baby-boom generation (those born between 1945 and the early 1960s) ages, this trend is expected to continue to have an increasing effect on Medford.

Many of the retirees coming to the area are bringing income with them in the form of transfer payments, and a windfall from the sale of a home in a larger city where housing costs are much higher. This trend can have the same effect on the area as that of an expanding basic industry. Both bring income from outside the area into the local economy.

FORECASTING THE FUTURE

The foregoing information can be used to project the direction the local economy is headed in the immediate future. In addition, there are several other sources for projections concerning the local economy. One is an employment forecast provided by the State Employment Division, the second

is a Target Industry Analysis published by Pacific Power in 1987, and the third is a Key Industry Analysis completed for the Oregon Economic Development Department in 1991.

EMPLOYMENT FORECASTS

The State Employment Division has published an Industrial Job Outlook table for Jackson and Josephine Counties combined. The Industrial Job Outlook table (Table 1D) projects the number of jobs by industry for the year 2000 using 1988 as the base year.

According to the Industrial Job Outlook table, the number of jobs in the durable goods producing sectors is projected to decline slightly between 1988 and 2000 with the most notable decrease being in the lumber and wood manufacturing sector (-1,950 jobs). This decline will be partially offset by the increase in the number of jobs in the manufacture of other durable goods, however (+840 jobs). Employment in the manufacture of non-durable goods will increase by 390 jobs, with the majority of the increase occurring in the sectors not involving the manufacture of food products. The number of jobs in the service producing sectors are projected to increase in all sectors with the most substantial increases occurring in trade, which includes both retail and wholesale trade, and in the service sector, which includes the health care services.

TARGET INDUSTRY ANALYSIS

A target industry analysis is a report the purpose of which is to determine the industries most likely to relocate to an area, and to prioritize industries for economic development targeting. A target industry analysis was completed for the South Cascades Area by Pacific Power in 1987.

In this analysis, a list of the industries (primarily manufacturing industries) forecast to be the fastest growing in the nation was analyzed to determine which of them would be most likely to relocate or expand in the region. The focus was on industries whose products were imported into the area, industries that exist locally at the present time and whose products are exported out of the area to markets that are expected to grow, and industries whose primary production inputs were available locally, although the industries may not be represented locally at the present time. From the national list, 165 industries had potential in the South Cascades area. Twenty-two of those were included in the top priority group, and are as follows:

Electronic Components
Radio and TV Communications Equipment
Special Dies, Tools, Accessories
Toys and Sporting Goods
Measuring and Control Instruments
Plating and Polishing
Miscellaneous Plastic Products
Cheese, Natural and Processed
Surgical and Medical Instruments
Special Industry Machinery
Electronic Computing Equipment
Fabricated Metal Products
Engineering and Scientific Products
Photographic Equipment and Supplies

Electric Measuring Instruments
Dental Equipment and Supplies
Boat Building and Repairing
Aircraft Parts and Equipment
Fabricated Structural Metal
Trucking and Warehousing
Pumps and Compressors
Tourism
Retirement Developments

For a more thorough explanation of the targeted industries and methodology used in determining them, please see the Pacific Power Target Industry Study for the South Cascades, 1987.

KEY INDUSTRY ANALYSIS

A Key Industry Analysis was completed in August 1991 for the Regional Strategies Program of the Oregon Economic Development Department. While the primary purpose of the analysis was to understand possible development partnerships with neighboring counties, the analysis can also be used to give cities in Jackson County an idea of the types of industries to target for relocation and expansion based on the types of industry currently in the county and the average wages that accompany the industry.

The Key Industry Analysis included a ranking of the ten industries employing the largest number of people in Jackson County by standard industrial classification. In 1990, in descending order, they were 1) Lumber Products Manufacturing, 2) Health Services, 3) Eating and Drinking Establishments, 4) Miscellaneous Retail, 5) Food Stores, 6) General Merchandise Stores, 7) Automotive Dealers and Service Stations, 8) Wholesale Trade, 9) Business Services, and 10) Trucking and Warehousing.

The analysis also ranked industries in Jackson County by average earnings per job. In descending order, the top ten were 1) Holding and Other Investment Companies, 2) Security and Commodity Brokers, 3) Fishing, Hunting, and Trapping, 4) Electric, Gas, and Sanitary Services, 5) Paper Manufacturing, 6) Chemical Manufacturing, 7) Petroleum Refining and Related Products, 8) Communications 9) Lumber Products Manufacturing, and 10) Trucking and Warehousing.

Unfortunately, other than the category of lumber products manufacturing which is the sector from which Jackson County is losing the most jobs, the industries with the greatest number of employees in the county tend to be the ones providing lower-paying, part-times jobs. The highest paying jobs in Jackson County and Oregon, as a whole, tend to be in the value-added or income-generating sectors. The analysis therefore, concluded, that “at all levels of economic activity.... secondary processing or value-adding operation will be critical to Oregon's economic success.”

CONCLUSION

Medford, while still somewhat dependent on timber and agriculture, is moving away from its historical reliance on these two sectors for income generation. Instead, the area is becoming more

dependent on services and trade as it has assumed the role of a regional trade and service center for northern California and southern Oregon. As a result of this shift, Medford is finding that more and more of the new jobs created in the area are in lower paying service and retail jobs, while many of the higher paying manufacturing jobs are being lost. Only jobs in the health services field have average earnings per job similar to that earned by those employed in the timber industry.

Service and trade jobs in a community are generally dependent on the size of the population that the area serves, and as such, are considered non-basic industry. The seven county area served by Medford is projected to grow in the future; therefore, it is predicted that employment in these non-basic sectors will grow.

Basic industry is industry that brings income to an area, and has traditionally relied on the natural resources of an area. In the past, primary basic industries in the Rogue Valley have been timber and agriculture. Due to decreases in the availability of the natural resources needed for these industries, as well as the availability of automation, employment in these sectors is declining. Tourists and retirees are expected to continue to bring income into the area; however, much of the money that is brought to the Valley is retained only in the form of minimum wage jobs, while the remainder goes out of the area to pay producers, distributors, and stockholders.

In the past it has been a goal of the city to diversify and strengthen the mix of economic activity in the local marketplace and provide employment opportunities for local residents. If this is to continue to be a goal of the city, there will need to be more emphasis placed on encouraging basic industry, which is income-generating, value-adding, and higher-paying to expand and locate in the Valley. The country as a whole is seeing a decline in the number of manufacturing jobs, and as will be discussed in the section on site requirements, heavy industry moving to the valley is focusing in the White City area. As a result, Medford will no doubt see its greatest rewards in attracting services, information-processing industry, and light manufacturing.

INVENTORY OF VACANT AND UNDERUTILIZED LAND

The City of Medford Planning Department keeps a detailed land use inventory for all properties within the city and urban growth boundary. The function of the Land Use Inventory (LUI) is to provide the most current and accurate land use information possible for each tax lot. In the past, maintaining a land use inventory required many hours of staff time for the field collection, recording, summarizing, and mapping of land use information. The most recent evolution of the LUI database has been designed to use information from the County Assessor's records.

The City of Medford relies on a two-map system. The General Land Use Plan (GLUP) Map, and its associated designations, outline general industrial, commercial, and residential land use classifications. The second map is the zoning map. The zoning map indicates the specific zoning district for each parcel.

This inventory of vacant and underutilized land concerns only the General Land Use Plan Map designations for commercial and industrial uses. These designations are service commercial, commercial, general industrial and heavy industrial. There are three additional GLUP map designations, which fall into the commercial and industrial categories. Since the number of vacant

and underutilized lots within these designations is very limited, they are included with the primary designations as follows: Regional Service Center designation under Commercial, Airport designation under General Industrial, and City Center designation under Commercial. As it turns out, there are no vacant or underutilized parcels in the City Center designation. For an explanation of the purpose of these designations, please see the descriptions of the map designations located in the "General Land Use Plan Map" element of the Comprehensive Plan.

Table 2A, then, is an inventory of vacant and underutilized service commercial, commercial, general industrial, and heavy industrial land within the city and urban growth boundary as of January 1993. These parcels are divided into Medford Area Transportation Sectors (MATS) to identify where the parcels are located. (Refer to MATS map on page 17.) A parcel is considered vacant if the property classification, as determined by the Jackson County Assessor's Office, ends in a 0. A parcel is considered underutilized if the property classification is 291 or 391, indicating that the parcel is improved with potential for further development. In some cases parcels were deleted manually from the vacant lot inventory even though they were included in the inventory based on their property classification, e.g., Alba Park, and various parcels upon which the airport is located.

It should also be noted that this inventory is based on data supplied by the assessor's records, and as such, a parcel is considered vacant until a certificate of occupancy has been issued by the Medford Building Safety Department. Therefore, in some cases, a project may be in the planning or construction stages while the parcel is still listed in the vacant lot inventory. An attempt has been made to point out parcels that have already been slated for development at the time of this writing.

For each category of land use, all vacant parcels and underutilized parcels one acre and larger have been inventoried and mapped, as required by Oregon Administrative Rules Chapter 660, Division 9. In addition, all vacant and underutilized parcels one-quarter acre and larger have been inventoried and mapped for land in the service commercial designation (Table 2B), as the city felt that smaller vacant and underutilized parcels in that land use category could be used efficiently. The inventory map is on file with the City of Medford Planning Department.

SERVICE COMMERCIAL LAND INVENTORY

There are currently 3 vacant lots and 1 underutilized lot over .99 acre designated for service commercial use. The total acreage when considering land over .99 acre in size is 8.18 acres. The two largest parcels, totaling 5.26 acres, are located in the medical park at Providence Hospital, and are probably, therefore, already committed to the development of medical offices or labs. All of this land is within the city limits. There is no service commercial land designated within the urban growth boundary.

As stated before, the service commercial designation is the one designation where it makes sense to also consider vacant land over .24 acres. This is because the service commercial classification is the one classification of commercial or industrial uses best able to efficiently utilize small parcels of land. Table 2B is a table similar to Table 2A, which lists all land use designations by MATS cell number, except Table 2A only lists parcels over .24 acres in the service commercial designation. When considering parcels over .24 acres in size, the number of parcels in the service

commercial designation increases significantly to 65, with the total acreage increasing to 36.1. The majority of these parcels are in the southeast quadrant of the city (MATS cells 3 and 4) along Barnett Road, and in relatively close proximity to the Rogue Valley Medical Center. Another noteworthy concentration of service commercial parcels is in MATS cell 6, near Royal Avenue and McAndrews Road, close to Providence Hospital. There are also quite a few small (under one acre) underutilized parcels scattered along East Main Street and throughout the Central Business District.

COMMERCIAL LAND INVENTORY

There are 202.43 vacant and underutilized acres of commercially designated land within the city limits, and 293.94 acres within the unincorporated urban growth boundary, for a total of 496.37 acres of vacant and underutilized commercial land. Over half of the total vacant acres of commercial land are located in MATS cell 2, along the Interstate south of town. Approximately 50 of these acres are in the city, and are located near the south interchange.

This area is the only area in the city with the Regional Service Center designation, and it has commercial zoning. Since it is already being planned as part of the South Gateway project, it could be disregarded when considering vacant commercial land, although it is technically vacant at the time of this writing.

This leaves approximately 250 acres of vacant commercial land in MATS cell 2. All of this land is outside of the city at the present time, and is some of the only commercially designated land that was added to the urban growth boundary in 1990 when the urban growth boundary amendment was adopted. Approximately 200 acres of these parcels are contiguous and are located between the Interstate and Highway 99, just north of South Stage Road. There is also a 47.82-acre parcel on the east side of the interstate, just north of South Stage Road. The primary obstacle to development of these properties, other than their location outside of the city limits, is the inability of Highway 99 and Medford's south interchange to handle additional traffic at this time. There has been some talk of providing a third freeway interchange at South Stage Road; however, this option is not in the planning stages at the present time.

Another large concentration of vacant commercially designated land is in MATS cell 10 along Crater Lake Highway. There are 4 contiguous lots with a total of 71 acres just north of Delta Waters Road; however, a Wal-Mart store has opened on one of the 14.96-acre lots, but it has not yet been updated in the assessor's records. The remainder of parcels are within the city limits with facilities available, although, there has been some concern about the safety of adding more access points onto Crater Lake Highway. Recently a cooperative agreement for access management was approved between the city and the State Highway Division.

The remainder of vacant and underutilized commercial land is scattered throughout the city and urban growth boundary area in less than 5-acre parcels. They are primarily located along arterial streets - West Main Street west of Lozier Lane, Stewart Avenue near Myers Lane, North Pacific Highway, Riverside Avenue, Barnett Road, and Crater Lake Highway. There are only two parcels located in areas, which are currently primarily residential in nature - one at the corner of Foothill Road and Lone Pine Road, and one on Hillcrest Road East of the Skycrest Subdivision.

GENERAL INDUSTRIAL LAND INVENTORY

There are a total of 603.78 acres of vacant and underutilized general industrial land within the city and current urban growth boundary. Approximately two-thirds, or 405.48 of those acres, are within the city. There are a total of 127 parcels within the general industrial designation, and all of those parcels are located within MATS cells 10, 11, and 12, which surround the Medford-Jackson County Airport. There have been no servicing problems identified for any of the parcels except for the possible inability of the north freeway interchange to handle significant additional traffic at this time. However, industrial uses are not normally heavy traffic generators.

HEAVY INDUSTRIAL LAND INVENTORY

The amount of vacant and underutilized heavy industrial land within the urban growth boundary is less than half the amount of vacant and underutilized land in the general industrial category, for a total of 251.3 acres. Of those, 159.14 acres (38 parcels) are within the city. The other 92.16 acres (12 parcels) are within the unincorporated urbanizable area.

The majority of vacant land in the heavy industrial category (137.45 acres) is on the west side of town near McAndrews Road and Sage Road, in MATS cells 16, 17, and 18. There are 5 parcels totaling 73.18 acres in MATS cell 11 located just northeast of the airport. All 5 parcels are within the city limits. An additional 3 parcels are located south of the city limits in MATS cell 2. These parcels are located south of Stewart Avenue along South Pacific Highway.

It should also be noted that Medco Corporation has closed its operation. As a result, an additional 200 acres could soon be added to the inventory of vacant and underutilized heavy industrial land. This land is located in the urban growth boundary, primarily in MATS cell 17.

SERVICEABILITY OF SITES

The “Public Facilities Element” of the City of Medford's Comprehensive Plan provides for short, mid, and long range public facilities projects, including plans for sewer, water, storm drain, and transportation projects. To implement these plans, a five-year capital improvement project plan is maintained by the City of Medford as part of the annual budget process. While some of the facilities may be planned and not be in place, development of public facilities projects can be accelerated to meet the needs of anticipated development. In some cases, extension and expansion of a public facility is the responsibility of the developer. Under these circumstances, the developer makes the improvement to correct the deficiency as a condition of development of the property. In addition, System Development Charges (SDC's) provide a means of paying for upgrading and maintaining these key public facilities.

In 1990, the City of Medford expanded its urban growth boundary. There were commercial and industrial properties included in this expansion. During the analysis of potential land to be included, there was a property-by-property evaluation of public facilities availability. Of the commercial and industrial lands included, there were no long term deficiencies identified that would have prohibited inclusion into the boundary.

Currently, according to the City of Medford Engineering Department and Medford Water Commission, all land within the urban growth boundary designated for industrial and commercial

development has the full spectrum of public facilities available, or can be served with minor extensions to existing facilities, except in the case of some of the city's collector and arterial streets. While developers can be required to construct local streets, and a streets system development charge can help pay for collector and arterial streets, there is an expectation that many of the existing main thoroughfares will exceed capacity in the near future as a result of new development. In addition, the Oregon Department of Transportation (ODOT) has recently expressed concern regarding commercial development at the north and south interchanges. It is hoped that by the time more land is needed for development, the street system development charge, together with coordinated efforts between the city and state, will have alleviated these problems. Work was recently completed on a transportation study for the undeveloped portion of southeast Medford, and work is progressing toward implementing the State Transportation Planning Rule, both at the local level and region wide, with the Metropolitan Planning Organization working on the required Transportation System Plan.

SITE REQUIREMENTS

The following is an analysis to be used in determining how much land will be needed in each land use category during the next 20 years. To make this determination, past land use absorption patterns are examined, and the effects of trends, as discussed in the first section, are considered. In addition to determining how much land will be needed, it is important to determine where land will be needed within each land use designation. Proper location of future commercial and industrial sites is important so that future land use patterns blend with current activities and public facilities are used efficiently.

Table 3A indicates the amount of land absorbed over the past 20 years in each of the major plan map designations. The totals for the 20-year period are broken down into 5-year increments in order to observe changes in the land absorption patterns throughout the 20-year period. The assumption here will be that the pattern of land absorption for the next 20 years will be similar overall to the land absorption pattern of the past 20 years, except where recent trends indicate otherwise.

Significant consideration was given to using employment projections and employment densities for determining the amount of land needed for the next 20 years. This was the method used in past "Economic Elements"; however, a great deal of difficulty was encountered when trying to replicate the results of the previous analysis. First of all, there are no accurate employment figures kept for the City of Medford alone. Therefore, the State Employment Division's confidential employment data for Jackson County had to be acquired and then broken down for Medford using zip codes to identify the area, and standard industrial classification to determine the use. Since some employers used zip codes outside the area for employees working within the area, the data became inaccurate. In addition, the employment figures were for employees covered by federal disability insurance, and those who were self-employed were either ignored, or their number was estimated. When the figures for this analysis were finally determined, the employment densities were so vastly different from those of the previous analysis that the method was abandoned.

While the method of determining future land needs using past land use absorption patterns is far from perfect, the data used for this analysis are readily available and easy to access using the

Planning Department's land use inventory program. For each 5-year increment a report was done listing everything built during the specified years within a certain land use designation. The program's report gives a total for the acreage used in conjunction with the building. There are several obvious flaws with this system, and these flaws are discussed in conjunction with the land use designation that is most affected by the problem. The most obvious flaw affecting all designations is that uses and zoning designations are not always consistent with the plan map designation. This necessitates another assumption, which is, that the same amount of inconsistency will occur in the future. No attempt has been made to alter the numbers to compensate for this type of inconsistency.

Based on the assumption that land in each land use category will be used at the same average rate that it has been used over the past 20 years, Table 3B has been created to indicate how many more years our current supply of land will last both within the city and within the urban growth boundary.

SERVICE COMMERCIAL SITE REQUIREMENTS

From 1973 through 1992, 53.56 acres of service commercial land was consumed within the City of Medford. Of those, 10.51 acres were used from 1973 through 1977, and 11.41 acres from 1978 through 1982. Only 7.82 acres were consumed during the following 5 years, while 23.82 acres were used in the last 5 years. This notable increase was due to the Rogue Valley Medical Center expansion in 1988.

The yearly average for service commercial use over the past 20 years, then, has been 2.68 acres. The 5-year average has been 13.39 acres. With the inventory showing that the City currently has only 8.18 acres of vacant and underutilized service commercial land, it would appear that the city is only able to accommodate 3 more years of service commercial growth. There are several things, which should be considered, however. First, this only includes vacant and underutilized land one acre or larger. If vacant and underutilized service commercial land one-quarter acre or larger is considered, the total increases to 36.1 acres giving the city over a 13-year supply. In the case of service commercial land, it seems more appropriate to consider the smaller parcels of land in the inventory, since service commercial uses can generally make efficient use of smaller parcels of land (between .25 and 1 acre). This is what generally occurs in areas where the service commercial designation is used as a redevelopment tool in decaying residential areas.

The second thing to consider is that virtually all of the uses permitted in the C-S/P zone, which is the only zone permitted in the service commercial land use designation, are permitted in the community commercial and general commercial zones. Therefore, limiting the supply of service commercial land does not necessarily limit the amount of land available for service commercial uses.

The third thing to consider is that past absorption figures will not include land that has been redeveloped, since the County Assessor data used to determine when the land was used for a certain purpose is the year the building was constructed.

The redevelopment of the downtown area following the opening of the Rogue Valley Mall in 1986

is a good example of how these last two concerns might affect our perception of service commercial land use absorption. The downtown area went through a period of decline in the mid 1980s. As with most older cities, this was a result of the development of malls and warehouse type discount stores outside the core area. The opening of the Rogue Valley mall caused quite a few vacancies prior to 1987. Medford's downtown is seeing quite a bit of redevelopment at present, partially as a result of the urban renewal effort which is helping to provide a more attractive setting and adequate parking, and also, as a result of the lower cost of office space in the downtown area. Although the primary zoning designations downtown are community commercial and general commercial, many of the old retail establishments downtown have been converted to office uses.

So without being designated as such, the downtown area is attracting service commercial uses. This trend toward locating service commercial uses in the downtown area may explain the apparent decrease in the absorption of service commercial land from 1983 through 1987. By the time the Rogue Valley Mall opened in 1986, it had created a number of vacancies in the downtown area. The vacant buildings were filled with service commercial uses, but this was not considered an absorption of service commercial land, since redevelopment was occurring.

While all this indicates that there is no absolute way of determining just how much land is being consumed or is available for service commercial uses, it seems obvious that the supply of service commercial land is not easily separated from the supply of commercial land. Since most service commercial uses are permitted in other commercial zones, there is really no need to designate a minimum amount of service commercial land. The primary purpose for having the separate service commercial designation is to be able to designate some commercial development without the intensity normally associated with a commercial designation. This has been effective near the major medical centers where there is a desire to allow only health services, and in decaying neighborhoods where the service commercial designation has been used as a redevelopment tool without causing too much of a disturbance to the nearby residences.

COMMERCIAL SITE REQUIREMENTS

According to the County Assessor's records, 320.04 acres of commercially designated land was absorbed in Medford during the 20 years spanning from 1973 through 1992. This averages out to 80 acres per five-year period, or 16 acres per year. Some 5-year periods did see more growth in the commercial sector than others. Surprisingly, the largest 2 five-year periods were from 1978 through 1987. Based on this information, the recession of the early 1980s appears to not have had much of an affect on the commercial sector. The significant use of commercial land in the period from 1983 through 1987 was, of course, a result of the construction of the Rogue Valley Mall. According to the State Employment Division, there was a decrease in employment in the commercial sector during this period, however, which can only be explained by the fact that while commercial activity in the city center was decreasing, the mall was being built and it had not added any commercial employment yet. Since malls are very land intensive due to the amount of parking included with their construction, this period shows a high absorption rate for commercial land. The coinciding increase in employment in the commercial sector came after the opening of the mall in late 1986.

According to the inventory of commercial land, there is enough commercial land within the urban

growth boundary (496.37 acres) to supply the city for the next 31 years, if commercial development continues at the same pace. It should be noted here that more land than will actually be used in a planning period should always be designated in order to allow for choice in the market. Determining how much additional land to designate requires a discussion of supply and demand economics. The more vacant land there is available, the less incentive there will be to redevelop existing areas that are underutilized. If less vacant land is available in a certain category, there will be more incentive to use land more efficiently and increase employment density, but it will also inflate the cost of land in that category, possibly causing potential employers to locate elsewhere. Therefore, the proper supply of land to create a balance between these two considerations must be determined.

There are presently 202.43 acres or a 12.65-year supply of vacant or underutilized commercial land within the city limits. Currently, new retail development is taking place while there are empty or underutilized buildings in some of the city's already-established shopping centers. This might indicate that a 12.65-year supply within the city is a little excessive, and it would be wise to constrain the supply to encourage more redevelopment.

The goals and policies of the previous "Economic Element" set forth to maintain a readily available 5-year supply of commercial land, but did not stress that it should be limited to a five-year supply. In the future, there should be an upper limit placed on the amount of vacant and underutilized commercial land available within the city.

Since there is currently an excess of commercial land within the city, there should be no hurry to annex and develop the large area of commercial land to the south along South Pacific Highway near South Stage Road. Large nodes of commercial land along a freeway or highway are necessary, and most appropriate, for the regional commercial development expected in a regional commercial center such as Medford; but the currently developing King Center and South Gateway will probably be adequate to supply the regional commercial market for the next 7 to 10 years. The large site near South Stage Road will be needed in the following 10 to 20 years, and will hopefully be served by a freeway interchange when there is a need for that additional regional commercial node.

Within the commercial land use designation, three commercial zones are allowed: General Commercial, Community Commercial, and Limited Commercial. The General Commercial zone is currently a mix of commercial and light industrial uses. Any industrial use which is permitted in the General Commercial zone is permitted in the Light Industrial zone, and sometimes in the General Industrial zone. As commercial land becomes more constrained, there is a tendency for any commercial uses, which could locate in the industrial zones to do so, particularly since the land tends to be cheaper. This thwarts any attempts to increase the efficiency of commercial land use by constraining the supply. Eliminating the General Commercial zone and permitting only heavy commercial uses in the Light Industrial zone would help to keep retail uses from locating in the industrial zones where street capacity and land use compatibility may be issues.

Although it seems appropriate to begin to constrain the supply of commercial land, there is currently a need for small parcels of vacant commercial land scattered among residential areas,

particularly in the southeast sector of the city. These small parcels would be used for limited commercial or neighborhood commercial zoning designations. These neighborhood commercial centers would help to decrease the number of vehicle miles traveled in the city by providing shopping and services for the local communities. This in turn would help to preserve street capacity throughout the city, while decreasing the amount of automobile induced pollution. At the present time, the minimum area permitted for the Limited Commercial zone is 2.5 acres. Therefore, permitting these smaller neighborhood oriented commercial parcels would require changing the minimum area of the zoning district.

In addition to creating more neighborhood commercial centers, permitting mixed land uses would help to attain the previously stated goals. This type of mixed-use has been discussed in conjunction with neo-traditional town development, and was considered as one development option in the recently completed Southeast Medford Land Use and Transportation Study. That study concluded that while a mixed-use development scenario would not appreciably affect peak hour traffic on the existing arterial and collector streets, it would have the effect of reducing overall vehicle miles traveled by reducing and shortening trips during other times of the day. A mix of land uses could be accomplished either by creating a mixed land-use zone or designation, or by permitting a mix of uses as a planned unit development.

While changes to the commercial land use designations and zoning districts make it difficult to do future comparisons of land absorption rates, there is one additional change, which should be suggested here. Most of the regional shopping centers in Medford are located in the community commercial zones, as are the shopping centers that are smaller scale and serve only the local communities. It might be best to designate areas such as the South Gateway, Rogue Valley Mall, and the King Center as regional commercial districts; while the smaller shopping centers serving the local community, such as Black Oak Shopping Center and the shopping center at Stewart and King, retain their Community Commercial designation.

In light of the above discussion, it might be best to divide the commercial land use categories into four districts concerned primarily with the size, and secondarily with the type, of service and retail establishments permitted in them. Those designations might include regional commercial, community commercial, neighborhood commercial, and service commercial, omitting the general commercial district altogether. The service commercial, neighborhood commercial, and community commercial designations would be particularly good to combine with residential uses in some areas.

One policy stated in the previous “Economic Element” concerning commercial development was to discourage strip commercial development and encourage clustered commercial nodes. This is a good policy to continue. The benefit of clustered commercial development versus strip commercial development is that it enhances the use of public transportation, and limits the number of driveways taking access onto major thoroughfares, thus reducing the chance of vehicle accidents.

GENERAL INDUSTRIAL SITE REQUIREMENTS

Over the past 20 years general industrial land has been used at an average rate of 11.39 acres per year. Since there are 603.78 acres of vacant and underutilized land within the city and urban

growth boundary, the supply of general industrial land is enough to last for 53 years.

This could lead one to the conclusion that general industrial land is cheap and plentiful in Medford, and that the supply of general industrial land should be constrained in order to encourage more efficient use of the land. However, unlike commercial and service commercial uses, industrial uses are not always dependent on being conveniently close to large populations. Therefore, constraining the supply of industrial land, and consequently, inflating the cost of industrial land within the city, will have the effect of driving industrial uses out of the city. This is particularly true, since there are attractive industrial sites very close to the city, but within unincorporated areas, i.e., Whetstone Industrial Park and White City. The lure of those areas is that there are no city property taxes.

The primary reason for an industry to locate in the City of Medford would be to gain access to city public safety services and other urban services, and to increase access to the airport, as well as increasing access to the I-5 corridor. In addition, there has been some effort made toward creating a free trade zone (FTZ) near the airport, which would allow the temporary import of parts required for the manufacture of goods intended for export, duty-free. If this occurs, locating near the airport may become even more attractive. Since industrial land within the city tends to be more expensive, the city will mainly attract those industries, which are less land intensive, and able to utilize smaller parcels of land (1 to 5 acres in size).

While there is quite a bit of vacant general industrial land within the city and urban growth boundary at the present time, there is another reason that trying to constrain the amount of general industrial land by re-designating it, is not a good idea. Most of the vacant general industrial land is surrounding the airport. While it may seem plentiful at the present time, as Medford grows it is not likely to get another airport. Therefore, no additional vacant industrial land will be available near an airport. If land near the airport is permitted to develop with commercial or residential uses, it may need to be redeveloped in the future when vacant industrial land near the airport is more scarce. Furthermore, residential and some commercial uses are not compatible with airport uses.

HEAVY INDUSTRIAL SITE REQUIREMENTS

Heavy industrial land is being used at a rate of 4.48 acres per year. From 1983 through 1987 only 1.83 acres of heavy industrial land were used for the entire 5-year period. This is not surprising since the lumber industry, a primary user of heavy industrial land, was particularly hard hit by the recession of the early 80s. During the following 5-year period, 30.06 acres of heavy industrial land was used. This can be deceiving, however, as much of the land that was absorbed within the heavy industrial designation was for light and general industrial uses, as well as some which could be considered heavy commercial, such as heavy equipment sales and mini storage warehouses.

Much of this development during the past 5 years has occurred in the northwest area of the city, in MATS cell 16, primarily due to the availability of small industrial lots, under 2 acres in size. While there are not a very large number of larger lots in the city, the need appears to be minimal. Most of the truly heavy industrial uses require large lots (over 5 acres in size). Those heavy industrial activities that have recently surveyed the area for development potential have focused their efforts in the White City area. This is primarily due to the availability of large lots with a full array of services, proximity to other existing heavy industrial uses, and a lower tax rate. In addition, many

of the industries identified in the Target Industry Analysis for the South Cascades which was discussed in a previous section, are not heavy industrial in nature, so the odds are that very few heavy industrial uses will locate in the city within the 20 year planning period.

Future growth of currently operating heavy industry is not anticipated to go beyond current developed sites. Large timber activities adjacent to the city and within the boundary have a surplus of underutilized land. Given the state of the timber supply of the region and the current trend of heavier industry locating in the White City area, it is unlikely that these activities will require more land adjacent to current activities. Furthermore, increased development of those timber processors that are contiguous to the city limits would cause annexation to the City of Medford. Timber processors have resisted annexation to the city in the past.

Since few heavy industrial uses are expected to locate or expand within the city in the future, there is some question as to whether or not there should be a separate land use designation for heavy industrial. It would not be wise, however, to discourage heavy industrial uses in the city if they have a desire to locate here. Possibly, the general industrial designation could permit both general and heavy industrial zoning, while another land use designation (light industrial) could permit the light industrial and general commercial uses, currently permitted in the general commercial and light industrial zoning districts.

SUMMARY AND CONCLUSIONS

There needs to be a balance between constraining the amount of land available in a category in order to encourage efficient use of land, and providing enough land to encourage business to locate in the city. It is also important to locate commercial and industrial land so that the best use is made of public facilities.

In the Service Commercial designation, there does not appear to be a need to designate a specific amount of land, since all the uses permitted in that land use designation are also permitted in the other commercial designations. As long as there is a sufficient supply of commercial land there will always be enough land for office uses. The primary purpose for having a separate land use category for office uses only is to allow a commercial designation in some areas where there is a desire to minimize the amount of commercial activity, such as near residential neighborhoods. The Service Commercial designation has been used rather effectively in some areas to encourage the redevelopment of decaying residences.

In the commercial designation a 12.65-year supply of land within the city appears to be adequate. It may even be excessive in that there is evidence that most of the new commercial activity is occurring outside the core area of the city. This would suggest that no additional commercial land be designated or annexed to the city until the vacant commercial land decreases to a 5 to 10 year supply. Limiting the number of commercial uses permitted in the industrial zones will provide the city with additional control over the location of commercial development. It will also be important to designate some small (1 to 2 acre) commercial parcels throughout residential districts within the city to provide shopping and job opportunities closer to homes. A mixed land use category, or a Planned Unit Development ordinance, which permits mixed uses, may also be considered to encourage more efficient use of the city's transportation systems.

The industrial designations both have a 35-year supply of serviceable land within the city, which is more than enough land to provide for the 20-year planning period. There does not, however, appear to be a case for constraining the supply of industrial land since land in the city is already more expensive than that outside the city, and most of the land which is designated for industrial is appropriately zoned. There may be some wisdom to limiting the types of uses near the airport to uses dependent on the airport for transportation. However, market factors will probably provide adequate control. There is certainly no need to designate more industrial land unless there is a desire to locate a use in the city for which there is clearly no appropriate industrial land designated.

COMMUNITY ECONOMIC DEVELOPMENT POTENTIAL

Within any marketplace, the combination and dynamic influence of various economic factors create a number of advantages and disadvantages relating to economic development potential. Broadly characterized as "comparative economic advantages," they are conditions, which distinguish the suitability of Medford's economy to provide for certain marketplace functions. For example, Medford is served by several key segments of the regional transportation network - highway, rail and air transport. Thus, for economic activities that are dependent upon these services for the supply of materials and distribution of products, Medford has a comparative advantage over, say, Roseburg, which lacks a major air transportation facility. "Comparative economic disadvantages," on the other hand, are conditions, which cause Medford to be less than suitable for certain marketplace functions. The valley's air stagnation problem might be considered a disadvantage for the location of industries, which give off a large amount of airborne pollutants.

The following is an assessment of Medford's economic development potential as required by OAR 660-09-025(4). This information is used to determine the city's comparative economic advantages and disadvantages to be considered when forming the city's economic goals and policies.

LOCATION RELATIVE TO MARKETS

Medford is located halfway between Portland - approximately 300 miles to the north, and the Sacramento-San Francisco area - approximately 300 miles to the south. Medford's central location is an asset when locating manufacturing or warehouse/distribution centers to serve these major markets. An increase in the population and in economic activity in major urban centers along the Interstate 5 corridor will also create the need for industrial activities to locate in the Medford area in the future.

As mentioned earlier, Medford has become the regional commercial trade and service center for a market area population of approximately 350,000 people. The market area includes all or parts of seven (7) counties in northern California and southern Oregon. As a result, Medford has a well-developed, diversified mix of business and personal services able to provide the commercial infrastructure required by new firms likely to locate in the area.

KEY TRANSPORTATION FACILITIES

Medford offers easy accessibility to West Coast, including overseas, markets due to the availability of rail and air service, and a network of state and interstate highways. These transportation facilities will encourage industry or warehouse activity to locate in Medford in the future.

Interstate 5 is the major north-south highway that bisects Medford. There are interchanges located at the north and south ends of the city that serve as the primary access points. In addition, there are several other state highways, which feed into Medford from the north, east, and west.

The Medford-Jackson County Airport is the primary airport serving Medford. The airport has a full range of facilities available to accommodate commercial, general, and corporate aviation needs. Runway lengths and weight capacities are adequate to handle heavy airfreight services, and several commercial commuter carriers operate and connect with major airports in other cities. The Medford-Jackson County Airport is in the process of completing a master plan, which will outline improvements to be completed to the year 2011. In addition to internal roadway, access road, and runway improvements, there is a proposal for the establishment of a Foreign Trade Zone, which would permit the import of products from foreign countries to be held duty free until leaving the zone. The master plan is proposed to be completed in 1993.

Southern Pacific rail has a main line through Medford for freight only. In the past, there has been rail access over the Siskiyou Mountains; however, load size was constrained by small tunnels. Larger loads coming from the south which were unable to meet the size requirements of the Siskiyou tunnels were forced to travel through Klamath Falls, north to Eugene, and then south into Medford. At the present time, the route through the Siskiyous is virtually unused, although the Public Utility Commission will not allow the line to be completely abandoned. Since shipments to the south from the Rogue Valley will primarily have to be shipped north first via the Eugene - Klamath Falls route, any manufacturers of perishable goods would be wiser to locate near the airport.

Rail access is currently available to only a small portion of vacant industrial lands, as much of the land bordering the railroad in Medford is already developed.

KEY PUBLIC FACILITIES AND SERVICES

Adequate public facilities, as well as public services like police and fire protection, are necessary for orderly growth and development of commercial and industrial activities. The key public facilities as defined by OAR 660, Division 11 are:

(1) Water;
(2) Sanitary sewer;
(3) Storm sewer;
(4) Transportation.

WATER

The Medford Water Commission (MWC) provides domestic water service within the incorporated city limits of Medford. The Commission is a five-member board created by the City of Medford's Charter, and given the same authority as the City Council in matters of water supply. Members are appointed by the mayor for a five-year term. The primary source of MWC water is Big Butte Springs, which has a capacity of 26.4 million gallons per day, with the Rogue River supplying additional water (up to 65 million gallons per day) during peak demand periods. Water service

cannot be provided to properties outside city limits unless properties are within an established water district. Established water districts include the Cities of Phoenix, Central Point, and Jacksonville, as well as White City, and five other smaller water districts in Jackson County.

The planning horizon for Medford's WATER SYSTEM PLAN adopted in 1987, is the year 2030. Major water facilities are planned well ahead of the time they are needed, and development of storage facilities and major transmission lines coincide with development of an area. Currently, major water transmission lines are near all commercial and industrial sites within the Medford urban growth boundary.

SANITARY SEWER

Medford's sanitary sewer system effluent is processed by the regional Vernon Thorpe Wastewater Treatment plant operated by the City of Medford. Current capacity is 16.5 million gallons per day. Because this is a regional facility, transmission line financing and development is a shared expense with several other municipal governments, and the Bear Creek Valley Sanitary Authority (BCVSA). BCVSA was formed in 1966 primarily to serve the area surrounding the city. When land is annexed to the city, however, BCVSA continues to serve only certain areas to the west. Throughout the region, a systems development charge, as well as a monthly user fee, pays for expansion and routine maintenance of the regional facility and transmission lines.

The city maintains a 20-year planning horizon for facilities development. Transmission line expansion planning anticipates development so that flows can be accommodated by new lines. Planning and development of a long-term capital improvement strategy ensures that facility expansion occurs well in advance of need. A Sewage Treatment Master Plan was completed in August 1992.

STORM DRAINAGE

The City of Medford has a master drainage plan that covers an area outside current city limits and in some areas, outside the urban growth boundary. This storm drain master plan has identified areas that have sensitive drainage problems, and contains policies for dealing with them. The Storm Drainage Master Plan was adopted in 1981.

Storm drainage facilities are available or can be made available at the time of development to virtually all vacant commercial and industrial lands in the city. All commercial and industrial projects within the urban growth boundary are reviewed by the City of Medford Engineering Division to ensure that capacity will be available at the time of development. As development occurs, user fees and systems development charges are used to finance new storm drains.

TRANSPORTATION

The City of Medford has an adopted Street Classification Map, which is part of the “Public Facilities Element” of the Comprehensive Plan. This map defines the location and classification of all major order streets that serve commercial and industrial properties. Arterial and collector street development is funded by a number of sources. A Systems Development Charge for streets, adopted in 1991, assesses developers for the impacts that their development will have on arterial and collector streets. The city, then, improves the street when traffic levels dictate. In cases where

there is a need to immediately improve the street, the developer may be required to make an improvement in lieu of assessment prior to beginning construction.

In addition to the assessment for new construction, there is a monthly fee charged on all properties within the city for street maintenance. The assessment is based upon the impact that the particular activity has in terms of trip generation.

While the above references a predictable and seemingly adequate method of funding for transportation facilities, some arterial and collector streets, and both freeway interchanges, have not kept up with transportation needs due to the rapid rate of growth during the past twenty years, as well as difficulty in implementing new collector and arterial streets. For this reason, a prudent approach to development may be necessary for the next planning period until the street system is upgraded. Currently, a study is being conducted of the southeastern portion of the city and adjacent urbanizable area, as this is the direction the city is projected to grow in the near future. The study results are expected to propose different land use patterns for the area including their expected impact on the existing transportation system.

Access to public transportation facilities varies greatly and generally reflects the lack of intensive development of public transportation systems throughout the community. The Rogue Valley Transportation District (RVTD) is the local bus service, which serves Medford, as well as the neighboring cities of Ashland, Talent, Phoenix, Central Point, White City, and Jacksonville. Increasing residential and employment densities may provide incentive for increased development of facilities and routes.

It is hoped that more federal money will be available soon for transportation facilities other than highway improvements throughout the valley as a result of the Intermodal Surface Transportation Efficiency Act (ISTEA). The Metropolitan Planning Organization (MPO) is currently working on a regional Transportation System Plan (TSP) as required for the acquisition of federal funding.

POLICE AND FIRE PROTECTION

Police protection is available to all lands within the urban growth boundary. The Medford Police Department has a staff of 90, with an additional 12 in the central dispatch system. This radio communications section serves both police and fire, and uses a 911 emergency telephone system. The Jackson County Sheriff's Department serves unincorporated areas within Jackson County.

The Medford Fire Department covers an area of 42 square miles, part of which is on a contract basis to the Medford Rural Fire District. The Fire Department employs 68 firefighters and support personnel, and has four fire stations. Fire fighting equipment includes one ladder truck, one tender, 6 pumpers, a mini-pumper, a brush truck, and ten automobiles. Development of the water system in the urban area has been closely coordinated with proposed land development patterns, resulting in adequate fire flow capability throughout the community.

LABOR MARKET FACTORS

The Job Applicant Table (Table 4C), compiled by the Oregon Employment Division, is a summary of the characteristics of persons seeking jobs in Jackson County between July 1989 and June 1990.

The largest category of job seekers during that period was the category of production, construction, operations, and maintenance workers. This category included over 35 percent of the 8,370 job seekers in Jackson County. The next highest category of job seekers was in clerical/administrative support. This category accounted for approximately 18 percent of the job seekers and was a category primarily composed of women. Sales related occupations and service occupations were next, with approximately 11 percent and 12 percent, respectively, of the total job seekers. The other three categories of job seekers were each composed of less than 10 percent of the total. It appears, then, that the most readily available workers were those with light industrial skills. This comes as no surprise given the previous discussions concerning the area's trend away from its reliance on timber processing related jobs.

According to the State Employment Division (Business & Employment Outlook 1992, Volume 1, pages 15-17) Jackson County's civilian labor force increased by 69 percent during the 1970s and by 15 percent during the 1980s. Both increases were well in excess of the general population increases in the area. One reason for the increase has been the rise in the number of women in the labor force. A second reason for the increase has been the entry of the "baby-boom" generation into the work force. As this group ages we are seeing fewer youth entering the labor force resulting in labor shortages in the entry level and lower paying service and retail positions traditionally filled by this segment of the population. With the predominance of the retail and service sectors in Medford's economy, this trend could cause problems until the children of the baby-boomers start to enter the work force in the late 90s.

In addition, it should be noted that approximately 9 percent of the job seekers were under 21, while 22.4 percent of the job seekers were over 45. This serves to verify the trend discussed earlier that there are fewer young people entering the work force due to the aging of the baby-boom generation. This lack of young workers who traditionally fill the low-paying retail and service-sector jobs is further supported by the fact that two of the categories with the lowest percentage of job seekers are sales related occupations (10.7 percent), and service occupations (12 percent). Based on demographic studies, the next few years will see an even greater decrease in the number of young people entering the work force, both locally and nationally.

Another important labor force characteristic to consider is educational attainment. Of all the job seekers in the Jackson County Job Applicant Table, 18.2 percent had not graduated from high school, 72.9 percent had graduated from high school and may have had some additional schooling, and 8.8 percent had bachelor's degrees or higher. In comparison, the 1990 Census indicates that for all persons over 25 years of age in Jackson County, 19.9 percent had not graduated from high school, 62.5 percent had graduated from high school, but had not obtained a bachelor's degree, and 17.6 percent had a bachelor's degree or higher. This indicates that a higher percentage of the people looking for jobs have a high school diploma compared to the general public, while a much lower percentage of people looking for work have college degrees. This difference becomes slightly less significant if we consider that approximately 9 percent of the job seekers in the Job Applicant Table are under 21. Persons under 21 may yet go on to earn a college degree. Perhaps a more significant relationship would be that of the educational attainment of persons over 25 in Jackson County compared to both the state and the nation. In 1990, according to the Bureau of the Census, of all persons over 25 in Jackson County, 80.1 percent had a high school diploma or higher

and 17.6 percent had a bachelor's degree or higher. Those same figures for the state were 81.5 percent and 20.6 percent respectively, and for the nation the figures were 75.2 percent and 20.3 percent, respectively. This indicates that the over 25 year old labor force in Jackson County tends to be slightly less educated than the average Oregonian, while Jackson County has a higher percentage of high school graduates than the nation, but a lower percentage of persons with college degrees.

Another noteworthy statistic when considering the labor market of an area is the wage scale. According to the Oregon Employment Division, in 1990 the average hourly pay for those employed in the manufacture of durable goods in Jackson County was $11.09, rising to $11.38 in 1991. On the other hand, the average hourly wage of individuals in the service and retail sectors has generally been very close to minimum wage. The exception to this is those employed in the medical services; however, employment in this sector tends to be very specialized and may require many years of training and education. This indicates that simply attempting to shift displaced industrial workers into more available retail and service sector jobs is not a viable option for the future.

In addition, the Oregon Employment Division found that the average annual pay for workers in Jackson County was lower in 1990 than that for the rest of Oregon in every category except the category of lumber and wood manufacturing. This would indicate a difficulty in attracting employees to the area, except in the timber-processing sector which, unfortunately, is currently on the refuse.

MATERIALS, LAND, AND ENERGY AVAILABILITY AND COST

In the past, major manufacturing in Jackson County has depended on a predictable and adequate supply of timber. Recent events have raised serious doubt as to the future of the timber industry's vitality due to the limited federal timber supply. Future wood products emphasis may need to be directed towards development of alternative processing of raw timber products that are not currently considered viable, such as plywood and particleboard manufacturing. Although, as the supply of logs decreases, even production of these products will be limited. In some areas an effort is already underway to transform some of the primary wood products manufacturers into secondary wood products manufacturers to create new jobs for displaced workers from the primary wood products sectors. More movement in that direction may encourage an economically wiser use of the area's most dominant raw materials.

In a preceding section there was an inventory of commercial and industrial land. While having an adequate supply of land in each of these use categories is certainly important to the city's economic well-being, land available for agriculture adjacent to the city is also important to the city's economy, since agriculture supplies income-generating jobs to the region. As the city grows, the most easily and inexpensively developed land is in the flat, valley bottom. This is also the land that is the most valuable for agricultural uses. The state's Land Conservation and Development Commission has recognized this conflict between the need for land for urbanization and the economic benefit of maintaining agricultural land with the Statewide Planning Goals. Goal 3 requires that localities preserve and maintain agricultural land, while Goal 14 is to provide for an orderly and efficient transition from rural to urban land use. Before making any major decisions

concerning land use, and particularly when designating new land for urbanization, the city must determine that every effort has been made to preserve valuable agricultural land.

In the inventory of industrial lands, it was indicated that there is a 35.5-year supply of industrial land in the city. Since the state only requires that the city maintain a 5-year supply of zoned and serviceable industrial land, it might appear that the city has too much vacant industrial land. If that is the case, the law of supply and demand would indicate that industrial land should be very inexpensive in the city. However, according to a survey recently completed by the Oregon Economic Development Department that compares the price and quality of industrial land in Medford to that of other cities in Oregon, the price of much of the industrial land in the city of Medford is very expensive — sometimes even double the price of comparable land in other cities. According to Southern Oregon Regional Economic Development, Inc. and Oregon Economic Development Department, the high price of industrial land in the city has made it very difficult to attract industrial development to Medford.

This certainly puts a constraint on industrial development in the city. A field survey of the city's industrial sites, completed in January 1994, indicated that there was indeed an adequate supply of industrial land in the city. A factor other than the supply must be playing a role in inflating the price of the land.

In the past the city has based many decisions on the understanding that the city had an almost excessive supply of industrial land; therefore, there was never a feeling that the supply needed to be maintained. This, along with industrial landowners' enthusiastic encouragement, made it easy to re-designate industrial land to commercial land, which generally commands a higher price. In addition, the city's Land Development Code permits many commercial uses in industrial zones. These policies are effectively allowing at least some of the city's industrial land to function as commercial land, and the price of the industrial land probably reflects this. If this is a valid conclusion, and the city wants to remove this constraint on industrial development, these policies must be changed.

Future development will not be constrained by the lack of adequate energy. Medford has access to an adequate supply of electricity and natural gas, both of which are considered relatively inexpensive as compared to the rest of the country. In addition, the mild climate does not warrant substantial investment in heating and cooling systems. There is a high potential for solar energy utilization, and there has been interest in the conversion of wood products waste material to energy during the past decade.

NECESSARY SUPPORT ORGANIZATIONS

There are a number of organizations that provide a medley of support services that relate to commercial and industrial development.

Southern Oregon Regional Economic Development Incorporated (SOREDI) is a non-profit organization formed in 1987 as a two-county organization (Jackson and Josephine) to cooperatively promote economic development activities. SOREDI is funded by local private and public monies. It is staffed by a director and a small support staff. There is a board of directors

that is responsible for policy development. The director coordinates, implements, and responds to the board of directors' marketing plan and organization “mission” for economic development activities.

Southern Oregon State College Small Business Development Center is also an active participant in economic development. Its primary mission is to counsel prospective and established business owners for the purposes of enhancing business efficiency and expansion. In addition to counseling, the center directs clients to other agencies as required.

The Medford Urban Renewal Agency was formed in 1988 for the purpose of revitalizing the downtown core area. The urban renewal area includes about 577 acres. The renewal agency's functions include promoting development of a 92 acre site at the south Interstate 5 interchange and redevelopment of the downtown core area. In the past, the downtown, as is true in so many older, cities has not been in a competitive posture relative to newer shopping centers and malls, which offer ample parking and shelter from the elements. The Medford Urban Renewal Agency is focusing upon the functional deficiencies of the renewal area as they relate to opportunities for development and redevelopment.

The Medford Chamber of Commerce is a community organization whose mission is to promote growth and prosperity of community commercial and industrial endeavors. The Chamber of Commerce is active in a variety of community affairs ranging from commercial development to tourism. They are called upon by local government agencies frequently to participate in community development issues and policy making. The Chamber is primarily composed of community business owners.

POLLUTION CONTROL REQUIREMENTS

Future industrial development may be constrained by the inability of the city's air shed to tolerate additional air pollution. Medford is within a “non-attainment area,” a geographical area designated by the state as not meeting federal ambient air quality standards. The problem is particularly severe in the winter months when there is a strong tendency toward temperature inversions, which trap stagnant air in the valley. Carbon monoxide and particulate matter under 10 microns in size (PM10) are the two pollutants targeted by health officials for adversely impacting public health in the valley.

A primary source of PM10 is residential wood stoves. The state, together with the City of Medford and the Housing Authority of Jackson County, have participated in a wood stove replacement program for the purposes of replacing inefficient wood stoves with state certified stoves with lower particulate emissions. In addition, Medford, as well as several other communities in the Rogue Valley, has instituted a mandatory wood burning advisory program. The purpose of this program is to curtail wood stove use on days when the air quality in the valley is or is expected to be unhealthful.

A second major contributor to particulate pollution is industry, primarily wood products processors. The Department of Environmental Quality has instituted a program that requires industrial activities to upgrade pollution control devices as required by the amendments to the 1990 Clean Air

Act. These pollution control requirements apply nationwide; therefore, there is no relative additional cost to industry in Jackson County. Even though pollution by these industries has been reduced, the air shed cannot tolerate additional emissions; therefore, any new industry coming into the area, which emits over 5 tons/year of particulate matter, must find a way to offset the emissions.

The main cause of the valley's unhealthful levels of carbon monoxide is car exhaust. As a result, carbon monoxide emissions are monitored for all motor vehicles registered within the Air Quality Maintenance Area (AQMA) of which the city is a part. An Inspection and Maintenance Program (I/M), which tests vehicles for emissions prior to registration, is administered by the state. In addition, non-attainment areas for carbon monoxide are now being required to use only oxygenated gasoline during the winter months in an attempt to decrease the amount of carbon monoxide being emitted by vehicles in the area.

Stream flow and ground water pollutants are not as problematic in the city as in other parts of the county. In any event, the Department of Environmental Quality enforces state and federal laws to ensure that acceptable recognized levels of pollution are not exceeded. Since effluent guidelines are set by the federal government, the only additional relative costs to an industry locating in Jackson County would be those associated with sewer system pretreatment standards set by the local municipality.

EDUCATIONAL AND TECHNICAL TRAINING PROGRAMS

There are several institutions that are located in and around Medford that provide educational and skills training: Trend College, Southern Oregon State College, and Rogue Community College.

Trend College is a private school located in Medford. The primary emphasis of Trend College is the preparation of individuals for entry-level jobs in business related activities. Most programs are 6 to 9 months in length and lead to a diploma. Trend College also conducts courses that upgrade existing skills for those already in the work force.

Program curriculum includes:
Bookkeeping and Computers;
Sales;
Marketing;
Business Management;
Secretarial for Medical, Legal, and General business;
Hotel-Resort Management;
Travel and Tourism Management.

Trend College assists graduates with an Employment Seeking Assistance program. This program coordinates the placement of program graduates in jobs. It is estimated that about 90 percent of those who seek placement through Trend College become employed as a result of the program.

Rogue Community College (RCC) is an active vocational institution located in the Grants Pass area of Josephine County. RCC offers over 50 different two-year degree and one-year certificate programs. Vocational programs at RCC include training in art, automotive technology, accounting,

business, computer science, criminal justice, electronics, nursing, office administration, manufacturing, and human services. Expansion of the institution is dependent to a great degree on community support. Unlike State Colleges, community colleges are largely funded by the community, with tuition, local tax revenues, and some state revenues being the primary funding sources. RCC has several satellite facilities throughout Jackson County. Most apprenticeship program activity occurs within Jackson County.

Southern Oregon State College (SOSC) is located in Ashland, about 15 miles south of Medford. SOSC is a liberal arts institution. The seven schools span a wide range of disciplines and include 28 departments and 35-degree programs at the undergraduate and graduate levels including the M.B.A., M.S. in education and M.A. in liberal arts. The School of Fine and Performing Arts includes the departments of art, music, and theater arts. The Schneider Museum of Art is also a center for the southern Oregon arts community.

The SOSC Division of Continuing Education is designed to meet the demand for a lifelong learning program, including continuing professional education. The program is divided into five broad categories: off-campus programs (credit courses), non-credit programs, personal enrichment activities, conferences, institutes and international studies. Many of these programs are offered in the Mary Phipps Center located in Medford.

The college is the home of the Southern Oregon Regional Services Institute (SORSI), which, together with the School of Business, serves the seven southwestern Oregon counties of Coos, Curry, Douglas, Jackson, Josephine, Klamath, and Lake. The institute maintains a regional database that includes census materials, social and economic profiles, and college-produced information on communities in the region. Through its Small Business Institute and Small Business Development Centers, SORSI provides management counseling and technical assistance to small businesses throughout southwestern Oregon.

There are several organizations whose primary mission is to assess workers' skills and occupational preferences, and then coordinate with the appropriate educational institution for placement in the area. One such organization is the Job Council. The Community Response Team is a coordinated effort of the Job Council, Rogue Community College, and the State Employment Division whose main goal is to place workers in new industries or with new employers that are locating in the area. In the case of business failure, the Community Response Team attempts to either place workers in other jobs or direct them to training programs. The Job Council is also active in a vocational rehabilitation program whose primary purpose is to mainstream mildly disabled people in the work place. The Jobs Advisory Board is formed by members from the State Adult and Family Services Division, Rogue Community College, and the State Employment Division for the purpose of placing welfare recipients.

SUMMARY

Based on the analysis in the preceding sections, Medford's comparative advantages that will influence future options for economic development include:

Medford's location halfway between two major urban areas (Portland to the north and San

Francisco to the south), its proximity to the I-5 corridor, and its central location relative to the southern Oregon-northern California market area that offers an excellent opportunity to expand service, commercial, and industrial development in the future.

A well-developed transportation network that provides good highway-freight access to West Coast markets, an air transport facility capable of handling heavy jet air transport and a rail system (for heavy equipment or bulk shipments) that can merge with mainline shipment routes with a one-day layover.

A mild climate that does not require substantial investment for industrial heating and cooling facilities, good accessibility to electric and natural gas energy supplies, and a high potential for solar energy utilization and waste-to-energy production.

Good accessibility to public facilities (water, sewerage, and police and fire protection) required to support commercial and industrial development.

A well developed, diversified mix of business and personal services able to provide the commercial infrastructure required by new firms likely to locate in the area.

A local labor force that is comprised of workers with a diverse skill mix, ranging from professional and technical, to operative and blue-collar occupations.

Constraints upon economic development are the counterpart to the community's advantages identified above. Among the most significant constraints that are presently impacting economic development options in the community are:

Weakness in some of the city transportation network. Some arterial and collector streets, and both freeway interchanges, are at or near remaining capacity.

Severe restrictions on the capability of the air shed to tolerate added air pollution due to air stagnation problems in the valley.

Traditional dependence upon a narrow resource-based industrial market as a key source of economic activity in the community, with the inherent limitations upon occupational opportunities that accompany such circumstances.

A limited number of technical training programs for retraining displaced industrial workers who are accustomed to earning relatively high wages.

Relatively high-priced industrial land.

ECONOMIC ELEMENT CONCLUSIONS, GOALS, AND POLICIES

CONCLUSIONS

1. The city, like the nation as a whole, is experiencing a shift away from industrial development (income-generating jobs) toward service and trade development.

2. The majority of service and trade jobs Jackson County has been attracting tend to pay much less than the manufacturing jobs located in Jackson County.

3. Based on the usage of land over the past 20 years, there is approximately a 12.5-year supply of serviceable commercial land in the city, and approximately a 35.5-year supply of serviceable industrial land in the city. State law only requires a minimum 5-year supply of each.

4. There is a high vacancy rate in existing commercial areas in the older, more centrally located parts of the city.

5. The major constraints on economic development in the city are: (1) the inability of the valley's air shed to tolerate additional pollution, (2) the over-burdened street system, 3) the increasing number of unemployed persons with job skills that do not match those required by new employers, and (4) the relatively expensive industrial land in Medford compared to that in other cities in Oregon.

GOALS AND POLICIES

GOAL 1: AGGRESSIVELY STIMULATE ECONOMIC DEVELOPMENT AND GROWTH THAT WILL DIVERSIFY AND STRENGTHEN THE MIX OF ECONOMIC ACTIVITY IN THE LOCAL MARKETPLACE AND PROVIDE EMPLOYMENT OPPORTUNITIES FOR LOCAL RESIDENTS.

Policy 1
Explore opportunities and incentives that will encourage value-adding, family wage business to expand and locate in the community.

Policy 2
Actively participate in a joint public/private business development and promotion program to identify opportunities for growth of existing businesses and attract new firms to the community, which will diversify the mix of commerce and industry and employment opportunities for local residents.

Policy 3
Encourage labor-training programs that match the mix of skills and occupations with the employment requirements of firms now operating in the community or that are suitable prospects for locating in Medford.

Policy 4
Monitor and respond to growth and development patterns in the community to enable Medford to capitalize on its changing comparative advantages in the local and regional marketplace.

Policy 5
Monitor the city's land development requirements concerning industrial development and remove any onerous restrictions and requirements.

Policy 6
Continue to support the efforts of Medford Urban Renewal Agency.

GOAL 2: ASSURE AN ADEQUATE COMMERCIAL AND INDUSTRIAL LAND BASE TO ACCOMMODATE THE TYPES AND AMOUNT OF ECONOMIC DEVELOPMENT AND GROWTH ANTICIPATED IN THE FUTURE, WHILE ENCOURAGING EFFICIENT USE OF LAND AND PUBLIC FACILITIES WITHIN THE CITY.

Policy 1
Maintain at least a five-year supply of commercial land within the city that is currently served or readily serviceable with a full range of urban public facilities and services.

Policy 2
Continue to use the service commercial designation as a tool for redevelopment and for limiting the commercial activity to that which is compatible with adjacent uses.

Policy 3
Endeavor to maintain the existing supply of industrial land within the urban growth boundary, and expedite the designation of additional industrial land when it is an appropriate location for a specific industry.

Policy 4
Limit the commercial uses allowed in industrial zones.

GOAL 3: DEVELOP LOCATIONAL CRITERIA AND SITE DEVELOPMENT STANDARDS FOR COMMERCIAL AND INDUSTRIAL DEVELOPMENT WHICH WILL ENCOURAGE EFFICIENT USE OF PUBLIC FACILITIES, PARTICULARLY THE CITY'S TRANSPORTATION SYSTEMS.

Policy 1
Designate commercial facilities of a regional nature along freeways and highways, and designate those serving the community near collector and arterial streets.

Policy 2
Encourage mixed commercial and residential use developments through the use of the planned unit development, site design guidelines, and site development standards.

Policy 3
Encourage cohesive, integrated commercial centers and industrial centers rather than traditional,

unrelated, linear development patterns through site development design guidelines.

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STATEWIDE PLANNING GOAL 14: URBANIZATION

The purpose of the AUrbanization Element≅ of the *Comprehensive Plan* is to identify the policies that the City of Medford, in cooperation with Jackson County, has adopted to comply with Statewide Planning Goal 14: Urbanization.

> ***STATEWIDE PLANNING GOAL 14: URBANIZATION: TO PROVIDE FOR AN ORDERLY AND EFFICIENT TRANSITION FROM RURAL TO URBAN LAND USE***

To accomplish this goal, the City of Medford and Jackson County have adopted: 1) An Urban Growth Boundary; 2) Policies concerning the regulation of the land within the Urban Growth Boundary, collectively referred to as the AUrbanization Policies;≅ 3) Policies concerning annexation of unincorporated urbanizable land to the City of Medford, collectively referred to as the AAnnexation Policies;≅ and, 4) An intergovernmental agreement allowing unincorporated urbanizable land to be developed with urban-level development prior to annexation, referred to as the AIntergovernmental Agreement on Contract Annexation.≅

URBAN GROWTH BOUNDARY

The Medford Urban Growth Boundary (UGB) includes land within the city, and selected land surrounding the city that is committed to and/or planned for future city growth, the development of which is likely to require the extension of urban services. Land surrounding the city and within the UGB is called the Aunincorporated urbanizable area≅ in this element. In Chapter 253 of the Jackson County *Land Development Ordinance*, it is called the Medford Urban Overlay (MUO) District. The Medford UGB was amended in 1990 through a cooperative process between the City of Medford and Jackson County. It is officially delineated on the Jackson County and City of Medford Comprehensive Plan and Zoning maps.

The Medford UGB was established to comply with the state law requiring Urban Growth Boundaries around urbanized areas to identify and separate urbanizable land from rural land.

Establishment and amendment of UGB=s are based upon the following Goal 14 factors:

1. A demonstrated need to accommodate long-range urban population growth requirements consistent with Land Conservation and Development Commission (LCDC) goals;

2. A need for housing, employment opportunities, and livability;

3. The orderly and economic provision of public facilities and services;

4. The maximum efficiency of land uses within, and on the fringe of the existing urban area;

5. The environmental, energy, economic, and social consequences;

6. The retention of agricultural land as defined, with AClass I≅ having the highest priority for retention, and AClass VI≅ having the lowest priority; and,

7. The compatibility of proposed urban uses with nearby agricultural activities.

URBANIZATION POLICIES

The following policies guide the administration of the Medford Urban Growth Boundary:

1. An Urban Growth Boundary adopted herein, or hereinafter amended, for the Medford area will establish the limits of urban growth to the year 2010.

    a. Annexation to the City of Medford shall occur only within the officially adopted UGB.

    b. Specific annexation decisions shall be governed by the official annexation policies of the City of Medford. The city shall provide an opportunity for Jackson County to respond to pending requests for annexation.

2. The City of Medford General Land Use Plan (GLUP) Map and zoning designations for unincorporated urbanizable land, and all other city development and building safety standards, shall apply only after annexation to the city; or through a contract of annexation between the city, Jackson County, and other involved parties; or after proclamation of an annexation having a delayed effective date pursuant to ORS 222.180 (2).

   a. Urban development shall be encouraged to occur on undeveloped and underdeveloped land within city limits prior to the annexation and conversion of other land within the UGB.

3. Except in cases where a contract for annexation has been executed, or after proclamation of an annexation having a delayed effective date pursuant to ORS 222.180 (2), Jackson County shall retain jurisdiction over land use decisions within the unincorporated urbanizable area, and such decisions shall conform to these adopted policies:

   a. Prior to annexation, no land divisions shall be approved by the county which create lots of less than forty (40) acres in size.

   b. Recognizing that unincorporated areas within the UGB could ultimately become part of Medford, the city=s recommendations will be given due consideration. It is the intent of the county to administer mutually adopted city/county policies in the unincorporated urbanizable area until the area is annexed to the city.

   c. The city will be requested to respond to pending applications for all land use actions in the unincorporated urbanizable area. If no response is received within 14 days, the county may assume that the city has no objections to the request.

   d. The county will be requested to respond to pending applications for all land use actions within the incorporated area that may affect land under county jurisdiction. If no response is received within 14 days, the city may assume that the county has no objections to the request.

   e. If the city and county have mutually approved, and the city has adopted, Aconversion plan≅ regulations for the orderly conversion of property from county to city jurisdiction, the county will require that applications for subdivisions, partitions, or other land divisions within the UGB be consistent with the city=s *Comprehensive Plan*. Once developed, the mutually agreed upon Aconversion plan≅ shall be the paramount document, until incorporation occurs.

4. Any land use actions within the unincorporated urbanizable area shall conform to urban standards and public improvement requirements as contained in the city and county Land Development Codes, except that in the case of a conflict between the two, the more restrictive shall apply.

5. Within the unincorporated urbanizable area, execution and recording of an Irrevocable Consent to Annex to the City, pursuant to ORS 222.115, shall be required for:

   a. Single-family residential permits

   b. Sanitary sewer and water hook-up permits *****

   c. All land use actions subject to county Site Plan Review

   ***** This policy, with reference to sewer hook-ups provided by Bear Creek Valley Sanitary Authority (BCVSA), has been disallowed by the Oregon Court of Appeals.

6. The city, county and affected agencies shall coordinate the expansion and development of all urban facilities and services within the urbanizable area.

   a. Urban facilities and services shall be planned in a manner which limits duplication to provide greater efficiency and economy of operation.

   b. A proposed single urban facility or service extension within the unincorporated urbanizable area must be coordinated with the planned future development of all other urban facilities and services appropriate to that area prior to approval, and shall be provided at levels necessary for expected uses as designated on the Medford *Comprehensive Plan*.

   c. The city shall be responsible for adopting and maintaining a public facilities plan for the city and unincorporated urbanizable area pursuant to OAR 660-11.

   d. When development occurs within an unincorporated urbanizable area subject to a contract for annexation, or after proclamation of an annexation having a delayed effective date pursuant to ORS 222.180 (2), any or all city services may be extended to these areas. All associated fees and charges which are applicable within the city shall be applicable to these areas, and shall be paid to the city pursuant to city regulations.

7. Provision of sewer and water services may only occur beyond the UGB after approval by the provider agency and Jackson County, and when a Adanger to public health≅ as defined by ORS 431.705 (5) exists. The services thus authorized shall serve only the area in which the danger exists, and shall provide a level of service consistent with the Jackson County *Comprehensive Plan* designation.

8. All county road construction and reconstruction resulting from new development, redevelopment, or land divisions in the urbanizable area shall be built to urban standards, except that the term Areconstruction≅ does not include normal road maintenance by the county.

9. Long range transportation and air quality planning for the urbanizable area shall be a joint city/county process coordinated with all affected agencies.

10. Land within the urbanizable area which currently supports a farm use, as defined by ORS 215.203, shall be encouraged, through zoning and appropriate tax incentives, to remain in that use for as long as is Aeconomically feasible≅ for the property owner.

    a. AEconomically feasible,≅ as used in this policy, is interpreted to mean feasible from the standpoint of the property owner. Implementation of this policy will be done on a voluntary basis. Exclusive Farm Use (EFU) zoning may be applied to qualifying land by the county, with the understanding that such land is considered available over a period of time for urban uses.

    b. This policy applies only to areas in the UGB identified by the city or county Comprehensive Plans as agricultural land, and shall not be used as a standard to review other land use applications within the urbanizable area.

    c. This policy is not intended to preclude the use of EFU land for essential public facilities and services to serve the urban and urbanizable areas.

11. Proposed land use changes immediately inside the UGB shall be considered in light of their impact on, and compatibility with, existing agricultural and other rural uses outside the UGB. To the extent that it is consistent with state land use law, proposed land use changes outside the UGB shall be considered in light of their impact on, and compatibility with, existing urban uses within the UGB.

12. The city and county acknowledge the importance of permanently protecting agricultural land outside the UGB zoned EFU, and acknowledge that both jurisdictions maintain, and will continue to maintain, policies regarding the buffering of said lands. Urban development will be allowed to occur on land adjacent to land zoned EFU when the controlling jurisdiction determines that such development will be compatible with the adjacent farm use. Buffering shall occur on the urbanizable land adjacent to the UGB. The amount and type of buffering required will be considered in light of the urban growth and development policies of the city, and circumstances particular to the agricultural land. The controlling jurisdiction will request and give standing to the non-controlling jurisdiction for recommendations concerning buffering of urban development proposals adjacent to lands zoned EFU. Buffering options may include:

    a. Physical separation through special setbacks for new urban structures adjacent to the UGB;

    b. Acquisition by public agencies;

    c. Lower densities at the periphery of the UGB than those allowed elsewhere in the city;

d. Strategic location of roads, golf courses, or other visible public or semi-public open spaces;

e. Use of vegetative screens, earthen berms, and fences of sufficient height and substance to help reduce the trespass of people, animals, and vehicles;

f. Orientation of structures and fencing relative to usable exterior space, such as patios, rear yards, and courts, so that the potential impacts from spray drift, dust, odors, and noise intrusion are minimized;

g. Design and construction of all habitable buildings, including window and door locations, so that the potential impacts of spray drift, dust, odors, and noise intrusion are minimized;

In addition, a deed declaration recognizing common, customary, and accepted farming practices shall be required for all development occurring within 300 feet of EFU zoned land.

13. All UGB amendments shall include adjacent street and other transportation rights-of-way.

14. An AArea of Mutual Planning Concern≅ may be delineated on the county Comprehensive Plan and Zoning maps along with the UGB. This is an area within which Medford and Jackson County have mutual concern over the land use planning decisions that may occur. The area may be significant in terms of its agricultural, scenic, or open space characteristics, or may be designated as an urban reserve to facilitate long range, inter-jurisdictional planning for future urbanization. The area may also provide an important buffer between Medford and other urban areas. The Area of Mutual Planning Concern is not subject to annexation, and is an area in which the county will coordinate all land use planning and activity with Medford.

AMENDMENT PROCEDURES

The procedures for joint city/county review and amendment of the Urban Growth Boundary and Urbanization Policies are as follows:

1. Major Revisions

Major revisions in the UGB or Urbanization Policies will be considered amendments to both the city and county Comprehensive Plans, and, as such, are subject to a legislative review process. A major revision shall include any UGB change that would necessitate revisions to the intent of city or county Comprehensive Plan goals, policies, or text, or that has widespread and significant impact beyond the immediate area, such as quantitative changes allowing for substantial changes in population, or significant increases in resource impacts, qualitative changes in the land use itself, such as conversion of residential land to industrial use, or spatial changes that affect large areas, or many different ownerships. Any change in the Urbanization Policies is considered a major revision.

Major revisions will be considered by the city and county at five year intervals from the date of adoption of the UGB and Urbanization Policies. If the city and county governing bodies find that circumstances that have a significant effect on the public health, safety, or general welfare of the community prevail, a major revision can be considered at intervals of less that five years. A request for a major revision can be initiated by an individual or group, citizen advisory committees, affected agencies, and governing bodies. The party who seeks the revision shall be responsible for filing adequate written documentation with the city and county governing bodies. The final legislative action on major revision requests shall be based on the following factors:

a. The demonstrated need for the change to accommodate unpredicted population trends, to satisfy urban housing needs, or to assure adequate employment opportunities;

b. The orderly and economic provision of key urban public facilities and services;

c. The maximum efficiency of land uses within the current urbanizable area;

d. Environmental, energy, economic, and social consequences;

e. The compatibility of the proposed change with other elements of the city and county Comprehensive Plans;

f. The other Statewide Planning Goals.

Major revision proposals shall be subject to a mutual city and county review and agreement process involving affected agencies, citizen advisory committees, and the general public. If the city and county cannot agree on a major revision, or until an acceptable revision is mutually agreed upon and adopted, both jurisdictions will continue to administer the existing UGB, Areas of Mutual Planning Concern boundaries, and Urbanization Policies.

2. Minor Urban Growth Boundary Adjustments

Minor adjustments to the UGB may be considered subject to similar procedures used by the city and county in hearing zoning requests. A minor revision is defined as one focusing on specific individual properties, and not having significant impact beyond the immediate area of the change. An application for a minor UGB adjustment can be made only by property owners, their authorized agents, or by a city or county governing body. Written application for an adjustment may be filed with the Jackson County Department of Planning and Development on forms prescribed by the county. The standards for processing an application are as follows:

a. Final action on minor UGB adjustments shall be based on the same six factors required for major revision requests as listed in the preceding section, AMajor Revisions.≅

b. Applications shall be reviewed by the affected city and county Citizens Planning Advisory Committees annually.

c. Applications shall be reviewed at joint city/county Planning Commissions meetings held annually for the express purpose of considering minor UGB adjustments.

d. The Planning Commissions shall forward a recommendation and findings on each application to the city and county governing bodies for final consideration.

e. Adjustments cannot be made to the UGB unless mutually agreed upon by a majority from each governing body. The county governing body shall be responsible for the preparation of the actual legal instrument that officially amends the UGB.

3. Determination of Major and Minor Amendments

The Planning Directors for the county and city are responsible for determining whether an amendment is to be considered through a major or a minor amendment process. In the event that the Planning Directors cannot agree, the proposal will be forwarded to the city and county Planning Commissions, and, if necessary, to the governing bodies or other appropriate body, until mutual agreement is reached.

4. Correction of Errors

a. An error is generally considered to be a cartographic mistake, or a misprint, omission, or duplication in the text. It is technical in nature, and not the result of new information or changing attitudes or policies.

b. If the City Council and County Board of Commissioners become aware of an error in the map(s) or text of this mutually-adopted urbanization program, both bodies may cause an immediate amendment to correct the error, after mutual agreement is reached.

c. Corrections shall be made by ordinance, following a public hearing conducted by both governing bodies. Public hearings before the Planning Commissions shall not be required when an amendment is intended specifically to correct an error.

5. Definitions

Urban Growth Boundary: A site specific line imposed on the Official Comprehensive Plan and Zoning Map of Jackson County which identifies and encompasses urban and urbanizable lands within Jackson County according to the following definitions:

Urban Land: Residential areas generally comprised of parcels less than one acre in size, or highly developed commercial and industrial areas which are contained within incorporated cities, or which contain concentrations of persons who generally reside or work in the area, including lands adjacent to, and outside of, incorporated cities, and which have supporting urban facilities and services.

Urbanizable Land: Areas within an officially adopted Urban Growth Boundary which are needed for expansion of an urban area, and which have been determined to be necessary and suitable for development as future urban land, and which can be served with supporting urban facilities and services.

Urban Facilities and Services: Basic facilities that are primarily planned by local government, but which also may be provided by private enterprise, and are essential to the support of development in accordance with the city *Comprehensive Plan*. Urban facilities and services include: police protection; fire protection; sanitary facilities; public water facilities; storm drainage facilities; planning, zoning and subdivision controls; health services; recreation facilities and services; energy and communication services; and community governmental services (including schools and transportation).

ANNEXATION

The transfer of urbanizable land under county jurisdiction to city jurisdiction is called annexation. Chapter 222 of the *Oregon Revised Statutes* governs annexation in Oregon. According to state law, land may be annexed to a city only if it is within the Urban Growth Boundary, and is contiguous to the city limits. A majority of the registered voters and/or property owners within the area to be annexed must agree to the annexation, except in cases where the area is surrounded by land already under city jurisdiction.

State law also requires that the City consider the following when converting urbanizable land to urban uses:

1. The orderly, economic provision of public facilities and services;

2. The availability of sufficient land for the various uses to ensure choices in the market place;

3. The Land Conservation Development Commission (LCDC) Statewide Planning Goals or the acknowledged Comprehensive Plan; and,

4. The encouragement of development within urban areas before conversion of urbanizable areas.

ANNEXATION POLICIES

The following shall be the policies of the City of Medford with regards to future annexations:

1. General Policy

The City of Medford has planned to provide areas within the Urban Growth Boundary as defined in the *Comprehensive Plan*, with public sewer and water supply facilities, zoning , police and fire protection, and with all other municipal services required to support urban levels of development . Therefore, the city does hereby encourage such areas to annex and receive the benefits offered by the city, and shall facilitate the process whereby such areas may become a part of the city.

2. City Services Outside City Limits

The City of Medford has acquired and holds its various service facilities for the benefit of residents and taxpayers within the city, and owes them a basic and primary duty to preserve the capacity of the facilities for their benefit, and to refrain from any excess use which would unnecessarily impose upon the residents and taxpayers, the financial burden of increases in such capacity. Therefore, the city shall not extend or furnish municipal services to areas beyond the city limits, except in the performance of contracts with other incorporated cities. The city will honor presently existing contracts with special districts, but only to the extent of their present boundaries. However, because fire and emergency medical services are a critical need for all citizens, when, in the opinion of the Fire Chief, other satisfactory means are not available to non-

city taxpayers for this service, the City shall continue to allow the Medford Rural Fire District #2 to annex beyond their present boundaries.

3. City's Participation in the Annexation Proposal

The City of Medford shall continue to require that residents of the area initiate, and assume the task of promoting, any annexation proposal, except in areas that have been surrounded by the City, the City may initiate and promote the annexation.

4. Annexations shall comply with the requirements of the Oregon Revised Statutes and Statewide Planning Goal 14, Urbanization.

The City Council must find that the following State requirements are met in order to approve an annexation:

a. The land is within the City's Urban Growth Boundary,
b. The land is contiguous to the current City limits, and
c. Unless the land being considered for annexation is enclaved by the City or the City chooses to hold an election, a majority of the land-owners and/or electors have consented in writing to the annexation per ORS 222.125 or ORS 222.170.

5. Withdrawal from Special Districts

For any areas hereafter annexed to the City of Medford and withdrawn from the Rogue Valley Sewer Service (RVS), previously called the Bear Creek Valley Sanitary Authority, or from any sanitary, rural fire protection, domestic water, or other special service district with existing general obligation indebtedness, the city shall, pursuant to ORS 222.520, assume and agree to pay the bonded indebtedness attributable to such area in the manner provided by ORS 222.520, and will thereby relieve the real property in such areas from further district taxation for such bonded indebtedness.

HOUSING ELEMENT

CITY OF MEDFORD
COMPREHENSIVE PLAN

ADOPTED SEPTEMBER 21, 1995

MEDFORD PLANNING DEPARTMENT

PREPARED BY
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ADOPTED BY
MEDFORD CITY COUNCIL
SEPTEMBER 21, 1995
ORDINANCE NO. 7962

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I. INTRODUCTION

LEGISLATIVE BASIS

This *Housing Element* has been prepared as a component of the *City of Medford Comprehensive Plan*. The purpose of the *Comprehensive Plan* is to establish a framework of goals and policies upon which to base decisions and actions related to the use of land. The city is required by the State of Oregon to designate sufficient types and amounts of land to accommodate the need for further urban development, taking into account local growth policies, the forecasted future population, open space needs, and carrying capacity. *Carrying capacity* is defined by the state as the Alevel of use that can be accommodated and continued without irreversible impairment of natural resource productivity, the ecosystem, and the quality of air, land, and water resources.≅ Public facilities and services are also a principal factor in planning for various densities and types of uses, and must be appropriate to support a sufficient amount of land to maintain an adequate housing market.

In the *Oregon Land Use Act of 1973*, the State of Oregon established nineteen *Statewide Planning Goals* that must be addressed in city and county comprehensive plans. The goals have been adopted by the state as administrative rules (*ORS - Oregon Revised Statutes*), and compliance is mandatory. A series of guidelines pertaining to each goal was also adopted. The guidelines (*OARS - Oregon Administrative Rules*) are courses of action for local governments to follow when developing a comprehensive plan and implementing it.

Goal 10, entitled AHousing,≅ states:
GOAL: TO PROVIDE FOR THE HOUSING NEEDS OF CITIZENS OF THE STATE.
Buildable lands for residential use shall be inventoried, and plans shall encourage the availability of adequate numbers of needed housing units at price ranges and rent levels that are commensurate with the financial capabilities of Oregon households, and allow for flexibility of housing location, type, and density.

The state housing goal is similar to the national housing goal of providing safe, decent, and sanitary housing for all individuals, regardless of age, race, color, religion, disability, sex, marital or family status, or national origin. This goal, a result of the *United States Housing Act of 1934*, solidified, and made permanent, federally-assisted public housing programs.

It is the responsibility of local government to assure that state and federal housing goals are met. That responsibility is twofold. First are the legal requirements mandated by the state and federal government, requiring compliance with state planning criteria, and with state and federal housing assistance programs. The second is the moral and societal obligation to assure safe, decent, sanitary, and affordable housing for all citizens of the city, the state, and the nation.

To achieve Goal 10, the OARS recommend that communities consider using a variety of methods, including tax incentives, building code revisions, zoning and land use controls, subsidies and loans, acquisition techniques, enforcement of health and safety codes, and coordination of urban services to provide affordable housing throughout the planning area. It also recommends that ordinances and incentives be used to increase population densities in urban areas.

HOUSING ELEMENT PURPOSE

The *Housing Element* is intended to identify housing need for the present and future residents of the City of Medford, and to develop policies to meet the need. Its purpose is to identify issues and problems, provide inventories and other information, and evaluate alternative courses of action and ultimate policy choices. It will be adopted by the City Council after a public hearing, and will be reviewed periodically to take into account changing public policies and circumstances.

It is also to be the basis for specific implementation measures. These will provide for continuing review of housing need projections, and establish a process for revisions. There are generally two types of implementations: management implementation measures, such as ordinances or regulations, plans for public facilities, and capital improvement budgets; and site-specific implementation measures, such as permits, construction of public facilities, and provision of services. Techniques for carrying out the plan must be considered in the plan.

Evaluations required by *Goal 10* include: a comparison of the distribution of the existing population by income with the distribution of available dwelling units by cost; a determination of vacancy rates, both overall and at varying rent ranges and cost levels; a determination of expected housing need at varying rent ranges and cost levels; allowance for a variety of densities and types of residences; and an inventory of sound housing in urban areas, including units capable of being rehabilitated.

HOUSING ELEMENT FORMAT

This *Housing Element* is divided into nine important sections. Section *I. Introduction* describes the many reasons a local government prepares and maintains a *Housing Element*. It discusses how the *Housing Element* compares to the federally required housing document, the *City of Medford Consolidated Plan for Housing and Community Development*. It also notes the high level of citizen involvement in preparing and adopting the *Housing Element*.

Section *II. Population and Household Characteristics* identifies the population trends and household characteristics required to assess existing and future housing need. The necessary statistical information was accumulated from a variety of sources, including the 1990 Federal Census figures, and from current data formulated by up-to-date inventories and surveys. The *Population Element* of the *City of Medford Comprehensive Plan* provides a more in-depth analysis of these factors.

Section *III. Housing Inventory* provides the data necessary to accurately analyze the existing housing situation, and recent residential development trends. Before formulation of policies and an implementation program, sound information regarding existing housing in the community must be compiled. Historic growth rates and amounts for the various types of housing units are noted, as well as vacancy rates. In addition to data on housing starts from building permits issued by the City of Medford, the city has developed a computerized database of land use information using Jackson County Assessor=s records. The information can be mapped using the computerized Geographical Information System (GIS).

Section *IV. Housing and Residential Land Need* projects the amount of housing and land that will

be necessary over the planning period as required by the *Statewide Planning Goals*. Housing need is a function of population characteristics and growth, need by unit type, income, and vacancy rates. The analysis of these factors is necessary to predict the future accurately. After the projected housing need was established, the amount of land required to meet that need was calculated. An inventory of the vacant land within the Urban Growth Boundary (UGB) capable of accommodating residential growth was completed using 1994 records.

Section *V. Housing Affordability and Income Analysis* uses the distribution of income in Medford in 1990 by the cost of housing to determine the affordability of various types of housing. The analysis establishes the financial capability of the local citizenry to obtain housing. The cost of housing as a percentage of income, for renters and homeowners, is of increasing concern nationwide. Future employment trends in the region are also noted.

Section *VI. Providing Affordable Housing* explores the factors involved in the provision of affordable housing. Housing production is a complex system based upon significant economic factors, including supply and demand, the money market, and investment return. These factors are affected by government, labor, suppliers, and banks, among others. Local governments can affect the supply of affordable housing indirectly through zoning, growth limits, development fees, and provision of public services. Alternative housing types such as manufactured homes and accessory dwelling units are also discussed.

Section *VII. Housing Assistance Programs* notes existing housing assistance programs in the City of Medford. Various federal, state, and local programs have been established to aid communities in meeting most types of assisted housing need. Many of programs in place in the City of Medford are administered through the Housing Authority of Jackson County, ACCESS, and other non-profit organizations with support from the city through the Community Development Block Grant (CDBG) Program and other funding sources.

Section *VIII. Conclusions* states the conclusions that can be drawn from analyzing the pertinent available data. From these conclusions, goals have been established, and action statements, in the form of policies and implementation measures, have been structured to carry out the goals. These goals and policies, contained in Section *IX. Goals, Policies, and Implementation Measures*, are, in essence, the heart of the housing element. They give substance and legal commitment to the city's role in the housing market through specific implementation mechanisms.

CONSOLIDATED PLAN

As part of the federal CDBG Program, the city adopted a *Comprehensive Housing Affordability Strategy* (CHAS) in 1994. The CHAS is a reporting document that replaced the previously required *Housing Assistance* and *Comprehensive Homeless Assistance* plans. Although similar in content to the *Housing Element*, the CHAS provides a more in-depth assessment of affordable housing need for special groups, such as the homeless, disabled, and elderly. It provides strategies and sets priorities for housing need over one-year and five-year periods. To utilize federal funding, housing projects within the city must be consistent with the CHAS. In 1995, the CHAS was revised into a new document required by the U.S. Department of Housing and Urban Development (HUD), the *Consolidated Plan for Housing and Community Development*.

CITIZEN INVOLVEMENT

Another of the nineteen *Statewide Planning Goals* that must be addressed in a comprehensive plan is Citizen Involvement. The *City of Medford Comprehensive Plan* provides for a Citizen Planning Advisory Committee (CPAC). CPAC conducts regular meetings, and one of its duties is to review proposed *Comprehensive Plan* amendments such as the *Housing Element*. CPAC reviewed the proposal and recommended approval. The draft document was also forwarded for comment to various agencies and individuals with interest or expertise in housing in the Medford area. In addition, a public meeting, study sessions, and public hearings before the City Planning Commission and City Council will be conducted prior to adoption of the final *Housing Element*.

II. POPULATION AND HOUSEHOLD CHARACTERISTICS

GROWTH TRENDS

The City of Medford and Jackson County have been experiencing a faster rate of growth than the State of Oregon as a whole. According to Federal Census statistics, the population of Medford increased 36.7% between 1970 and 1980, and 18.3% between 1980 and 1990. Jackson County population increased 40.1% between 1970 and 1980, and 10.5% between 1980 and 1990. During the same periods, the state increases were 26.0% and 8.0%, respectively. According to the Center for Population Research and Census at Portland State University, the city population increased at an average annual rate of 3.0% per year for the ten year period ending June 30, 1994.

Medford comprised 30% of the total county population in 1980, and 32% in 1990; however, more than 50% of the county increase between 1980 and 1990 occurred within the City of Medford. The only cities in Jackson County with higher growth rates than Medford during the 1980's were Phoenix, Rogue River, Shady Cove and Talent; however, these are small communities, each comprising less than 2% of the total county population. Table II-A summarizes the population growth in the City of Medford and Jackson County between 1984 and 1994.

The *Population Element* of the *City of Medford Comprehensive Plan* projects a city population of 59,030 by the year 2000, and 71,110 by 2010, which is a 2.6% average annual increase over the 1990 population. Portland State University projects that Jackson County will have a population of 170,000 by the year 2000, which is a 1.6% average annual increase over the 1990 population. Table II-B indicates the current population growth projections for the city and the county to the year 2010.

The factors that affect Medford's population growth are the natural increase in population, migration, and annexations. The natural increase in population is births minus deaths over a given period. This has accounted for less than a quarter of the increase in Jackson County in recent years. Positive net migration has made up most of the population growth in the City of Medford for some time. Since 1970, annexation of property containing occupied dwelling units has not contributed significantly to the increase in population in Medford, e.g., 6% of the increase in the 1980's.

The UGB area outside the city limits of Medford is proposed for annexation to the city over a 20-year period. Approximately 1,750 dwelling units were located within the UGB in 1993. The construction and occupation of additional dwelling units within the UGB prior to annexation is likely in the future due to contract annexation policies, under which new development is annexed after construction.

TABLE II-A

POPULATION GROWTH 1984-1994
CITY OF MEDFORD AND JACKSON COUNTY

YEAR	CITY OF MEDFORD	RATE	JACKSON COUNTY	RATE
1984	40,950	1.8%	135,100	1.3%
1985	41,975	2.5%	137,900	2.1%
1986	42,460	1.2%	138,400	0.4%
1987	43,875	3.3%	141,700	2.4%
1988	45,000	2.6%	143,400	1.2%
1989	45,290	0.6%	145,000	1.1%
1990	47,021	3.8%	146,389	1.0%
1991	49,050	4.3%	151,400	3.4%
1992	49,900	1.7%	152,900	1.0%
1993	51,346	2.9%	157,000	2.7%
1994	53,280	3.8%	160,000	1.9%

Sources: **Center for Population Research and Census, Portland State University**
Federal Census for 1990

Notes:

City of Medford 10-year simple average annual growth rate:	**3.0% per year**
Jackson County 10-year simple average annual growth rate:	**1.8% per year**
City of Medford 10-year population increase:	**12,330 persons**
Medford 10-year growth as a percent of Jackson County growth:	**50%**
Medford 1994 population as percent of Jackson County population:	**33%**

AGE CHARACTERISTICS

The median age in the City of Medford in 1980 was 30.5 years, and in 1990, was 35.4 years. This compares with the state median age in 1990 of 34.3 years, and the county median age of 36.7 years. The median age in Medford will continue to increase with the aging of the ABaby Boomers,≅ with the continued in-migration of retired persons, and with the national increase in longevity. The age groups with the highest numbers of persons in 1990 in the city were those between ages 25 and 44 (includes the Baby Boomers), and those under age 10 (Baby Boomers= children). Those with the lowest number were between ages 50 and 59, and those aged 75 and older. The age groups that had the greatest increase in numbers between 1980 and 1990 were those between ages 35 and 54, and those 65 and older. The age groups between ages 15 and 29, and between ages 55 and 59 actually decreased in numbers over that period.

The number of persons aged 65 and older in Medford increased by more than 50% between 1980 and 1990, confirming that the city population is aging. There were 8,166 persons in the city aged 65

and older in 1990. This age group increased from 14% of the city population in 1980 to 17% in 1990. In comparison, only 14% of the state was aged 65 and older in 1990. The high rate of increase in this age group is likely to continue for the reasons noted previously.

TABLE II-B
POPULATION GROWTH PROJECTION 1990-2010
CITY OF MEDFORD AND JACKSON COUNTY

YEAR	CITY OF MEDFORD	JACKSON COUNTY
1990*	46,951	146,389
2000	59,030	170,000
2010	71,110	190,000

Sources: **City of Medford Planning Department**
Center for Population Research and Census, Portland State University
Federal Census for 1990

Notes: ***Actual**

HOUSEHOLD SIZE

The Federal Census provides a variety of statistical data on the characteristics of households. The average number of persons per household in the City of Medford in 1990 was 2.4. That figure in 1980 was 2.5, and has gradually decreased over time from 3.0 in 1940. The average number of persons per household in Jackson County and the State of Oregon in 1990 was 2.5. The decrease in persons per household is attributable to women having fewer children, and to increases in divorce and longevity. The persons per household figure in the city is projected to be 2.2 by the year 2010 because of these continuing trends.

The average number of persons per household in single-family units (owner and renter-occupied) in the city in 1990 was 2.7, and in multiple-family units and manufactured homes, was 1.9. Table II-C summarizes the average persons per household in the City of Medford in 1990 by housing type and tenure.

HOUSEHOLD COMPOSITION

In 1990, married-couples with children made up only 23% of the 18,867 households in the City of Medford. Twenty-nine percent of the households (5,472) had at least one person aged 65 and older. There were 4,992 single-person households, and 46% of those were persons aged 65 and older. Most of the persons aged 65 and older and living alone were women (81%). Single-person households are predominantly female renters with lower incomes, and, therefore, more susceptible to rising housing costs.
The number of single-parent households in 1990 was 1,768, and 81% of those had female heads of household. There were 2,850 children in single-parent families. The number of children in single-

parent families in Medford has likely increased even more dramatically since 1990.

TABLE II-C
AVERAGE PERSONS PER HOUSEHOLD
CITY OF MEDFORD

UNIT TYPE	ALL UNITS	OWNER-OCCUPIED	RENTER-OCCUPIED
SINGLE-FAMILY	2.68	2.61	2.88
MULTIPLE- FAMILY	1.87	1.64	1.88
MANUFACTURED HOMES	1.87	1.84	2.05
ALL TYPES	2.44	2.55	2.29

Source: Federal Census for 1990

HOUSEHOLD MOBILITY

The household mobility rate in the City of Medford is higher than that of Jackson County and the State of Oregon. The 1990 Federal Census indicated that 16.3% of the homeowner households and 45.9% of the renter households in the city had moved during 1989. Between 1985 and 1990, 62% of all city residents had moved, and, of those, 44% (nearly 5,000 households) had moved to Medford from outside Jackson County.

TENURE

At the time of the 1990 Federal Census, 57% of the 18,867 occupied dwelling units in the City of Medford were owner-occupied. This was less than the state average of 63% homeownership. Of conventional single-family dwelling units, 75% were owner-occupied, and 83% of the manufactured homes were owner-occupied. The highest rate of homeownership (74%) occurred in the 55 to 74 age group. The next highest rate of homeownership (63%) was in the 35 to 54 age group, and in the 75 and older age group. Only 28% of those under age 35 were homeowners. The age of the main householder was surveyed.

ETHNIC POPULATION

The 1990 Federal Census identified 5.2% of Medford's population (2,450 persons) as Anonwhite,≅ which compares with the Jackson County nonwhite population of 4.2%, and the state nonwhite population of 7.2%. In comparison, at the time of the 1980 Federal Census, the city population was composed of 3.4% nonwhite persons. Most of the nonwhite persons in the city in 1990 were identified as Native American and Asian. A total of 2,707 persons spoke a language other than English at home.

The 1990 Federal Census also identified 5.1% of the total city population (2,387 persons), white and nonwhite, as being of Hispanic origin. In 1980, the percentage was 2.9%. Most of the persons of Hispanic origin were Mexican. A concentration of persons of Hispanic origin occurs in Census Tracts 1 and 2, which are located in the older, central portion of the community. Tract 1 was 16% Hispanic, and Tract 2 was 9%. Only 33% of city Hispanic households were homeowner households, as compared with 57% of the non-Hispanic households.

The Northwest Regional Primary Care Association identified 6,953 farmworkers in Jackson County in 1989. This figure included children. Most of the farmworkers in the region are Hispanic. Nine dwelling units within the City of Medford were identified in the 1990 Federal Census as for use by migrant workers; however, many more farmworkers have become permanent city residents.

DISABLED POPULATION

In regard to housing need, the disabled can be classified into three categories: those requiring no special housing adaptations, those requiring housing which has been modified to be handicapped accessible, and those requiring institutional or group care facilities.

The 1990 Federal Census identified the following statistics regarding non-institutionalized disabled persons in the City of Medford in 1990:

NON-INSTITUTIONALIZED DISABLED PERSONS	NUMBER	PERCENT*
PERSONS AGED 16 TO 64 WITH A WORK DISABILITY	3,147	11.2%
PERSONS AGED 16 TO 64 WITH A MOBILITY OR SELF-CARE LIMITATION	927	3.3%
PERSONS AGED 65 AND OLDER WITH A MOBILITY OR SELF-CARE LIMITATION	1,403	18.1%

Notes: *Percent refers to percentage of total persons in that age group.

A survey of group care facilities conducted by the city in 1995 indicated that there were approximately 1,700 persons in congregate care, assisted living, or nursing facilities. There are also

a number of residential care homes with five or fewer residents providing housing for elderly and disabled persons. The Federal Census does not distinguish these from ordinary, single-family residences. Persons aged 65 and older with a mobility or self-care limitation are considered Afrail elderly,≅ and are at risk of being institutionalized if adequate home care cannot be provided.

HOMELESS POPULATION

The homeless are defined as individuals and families who do not have the means to secure and maintain a fixed, safe, and adequate nighttime residence. It is estimated that approximately one-third of homeless persons in the United States are single adults suffering from mental illnesses. Over half the homeless are veterans. The number of homeless persons residing in shelters in the City of Medford at the time of the 1990 Federal Census canvass was 111; however, it is generally believed that, nationally, the Census figures represented an undercount. The Homelessness and Housing Project, a group of agencies serving the homeless, has conducted yearly surveys of homeless persons in Jackson County beginning in 1990. In 1990, 355 homeless persons were identified within the city; 483 were counted in 1994. A count of displaced youth conducted in 1993 found 170 youth in Jackson County between the ages of 12 and 18 who Ahave no viable family or community housing resource, or who are currently living in unsafe or unstable environments, with no apparent means of support.≅

III. HOUSING INVENTORY

HOUSING UNIT GROWTH

Tables III-A and III-B summarize the numbers and types of dwelling units existing in Medford over the past 40 years. The total number of dwelling units increased by 18.4% during the 1980=s during which time 3,113 units were added. The city=s population growth rate for that period was a similar 18.6%. Between 1990 and 1995, 3,696 housing starts were recorded, averaging 452 new single-family units and 242 new multiple-family units each year. Over the five-year period, a net average of 722 units per year was added to the housing stock, including manufactured homes, and adjusting for lost units. In 1993 and 1994, the net increase was more than 900 units each year.

TABLE III-A
HISTORIC DWELLING UNIT GROWTH
CITY OF MEDFORD

YEAR	SINGLE-FAMILY	PERCENT	MULTIPLE-FAMILY*	PERCENT	MANUFAC-TURED HOMES^	PERCENT	TOTAL
1960	6,989	78%	1,788	20%	135	2%	8,912
1970	8,270	74%	2,647	24%	265	2%	11,182
1980	11,144	66%	5,217	31%	526	3%	16,887
1990	13,152	66%	6,128	31%	708	3%	19,988
1995	15,411	65%	7,330	31%	912	4%	23,653
2010#	20,100	62%	10,700	33%	1,700	5%	32,500

Source: City of Medford Planning Department

Notes:
April 1st figures, includes units under construction
***Includes duplexes**
^Includes those in mobile home parks
#Estimate

HOUSING MIX

A gradual shift in the composition of the city housing stock has occurred over time. In 1960, approximately 78% of the city=s dwelling units were single-family, as compared with 66% in 1990. Between 1990 and 1995, only 61% of the units added were single-family. An increase in the amount and proportion of multiple-family units relates directly to the affordability issue. The most desirable new construction mix, relative to the provision of affordable housing, is approximately 50% detached single-family and 50% attached single-family and multiple-family. This ratio was nearly achieved in Medford during the 1970's, a period of very rapid residential growth in the community.

TABLE III-B
DWELLING UNIT CONSTRUCTION 1985-1995*
CITY OF MEDFORD

YEAR	SINGLE-FAMILY		MULTIPLE-FAMILY+		MANUFACTURED HOMES	MOBILE HOMES IN PARKS	NET TOTAL
1985	220	(-13)	50	(-12)	NA	53	298
1986	284	(-17)	8	(-1)	26	19	319
1987	299	(-11)	122		23	28	461
1988	355	(-20)	134		NA	0	456
1989	428	(-27)	256		NA	15	672
1990	387	(-20)	455		0	26	847
1991	355	(-15)	143		4	11	498
1992	346	(-11)	66	(-6)	8	14	417
1993	600	(-16)	227	(-4)	20	90	917
1994	572	(-14)	318		4	50	930
10-YEAR TOTAL	3,846	(-164)	1,779	(-23)	85	306	5,829
YEARLY AVERAGE	385	(-16)	178	(-2)	9	31	585

Sources: City of Medford Building Permit Activity Reports
City of Medford Planning Department for Mobile Homes in Parks

Notes:
*Does not include existing units annexed
+Includes duplexes
(-0) Units lost to demolitions/conversions
NA - Not available

Increasingly fewer households can buy or rent single-family dwelling units. Apartment units, condominiums, manufactured homes, etc., constructed at higher densities, have lower land costs per unit and reduced construction costs. Besides cost, another factor contributing to the increase in the proportion of multiple-family units is the increased demand for low-maintenance dwellings, particularly by senior citizens and single persons. With the decreasing persons per household rate, the need for smaller dwelling units is increasing. Excessive size results in an inefficient use of the housing stock, and requires more land than necessary.

GROUP HOUSING

There are a number of facilities that provide housing in group quarters in Medford, primarily for the disabled and elderly. The 1990 Federal Census found 951 persons living in group quarters in Medford, with 57% of those being 65 and older. However, a survey conducted by the city in 1995 indicated 2,008 persons living in group quarters in the city, with 87% of those in retirement and nursing facilities. This discrepancy may be attributable to the way in which congregate care-type facilities for the elderly are counted. It appears that they may be counted in the Census as individual dwelling units rather than as group quarters.

The Rogue Valley Manor is the largest retirement facility in the city, with a range of housing types, including a skilled nursing facility, congregate care, assisted living, and attached single-family dwelling units. The Rogue Valley Manor had 706 residents in 1995. There were approximately 480 other nursing facility beds in the city in 1995, as well. In other group retirement facilities, primarily congregate care, there were approximately 550 residents. In addition, there were 309 subsidized units in eight apartment complexes for the elderly.

HOUSING CONDITION

A significant improvement in housing condition in the city occurred during the 1970's. The city began actively pursuing citizen-generated unsafe housing condition complaints at that time. The results from housing condition surveys conducted in Medford in 1970, 1982, and 1992 are indicated in Table III-C. The criteria used to classify the units as Asound,≅ Adeteriorating,≅ or Adilapidated≅ are those utilized by the U.S. Bureau of the Census. These criteria are defined in Appendix A.

TABLE III-C
HOUSING CONDITION
CITY OF MEDFORD

YEAR	PERCENT DETERIORATING	PERCENT DILAPIDATED
1970	13.9%	.8%
1982	1.4%	.1%
1992	1.4%	.2%

Sources: City of Medford Planning Department for 1970 and 1982
Southern Oregon State College Student Survey for 1992

Currently, a full-time building inspector position investigates housing safety violations. Since 1982, the relative proportion of sound, deteriorated, and dilapidated dwelling units has had little change. The condition survey conducted in 1982 found a higher rate of deteriorating and dilapidated units within the UGB outside the city limits. This area was not surveyed in 1992; however, this higher rate is not likely to decrease until the units are annexed into the city.

The 1990 Federal Census noted only 18 Aboarded-up≅ vacant units in the city, which were 2.2%

of all vacant units. Only 50 units (vacant and occupied) lacked complete plumbing facilities, and 141 lacked complete kitchen facilities. The city has a low demolition/conversion rate, which, between 1985 and 1995, averaged 16 single-family units per year, and two multiple-family units per year.

Part of the city=s CDBG funds and other federal funds are awarded each year to agencies that provide loans and subsidies to property owners for rehabilitating affordable dwelling units. The current programs, administered by the Housing Authority of Jackson County and ACCESS, the local community action agency, provide weatherization, wood stove replacement, roof replacement, and other rehabilitation of units occupied by low-income renters and homeowners. The *City of Medford Consolidated Plan for Housing and Community Development (1995)* further explains the operation of these programs within the city.

Rehabilitation is a cost-effective method of providing affordable housing because the cost is much less than that for new construction. It contributes to neighborhood preservation, and reduces the amount of sometimes incompatible new construction in existing neighborhoods. Rehabilitation services provided to elderly homeowners result in their remaining in low cost housing for a longer time before needing costly group or institutional housing.

HOUSING AGE

As previously noted, Medford experienced a very high rate of growth during the 1970's. Over one-quarter of the city's housing stock were constructed during that decade according to the 1990 Federal Census. Conversely, another one-quarter of the units were constructed before 1950. Although there are a large number of these older units, the condition survey results indicate that they are mostly well-maintained. The areas with the most deteriorating or dilapidated units, the oldest neighborhoods located west of Bear Creek and north of Stewart Avenue, are those where use of rehabilitation programs has been concentrated. This need was confirmed through a Awindshield survey≅ conducted for the *Jackson County Housing Needs Assessment* prepared for ACCESS by the Community Planning Workshop of the University of Oregon in 1993.

VACANCY RATES

The vacancy rate is one indication of the state of the housing market at a given time. If the rate is too low, the housing stock is under-built, resulting in inflated housing costs. If the rate is too high, the housing stock is over-built, at least at some price levels. A 5.0% rental vacancy rate is considered the minimum necessary to allow for ordinary renter mobility. A lower vacancy rate results in tenants having difficulty finding appropriate units. For the purposes of further calculations, it shall be assumed that desirable vacancy rates are 2.0% for owner-occupied units and 5.0% for rentals.

According to the Federal Census, Medford's vacancy rates in 1980 were 2.2% for owner-occupied units and 7.7% for renter-occupied units. In 1990, however, the vacancy rates were 1.1% and 4.3%, respectively, a significant decrease, which brought the rates into a range likely to result in higher housing costs. Table III-D indicates the number of vacant units by type in 1990. It appears that the rental vacancy rate has begun to increase again, to an approximate rate of just less than 5% early in 1995. The 1990 rental vacancy rate based on affordability is

discussed in Section V. Subsidized dwelling units owned by the Housing Authority of Jackson County, or those in the subsidy program administered by the Housing Authority, are in strong demand, with a vacancy rate of zero. Vacancies are quickly filled from large waiting lists.

TABLE III-D
HOUSING VACANCY BY TYPE - 1990
CITY OF MEDFORD

STATUS	VACANT UNITS	AVERAGE PRICE
FOR SALE	371	$84,762
FOR RENT	119	$428
RENTED/SOLD BUT UNOCCUPIED	204	NA
OTHER	123	NA
TOTAL	817	NA

Source: **Federal Census for 1990**

Notes: **NA = Not applicable**

OVERCROWDING

In 1990, there were 700 renter households in Medford with five or more persons. The number of renter households considered overcrowded (having more than one person per room) was 481. An additional 160 homeowner households were overcrowded. Rental units with four or more bedrooms are much less common (3% of the occupied rental units in 1990), particularly in multiple-family developments. The average owner-occupied housing unit in Medford in 1990 had three bedrooms, while the average renter-occupied unit had two bedrooms.

Among the communities in Jackson County, White City had the highest percentage of overcrowding, 10.5%, compared with Medford=s 3.4%, and the county average of 3.9%. The communities of White City and Eagle Point also had a much higher percentage of young children than Medford. White City had a persons per household figure in 1990 of 3.15, compared with Medford=s 2.44. White City also had the lowest rental vacancy rate in the county, 1.7%, and Eagle Point, the second lowest. The White City/Eagle Point area appears to be absorbing an excess of low-income families with children, compared with the remainder of the county.

IV. HOUSING AND RESIDENTIAL LAND NEED

STATE REQUIREMENTS

The OARS referencing *Goal 10 - Housing* require cities to assure an opportunity for the provision of adequate needed dwelling units, and assure the efficient use of buildable residential land. *Needed housing* is defined as that required to meet the need for various housing types within a UGB at particular price ranges and rent levels. It must include attached and detached single-family housing, multiple-family housing, and manufactured homes, for both renter and owner occupancy. Manufactured homes are defined as those that meet the HUD *Manufactured Housing Standards Act of 1974* (amended in 1981). Government-assisted housing is also included in the definition of *needed* housing in certain cities in Oregon, but not including Medford.

Buildable residential land is defined as land in urban and urbanizable areas that is necessary for residential use, is suitable, and available. It is residentially designated vacant and/or redevelopable land within a UGB that is not constrained by natural hazards or resource protection measures, and, for which public facilities are planned or can be made available. *Redevelopable residential land* is defined as developed land zoned for residential use for which there is strong likelihood that it will be converted to a more intensive residential use during the planning period. Land that slopes over 25% and land in 100-year flood plains is generally considered unbuildable. The term *net buildable acres* excludes present and future rights-of-way, hazard areas, public open space, and resource protection areas.

A *housing need projection*, which determines the mix of housing types and densities that will be commensurate with the financial capabilities of the present and future UGB residents of all income levels, is also required. Sufficient buildable residential land must be designated to satisfy housing need by type and density as determined in the housing need projection. Residential land use plan designations must be assigned to all buildable residential land, and must be specific enough to accommodate the types and densities identified. The needs of the region must be considered when determining a fair allocation of housing types and densities (Aregional fair share≅).

The OARS also require an inventory that documents buildable residential land in each land use plan and zoning designation. If residential land in the UGB is not rezoned to its maximum planned density, the *Comprehensive Plan* must contain justification and policies for the future rezoning process to assure the provision of the needed housing. The cumulative effect of all land use plan and zone changes affecting residential use, mix, and density must be considered. Some cities in Oregon (none in Southern Oregon) are required to designate enough buildable residential land to provide an opportunity for at least 50% of the new units to be attached single-family or multiple-family units, and to provide an overall density of ten units per net buildable acre. This is a desirable goal for most communities the size of Medford for the purpose of providing affordable housing, as well as assuring a compact urban form.

PREVIOUS HOUSING NEED PROJECTION 1983 - 2000

Medford's 1984 *Housing Element* projected that an additional 8,212 dwelling units would be needed to accommodate population growth in the City of Medford between 1983 and the year 2000, or an average of 483 units per year. Between 1983 and 1993, housing starts, including homes added to manufactured home parks, averaged about 460 per year. In addition, there were approximately 200 units annexed to the city during this ten-year period. The total number of added units accommodated the projected need almost exactly. Table III-B summarizes housing starts by year for the most recent ten-year period.

The 1984 analysis predicted a need for an average of 193 additional multiple-family dwelling units per year. Multiple-family housing starts between 1983 and 1993 averaged 174 per year, including duplexes. This average was reduced because of the low number of multiple-family units produced during the recession of the mid-1980=s. The low rental vacancy rate in the early 1990=s confirmed that the number of rental units produced had not been adequate. However, the yearly average number of multiple-family housing starts has increased, and during the past five years (1990-1995) it was 242 units per year. As a result of this increase, rental vacancy rates appear to be approaching a more acceptable level.

HOUSING NEED PROJECTION 1994 TO 2010

A *housing need projection* was prepared for the City of Medford based on the population projection for the year 2010 of 71,110 persons. The calculations are included in Appendix B. The number of dwelling units needed to maintain an adequate vacancy rate and prevent overcrowding was determined. See Table IV-A. The projected 2010 population was adjusted for those in group quarters, and divided by an assumed rate of 2.2 persons per household. Using a desired vacancy rate of 2% for single-family units and 5% for multiple-family units, it was calculated that a total of 32,541 dwelling units will be necessary to house the population in the City of Medford in 2010. With a total of 22,818 dwelling units existing in 1994, an additional 9,723 units will be needed. Assuming a mix of 65% single-family to 35% multiple-family for the new units, there will be a need for 6,107 single-family units and 3,616 multiple-family units, plus an additional 300 units to make up for demolitions and conversions.

To accommodate the projected population increase over the next 16 years, an average of 627 housing starts per year, including annexed units, will be required. As noted previously, the average number of housing starts over the past 10 years (1985-1995) was approximately 600 per year, plus about 20 units annexed each year. The average of the last few years is higher; however, housing starts are cyclical, and will rise and fall throughout the planning period.

The group quarters population in 2010 was estimated by assuming that the current percentage of the total city population residing in group quarters is unlikely to vary significantly. In 1980, 2.4% of the city population lived in group quarters, and in 1990, 2.0%. This compares with 2.3% in the State of Oregon. Although the proportion of elderly in the city population has been increasing, it appears that the percentage of persons in group quarters has not yet done the same. It was assumed that 2.3% of the city population will reside in group quarters in 2010.

TABLE IV-A
HOUSING NEED PROJECTION 1994-2010

CITY OF MEDFORD

YEAR	SINGLE-FAMILY UNITS*	MULTIPLE-FAMILY UNITS+	TOTAL UNITS
1994^	15,750	7,068	22,818
2010	21,857	10,684	32,541
TOTAL NEED	6,107	3,616	9,723
AVERAGE ANNUAL NEED	382	226	608

Source: City of Medford Planning Department

Notes:
***Includes manufactured homes**
+Includes duplexes
^Actual

RESIDENTIAL LAND NEED PROJECTION 1994 TO 2010

A residential *land need projection*, using the *housing need projection*, was also prepared for the year 2010, and is included in detail in Appendix B. The calculations were again based on the assumed housing mix for new development of 65% single-family dwelling units and 35% multiple-family dwelling units. The calculations were also based on an assumed distribution of new development by zoning district. Table IV-B indicates the 1993 distribution of existing dwelling units by zoning district, and Table IV-C indicates the projected land need to the year 2010.

The City of Medford residential zoning districts and the corresponding densities, in dwelling units per acre (du/ac), as of September 1, 1995 are as follows:

ZONE	TYPE	DENSITY
SFR-2	SINGLE-FAMILY RESIDENTIAL	2 DU/AC
SFR-4	SINGLE-FAMILY RESIDENTIAL	4 DU/AC
SFR-6	SINGLE-FAMILY RESIDENTIAL	6 DU/AC
SFR-10	SINGLE-FAMILY RESIDENTIAL	10 DU/AC
MFR-20	MULTIPLE-FAMILY RESIDENTIAL	20 DU/AC
MFR-30	MULTIPLE-FAMILY RESIDENTIAL	30 DU/AC
C ZONES	COMMERCIAL DISTRICTS	30 DU/AC

In the residential land need projection, the following assumptions regarding the zoning of residential land developed in Medford between 1994 and 2010 were made: In the single-family

zoning districts, a decrease in the share of SFR-4 zoned land, and an increase in the share of SFR-2, SFR-6, and SFR-10 zoned land was assumed. In the multiple-family zoning districts, the share of MFR-20 zoned land was assumed to remain the same, the share of MFR-30 zoned land was assumed to increase, and the share of residentially developed commercial land was assumed to decrease.

TABLE IV-B
RESIDENTIAL DEVELOPMENT - 1994
CITY OF MEDFORD

ZONING DISTRICT	DEVELOPED ACRES*	VACANT ACRES	DWELLING UNITS	DENSITY (DU/AC)	UNIT DISTRIBUTION
SFR-2	3	46	5	2.0	<1%
SFR-4	2,513	1,506	7,517	3.0	36%
SFR-6	770	474	3,599	4.7	17%
SFR-10	513	129	3,754	7.3	18%
MFR-20	303	130	2,790	9.2	14%
MFR-30	128	27	1,323	10.3	6%
COMMERCIAL	141	NA	1,444	10.3	7%
INDUSTRIAL	412	NA	164	0.4	1%
COUNTY^	56	356	42	0.8	<1%
TOTAL	4,838	2,667	20,638	4.3	100%

Source: **City of Medford Land Use Inventory (LUI) 10/94**

Notes:
***Only those developed with residential uses**
^Not yet city zoned
NA - Not applicable
Du/Ac - Dwelling units per acre

The basis for these assumptions includes the following: (1) Because there is more vacant residential land in the city zoned SFR-4 than other districts, many recent zone changes have been from SFR-4 to other zoning districts permitting higher single-family densities. For example, in 1993, approximately 40 acres of SFR-4 were rezoned to higher density zoning districts. This trend is expected to continue due to the market demand for smaller lot development. It is desirable to encourage the use of fewer acres to produce the same amount of housing because it usually results in lower costs to the consumer, as well as reducing urban sprawl.
(2) SFR-2 zoned land is expected to increase due to the likely development of approximately 250 acres on the easterly side of the community with slopes exceeding 15%. The *City of Medford Land Development Code* specifies that SFR-2 zoning should be applied to areas of 15% slope or greater,

that SFR-4 zoning should be applied to land greater than 5% slope, and that SFR-6 is intended to be the standard single-family residential zoning district for all other low-density areas.

TABLE IV-C
RESIDENTIAL LAND NEED PROJECTION 1994-2010
CITY OF MEDFORD

ZONE	GROSS* ACRES NEEDED	ADDITIONAL DWELLING UNITS
SFR-2	250	305
SFR-4	875	2,138
SFR-6	500	1,832
SFR-10	300	1,832
MFR-20	145	1,627
MFR-30	70	1,085
C ZONES	50	904
TOTAL	2,190	9,723

Source: City of Medford Planning Department

Notes: *Includes land for parks and street rights-of-way

In 1994, the Medford City Council adopted an amendment to the *Land Development Code* establishing minimum required densities in each of the residential zoning districts. These minimum densities are approximately 60% to 70% of the maximum permitted densities. Currently, the average *maximum* permitted density in the SFR zoning districts is 5.5 dwelling units per acre, and, in the MFR zoning districts, is 25 dwelling units per acre. The average *minimum* permitted densities are 3.3 and 16.0, respectively.

The calculations in the land need projection assumed that new residential development will be built at 80% of maximum permitted densities, resulting in an overall density for new single-family development of 4.2 dwelling units per net acre, and, for multiple-family development, 19.6 dwelling units per net acre. The 80% of maximum permitted density figure used in the calculations was based on the average density of residential project applications considered by the city within the past several years. Since the residential density figures for the entire city in 1993 were 3.9 dwelling units per net acre for single-family zoning districts, and 9.7 dwelling units per net acre for multiple-family zoning districts, a significant increase in the density of new housing is anticipated.

HOUSING DENSITY

The current trend toward higher density is primarily the result of economic factors, such as the cost of land, demographic trends, and statewide goals for more compact urban development.

This trend is expected to continue due to increasing numbers of smaller, non-traditional households, to the aging of the Baby Boomers (Aflattening of the age curve≅), and to high in-migration increasing the need for transitional housing. In the future, there will be more elderly, and a larger portion of the population will be in the under-30 age group, leaving fewer households able to afford traditional large-lot single-family dwelling units. More households will demand dwellings that are cheaper, easier to maintain, and more conveniently located. If new residential development in Medford occurs as predicted in the calculations, the average density of residential development built between 1994 and 2010 will be 5.8 dwelling units per net acre, and the overall citywide density will increase from 4.3 to 5.1 dwelling units per net acre.

Increasing density in terms of the number of persons per square mile, as has been occurring in Medford, has many benefits over the long term. These include reducing travel movements, reducing the cost of the infrastructure, increasing the feasibility of mass transit, and decreasing the cost of housing. These benefits can then lead to a reduction in future fuel consumption, a decrease in air pollution, and a reduction in future traffic congestion. Transit use tends to increase sharply at densities greater than seven dwelling units per acre. Clustering higher density residential uses within one-third of a mile of a transit corridor or transit stop results in a higher rate of use.

VACANT RESIDENTIAL LAND INVENTORY

A *vacant residential land inventory* was prepared for the city and UGB, using the Jackson County Assessor=s records for 1994. The vacant acreage designated for residential use on the city=s General Land Use Plan (GLUP) Map was tallied, except that considered unbuildable by the Assessor=s records. Parcels less than one acre in size were not included in the inventory unless they were designated for high density use. It counted partially developed (Aredevelopable≅) property by excluding a proscribed amount of land for each existing dwelling unit. A more thorough description of the inventory process is included in Appendix C.

The inventory found 3,700 gross vacant acres designated for Urban Residential (single-family) use, and 200 gross vacant acres designated for Urban High Density Residential (multiple-family) use. More than 50% of the vacant acreage was east of North Phoenix/Foothill Roads. Much of this land in the eastern foothills will be developed at slightly lower densities than other areas of the community due to steep slopes. See Table IV-D for a summary of the inventory. The inventory was mapped using the computerized GIS. The map is on file at the City of Medford Planning Department. The inventory and the map are scheduled to be updated yearly.

The inventory also indicated that there were 1,058 vacant, platted lots (assigned tax lot numbers) designated and/or zoned for single-family residential use in the city and UGB. These were lots of less than one acre in size. More than 96% of the lots were already in the city. Only 42 of the lots were zoned SFR-10, which permits duplexes in certain cases.

VACANT LAND NEED

The land need projection determined a need for a minimum of 1,925 acres of buildable single-

family residential land by the year 2010, and the vacant land inventory found 3,700 acres of vacant land designated for single-family use in the city and UGB. The land need projection also determined a need for a minimum of 265 acres of buildable multiple-family residential land by the year 2010, and the vacant land inventory found 200 acres of vacant land designated for multiple-family use in the city and UGB. Therefore, there remains a need to designate more land as Urban High Density Residential for multiple-family use. In 1993, 36% of the Urban Residential land in the city was vacant, while only 22% of the Urban High Density Residential land was vacant. Increasing the supply of vacant land designated for multiple-family use is necessary to keep land costs from becoming prohibitive.

TABLE IV-D
VACANT RESIDENTIAL LAND INVENTORY - 1994
CITY OF MEDFORD

LOCATION	URBAN RESIDENTIAL (UR) ACRES	URBAN HIGH DENSITY RESIDENTIAL (UHDR) ACRES
CITY LIMITS	1,200	170
UNDER ANNEXATION AGREEMENT*	200	10
URBAN GROWTH BOUNDARY*	2,300	20
TOTAL	3,700	200

Source: City of Medford Planning Department

Notes: *Outside city limits

The anticipated increase in overall city density by the year 2010 discussed previously will result in a savings of more than 300 acres of vacant land. A major benefit of encouraging this increase in density is that more than 1,700 additional units can be accommodated within the same land area, reducing the need for expansion of the UGB.

The zoning districts requiring the largest amount of additional vacant acreage are SFR-2 and SFR-10. The SFR-2 zoning will be established as steeply sloping areas are annexed into the city. Some of these areas may develop at a higher density if Planned Development (PD) zoning is encouraged or required. Such developments are desirable because they can provide a range of housing types at various densities and price on one site, resulting in a more dynamic neighborhood.

Much of the city=s existing SFR-10 zoning is in west Medford, in established older neighborhoods. There is an increasing need to provide areas of buildable SFR-10 land throughout the community to reduce this type of concentration, which can overload a particular

area with rentals, and promote incompatible development. According to state law, if residential land is not rezoned to its maximum planned density, the *Comprehensive Plan* must contain justification and policies for future rezoning to assure the provision of needed housing.

LAND AVAILABILITY AND CONSTRAINTS

Realistically, a percentage of the city=s vacant land will not be developed by 2010 for a variety of reasons, including the fact that some is not for sale at any price. It is, therefore, likely that a greater number of acres than the projected minimum need must be maintained. As noted previously, buildable residential land is defined as land in urban and urbanizable areas that is necessary for residential use, is suitable, and available. *Suitable and available* is defined in state law as Aresidentially designated vacant and/or redevelopable land within a UGB that is not constrained by natural hazards or resource protection measures, and, for which public facilities are planned or can be made available.≅ Land that slopes more than 25%, and land in 100-year flood plains is generally considered unbuildable.

The computer program used to produce the vacant residential land inventory eliminated unbuildable land in a variety of ways. Land deemed Aunbuildable,≅ or unavailable (not taxable) for other reasons, by the Assessor=s Office was excluded from the inventory. As noted, parcels of less than one acre in size were also excluded unless designated for high density use. The more thorough explanation is included in Appendix C.

From time to time, the Medford City Council designates ALimited Services Areas,≅ which are areas within the UGB where certain public services and/or facilities cannot be made immediately available for new development. Development within a Limited Services Area is reduced or discontinued for a time, until such public facilities can be funded and extended. The only Limited Services Area presently in existence is Lone Pine/Foothills, located east of Foothill Road at Lone Pine Road. It encompasses approximately 30 acres of residential land, and is affected by water system deficiencies due to elevation. The deficiencies will be alleviated when development further to the east results in the installation of a reservoir and other necessary facilities.

V. HOUSING AFFORDABILITY AND INCOME ANALYSIS

HOUSING COSTS

Nationally, the cost of housing has increased dramatically in the past 20 years, and homeownership rates have fallen, particularly among young households. The *Oregon Benchmarks*, which provides measures designed to gauge performance and improvement in statewide livability, set a goal that, by the year 2010, 75% of renter households and 92% of homeowner households in Oregon with incomes below the state median income will be spending less that 30% of their income on housing. It also set a goal that, by 2010, 50% of Oregon households will be able to afford the median valued home.

In Medford in 1990, only 60% of renter households and 85% of homeowner households with incomes below the Median Family Income (MFI) of $29,800 were spending less that 30% of their income on housing. Of all city households, 80% could afford the median rent; however, only 46% could afford a home priced at the median value. It is likely that the percentage of households in Medford who can afford the median rent has decreased since 1990 because of significant increases in rents. Due to the low interest rates for home purchases since 1993, the percentage of households who can afford a home priced at the median value has probably not gone down, and may have increased since 1990.

EMPLOYMENT TRENDS

In 1989, 62% of the city population over the age of 15 were in the labor force, and 7% of those were unemployed. Of the total city population in 1989, 12,616 residents worked full-time all year. The number of employed persons residing in the city increased by 30% between 1980 and 1990, while, during the same period, the population increased by only 18.3%. The number of employees in the retail, business services, recreation, and health fields increased by approximately 50%.

The Oregon Employment Department projects that overall job growth in Jackson County will increase by 14% between 1988 and the year 2000; however, overall state job growth is predicted to increase by 20% during the same period. It predicts that jobs in Agoods-producing sectors≅ will actually decrease, and that those in Aservice-producing≅ sectors will increase by 18%. The projected decrease is based on reductions in natural resource-based employment, especially the timber industry, which is predicted to decline by 25%.

Non-timber related manufacturing jobs are predicted to increase, but not enough to make up for the loss. Retirement and recreation will spur expansion in the non-manufacturing sectors: services, construction, and trade. The largest increases are projected in sales, services, and precision production. The expanding service and retail sectors tend to provide jobs with lower wages than industry, resulting in an increased demand for affordable housing.

Since Medford is a major center of commercial and industrial activity in the region, there are

more employees in the city than dwelling units to house them. Many of those employed in lower-paying service jobs seek housing in surrounding communities with lower housing costs such as White City, Central Point, Phoenix, etc. Based on the current and projected employment outlook, an unsatisfied demand within the city for affordable housing to serve those employed in service-producing sectors already exists, and will increase. Many of those employed in service economy jobs find it difficult to purchase a home in spite of the recent drop in mortgage rates. High rents exacerbate the problem of saving a down payment necessary to secure a mortgage.

INCOME DISTRIBUTION

HUD has set a standard grouping of households by income. The grouping or distribution is based on the MFI for the jurisdiction in question. Medford=s MFI ($29,800 in 1990 - 1989 income) is that of the Medford Metropolitan Statistical Area (MSA), which is all of Jackson County. The fiscal year 1994 MFI as determined by HUD was $33,300.

The HUD household income grouping is as follows:

LOWEST INCOME HOUSEHOLDS:	**INCOME UP TO 30% OF MFI**
VERY LOW INCOME HOUSEHOLDS:	**INCOME BETWEEN 31% AND 50% OF MFI**
LOW INCOME HOUSEHOLDS:	**INCOME BETWEEN 51% AND 80% OF MFI**
MODERATE INCOME HOUSEHOLDS:	**INCOME BETWEEN 81% AND 95% OF MFI**
ABOVE MODERATE INCOME HOUSEHOLDS:	**INCOME ABOVE 95% OF MFI**

HUD has defined affordability based on the premise than households should pay no more than 30% of their income on housing costs, which, for renters, includes utilities, and, for homeowners, includes interest, insurance and property taxes. A household is defined as having an *excessive cost burden* if their housing costs exceed 30% of their income, and a *severe cost burden* if housing costs exceed 50% of income.

According to the 1990 Federal Census, the MFI within the city proper in 1989 was $31,332, which was higher than the Jackson County MFI of $29,800. These compare with the state MFI in 1990 of $32,336. The poverty level in 1989 was defined as an income of less than $12,674 for a family of four. There were 1,474 families in Medford (11.5%) with incomes under the poverty level, including 2,179 children under age 18. Those communities in Jackson County with an even higher percentage of poor families included White City (20.4%), Eagle Point (14.9%), and Gold Hill (12.6%). Tables V-A and V-B summarize poverty levels in the county.

RENTER HOUSEHOLDS

According to the Federal Census figures, the median rent for single and multiple-family dwelling units in Medford experienced a 65% increase between 1980 and 1990, which is comparable with the increase in the city=s median household income. The previous decade, between 1970 and 1980, the median rent had increased by 167%, which was 30% more than the increase in income. Nearly two-thirds of all rentals in 1990 fell into the price range of $200 to $499 per month, with a median rent of $358. As noted above, in 1990, 80% of Medford's households could afford the median rent. Table V-C lists rental dwelling units by price range in 1990.

TABLE V-A
INCOME AND POVERTY - 1989
CITY OF MEDFORD, JACKSON COUNTY, STATE OF OREGON

TYPE	MEDFORD	JACKSON COUNTY	OREGON
PER CAPITA INCOME	$13,791	$12,492	$13,418
MEDIAN HOUSEHOLD INCOME	$25,677	$25,069	$27,250
MEDIAN FAMILY^ INCOME	$31,332	$29,800	$32,336
PERSONS BELOW POVERTY LEVEL*	14.4%	13.2%	12.4%
CHILDREN BELOW POVERTY LEVEL	19.1%	17.0%	15.2%
FAMILIES BELOW POVERTY LEVEL	11.5%	9.7%	8.7%
ELDERLY+ BELOW POVERTY LEVEL	11.5%	9.9%	10.1%

Source: Federal Census for 1990

Notes:
***Poverty Level - Yearly income of less than $12,675 for a family of four in 1989**
^Family - One or more persons in the household are related to the main householder
+Elderly - age 65 and older

Since homeownership is not an option for certain low and moderate income households, adequate affordable rental housing is necessary. Table V-D summarizes an analysis of the affordability of rental units existing in Medford in 1990 by unit size and income group, using Federal Census data. An analysis of 1990 data found a shortage of 926 units affordable to the lowest income group (up to 30% of MFI). The Census, however, found that 1,267 households in that income group had a cost burden (paid more than 30% of their income for rent). It is likely that there were more households in that income group with a cost burden than the shortage in affordable units (1,267 to 926) because some affordable units are rented to non-low income households. There was also a shortage of 74 units affordable to the 31-50% of MFI income group, for a total shortage of 1,000 affordable units.

The rental vacancy rate in 1990 was more than 4%. However, it was 3% for units with three or more bedrooms. It was 2% for units affordable to the lowest income group, with those vacancies only in studio or one-bedroom units. There were no vacant units larger than one-bedroom in size that were affordable to households with incomes of less than 30% of MFI.

TABLE V-B
INCOME BELOW POVERTY LEVEL* - 1989
JACKSON COUNTY CITIES

LOCATION	PERCENT OF FAMILIES^	PERCENT OF CHILDREN
WHITE CITY	20.4%	30.9%
EAGLE POINT	14.9%	25.8%
GOLD HILL	12.6%	24.9%
MEDFORD	11.5%	19.1%
SHADY COVE	10.2%	19.8%
TALENT	9.9%	17.9%
JACKSON COUNTY	9.7%	17.0%
ASHLAND	9.4%	17.7%
STATE OF OREGON	8.7%	15.2%
ROGUE RIVER	6.9%	7.5%
JACKSONVILLE	5.6%	8.1%
PHOENIX	5.5%	11.3%
CENTRAL POINT	5.4%	7.7%

Source: Federal Census for 1990

Notes:
***Poverty Level - Yearly income of less than $12,675 for a family of four in 1989**
^Family - One or more persons in the household are related to the main householder

HOMEOWNER HOUSEHOLDS

According to Federal Census figures, the median value of owner-occupied units in Medford between 1980 and 1990 experienced a 22% increase, which was greater than the state increase of 14%. However, as noted above, during the same period, the median rent and the median income in the city increased nearly 65%. In contrast, between 1970 and 1980, the increase in the median value of owner-occupied units in Medford was 288%.

TABLE V-C
COST OF RENTAL DWELLING UNITS - 1990

CITY OF MEDFORD

RENT RANGE	NUMBER OF RENTALS	DISTRIBUTION
BELOW $200	1,025	12.7%
$200-$299	1,652	20.5%
$300-$399	2,655	33.0%
$400-$499	1,563	19.4%
$500-$599	542	6.7%
$600-$699	226	2.8%
$700 OR MORE	392	4.9%
TOTAL	8,055*	100.0%

Source: Federal Census for 1990
Notes:
***99% of renter-occupied units were surveyed**
Median Rent: $358.00

TABLE V-D
RENTAL UNIT AFFORDABILITY* - 1990
CITY OF MEDFORD

INCOME GROUP~	TOTAL RENTER HOUSE HOLDS	AVAILABLE RENTAL UNITS^				UNIT SHORTAGE
		0-1 BEDROOM	2 BEDROOMS	3+ BEDROOMS	TOTAL UNITS	
0%-30% MFI	1,637	424	170	117	711	926
31%-50% MFI	1,184	547	441	122	1,110	74
51%-80% MFI	1,778	1,398	2,452	1,282	5,132	NONE
81%+ MFI	3,561	387	628	582	1,597	[1,964#]
ALL INCOMES	8,160	2,756	3,691	2,103	8,550	1,000

Source: CHAS Databook for Oregon - HUD (Federal Census for 1990)
Notes:
***Affordable rent is defined as 30% or less of a household=s income, including utilities.**
^Number of dwelling units available in 1990 that were affordable to each income group
~Median Family Income for 1989 as determined by HUD: $29,800
#This figure is not a true shortage because there are adequate units affordable to the 51%-80% income group to satisfy the need of both groups.

As Table V-E indicates, most (61%) of the owner-occupied units in the city in 1990 fell into the value range of $50,000 to $99,000, with a median value of $71,500. The current median value is not available; however, the *average* value of single-family dwelling units in Medford increased

from $82,700 in 1990 to $103,200 in 1994. *Average* or *mean* is determined by averaging all values, whereas, *median* is the point at which there are an equal number of values above and below that value. Average can be influenced by a few extremely high or low values. Tables V-F and V-G indicate homeownership numbers and rates by unit type and race in 1990.

To calculate the percentage of households in Medford able to purchase a home priced at the median value in 1990 of $71,500, it was assumed that monthly housing costs would be 1% of the value, or $715.00 per month. The 1% figure is a means to estimate the monthly cost roughly, including taxes, insurance, and utilities. The yearly cost, therefore, would be 12 x $715, or $8,580 per year, which is 30% of an annual income of $28,600. Approximately 44% of all households and 55% of all families in the city had at least that yearly income in 1990.

TABLE V-E
VALUE OF OWNER-OCCUPIED DWELLING UNITS - 1990
CITY OF MEDFORD

VALUE RANGE	NUMBER OF UNITS	PERCENT OF TOTAL
LESS THAN $50,000	1,669	18.1%
$ 50,000 - $ 99,999	5,577	60.6%
$100,000 - $149,000	1,404	15.2%
$150,000 - $199,999	348	3.8%
$200,000 OR MORE	211	2.3%
TOTAL UNITS*	9,209	100%

Source: Federal Census for 1990

Notes:
***86% of total owner-occupied units were surveyed**
Median Value: $71,500

HOUSING NEED BY COST

The projected number of households living in the city by the year 2010 by income levels was estimated using the same distribution of income levels at the time of the 1990 Federal Census (1989 income figures). The number of renter and owner households was also estimated using the 1990 proportion for each income group. For example, 11% of all households in Medford in 1990 were in the lowest income group, and 76% of those were renters. Therefore, it was assumed that at least 11% of all households in Medford in 2010 will be in the lowest income group, and that at least 76% of those will be renters.

The calculations project that there will be a need for 47% of all dwelling units in the city to be affordable to low and moderate income households by 2010. There will be 3,474 households in the lowest income group, and 2,640 of those will be renters. These are the households, which,

without a doubt, will require assisted housing to keep their housing cost burden at 30% or less of income. See Tables V-H and V-I.

Using the 1990 distribution to determine the number of households at each income level in 2010 could result in under or an over estimation. For example, the proportion of renter households in lower income groups may increase due to the rising cost of housing as compared with income, and due to the increasing number of Americans living in poverty. However, it is difficult to gauge the amount of change in these factors in the future. Therefore, it is likely that the number of low income households predicted through this method can be expected to be the *minimum* number.

TABLE V-F
HOMEOWNERSHIP BY TYPE AND TENURE
CITY OF MEDFORD

HOUSING TYPE	TOTAL OCCUPIED UNITS	OWNER-OCCUPIED UNITS	PERCENT OWNER-OCCUPIED
SINGLE-FAMILY	13,101	9,781	75%
MULTIPLE-FAMILY	4,839	240	5%
MANUFACTURED HOMES	773	644	83%
OTHER	154	42	27%
TOTAL	18,867	10,707	57%

Source: Federal Census for 1990

HOUSING NEED BY TYPE

By applying the 1990 distribution of income to predicted proportion of housing types and tenure in 2010, the number of households by income, type, and tenure was estimated. The assumed 2010 proportions of housing types and tenure are as follows:

	SFR	ASFR	MFR	MH	ALL
RENTER	34%	5%	58%	3%	100%
OWNER	88%	3%	2%	7%	100%

This distribution is slightly different from that existing in 1990, with assumed small increases in the proportion of attached single-family residences (ASFR) and manufactured homes (MH). See Table V-J for the detailed data.

Based on the calculations, of the approximately 5,300 additional households in conventional single-family units by 2010, 13% will be low income renter households (having incomes of less than 80% of MFI), and 20% will be low income owner households. Of the 3,600 additional households in multiple-family residential units, 52% will be low income renters. There will be approximately 1,700 households in manufactured homes, most in parks, and at least one third will need to be affordable to low income households. See the housing need projection in Appendix C for more a more detailed estimate of total need.

TABLE V-G
HOMEOWNERSHIP BY RACE
CITY OF MEDFORD

RACE*	NUMBER OF HOUSEHOLDS	PERCENT HOMEOWNERS
WHITE	18,182	58%
BLACK	32	28%
NATIVE AMERICAN	204	40%
ASIAN	146	43%
OTHER	303	18%
TOTAL	18,867	57%
HISPANIC^	612	33%

Source: Federal Census for 1990

Notes:
***The race of the main householder was surveyed**
^Surveyed separately from ARace≅

TABLE V-H

HOUSEHOLD INCOME AND TENURE - 1990 AND 2010
CITY OF MEDFORD

HOUSEHOLD INCOME TYPE	1990 HOUSEHOLDS			2010 HOUSEHOLDS
	NUMBER	DISTRIBUTION	PERCENT RENTERS	ESTIMATED NUMBER+
LOWEST (0%- 30% MFI)*	2,149	11%	76%	3,474
VERY LOW (31%-50% MFI)	2,065	11%	57%	3,474
LOW (51%-80% MFI)	3,136	17%	57%	5,368
MODERATE (81%-95% MFI)	1,594	8%	47%	2,526
ABOVE MODERATE (96%+ MFI)	9,955	53%	27%	16,737
ALL HOUSEHOLDS	18,899	100%	43%	31,579^

Sources: **City of Medford CHAS 1993 Table 1C (1990 Federal Census - HUD CHAS Databook)**
City of Medford Planning Department for 2010 Estimate

Notes:
***MFI - Median Family Income for 1989 as determined by HUD: $29,800**
^The household figure in 2010 of 31,579 is based on a housing need projection prepared by the City of Medford Planning Department.
+The 2010 distribution assumes the same distribution as in 1990.

TABLE V-I
ESTIMATED HOUSEHOLD INCOME AND TENURE - 2010~

CITY OF MEDFORD

HOUSEHOLD INCOME TYPE	OWNERS	RENTERS	TOTAL
LOWEST (0%- 30% MFI)*	834	2,640	3,474
VERY LOW (31%-50% MFI)	1,494	1,980	3,474
LOW (51%-80% MFI)	2,308	3,060	5,368
MODERATE (81%-95% MFI)	1,339	1,187	2,526
ABOVE MODERATE (96%+ MFI)	12,218	4,519	16,737
ALL HOUSEHOLDS	18,193	13,386	31,579^

Source: City of Medford Planning Department estimate based on City of Medford CHAS 1993 Table 1C (1990 Federal Census - HUD CHAS Databook)

Notes:
***MFI - Median family income as determined by HUD**
^The household figure in 2010 of 31,579 is based on a housing need projection prepared by the City of Medford Planning Department.
~The 2010 distribution assumes the same distribution as in 1990.

TABLE V-J

ESTIMATED HOUSEHOLDS BY INCOME, TENURE, AND TYPE - 2010
CITY OF MEDFORD

HOUSEHOLD INCOME TYPE	SINGLE-FAMILY RESIDENTIAL	% RENTERS	ATTACHED SINGLE-FAMILY RESIDENTIAL	% RENTERS	MULTIPLE-FAMILY RESIDENTIAL	% RENTERS	MANUFACTURED HOMES	% RENTERS
LOWEST (0%- 30% MFI)*	1,632	55%	157	84%	1,548	99%	137	58%
VERY LOW (31%-50% MFI)	1,988	34%	144	69%	1,178	98%	164	34%
LOW (51%-80% MFI)	3,071	34%	222	69%	1,821	97%	254	36%
MODERATE (81%-95% MFI)	1,582	26%	99	60%	715	96%	130	28%
+ MODERATE (96%+ MFI)	12,289	13%	593	38%	2,865	92%	991	14%
ALL HOUSEHOLDS	20,562	22%	1,215	55%	8,127	96%	1,676	24%

Source: City of Medford Planning Department - Extrapolated from Data in the City of Medford CHAS 1993 Table 1C (1990 Federal Census - HUD CHAS Databook)

Notes: *MFI - Median family income as determined by HUD

VI. PROVIDING AFFORDABLE HOUSING

STATE REQUIREMENTS

Oregon land use laws require communities to provide land use policies that promote adequate housing. Each community must consider the broader housing need of the region in arriving at a fair allocation of housing types and amounts, including multiple-family, attached single-family, detached single-family, and manufactured housing. The term *regional fair share* usually refers to the proportion of housing by type, tenure, and price that a community would have if housing and population were distributed evenly throughout the market area. Local standards and procedures for reviewing applications must be Aclear and objective,≅ and there must be legal reasoning, supported by state and local planning regulations, to deny projects. The OARS require cities to provide certainty in the housing development process. Approval standards, special conditions, and procedures regulating development of needed housing must be clear and objective, and must not cause unreasonable cost or delay.

QUALITY OF LIFE

Fulfilling the housing needs of our citizens is a major quality of life issue. Cities and states have responded to the problem of providing adequate affordable housing in a number of ways, including by providing financial assistance to lower-income households; by subsidizing construction of affordable housing; and by directly engaging in housing construction. Some of the many measures of quality of life that affect the affordability of housing, or are influenced by the cost of housing, include: compatible land uses, schools, parks/recreation, employment, public transportation, public safety, neighborhood services, environmental quality, energy conservation, traffic levels, and utility costs. The ultimate housing goal of local government should be to formulate policies that help mitigate the effects of rising housing costs, while contributing to orderly and efficient urban growth.

HOUSING MARKET

Most land use controls are intended to enhance the quality of the residential environment. They can also alter the performance of the housing market. One way they do this is by influencing the cost of land by affecting the provision of urban services. If the supply of buildable land decreases because of services not being made available, the price of housing will increase, slowing the rate of construction and increasing the density. Market demand is usually the influencing factor in why developed densities fall short of the maximum permitted. A reduction in minimum lot size requirements can also increase density, but only to a certain market-determined level. An oversupply of buildable land will lower housing costs, and tend to encourage larger, lower density housing designed for those who can easily afford for-profit housing. Addressing urban service financing problems is one way to get public facilities in place quicker, thereby keeping land costs lower.

Housing variables of price, density, and mix are primarily determined by economic forces, because

most housing is produced for profit. The attractiveness of the community to new residents, the income level of the community, and housing prices are the major factors that affect the quantity of housing demanded. As attractiveness and community income level increases, the quantity demanded will increase. However, as the price of housing then increases, the quantity demanded will begin to decrease. The regional demand (i.e., the regional economy and population growth rate) has a larger influence on housing prices than the demand in one individual city.

Besides the selling price, the cost of land, labor, capital, and materials affect the amount of housing produced. Lower priced housing requires low land costs and rapid expansion of services, which then leads to lower density development. Compact urban development occurs because of higher land costs, resulting in higher housing prices, which encourages developers and consumers to use less land. Intervention, such as requiring a higher minimum density, providing publicly financed housing, etc., is usually needed to assure that affordable housing is available when encouraging compact development. Multiple-family (i.e., higher density) housing starts are highly cyclical, and tend to reflect financial markets rather than land use plans, however.

AFFORDABLE HOUSING REQUIREMENTS

Some states require density bonuses, development fees, land write-downs, or other financial incentives for providing affordable housing. Some also require that an equitable distribution of higher density housing be provided among cities throughout a region to aid in reducing urban sprawl and traffic congestion, and to further cost-effective expansion of public transit and basic infrastructure. The State of Oregon requires each city to zone to accommodate its fair share of multiple-family, manufactured, and assisted housing. Development requirements must not discourage needed housing types. To meet these requirements, a city can increase allowable densities on already zoned land, and/or zone new land for higher densities. The *needed housing* section of the ORS also prohibits cities from imposing approval standards on government assisted housing or farmworker housing that are not applied to similar, unassisted housing.

One measure that a local government can implement that could lead to an increase in the amount of affordable housing is inclusionary zoning requirements or options. An example of an inclusionary requirement is a set-aside of a certain portion of a development for low income households. A density bonus option permits a certain percentage of additional units in return for providing a certain percentage of affordable units in the project. Although these types of measures contribute to making affordable housing *possible*, it still may not necessarily be *available*.

LOCAL GOVERNMENT REGULATION

Local government regulation of development can affect the provision of affordable housing. The development permit process affects the ultimate cost of housing in a number of ways. As noted previously, the timing of the provision of services to create buildable land affects its cost. The permit process affects the ultimate cost by determining land use designations and zoning, by the standards and requirements imposed, the processing time, and the imposition of impact fees, among others.

Medford has historically taken steps to assure that its development process is quick and fair,

while, at the same time, protecting the public interest. Some of these steps have included: regularly reviewing public improvement requirements, providing a weekly Land Development Committee meeting to review preliminary applications, conducting a review of the development process by a consultant, and consistently adding staff when needed to maintain adequate public service levels.

The development process should be regularly reviewed to assure that it does not hinder the provision of affordable housing. Such hindrances could include poor drafting of local ordinances and regulations, differing interpretations, overcrowded agendas, requirements added late in the process, understaffing, lack of training for new boards and councils, changing rules in the middle of the process, not enough administrative (staff-level) approvals, and overly-long permit processing time. Development review fees and impact fees must also be reviewed to assure that they do not create a barrier to the provision of needed housing types.

DOWNTOWN HOUSING

The zoning in a community=s downtown should encourage the development of housing - both new and in existing buildings. Affordable housing, particularly for the elderly or single person households, can often be provided in downtowns. There are several examples of buildings in Medford's downtown, such as the Medford Hotel, that have been converted to apartments. The upper floors of existing commercial buildings are ideal locations for this type of housing if the original quality of construction is adequate. Having residents in a downtown enhances the activity level, especially after normal business hours, and reduces the need for personal vehicles. In addition, large older dwelling units in the central area are often suitable for conversion to group housing for persons with special needs. The conversion of older residential areas to commercial uses can cause a decline in an existing affordable housing stock.

MANUFACTURED HOMES

Manufactured homes are likely to become a more important source of affordable housing within the City of Medford in the future. They provide a form of homeownership that can be made available to low and moderate income households. Generally, manufactured homes in parks are owned by the occupants who pay rent for the space. In 1990, 83% of the manufactured homes in the city were owner-occupied. Of the 912 manufactured homes in the city by mid-1995, nearly 95% were in manufactured home parks.

Monthly housing costs are lower for a homeowner in a manufactured home park for several reasons, including the fact that property taxes levied on the value of the land are paid by the property owner rather than the manufactured home owner. The value of the manufactured home generally does not appreciate in the way a conventional home would, however. Manufactured home owners in parks are also subject to the mercy of the property owner in terms of rent rates and increases. It is generally not within the means of a manufactured home owner to relocate a manufactured home to escape rent increases. Living in a park is desirable to some because it can provide a more secure community with on-site managers, and amenities, such as laundry and recreation facilities.

The number of manufactured homes installed on single-family residential lots is also likely to

increase. The *City of Medford Land Development Code* was amended to meet state requirements for allowing manufactured housing on lots and in parks. Individual manufactured homes outside parks are allowed in all single-family residential zoning districts, subject to the specific placement standards permitted by state law. The standards are intended to assure that the manufactured homes are generally consistent with other single-family dwelling units, having features such as a pitched roof, and a garage or carport. Over half the manufactured homes on lots in the city in 1993 were in a subdivision designed specifically for that purpose. In addition, there were approximately 145 manufactured homes on lots in the UGB outside the city that are likely to become annexed into the city eventually.

The *Land Development Code* also conforms with state requirements for the siting of manufactured home parks. State law requires that manufactured home parks be allowed in zoning districts which permit residential densities of six to 12 units per acre. The city is allowed to establish clear and objective criteria and standards for the placement and design of parks. State law restricts the establishment of new parks in areas planned for commercial or industrial use. Table VI-A summarizes manufactured home park applications considered by the City of Medford for the previous three years. Since 1990, four applications for new parks or expansions have been considered by the city. One, proposing 128 spaces, was denied, and three, totaling 230 spaces were approved.

The city is required to provide a projection of future need for manufactured home parks based on population projections, household income levels, market trends, and an inventory of existing parks in areas planned and zoned for commercial, industrial, or high density development. The housing need projection prepared for the planning period estimated a need for a total of nearly 1,700 manufactured homes by the year 2010, or an average additional need of about 55 per year. The average number added per year between 1985 and 1995 was approximately 30, although there were 54 added in 1994. The additional units will require approximately 100 net acres, at an average density of eight units per acre (the present average density of parks in the city).

The need projection must also include the potential displacement of homes in the parks within commercial, industrial, or high density designations. In 1994, there were five parks with a total of 185 spaces (18% of the total spaces) in areas designated for commercial use, and 373 spaces (36% of the total spaces) in four parks designated for high density use. There is no indication at this time that they are being considered for closure. Should they all be closed, 70 acres of buildable residential land would be required to replace them, in addition to the 100 acres needed by 2010. The small parks of less than 35 spaces are generally in commercial areas, allow small trailers, and provide very low income housing. See Table VI-B for an inventory of existing parks.

Medford had approximately 34% of Jackson County's dwelling units in 1993, but only 6% of the total manufactured homes. In fact, it had the lowest rate of manufactured homes among cities in the county - 3.1% of the total dwelling units. Ashland=s housing was 3.7% manufactured homes and Central Point=s was 12.2%. On the other end of the spectrum, Shady Cove=s was 45%, Talent=s was 34%, and unincorporated Jackson County=s was 32%, including the White City area. The calculations project that the rate of manufactured homes in the city will increase to 5% by the year 2010. In the 1990 Federal Census, the county=s housing was 17% manufactured homes, as compared with 12% of the dwelling units in the entire state.

TABLE VI-A
APPLICATIONS FOR MANUFACTURED HOME PARKS 1990-1993
CITY OF MEDFORD

NAME	LOCATION	ACTION	YEAR	ZONE	ACRES	SPACES
PEACHWOOD	PEACH ST.	APPROVED	1992	SFR-10	18.4	147
MIDWAY*	MIDWAY AVE.	APPROVED	1991	SFR-10	8.2	61
CORCORAN^	ROSS LN.	APPROVED	1990	SFR-10	4.5	22
WOODSIDE	GARFIELD RD.	DENIED	1990	SFR-6	26.0	128

Source: City of Medford Planning Department

Notes:
***Not built**
^Expansion of Myra Lynn

ACCESSORY DWELLING UNITS

The *City of Medford Land Development Code* presently does not permit accessory dwelling units (Agranny flats≅). Allowing accessory units is not unusual in other cities and states. Some states, in fact, require that they be permitted subject to certain standards. They generally do not have an adverse impact on surrounding residents, and provide a means to increase density and make more intensive use of existing facilities without noticeable changes to a neighborhood.

Standards for accessory units can make it possible to create the unit by using space in the residence itself, or in basements, attics, detached or attached workshops or garages, or entirely new attached or detached construction. Accessory units are not intended to be two-family dwellings, but to house other types of households, particularly single-person households. These units can represent a considerable addition to the private non-subsidized affordable rental units in a community. Nationally, many conversions are done by older or retired home-owners who need additional income to keep up their homes, pay property taxes, etc. Surprisingly, the occupants of the units are not usually senior citizens.

Allowing accessory units is one way to produce smaller, more affordable dwelling units that are still satisfying places to live. The size of the average home has been increasing over the past 40 years, while the average household size is falling. There is a need to encourage a better use of space, especially when there is a lack of adequate affordable housing available. Those with the most incentive to create accessory units are new homeowners who are likely to need the extra income to be able to purchase a home. In wealthy neighborhoods, they are often created as caretakers quarters. Realistically, fewer than 25% of single-family dwellings would ever include an accessory unit.

Neighborhoods vary in their capacity to absorb accessory units. Controlling parking impacts is a

prime consideration, and parking requirements should be flexible enough to accommodate the variety in neighborhood standards. There are a number of possibilities, ranging from requiring an additional covered or uncovered space, allowing tandem spaces (where one blocks another), permitting front or side yard spaces, to allowing on-street parking to suffice. Lots with alley access, corner lots, and lots with detached garages are generally the best suited for an accessory unit. They are not as common in conventional single-family subdivisions due to the existing site design, including small sideyard setbacks. If a city=s requirements are too restrictive, more conversions will be done illegally than legally. In addition to stringent standards, another motivation to create illegal units is to avoid paying additional property and income taxes.

Proposed code revisions to permit accessory dwelling units should include standards that do not hinder providing accessory units in the older neighborhoods, especially those with alley access. New Neo-Traditional designs often include parcels that resemble those in older neighborhoods: narrow lots with alley access only, parkways in front with street trees, and detached garages at the back with the accessory units above the garages. This type of design increases density without altering the appearance of the neighborhood.

RESIDENTIAL CARE FACILITIES

The *City of Medford Land Development Code* was amended to allow residential care facilities in conformance with revised state laws. *Residential care homes* containing five or fewer residents fall under the definition of a Afamily,≅ and are not regulated by the city. A *residential care facility* is defined as having six to fifteen residents over age 16, but does not include nursing homes, child day care facilities, or adult day care facilities. Before a license for a residential care facility is issued by the state, the site is reviewed for proximity to similar facilities within 1,200 feet. Any facility that provides residential care for compensation for two or more elderly persons (over age 62) or disabled persons must be registered with the state.

Most types of residential care facilities are conditional uses in Medford=s single-family residential zoning districts, and are permitted outright in the multiple-family residential zoning districts. The exceptions are residential alcoholism and drug rehabilitation centers, halfway homes for delinquents, juvenile correctional homes, and residential training schools for delinquents. All residential care facilities are permitted outright in the commercial zoning districts, except the Limited Commercial district, which is intended for limited neighborhood commercial uses.

There are several areas in Medford=s *Land Development Code* that should be further reviewed. The *Land Development Code* does not specifically allow residential care facilities for persons less than 16 years of age. Also, the federal *Fair Housing Amendment* considers those enrolled in alcohol and drug treatment care to be disabled, and, therefore, subject to the same siting requirements as other residential care facilities (ORS 443.400 and 443.405 address this issue). The reference in the *Land Development Code* to residential alcoholism and drug rehabilitation centers as exceptions should be reviewed, considering this determination. Other changes to the *Land Development Code* should be considered to make housing-related definitions and references more internally consistent, and also to conform to the intent of state law.

TABLE VI-B
MANUFACTURED HOME PARK SPACE INVENTORY
CITY OF MEDFORD

NAME	LOCATION	ZONE	GLUP MAP*	SPACES	ACRES	DENSITY (DU/AC)
CITY						
SHIRLEEN	602 RIVERSIDE AVE.	C-C	CM	32	2.8	11.4
12TH STREET	401 EAST 12TH ST.	C-G	CM	32	2.3	13.9
IDLE WHEELS	2252 TABLE ROCK RD.	MFR-20	UH	181	26.0	7.0
TABLE ROCK	2385 TABLE ROCK RD.	MFR-20	UH	132	19.1	6.9
VILLAGE	2335 TABLE ROCK RD.	MFR-20	UH	60	6.5	9.2
VALLEY CENTER	3410 N. PACIFIC HWY.	C-G	CM	50	3.4	14.7
MYRA LYNN	924 CAROL RAE	SFR-10	UR	225	33.2	6.8
J AND D	801 CENTRAL AVE.	C-G	C	22	.6	36.7
LINDEN	833 JACKSON ST.	C-L	CM	29	1.3	22.3
PEACHWOOD	1570 PEACH STREET	SFR-10	UR	147	18.4	8.0
CREST IMPERIAL	1090 ELLENDALE DR.	SFR-10	UR	61	6.8	9.0
SUBTOTAL				971	120.4	8.1
UGB						
MOBILE LODGE	2495 WEST MAIN ST.	G-C	CM	20	1.2	16.7
EL CAMINO	1500 KINGS HWY.	SR-2.5	UR	16	1.6	10.0
WELDON	2600 STEARNS WAY	SR-2.5	UR	42	16.2	2.6
SUBTOTAL				78	19.0	4.1
TOTAL				1,049	139.4	7.5

Source: City of Medford Planning Department - 1994

Notes:
***GLUP - General Land Use Plan Map designation**
DU/AC - Dwelling units per acre

VII. HOUSING ASSISTANCE PROGRAMS

The City of Medford 1993 CHAS and 1995 *Consolidated Plan* identified the following as the highest priority need: rental assistance for very low income households, retention of existing affordable housing, development of new housing affordable to very low income households, transitional and supportive housing for special need populations, supportive services to prevent homelessness, and, for very low income elderly, rental assistance, congregate care housing, and homeowner rehabilitation.

There are a number of programs already in place in the City of Medford to further these priorities. They are more fully described in the CHAS and *Consolidated Plan*. The city is an *entitlement community* for federal CDBG funds. For example, the city received $444,000 in CDBG funds in 1993. These funds have historically been used for public infrastructure in lower income neighborhoods, and to fund housing projects handled by other agencies, such as the Housing Authority of Jackson County, ACCESS, and OnTrack.

The Housing Authority utilizes a number of federal programs to provide affordable housing, such as *Section 8* rental assistance. In 1994, within the city, the Housing Authority had 50 assisted units, with another 31 under construction, and provided rent subsidies for an additional 480 units. There were also 680 assisted units under private ownership in the city, with 300 of those primarily for the elderly. Other Housing Authority activities include homeowner rehabilitation, rental rehabilitation, woodstove replacement, and roof replacement programs.

The local community action agency, ACCESS, has numerous housing-related assistance programs, including transitional housing for the homeless, a homeless prevention program, a moderate-income rehabilitation program, and a tenant-based assistance program. ACCESS constructed eight housing units for chronically mentally ill persons, and is preparing to build an 82-unit affordable family housing complex. They also provide family rental subsidies and a U.S. Department of Energy (DOE) weatherization program. ACCESS serves as the local Community Housing Development Organization and as the local Community Development Corporation.

Another nonprofit agency, OnTrack, provides transitional housing for AIDS patients and for those recovering from chemical addictions. They are preparing to construct six additional units. Other organizations in Medford that have received public funding for housing programs include Youthworks (homeless youth), Habitat for Humanity (self-help housing), CERVS (emergency housing assistance), Crisis Intervention Services (domestic violence shelter), and the Jackson County Mental Health Department (independent living facilities).

Several organizations provide homeless shelters, including the Salvation Army, Saint Vincent de Paul Society, and the Medford Gospel Mission. A number of agencies in the City of Medford provide housing and other assistance for physically and developmentally disabled persons, mostly in group homes with five or fewer residents. As of the end of 1993, they housed approximately 100 persons. As noted previously, the need for housing for the disabled is difficult to establish; however, some of these programs have a two-year waiting list.

VIII. CONCLUSIONS

1. The population growth rate in Medford in the 1990's was not as high as it was during the 1970's, but is higher than the growth rate during the 1980's. Medford=s recent growth rate is higher than the Oregon and Jackson County rates, but is comparable to that projected by the *Population Element* of the *City of Medford Comprehensive Plan*, which estimates that the city will grow to 59,030 persons by the year 2000, and to 71,110 by the year 2010. Based on these projections, there will be an additional 17,800 persons to be housed from 1994 to 2010, and the housing need projection is a total of 10,032 additional units. This development will require a minimum of 2,190 gross acres of residential land. Considering these projections and the amount of vacant residential land (approximately 3,900 gross acres at the end of 1994) within the present city limits and UGB, there appears to be no need to expand the UGB at this time.

2. Housing unit growth in Medford over the past decade (1983-1993) kept up with the predicted demand in total numbers; however, because of the recession of the early 1980's, there was a shortage of multiple-family units. A yearly average of 240 multiple-family housing starts over the five-year period of 1990-1994 contributed to decreasing the shortage. However, there is an immediate need for more buildable Urban High Density Residential designated land in the city and UGB, to prevent land prices for multiple-family development from becoming too high.

3. Medford has traditionally been dominated by detached single-family units on relatively large lots. The percentage of the total city dwelling units that are single-family has not changed significantly since 1974. The 400 single-family lots tentatively approved in 1993 were at an average density of 3.8 dwelling units per gross acre. However, overall residential density, including multiple-family, is predicted to increase from 4.2 dwelling units per acre in 1994 to 5.1 in 2010. This predicted increase in density would result in eliminating the need for up to 300 acres of vacant land. It would also aid in reducing sprawl, and result in increased infill within the urbanized area. The city's population density has been steadily increasing, from 2,386 persons per square mile in 1980 to 2,819 in 1994.

4. The average age of the population of Medford is increasing faster than Oregon's, mainly because of retirees moving to Southern Oregon. The average number of persons per household in Medford is decreasing, and is lower than the Oregon and Jackson County averages. There are increasing numbers of single-parent households. Married-couple families with children made up only 23% of Medford's households in 1990. Consequently, there is an increasing demand for retirement facilities, especially for low-income elderly, and for non-traditional dwelling units.

5. Medford's median household income in 1990 was lower than Oregon's; there were more persons, children, and elderly living in poverty than state averages. More than 7,000 (39%) of the city's households were low-income in 1990 according to HUD standards. This is estimated to increase to a minimum of 12,000 by the year 2010.

6. Future job growth in Medford is projected to be at a lower rate than Oregon's; the

relative percentage of industrial jobs is expected to continue to decrease. Service jobs, which tend to be lower paying, are expected to increase, resulting in an increasing need for affordable housing close to the workplace.

7. So far during the 1990's, housing costs have not risen as severely as during the 1980's. However, according to income and housing cost figures from the 1990 Federal Census, there was a shortage of 1,000 units of affordable housing in the city in 1990. Projections of future housing demand and income in Medford indicate an increasing disparity between income and the cost of housing.

8. Medford still has affordable homes for sale; however, the majority of households in the city could not afford the a home priced at the median value ($71,500) in 1990. Medford's overall homeownership rate of 57% is lower than that of Oregon. Less than a third of Medford heads of household under age 35 owned a home in 1990. (The *Oregon Benchmarks* goal is for 50% of all households in the state to be able to afford a home priced at the median value, and for 65% of all households to own their home.) As the ABaby Boomer≅ generation ages, there will be even fewer households able to afford higher priced housing.

9. In 1990, most of the low income households in Medford (63%) were renters. The percentage of low income renter households having a Acost burden≅; i.e., paying more than 30% of their income for housing, was 40%. (The *Oregon Benchmarks* goal for the state is 25%.) According to the 1990 Federal Census, rents increased 6.6% per year during the 1980's in Medford. Rents appear to be increasing even faster in the 1990's, and affordable rentals are in short supply. Only very recently have rental vacancy rates increased to approximately 5%, which is considered the minimum necessary for having a healthy market from an affordability viewpoint.

10. The housing need projection estimated a need for more than 800 additional manufactured homes in parks between 1994 and 2010, requiring more than 50 spaces to be added annually. This will require approximately 80 acres (at eight dwelling units per acre). The percentage of manufactured homes in the city is projected to increase from 3.8% of all units in 1994 to more than 5% in 2010. According to the affordability analysis, at least half of all manufactured homes in the city in 2010 will need to be affordable to low income households.

11. The city has historically extended funding to agencies that provide low income housing programs, such as the Housing Authority of Jackson County, OnTrack, and ACCESS, through the general fund and with federal funds. Medford's 1993 CHAS and 1995 *Consolidated Plan* provide an implementation plan intended to increase the city's direct involvement in providing affordable housing.

12. Based on the buildable land need projection and buildable land inventory, there is an

excess of vacant SFR-4 zoned land; however, recent rezoning applications have tended to be *from* SFR-4 to other SFR districts. The percentage of land in the denser SFR zoning districts (SFR-6 and SFR-10) has been increasing, and this is expected to continue. However, in March of 1994, of the approximately 1,000 vacant platted single-family residential lots in the city; only 42 were zoned SFR-10, which permits duplexes. The percentage of SFR-2 zoned land is also predicted to increase because of steep slopes on the east side, where more than 50% of the vacant (unplatted) SFR land in the city and UGB is located. More vacant MFR-30 (Multiple-Family Residential - 30 units per acre) zoned land is needed immediately. As of the end of 1994, there were only 14 vacant acres.

13. Residential developments and neighborhoods in Medford should be designed to promote pedestrian, bicycle, and mass transit. Multiple-family housing should provide the level of compatibility, aesthetics, and open space necessary for a quality living environment. Hillside development must be based on sound hillside design principles, as much of the future residential development in Medford can be expected to be on the eastern hillsides. It is expected that present and future residents of the city will increasingly demand good residential design and preservation of certain standards of livability.

IX. GOALS, POLICIES, & IMPLEMENTATION MEASURES

Goal 1: To enhance the quality of life of all residents of the City of Medford by promoting a distinctive community character and superior residential environment, emphasizing the unique natural setting of the community.

Policy 1-A: The City of Medford shall promote a community design that emphasizes aesthetics, alternative transportation modes, and pedestrian-scale development.

Implementation 1-A (1): Prepare *community design guidelines*, which will guide the development and architectural review process, for consideration by the City Council. Emphasize such elements as mixed uses, parkways with shade trees, pedestrian ways, bicycle lanes, alley access, rearyard garages, and varied setbacks.

Implementation 1-A (2): Require planned developments in undeveloped areas with unique physical settings to achieve development that is flexible and responsive to the site and surroundings.

Implementation 1-A (3): Prepare *hillside design standards* that require subdivision and site design to be compatible with, and complementary to sloping sites, for consideration by the City Council.

Policy 1-B: The City of Medford shall promote the preservation of the existing housing stock and existing neighborhoods through continued support of programs related to housing rehabilitation and neighborhood revitalization.

Implementation 1-B (1): Institute a neighborhood planning program that arranges the community into *neighborhood planning areas*, and promotes the formulation of neighborhood identities.

Implementation 1-B (2): Continue to monitor housing conditions throughout the city, and continue to enforce housing code violations.

Implementation 1-B (3): Prepare a plan for publicizing housing rehabilitation programs.

Implementation 1-B (4): Emphasize preservation and\or rehabilitation of the existing supply of special need and affordable housing, including manufactured homes in parks**.**

Implementation 1-B (5): Encourage annexation of unincorporated developed neighborhoods.

Implementation 1-B (6): Identify existing single-family residential areas zoned SFR-10 that

may be suitable for downzoning, to reduce the concentration of SFR-10 zoning in any one particular area, by promoting a mix of housing types throughout the community, and to preserve those single-family neighborhoods in danger of having an excessive number of duplexes. If suitable areas are identified, prepare a zone change proposal for initiation by the Planning Commission.

Policy 1-C: The City of Medford shall encourage the provision and conservation of open space throughout the community.

Implementation 1-C (1): Prepare amendments to the *Comprehensive Plan* and *Land Development Code* for consideration by the City Council that provide requirements for inclusion of open space in residential development plans, ranging from providing usable outdoor open space in all multiple-family projects, to buffering agricultural uses, to preserving open space in environmentally sensitive areas such as hilltops or ridgelines, wetlands, creeksides, wildlife habitats, etc.

Implementation 1-C (2): Prepare an inventory of areas within designated residential areas suitable for preservation as open space, such as, but not limited to hilltops or ridgelines, wetlands, creeksides, wildlife habitats, etc., and potential sites for future city parks.

Implementation 1-C (3): Encourage adjacent jurisdictions to consider the preservation of Medford=s residential viewshed when scrutinizing development applications.

Policy 1-D: The City of Medford shall encourage innovative design in multiple-family development so that projects are aesthetically appealing to both the tenants and the community.

Implementation 1-D (1): Review the *Land Development Code* to assure that the standards and requirements relating to multiple-family development do not inhibit innovative design, but, at the same time, require an adequate level of aesthetics and amenities, particularly neighborhood compatibility and functional open space, including useful private outdoor living areas.

Goal 2: To ensure that residential development in the City of Medford is designed to minimize the consumption or degradation of natural resources, promote energy conservation, and reduce the potential effects of natural hazards.

Policy 2-A: The City of Medford shall strive to prevent sprawl and provide a compact urban form that preserves livability and adjacent resource lands.

Implementation 2-A (1): Prepare amendments to the GLUP Map for consideration by the City Council that provide for a minimum overall housing density of eight dwelling units per net acre of buildable land, including an increase in multiple-family housing types. Encourage development outside the city or UGB, where permitted, to facilitate a future urban form and density.

Policy 2-B: The City of Medford shall assure that residential development or redevelopment includes energy conservation considerations, and is designed and located to reduce

transportation energy demand.

Implementation 2-B (1): Require shade trees (versus ornamental) to be installed as part of residential development projects to provide shading of streets, and, in multiple-family housing projects, shading of parking areas as well.

Implementation 2-B (2): Develop and distribute informational materials regarding the benefits of energy conservation measures, including reduced monthly housing costs, in residential subdivision, site, and building design. Consider such measures during the development review process.

Implementation 2-B (3): Develop and distribute informational materials regarding the benefits of water conservation measures in residential building and landscaping design. Consider such measures during the development review process.

Policy 2-C: The City of Medford shall continue support of weatherization and woodstove replacement programs, which enhance affordability, reduce energy use, and improve air quality.

Implementation 2-C (1): Develop and distribute informational materials regarding the availability of weatherization and woodstove replacement assistance from utility companies and housing organizations.

Policy 2-D: The City of Medford shall provide appropriate development standards for those residential areas within the UGB that may be subject to natural or manmade hazards, such as wild fires, landslides, flooding, noise, airport hazards, earthquake fault lines, etc.

Implementation 2-D (1): Identify and evaluate those areas within the UGB designated for residential use that may be subject to natural or manmade hazards. If necessary, propose *GLUP Map* amendments for consideration by the City Council that reduce the exposure of residents to natural or manmade hazards. If necessary, prepare an amendment to the *Land Development Code* for consideration by the City Council that establishes the appropriate standards.

Goal 3: To ensure a coordinated balance among the provision of public services, the location of employment centers, and the production of appropriate housing within the City of Medford.

Policy 3-A: The City of Medford shall assure that citizens and policy makers are informed about the connections in housing affordability, cost-effective urbanization, and land use policies, and shall pursuing regional planning efforts.

Implementation 3-A (1): Initiate development of a cooperative and comprehensive housing data collection system among the other local jurisdictions in the region.

Implementation 3-A (2): Cooperate in the development of a regional strategy which focuses land use policy and public investment to manage growth, including housing density and mix standards and public facility funding policies that meet urban goals.

Implementation 3-A (3): Investigate means to provide a jobs/housing balance in conjunction with new commercial or industrial development.

Policy 3-B: The City of Medford shall plan for regional transportation facilities and other major public facilities and services in advance of needed residential development.

Policy 3-C: The City of Medford shall designate areas that are or will be conveniently located close to pedestrian, bicycle, and transit or high capacity transportation routes, and community facilities and services, for higher density residential development.

Implementation 3-C (1): Identify areas where upzoning would best support infrastructure improvements, including transit.

Goal 4: To provide equal opportunity for safe, decent, sanitary, and affordable housing for all residents of the City of Medford, regardless of age, race, color, religion, mental or physical disability, sex, sexual orientation, marital or family status, or national origin, in conformance with the federal *Fair Housing Act of 1988* and the *Americans with Disabilities Act of 1990*.

Policy 4-A: The City of Medford shall continue to assure that federal laws prohibiting housing discrimination are publicized, and that allegations of discrimination are referred to the responsible enforcement agency.

Implementation 4-A (1): Establish a *fair housing program* that outlines existing enforcement procedures, and utilizes existing resources for promotional activities such as workshops, advertisements, public service announcements, landlord-tenant counseling, and provision of informational materials in public places and city offices.

Policy 4-B: The City of Medford's approval standards, special conditions, and procedures regulating the development of needed housing shall be clear and objective, and shall not have the effect of discouraging needed housing through unreasonable cost or delay.

Goal 5: To ensure opportunity for the provision of adequate housing units in a quality living environment, at types and densities that are commensurate with the financial capabilities of all present and future residents of the City of Medford.

Policy 5-A: The City of Medford shall continue to assess the housing needs of all residents to determine priorities, and to formulate specific strategies and activities to meet that need. Such assessments shall be regularly reported to decision makers to assure that the recommendations are considered for implementation.

Implementation 5-A (1): Establish a system for reviewing all residential projects for compliance with the *Housing Element* goals and policies, including achievement of maximum permitted densities, and prepare a yearly report to decision makers.

Implementation 5-A (2): Establish a housing advisory committee made up of persons representing various organizations and interest groups concerned with housing in the City of Medford.

Implementation 5-A (3): Prepare an *affordable housing policy study* to determine the best means to increase housing affordability in the City of Medford.

Policy 5-B: The City of Medford shall continue to assist regional housing agencies, nonprofit organizations, private developers, and other entities in their efforts to provide affordable housing for renters and homeowners, and the homeless.

Implementation 5-B (1): Consider establishing a City of Medford Housing Office, with a Housing and Community Development Coordinator, within the structure of city government, or through a contract with a private party or organization, to concentrate resources, organize a housing program, provide technical assistance to housing providers, and administer the CDBG Program in place of the current Administrative Engineer position in the Engineering Department.

Implementation 5-B (2): Evaluate innovative affordable housing programs, such as self-help housing, cooperative housing, co-housing, density bonuses, land banking, etc., and provide support when such programs are deemed effective.

Policy 5-C: to provide greater flexibility and economy of land use, the *City of Medford Land Development Code* shall provide opportunities for alternative housing types and patterns, planned developments, mixed uses, and other innovations that reduce development costs and increase density.

Implementation 5-C (1): Prepare an amendment to the *Land Development Code* for consideration by the City Council that would permit accessory dwelling units in single-family residential areas.

Implementation 5-C (2): Prepare an amendment to the *Land Development Code* for consideration by the City Council that would encourage construction of duplexes on corner lots in single-family residential areas.

Implementation 5-C (3): Investigate methods for promoting a mix of dwelling types in new residential areas, and compatible higher density infill and redevelopment in existing residential areas.

Implementation 5-C (4): Investigate methods for promoting additional housing in the downtown through the removal of any barriers that may impede such development, as recommended by the *Downtown Vision Plan*, including preparing appropriate amendments to the *Land Development Code* for consideration by the City Council.

Policy 5-D: The City of Medford shall continue to assure that disabled and elderly persons are not excluded from living in a residential neighborhood setting because their disability or age requires them to live in groups or in modified housing units.

Implementation 5-D (1): Inventory handicapped accessible rental housing units in the city, and investigate methods for funding modifications to make additional units accessible.

Implementation 5-D (2): Review the *Land Development Code* to assure continued compliance with state laws regarding regulation of residential homes and facilities providing care, treatment or training.

Goal 6: To ensure opportunity for the provision of Medford's fair share of the region=s needed housing types, densities, and prices, with sufficient buildable land in the city to accommodate the need.

Policy 6-A: The City of Medford shall assure that adequate buildable land for all housing types and price ranges is available in the city in the amount and timing necessary to meet the identified need for the planning period. Multiple-family, affordable, or assisted housing shall not be concentrated in any particular areas, but dispersed throughout the city.

Implementation 6-A (1): Prepare a schedule for the regular updating of the *housing need projection* required by state law.

Implementation 6-A (2): Prepare a schedule for the regular updating of the *buildable lands inventory* within the city and UGB required by state law for each of the various needed housing types identified in the housing need projection.

Implementation 6-A (3): Initiate GLUP Map amendments for consideration by the City Council which designate sufficient buildable land to satisfy housing need by type and density range as determined in the housing need projection.

Implementation 6-A (4): Identify residentially designated land in the city suitable for rezoning to SFR-10, MFR-20, and MFR-30 based on the land need projection for the planning period, and propose such zone changes for initiation by the Planning Commission.

Implementation 6-A (5): Initiate an amendment to the *Comprehensive Plan* for consideration by the City Council that would add an *Urban Medium Density Residential* designation, with which SFR-10 zoning would be consistent, including designation of such areas on the GLUP Map. Consider changing the name of SFR-10 to a title that would place more emphasis on the duplex use rather than the single-family use.

Implementation 6-A (6): Identify publicly-owned land that may be suitable for affordable housing development or land banking.

Implementation 6-A (7): Expand opportunities for manufactured home park development by reviewing the *Land Development Code* to assure that manufactured home park development standards are the minimum necessary, but adequate for neighborhood

compatibility and to meet state laws. Consider providing fixed development standards in lieu of requiring a conditional use permit.

Implementation 6-A (8): Prepare an inventory of manufactured home park**s** that may be potentially displaced due to their location within areas planned and zoned, or generally used for commercial, industrial, or high density residential development as required by state law.

Implementation 6-A (9): Identify areas suitable for future manufactured home parks to assure that adequate land is available to accommodate the need identified in the housing need projection, including the potentially displaced parks.

APPENDIX >A=

FEDERAL CENSUS CRITERIA FOR HOUSING CONDITION

Sound

A **sound** structure has only slight defects, none of which effect the weather-tightness or structural integrity of it. Defects are of the type that could be remedied during the course of regular maintenance. Examples of such defects are:

1. Lack of paint.
2. Slight damage to porch or steps.
3. Slight wearing away of mortar between bricks or masonry.
4. Small cracks in walls, plaster or chimney.
5. Cracked windows.
6. Slight wear on floors, door sills, door frames, window sills or window frames.
7. Broken gutters or down-spouts.

Deteriorating

A structure that is **deteriorating** has one or more intermediate defects. Defects classified as intermediate indicate the need for repair if the unit is to continue to provide safe and adequate shelter. They are more serious than those corrected by regular maintenance. Examples of such defects are:

1. Holes, open cracks, rotted, loose, or missing materials in the foundation, walls, roof, floors, or ceilings, but not over a large area.
2. Shaky or unsafe porch steps or railings.
3. Several broken or missing window panes.
4. Rotted or loose window frames or sashes that are not rain or wind proof.
5. Broken or loose stair treads; broken, loose or missing risers, balusters, or railings of inside or outside stairs.
6. Deep wear on door sills, door frames, outside or inside steps, or floors.
7. Missing bricks, or cracks in chimneys, which are not serious enough to be a fire hazard.
8. Makeshift chimneys, such as stove pipe or other insulated pipe, leading directly from the stove to the outside through a hole in the roof or window.

Dilapidated

A structure that is **dilapidated** has one or more critical defects, or a combination of intermediate defects, or inadequate construction. Critical defects suggest continued neglect, or deep and serious damage to the structure. These defects can be corrected only by extensive repairs. In some instances, they may be so serious that the structure should be torn down or rebuilt.

APPENDIX >A= CONTINUED

Examples of such defects are:

1. Holes, open cracks, rotted, loose or missing material (clapboard siding, shingles, bricks, concrete, tile, plaster, or floor boards) over a large area of the foundation, walls, roof, chimney, or inside walls, floors, or ceilings.
2. Substantial sagging of floors, walls or roof.
3. Extensive damage by storm, fire or flood.

APPENDIX >B=

CALCULATIONS FOR HOUSING AND RESIDENTIAL LAND NEED PROJECTIONS

PROJECTION CONCLUSIONS

Between 1994 and the year 2010, the City of Medford will need 9,723 more dwelling units, for a total of 32,541 units, housing 31,570 households, with 971 vacant units. In addition, 304 housing starts will be required to make up for demolitions/conversions.

Single-family residential (SFR) housing starts will need to total 6,363 (6,107 + 256 demos); and multiple-family residential (MFR) housing starts will need to total 3,664 (3,616 + 48 demos). This will require issuing an average of 398 SFR permits and 229 MFR permits per year for the 16 years. (Some of these added units will come from manufactured homes added to parks and some will be existing units annexed to the city.)

Between 1994 and the year 2010, there will be a need for group quarters to house an additional 458 persons.

Between 1994 and the year 2010, the City of Medford will need 2,190 acres of land for residential development, including 100 acres of that for parks and 420 acres for public rights-of-way and other public dedications.

Between 1994 and the year 2010, there will be 1,929 acres of SFR-zoned land utilized, 252 acres of MFR-zoned land utilized, and 48 acres of commercial land utilized for residential development.

PROJECTION ASSUMPTIONS

The calculations leading to these conclusions are based on the following assumptions:

The population in 2010 will be 71,110. This represents a simple average annual average increase of 2.57% between 1990 and 2010.

The percentage of persons in group quarters in 2010 will be 2.3%. It was assumed that group quarters will have an average of 30 persons per acre, and will be located in MFR zoning districts.

The average persons per household in 2010 will be 2.2.

The desired vacancy rate in 2010 for SFR will be 2%, and for MFR, will be 5%.

New residential development between 1994 and 2010 will be 65% SFR, including manufactured homes, and 35% MFR.

APPENDIX >B= CONTINUED

New SFR development (unit distribution) between 1994 and 2010 will be 5% SFR-2, 35% SFR-4, 30% SFR-6, and 30% SFR-10.

New MFR development (unit distribution) between 1994 and 2010 will be 45% MFR-20, 30% MFR-30, and 25% Commercial zoning districts.

New residential development between 1994 and 2010 will be constructed at 80% of the maximum density permitted by each zoning district. The overall average density for the new SFR development, therefore, will be 4.2 dwelling units per net acre (du/net ac), which is 80% of average maximum permitted density of the SFR zoning districts of 5.2 du/net ac. For the new MFR development, the average density will be 19.6 du/net ac, which is 80% of average maximum permitted density of the MFR zoning districts of 24.5 du/net ac.

Additional acreage of 25% is needed to accommodate the necessary public rights-of-way and other public dedications (except parks).

Additional acreage for parks is based on the need of five acres for every 1,000 persons. The park acreage was assumed to be spread proportionately among the residential zoning districts.

PROJECTION CALCULATIONS - HOUSING UNIT NEED 1994-2010

The following calculations are based on the assumption that the housing mix for new residential development between 1994 and 2010 will be 65% SFR units and 35% MFR units.

Total units needed in 2010: 32,541
Calculation:
71,110 (2010 population) - 1,636 (2.3% in group quarters) = 69,474
69,474) 2.2 (persons per household - pph) = 31,579 (households in 2010)
31,579 - 22,818 (units in city in 1994) = 8,761 (additional households)

From calculations below:
6,107 SFR + 3,616 MFR = 9,723 additional units needed between 1994 and 2010
9,723 (needed units) + 22,818 (units in city in 1994) = 32,541

Additional SFR units needed between 1994 and 2010: 6,107
Calculation:
8,761 x 65% = 5,695 SFR needed
5,695 (needed SFR) + 14,887 (existing SFR in 1994) = 20,582
20,582 x 2% (desired SFR vacancy rate) = 412 (vacant SFR needed)
5,695 + 412 = 6,107

APPENDIX >B= CONTINUED

Additional MFR units needed between 1994 and 2010: 3,616
Calculation:
8,761 x 35% = 3,066 MFR needed
3,066 (needed MFR) + 7,931 (existing MFR in 1994) = 10,997
10,997 x 5% (desired MFR vacancy rate) = 550 (vacant MFR needed)
3,066 + 550 = 3,616

PROJECTION CALCULATIONS - RESIDENTIAL LAND NEED 1994-2010

Additional acres needed for residential development between 1994 and 2010: 2,190 acres

The following calculations are based on the assumed distribution of units by specific zoning district in 2010 as noted below. The number of needed units was divided by 80% of the maximum permitted density in each district to determine the number of acres required.

Additional net acres needed for SFR development between 1994 and 2010: 1,470 net acres
Calculation:
SFR needed x % of total (distribution) = SFR needed in that zone) 80% of district maximum density = acres needed

SFR Zone	Units Needed	x	2010 Distribution	=	Units by Zone	)	80% of Maximum Density	=	Acres Needed
SFR-2	6,107	x	5%	=	305	)	1.6	=	191
SFR-4	6,107	x	35%	=	2,138	)	3.2	=	668
SFR-6	6,107	x	30%	=	1,832	)	4.8	=	382
SFR-10	6,107	x	30%	=	1,832	)	8.0	=	229
			100%		6,107				1,470

The result is a density for new SFR development built between 1994 and 2010 of 4.2 dwelling units per net acre.
Calculation:
6,107 (SFR needed)) 1,470 (SFR acres needed) = 4.2 (SFR per net acre)

APPENDIX >B= CONTINUED

Additional gross acres needed for SFR development between 1994 and 2010: 1,838 gross acres
Calculation:
25% additional acres are needed to compensate for roadways and other public dedications (except parks):

SFR Zone	Net Acres	+	25%	=	Gross SFR Acres Needed
SFR-2	191	x	1.25	=	239
SFR-4	668	x	1.25	=	835
SFR-6	382	x	1.25	=	478
SFR-10	229	x	1.25	=	286
	1,470				1,838

Additional net acres needed for MFR development between 1994 and 2010: 200 net acre
Calculation:
MFR needed x % of total (distribution) = MFR needed in that zone) 80% of district maximum density = acres needed

MFR Zone	Units Needed	x	2010 Distribution	=	Units by Zone	)	80% of Maximum Density	=	Acres Needed
MFR-20	3,616	x	45%	=	1,627	)	16	=	102
MFR-30	3,616	x	30%	=	1085	)	24	=	45
Comm.	3,616	x	25%	=	904	)	24	=	38
			100%		3,616				185

The result is a density for new MFR development built between 1994 and 2010 of 19.6 dwelling units per net acre.
Calculation:
3,616 (MFR needed)) 185 (MFR acres needed) = 19.6 MFR per net acre

Additional acres needed for group quarters: 15 acres
Calculation:
71,110 (2010 population) - 51,215 (1993 population) = 19,895 x 2.3% (% group quarters) = 458 additional persons in group quarters
458) 30 persons per acre = 15.3 acres of MFR land needed for group quarters
(7.6 acres in MFR-20 and 7.6 acres in MFR-30)

185 + 15 = 200 net acres needed

APPENDIX >B= CONTINUED

Additional gross acres needed for MFR development between 1994 and 2010: 252 gross acres
Calculation:
25% additional acres are needed to compensate for roadways and other public dedications (except parks):

MFR Zone	Net Acres	+		25%	=	Gross MFR Acres Needed
MFR-20	102 + 7.6 (group quarters) =	110	x	1.25	=	138
MFR-30	45 + 7.6 (group quarters) =	53	x	1.25	=	66
Comm.	38	38	x	1.25	=	48
	185 + 15 =	200				252

Additional park land needed between 1994 and 2010: 100 acres
The need to provide for park lands (5 acres for each 1,000 in population) is also a factor. It is assumed that park land will not be taken from commercial districts.
Calculation:
71,110 (2010 population) - 51,215 (1993 population) = 19,895 (additional population)
19,895) 1,000 = 19.9 x 5 acres = 100 acres

Distribution of park land by zoning district:
Calculation:

Zone	% Distribution	x	100 Acres	=	Park Acres Needed in 2010	Per Zone**
SFR-2	12%	x	100	=	12	
SFR-4	42%	x	100	=	4	
SFR-6	23%	x	100	=	3	
SFR-10	14%	x	100	=	14	
MFR-20	6%	x	100	=	6	
MFR-30	3%	x	100	=	3	
	100%				100 acres	

**Distributed proportionately among the residential zoning districts based on each district=s portion of the total.

APPENDIX >B= CONTINUED

Additional residential acres needed by 2010: 2,190 acres
Calculation:

Zone	Park Acres	+	Gross Acres	=	Total Needed Acres
SFR-2	12	+	239	=	251
SFR-4	42	+	835	=	877
SFR-6	23	+	478	=	501
SFR-10	14	+	286	=	300
MFR-20	6	+	138	=	144
MFR-30	3	+	66	=	69
Comm.	0	+	48	=	48
	100				2,190

APPENDIX C

VACANT RESIDENTIAL LAND INVENTORY CRITERIA

The vacant acreage was determined using the Jackson County Assessor=s records. It was based on GLUP Map designations, property class, and parcel size. Only parcels with a designation of Urban Residential or Urban High Density Residential were inventoried. Parcels under one acre in size were not included in the inventory, unless they were designated as Urban High Density Residential.

If the parcel was in the city or county, and the property class ended in 0 and was greater than 99, then the entire acreage was counted as vacant. (Property classes ending in 0 indicate land that is fully vacant. Property classes under 100 indicate land that is unbuildable or unusable for some other reason.)

For partially developed parcels, if they were zoned SFR, and the property class was 101, 109, 401, 409, 541 or 551, and,
(Property classes of 101, 109, 401, 409, 541 or 551 indicate parcels with residential uses.)

The zoning was SFR-2, then .5 acres per existing dwelling unit was subtracted, and the remainder counted as vacant.

The zoning was SFR-4, then .25 acres per existing dwelling unit was subtracted, and the remainder counted as vacant.

The zoning was SFR-6, then .16 acres per existing dwelling unit was subtracted, and the remainder counted as vacant.

The zoning was SFR-10, then .10 acres per existing dwelling unit was subtracted, and the remainder counted as vacant.

(These per dwelling unit acreage figures were based on the minimum lot size in each of the zones.)

Partially developed parcels in the city that did not have SFR zoning were not considered because it was not possible to determine how much of the parcel was in use.

If the property was not in the city, and the property class was 101, 109, 401, 409, 541 or 551, then .25 acres per dwelling unit was subtracted, and the remainder counted as vacant. (The per dwelling unit figure was based on the assumption that, not knowing the future zoning, the average lot size is likely to be approximately .25 in size.)

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I. INTRODUCTION

The fundamental purpose of the Public Facilities Element is to establish and maintain a general but timely view of where, when, and how public facilities and services will be provided to support planned urban growth within Medford's Urban Growth Boundary. Each year, decisions are made to commit considerable funds for acquisition, construction, expansion, and repair of public facility systems. One important role of this *Comprehensive Plan* element is to describe the principles and criteria underlying these decisions and to integrate them with the overall land use planning process.

Public facilities elements are required by state law (ORS 1197.175 and OAR 660-011) for all cities with a population greater than 2,500. The Public Facilities Element implements Statewide Planning Goal 11, which is intended to assure that cities plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban development. This element was written in accordance with Oregon Administrative Rules (OAR) 660-011 (Public Facilities Planning).

Public Facilities Categories

Public facilities and services are divided into two categories.

Category "A" includes:

- Water Service
- Sanitary Sewer and Treatment
- Storm Drainage
- Transportation Facilities*

*Transportation will be temporarily covered in this element until adoption of the new Transportation Element when Medford's Transportation System Plan (TSP) is completed.

These are the key minimum physical facilities necessary for urban development and are those for which specific documentation is required by state rule.

Category "B" include:

- Fire Protection
- Law Enforcement
- Parks and Recreation
- Solid Waste Management
- Schools
- Health Services

Category "B" public facilities and services enhance and protect development within the city and are provided in response to development that occurs. Because of this they will generally be discussed in less intensive detail than Category "A" facilities. The division of public facilities into these two categories is useful when determining facility adequacy prior to development. Creation of these two categories complies with OAR 660-011. This document identifies Category "A" facilities and the improvements to city

infrastructure and services that are necessary to support land uses allowed by the *Comprehensive Plan*. Because this plan element also describes potential funding mechanisms, the plan is essential to long range financial planning of capital facilities, and provides general guidance for the cost and location of future facilities.

Existing Plans

Medford has a number of separate plans for parks, streets, drainage, water, etc. These separate plans generally utilize similar future economic and population growth trends for the community and the region. However, some of them differ markedly in terms of their planning periods. They have varying lead times from original planning to construction dates. Some of the facilities, such as water and sewer systems, are expected to be operational in advance of population growth; while others that are not directly critical to health or safety are staged to coincide with or follow urban growth, for example, parks. One purpose of the "Public Facilities Element", therefore, is to review these various plans in relation to each other, and to Statewide Planning Goal 11. Key information, as well as policy direction contained in these existing plan documents is also summarized in this plan element.

The information for this element comes from existing facility plans. In addition, interviews were conducted with the respective service providers and the information from the facility plans was updated, where appropriate. The facility plans used for this element are listed below.

- Sanitary Sewer Collection - *City of Medford Sewer Master Plan*, 1990
- Sanitary Sewer Collection - *Bear Creek Valley Sanitary Authority Comprehensive Plan*, 1990.
- Sanitary Sewer Treatment - City *of Medford Facilities Plan, Water Quality Control Plant*, 1992.
- Storm Drainage - *Comprehensive Medford Area Drainage Master Plan*, 1996.
- Water Service - *Medford Water Commission Water System Facility Plan*, 1999.
- Water Service - *Medford Water Commission Water System Final Budget*, 1998.
- Water Service - *Water Curtailment Plan*, 1992.
- Water Service - *Robert A. Duff Water Treatment Facility Plan*, 1997.
- Parks and Recreation – *Parks, Recreation & Leisure Services Plan*, 1997.
- Solid Waste Management – *Solid Waste Management Plan, Jackson/Josephine Counties*, 1994.

These plans are, hereby, incorporated into this document and officially acknowledged upon adoption of the "Public Facilities Element".

Population

The City of Medford has grown steadily over the past 25 years. In 1980, the City's population count was 39,603 and by 1990 it increased to 46,951. The 2000 Census count for Medford was 63,154 people within the city limits of Medford. Population estimates for 2010 are expected to reach 71,110. These figures do not include the additional population located within Medford's Urban Growth Boundary but outside the city limits. This fringe area is most likely to be annexed to the City of Medford incrementally. These areas are mostly developed at lower densities than the lands inside the City. As annexations occur, these lands will require a substantial investment in urban services.

The "Housing" and "Economic" Elements of the Medford *Comprehensive Plan* make several observations about the City's land use. First, residential development constitutes the largest single land use and it consumes the most land per unit of population increase. Second, the relationship between residential,

commercial, and industrial growth will continue indefinitely. The result is that the largest land use category is residential, followed by industrial and commercial respectively.

Population and employment growth increase the demand for public facilities and services. Each of the existing facility plans, described in this Public Facilities Element, utilize the population and employment growth projections outlined in Medford's *Comprehensive Plan*. Though created separately, each of the facility plans incorporated into this element use these projections as the basis for the planning of future Capital Facilities Projects.

Service Areas

Each facility system serves different geographic sub-areas of the City. While facilities such as parks and schools relate more to neighborhoods defined by population size and travel time/distance, systems such as sewers, water, and storm water drainage are more logically defined by topography, soils, and other natural constraints. Such disparities can interfere with coordination of planning for public facilities, affecting different client populations.

To help overcome these barriers, the "Public Facilities Element" is organized, where possible, in relation to a common set of geographic sub-areas. These sub-areas are the nine Drainage Basins as defined in the 1996 *Comprehensive Medford Area Drainage Master Plan.*

Limited Service Areas

The timely provision of essential urban facilities and services is a policy of the City of Medford. The City's ability to provide public facilities and services relates directly to the location and type of the new development being served. In cases, where the timely provision of essential urban facilities and services cannot be accomplished so as to achieve minimum adequate service levels, then that portion of the city subject to inadequate facilities or services is designated a **Limited Service Area** and any or all development may be restricted until threshold levels of essential urban services can be achieved. Limited Service Areas are considered as priority areas for public facility planning subject to other growth and development factors. Timely provision of essential urban facilities and services mean that such services will be provided in adequate condition and capacity prior to or concurrent with development of the subject area.

The area identified as the Lone Pine/Foothill Limited Service Area on the General Land Use Plan Map represents those parcels either within the city or the urban growth boundary that are unable to obtain public water as required for development at urban densities. Identification of this area as a limited service area provides notice to those concerned that the Lone Pine/Foothill Limited Service Area is subject to development restrictions as specifically set forth in the Lone Pine/Foothill Limited Service Area policies.

Urban Area Management Plan: The UGB

The identification and adoption of the Urban Growth Boundary (UGB) was a lengthy process that involved numerous citizen groups, special districts, general-purpose governments, the Planning Commission, and the governing bodies of Medford and Jackson County. Medford's UGB, shown in **Figure 1**, defines the projected geographic limits for urban development. Some facility plans in this element provide for projects which will be needed to serve portions of the urbanizable area during the planning period but which will not reach capacity until well beyond the current planning horizon. Consequently, in some cases those projects can and will be built incrementally as development occurs, often as a condition of development. These increments will generally be a function of the development forecasts contained in this plan. In such cases, a

public facility project, as defined in this element, may indicate a completion date beyond the planning horizon.

A management plan for the unincorporated urbanizable area was jointly adopted by Jackson County and the City of Medford. These joint urbanization policies are part of the City and County's acknowledged comprehensive plans. More information related to these policies can be found in the Urbanization Element of Medford's *Comprehensive Plan*.

Jurisdictional Limitations

Obviously, not all public facilities and services providers that are addressed in this element are within the jurisdiction of the City of Medford. Specifically, Bear Creek Valley Sanitary Authority (sanitary sewer), Rogue Valley International-Medford Airport, Medford (549C) and Phoenix-Talent School Districts, and health care providers, are independent of the City. The Medford Water Commission is also a semi-autonomous body whose jurisdiction extends beyond the corporate limits of Medford. Solid waste management services and facilities are handled through franchise operations.

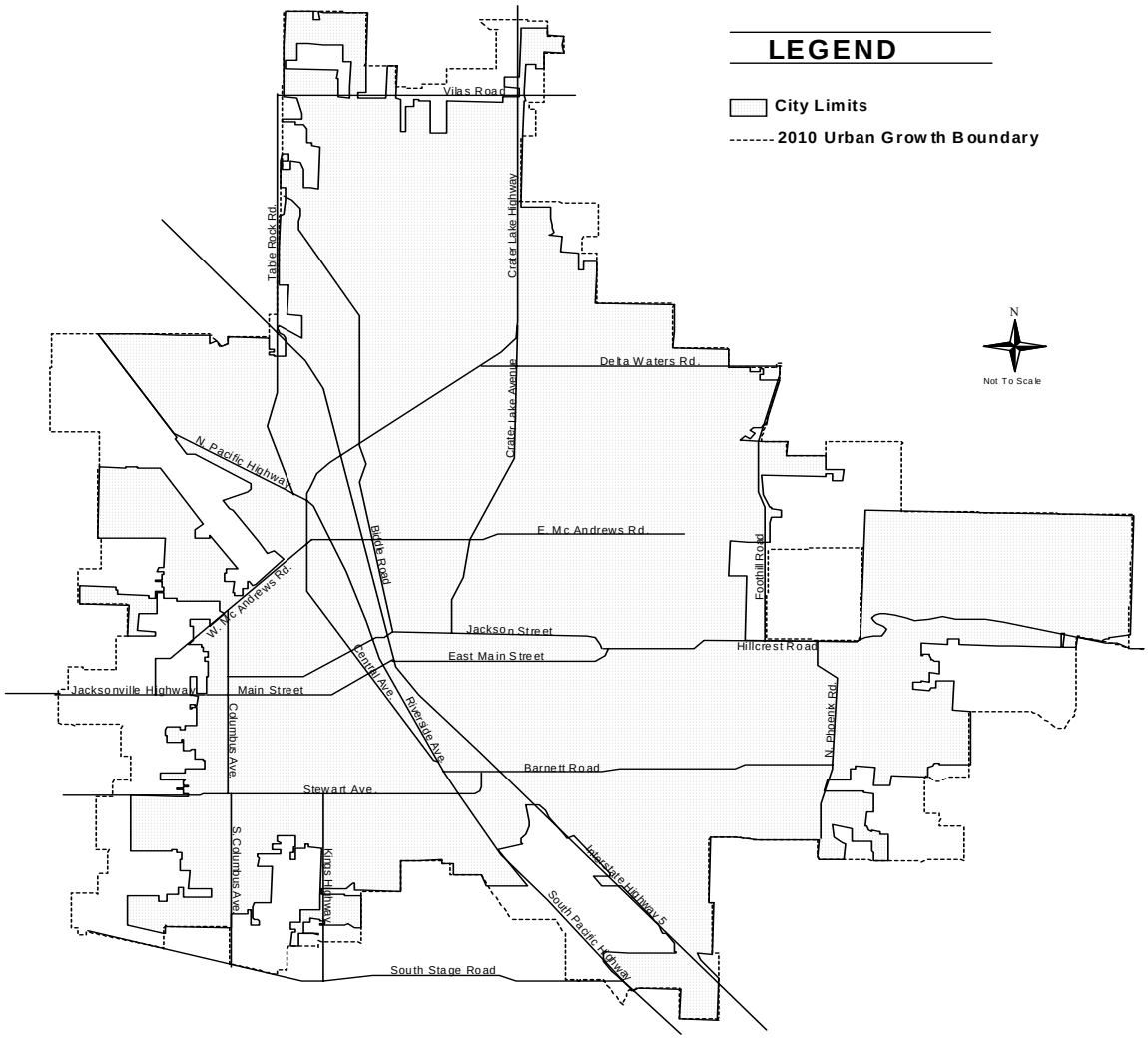
While this element offers a framework for the coordinated planning of urban facilities and services, it must be understood that the inclusion herein of plan summaries and project data from those providers not within City jurisdiction does not imply that the City can assume responsibility for implementation of extra jurisdictional plans or programs.

Organization of The Element

This element is organized into four (4) major sections. Section I presents background information that provides a basis for the remainder of the element. Section II provides a detailed description of the current state of planning and development for Category "A" facilities. Following each description, important conclusions based on these findings are presented, which are then used as the basis for the goals, policies and implementation strategies described. Section III sets forth critical information regarding Category "A" capital improvement projects that will ultimately be needed to serve the urbanizable area. These two sections together address the requirements of OAR 660-011, including the location, timing, estimated costs, probable funding sources and providers of future Category "A" facilities.

Section IV analyzes the Category "B" facilities and their respective planning documents, with emphasis on levels of service, existing facilities and planned improvements.

FIGURE 1: City of Medford Urban Growth Boundary



Conclusions, Goals, Policies, and Implementation Strategies

Each section of the "Public Facilities Element" contains its own conclusions, goals, policies, and implementation strategies. The conclusions are drawn from the information assembled and analyzed in each section. These conclusions are then used as a basis for the goals, policies, and implementation strategies.

General Public Facilities Conclusions

1. The key physical facilities necessary to support urban development identified in Medford's "Public Facilities Element" include: water service, sanitary sewer collection and treatment, and stormwater management. Specific documentation is required by state rules for these facilities.

2. Other facilities and services identified in Medford's "Public Facilities Element" as necessary to support urbanization include: fire and emergency services, law enforcement, parks and recreation, schools, public health services, and solid waste management.

3. As a part of Medford's *Comprehensive Plan*, the "Public Facilities Element" and the various public facility plans, are essential to the long range financial planning of capital facilities.

4. Capital improvement projects are coordinated with Medford's "Public Facilities Element" and the various public facilities plans relative to the timing and location of public facilities.

5. In areas of the Medford Urban Growth Boundary where the timely provision of essential urban facilities and services cannot be accomplished so as to achieve minimum established service levels, a "Limited Service Area" is designated. Development within a designated Limited Service Area may be restricted until threshold levels of essential urban services can be achieved.

6. Medford's Urban Growth Boundary is defined as the projected geographic limits of urban development needed for the planning period. Public facilities and services are planned to accommodate urban development within Medford's Urban Growth Boundary as adopted in 1990.

General Public Facilities Goals, Policies, and Implementation Measures

Goal 1: *To assure that development is guided and supported by appropriate types and levels of urban facilities and services, provided in a timely, orderly, and efficient arrangement.*

Policy 1-A: The City of Medford shall provide, where feasible and as sufficient funds are available from public or private sources, the following facilities and services at levels appropriate for all land use types within the City:

- Water service;
- Sanitary sewers;
- Stormwater management facilities;
- Fire and emergency services;
- Law enforcement;
- Parks and recreation;
- Planning, zoning, and subdivision control.

Policy 1-B: The City of Medford shall encourage other agencies that are responsible for the planning and/or provision of public facilities and services within Medford to coordinate public facility planning consistent with Medford's *Comprehensive Plan*. Such coordination should assure, to the greatest extent possible, the logical and efficient provision of the following public facilities and services:

- Public schools;
- Public health services;
- Justice service;
- Solid waste management;
- Energy and communication services;
- Transit services.

Policy 1-C: The City of Medford shall acknowledge its role as the principal provider of urban services within the City, and shall plan a phased improvement program that meets the service needs of individual areas of the City.

Goal 2: *To assure that General Land Use Plan (GLUP) designations and the development approval process remain consistent with the City of Medford's ability to provide adequate levels of essential public facilities and services.*

Policy 2-A: In cases where the timely provision of essential urban facilities and services cannot be accomplished so as to achieve minimum adequate service levels, that portion of the Medford urban growth area subject to inadequate services shall be designated a **limited service area,** and any or all development may be restricted until threshold levels of essential services can be achieved. Limited service areas should be considered as priority areas for public facility planning subject to other growth and development factors. "Timely provision of essential urban facilities and services" shall mean that such services can be provided in adequate condition and capacity prior to or concurrent with

development of the subject area. "Essential urban facilities and services" shall mean sanitary sewers, water systems, stormwater management facilities, and transportation facilities. A determination of minimum adequate service levels for essential urban facilities and services shall be based on the following:

Sanitary Sewers - Sufficient to serve any proposed development consistent with the General Land Use Plan (GLUP) designation. Sanitary sewer facilities shall be considered adequate if they are consistent with the adopted sewer plan document, as interpreted by the City Engineer.

Domestic Water - Sufficient to serve any proposed development with a permanent urban domestic water system capable of supplying minimum pressure and volume for projected domestic and fire control needs consistent with the General Land Use Plan (GLUP) designation. Water facilities shall be considered adequate if they are consistent with the adopted water system plan document, as interpreted by the Water Commission Manager.

Storm Drainage Facilities - Sufficient to serve any proposed development consistent with the General Land Use Plan (GLUP) designation. Stormwater management facilities shall be considered adequate if they are consistent with the adopted storm drainage plan document, as interpreted by the City Engineer.

Policy 2-B: The City of Medford shall strive to ensure that new development does not create public facility demands that diminish the quality of services to current residences and businesses below established minimum levels.

Implementation 2-B (1): Develop thresholds and performance criteria for use in development review to gauge ability of public services to sustain growth.

Implementation 2-B (2): Coordinate capital improvement planning for public facility infrastructure with the direction, extent, and timing of growth.

Implementation 2-B (3): Establish equitable methods for distributing development costs associated with providing water, sanitary sewer, and stormwater management services and facilities.

Implementation 2-B (4): Continue to require annexation to the City as a condition of extending urban services.

II. CATEGORY "A" FACILITIES

WATER SERVICE

Existing Planning and Facilities

The City of Medford's water system is owned, operated, and maintained by the Medford Water Commission (MWC). The MWC manages water systems within the City of Medford and White City, and supplies bulk water to the cities of Central Point, Eagle Point, Jacksonville, and Phoenix, as well as five local water districts.

The Medford water system was analyzed to determine the anticipated water requirements for the urbanizing area of Medford, the water districts, and cities it serves until the year 2025. As part of this study, a plan was developed to adequately serve the present and future inhabitants within this area. The *Water System Facility Plan (1999)* relates directly to Medford's *Comprehensive Plan* and corresponding land use plan and population projections. The *Water System Facility Plan* provides an assessment of current water system conditions (source of supply, treatment, transmission, storage, and distribution) for adequate capacity to meet projected demands. The plan describes water quality management strategies that have been implemented to protect and improve the water source (watersheds) of the system.

The water system plan also describes established procedures designed to ensure compliance with current state and federal drinking water standards. A *Robert A. Duff Treatment Plant Facility Plan (1997)* has been completed to re-evaluate the entire treatment process design in light of the current regulatory focus and advancements in treatment technologies.

The *Water Curtailment Plan*, adopted in 1992, establishes procedures for meeting potable water needs in the event of a supply shortage resulting from occurrences such as drought, power failures, earthquake, flood, source disruption, hazardous material spill, etc. and is consistent with the City's *Comprehensive Plan*.

Supply

Supply for the Medford water system is obtained from two sources: Big Butte Springs and the Rogue River. The current (2000) combined capacity is approximately 63 million gallons per day (mgd).

The Big Butte Springs water source is of very high quality and the only treatment required is disinfection by chlorination at the intakes. The springs are located 30 miles northeast of the city of Medford. The watershed supplying the springs is estimated to contain approximately 56,000 acres on the westerly slopes of Mt. McLoughlin. The springs supply 41 cubic feet per second (cfs) or approximately 26.4 mgd into the system. Chlorine feed rates are approximately 0.6 parts per million (ppm). There is a possibility that further treatment may be required depending on interpretation of the Federal Safe Drinking Water Act (SDWA). The SDWA essentially requires filtration of all surface water sources. There may be future questions as to whether or not the springs should be classified as ground water under the influence of surface water. If full filtration were required for the Springs, the 1987 estimate for the capital expenditures of $8 million to $10 million to build such facilities would be significantly higher.

The Rogue River offers water that is also of high quality and very reliable. Due to flood control reservoirs upstream, summertime flows seldom fall below 1,200 cubic feet per second. Summer time water clarity is very good. Currently, this source is only used in summer as a supplement when demand exceeds the Big Butte Springs available capacity.

Treatment

Treatment of the Rogue River water is accomplished at the Robert A. Duff Treatment Plant on Table Rock Road. The plant was last expanded in the spring of 2000 to a filtration capacity of 45 mgd. At the time of the 1987 plan, the maximum daily plant production was about 15 mgd. However, in 1998, maximum production reached 27.1 mgd. It is a direct filtration plant that employs coagulation, filtration, and disinfection in the treatment process and treats the water for taste and odor control. The plant is only operated during the summer, but is capable of operating in the winter, if an emergency required it to do so. The Robert A. Duff Treatment Plant has an intake located on the Rogue River approximately 1,500 feet from the plant.

The oldest transmission line from Big Butte Springs was built in 1926. There presently are two 24-inch diameter transmission lines from the springs to Medford. An investigation conducted before the 1987 plan indicated the pipelines are in very good condition and should provide the system with at least 50 additional years of service. The water distribution system consists of over 312 miles of pipeline ranging in size from 2 to 24 inches in diameter. The majority of the distribution system is made of ductile or cast iron and is expected to have a life of over 100 years. The water distribution system has a very low leak frequency and unaccounted for water is less than five percent (5%) system wide. These figures indicate the excellent integrity of the overall distribution system.

Storage in the water system consists of several reservoirs totaling nearly 33 mg. The three Capital Hill Reservoirs hold 12.2 mg; the Bullis Reservoir holds 10 mg; the Robert Duff Treatment Plant has 4.9 mg of storage; and approximately 6 mg of storage is held in several smaller reservoirs ranging in size from 0.1 mg to 2.0 mg in the upper pressure zones. As development in the higher elevations to the east continues, more storage is being added. Developers are required to provide storage, satisfactory to MWC, in pressure zone 5 and above. Developers also must provide distribution facilities in pressure zone 5 and above to meet MWC standards when the development is constructed.

Though a detailed basin by drainage basin description of existing water supply, storage, and transmission facilities is not provided in this plan element, the Water System Plan adequately reflects such inventory information with detailed engineering data available from the Water Commission staff. A list of water system improvements, costs and funding sources is provided in Section III.

Level of Service

The Medford Water Commission, and hence, the City of Medford has some flexibility in terms of meeting maximum water demand. One must keep in mind, however, that current and future water delivery capacity must serve the other customers in addition to the City of Medford. The MWC is currently requiring their municipal water customers to purchase Lost Creek Water Rights to meet their own individual needs. MWC has existing water rights on the Rogue River for 65 mgd. They are presently using 30 mgd. The overall treatment capacity for both sources currently exceeds 60 mgd. The maximum day demand was 52.3 mgd on August 4, 1998. The Robert Duff Water Treatment Plant can be expanded in 15 mgd increments to meet the area water needs (within water rights limitations). In 2000, a 15 mgd filter expansion was completed and an

additional 15 mgd expansion will probably be needed around 2017, with future expansions as needed. When the entire system is fully utilized, the total capacity of the MWC water supply will be approximately 91.4 mgd. It is MWC policy to provide sufficient water to meet the maximum day and peak hour demands plus fire flow requirements established by the Medford Fire Department. The average per capita daily use is about 240 gallons when including all users.

There is one area in the UGB where the MWC is able to provide only limited service, north of Lone Pine Road and east of Foothill Road. This area has been designated as a Limited Service Area, and the Fordyce Water Association provides water service in this area. This area consists of about 16 households and a number of undeveloped parcels, all above the elevation of 1,650 feet. The Fordyce Water Association has a metered pump on a MWC line. The water is pumped up to a cedar holding tank for all the households in the area. In return for being allowed to tap into the MWC system, the Fordyce Water Association has agreed to hook up to the MWC system when the MWC is able to provide full service to this area. With increasing residential development in this area, it is expected that the Fordyce Water Association will be able to hook up to the MWC system within five to ten years.

Water Districts

The Medford Water Commission currently serves five water districts, all of which were formed more than 35 years ago. These include the Charlotte Ann, Kings Highway, Elk City, Jacksonville Highway, and Coker Butte water districts. Commission policy does not allow service to new districts or the expansion of an existing district. Conversely, district contracts require that property be released from a water district upon annexation to a city. Therefore, the districts have tended to decrease in size, leading to the dissolution of some districts. Since district customers become customers of the Medford Water Commission upon annexation or dissolution, whether or not they are within water districts is not important from the perspective of facility planning.

Pursuant to current land use laws, further development in most districts is limited until or unless the property is annexed to a city. The primary exception to this is the Charlotte Ann Water District. However, the amount of vacant land available within that district is dwindling, so long-term growth is expected to be modest. The Jacksonville Highway Water District also has some predominantly commercial areas within which development has continued. On the other hand, each of the districts contains property which is within the Urban Growth Boundaries of adjacent cities, and which may be subject to annexation to those cities. For that reason, Medford's Water Commission population forecasts predict declines within the populations of the water districts.

Conservation

Water management and conservation planning by urban water suppliers is guided by regulations adopted by the State of Oregon, OAR 690 Division 86. The rules specify that all municipal water suppliers are encouraged to prepare water management plans, but are not required to do so unless a plan is prescribed as a condition of a water use permit. As of 1999, the Medford Water Commission was not required to prepare a plan. However, as a condition of acquiring rights to Lost Creek Lake water, some of the communities served by the Commission have been required to do so. The cities of Phoenix, Jacksonville, and Talent have all prepared and submitted plans to the state.

Whether required or not, the Commission has embraced water management and conservation planning as a prudent activity, and considers it appropriate to participate in conservation planning with its customers. The

Commission has made the commitment to begin conservation efforts, with the goal of facilitating improved efficiencies over time. By doing so, it is hoped that drastic conservation measures will not become necessary in the future, as it is likely that federal and state governments will increasingly mandate conservation measures. Furthermore, improved efficiencies are likely to be realized as a result of new technologies and more stringent product standards.

The Medford Water Commission has an adopted *Water Curtailment Plan (1992)* to meet minimum supply needs encountered during drought conditions, supply depletion, or emergencies such as facility breakdown or failure. With current total water rights exceeding 91 million gallons per day, the Medford Water Commission should be able to meet water demands through 2030 even without conservation.

Funding

The "Water Fund" is the general operating fund of the Medford Water Commission and is generated from the following sources:

- Water Revenue - Water revenue is the income received from the sale of water.

- Net From Service Work - This includes the net income from the sales of service connections and other miscellaneous work performed for customers and developers such as engineering work on subdivision water system improvements. The major portion of income from this source is from the sale of new service connections.

- Charges in Lieu of Assessment - These charges are collected at the time of extension of service to property that has never been assessed for benefit derived from a lateral water main. In some instances, these charges are assessed for the additional cost of trunk mains.

- Interest - This is the income from interest on the cash balances in the Water Fund that is invested in local banks or savings and loan institutions.

- System Development Charges - These charges are collected when new customers are added to the system. This is used to generate funds to build new treatment plant facilities, or special service facilities that occur in higher pressure zones.

Water Service Conclusions

1. Medford's water supply and distribution system is operated and maintained by the Medford Water Commission, which serves a large portion of the Bear Creek Valley.

2. The Medford Water Commission *Water System Plan* is a coordinated plan, consistent with applicable City of Medford and Jackson County Comprehensive Plan provisions, that provides for the expansion of urban water facilities into the middle of the twenty-first century.

3. The year 2000 capacity of the Medford Water Commission facilities is 45 million gallons per day (MGD) and can be expanded to 91.4 MGD.

4. The Medford Water Commission main transmission lines are in good condition and should provide the system with at least 50 years of service with normal maintenance.

5. A filter expansion of 15 million gallons per day (MGD) was completed for the Medford Water Commission Water Treatment Plant in 2000, with pumping capacity to be expanded accordingly in the following years. Another 15 MGD expansion is scheduled for 2017. The 2017 upgrade can be moved forward if water use increases faster than anticipated.

6. There is one area in the Medford Urban Growth Boundary, located north of Lone Pine Road and east of Foothill Road above the 1,650-foot elevation contour, where the Medford Water Commission is able to provide only limited service. This area is designated as a Limited Service Area in the *Medford Comprehensive Plan*.

7. The Medford Water Commission has begun water conservation efforts to facilitate improved conservation efficiencies over time.

8. The "Water Fund" is the general operating fund of the Medford Water Commission, and is generated from the sale of water, the income from the sale of service extensions and improvements, and system development charges (SDCs) applied to new customers.

Water Service Goals, Policies, and Implementation Measures

Goal 1: *To provide the City of Medford with high quality domestic water for consumption and fire protection, consistent with state, federal and industry standards.*

Policy 1-A: The City of Medford shall assure that the water distribution system is designed and developed in coordination with the storage and transmission system, and phased to be consistent with Medford's growth.

Implementation 1-A (1): Extend water service to areas within the Urban Growth Boundary in conjunction with annexation of those areas, and utilize the adopted *Water System Plan* as a factual basis in the land use decision-making process.

Policy 1-B: The City of Medford shall continue to encourage Jackson County to regulate development in the Big Butte Springs watershed to assure that wastewater and toxic substances do not endanger the source of the Big Butte Springs water supply.

Policy 1-C: The City of Medford shall support the continuing development of water conservation measures.

Implementation 1-C (1): Promote public education programs on water conservation.

Implementation 1-C (2): Establish guidelines for water conservation and actively promote use of water-conserving devices and practices.

Implementation 1-C (3): Develop water conservation measures to be imposed in the event that water supplies drop below acceptable levels.

Lone Pine/Foothill Limited Service Area Goals and Policies

Goal 1*: To identify the specific geographic area that is affected by the lack of a sufficient public water system as required to develop to urban densities. The area identified includes parcels that are all or partially above the 1,650 feet elevation contour in the Lone Pine/Foothill Area and within the Medford Urban Growth Boundary.*

Policy 1-A: The 1,650 foot elevation contour represents the Medford Water Commission's present service boundary for the Lone Pine/Foothill Limited Service Area. This particular boundary identifies the Water Commission's present service limits for providing urban water service based on existing storage and distribution facilities.

Goal 2*: To manage the development of the Lone Pine/Foothill Limited Service Area in an acknowledged manner conducive to the ultimate provision of a public water system meeting urban service requirements as per the "Water System Plan for the City of Medford Water Commission, September 1999."*

Policy 2-A: Within the Medford City limits, existing parcels on January 1, 1983 designated as in the Lone Pine/Foothill Limited Service Area, are permitted to develop at a density of one single-family residence per existing tax lot. All such new development shall be serviced by an on-site private well, and, prior to the issuance of building permits, the property owner shall sign and record an agreement which runs with the land and commits same to participate in a local improvement district for the development of a public water system.

Policy 2-B: Final plats for land divisions within the City of Medford in the Lone Pine/Foothill Limited Service Area shall not be approved until a local improvement district for the development of a public water system is formed and construction commenced. However, tentative plats will be reviewed, and can be approved subject to the property owner(s) signing an agreement per Policy 2-A above. All tentative plats shall identify thereon, using City datum, the 1,650-foot elevation contour. A licensed land surveyor shall certify said contour line.

Policy 2-C: Those parcels within the Lone Pine/Foothill Limited Service Area that are only partially above the 1,650-foot elevation contour shall be permitted to subdivide and record a final plat as per City of Medford standards provided that the following is complied with:

a) Lots that are not serviceable by a public water system due to their proximity to the 1,650-foot elevation contour shall be identified on the tentative plat, and separated from the serviceable lots by a phase line drawn and identified in a manner prescribed by the Planning Director.

b) Prior to final plat approval for the serviceable phase of a subdivision, a final partition plat shall be prepared segregating the serviceable phase from the unserviceable phase of the subdivision as per the tentative plat. This final partition plat must be approved by the City and recorded with the Jackson County Recorder in conjunction with an agreement per Policy 2-A.

Policy 2-D: Lone Pine/Foothill Limited Service Area land located outside the Medford City limits, but within the Urban Growth Boundary, may subdivide and develop as per Jackson County regulations. Such development proposals that exceed RR-5 (Rural Residential – 5-acre minimum lot size) density are not permitted.

Policy 2-E: As a prerequisite to urban development within the Lone Pine/Foothill Limited Service Area, annexations may be approved subject to the Limited Service Area designation and policies. Upon annexation, existing County zoning may remain in effect and be administered by the City.

SANITARY SEWER SERVICE

COLLECTION

Sanitary sewer facilities are a key concern of state and local policies relating to the management of urban growth. The acknowledged joint City-County Urban Growth Boundary and Urbanization Policies (1990) set forth policies governing extension of sewers both within and outside of the City and its UGB. These policies can be found in the Urbanization Element of Medford's *Comprehensive Plan.*

Existing Planning and Facilities

The majority of the sanitary sewer collection system within the UGB is owned and maintained by the City. The Bear Creek Valley Sanitary Authority (BCVSA) provides sanitary sewer interceptors for the UGB area and collection service to some areas. The City of Medford, along with White City, Central Point, Eagle Point, Jacksonville, Phoenix, and Talent discharge into the BCVSA operated interceptor system, which transports the wastewater to the Regional Water Reclamation Facility (RWRF) located adjacent to the Rogue River outside Medford's UGB.

A Regional Sewer Agreement (RSA) allows for a division of responsibility for wastewater collection and treatment. BCVSA operates and maintains the Interceptor System and the City operates and maintains the Regional Water Reclamation Facility. The participants in the RSA pay monthly wastewater treatment charges to the City and contribute, based on percentages set out in the agreement, to the operation and maintenance of the BCVSA Interceptor System. BCVSA and the City jointly agree upon the party responsible for the collection of wastewater for new developments.

The City of Medford's collection system consists of eight pump stations and approximately 210 miles of pipeline ranging from 6 to 33 inches in diameter, and BCVSA operates approximately 18 miles of trunk and interceptor pipeline and approximately 33 miles of collection lines within the UGB. This does not include the Lower Bear Creek Interceptor, the Upper Bear Creek Interceptor or the White City Trunk Sewer, all of which are operated by BCVSA and extend beyond the UGB boundary.

The Medford collection system has been constructed in stages, as the populated area grew, with some sewers in the original town-site of Medford being over 100 years old. The original town site is the area west of Interstate 5 to Oakdale Avenue and between Jackson and Twelfth Streets. Between 1990 and 1999, 5,200 feet of existing collection lines have been replaced. Of the replaced lines, over 2,400 feet have been replaced in the original section of town. The majority of the remaining, replaced line is in the southwestern portion of the City.

The two major interceptors include the Upper Bear Creek Interceptor that transports wastewater from the southern UGB area, through town, past the airport and to the RWRF entirely by gravity. The existing line should handle the planned flows for the UGB through 2015 with possible upgrades just south of the airport where grades are relatively flat. The Lower Bear Creek Interceptor picks up flow from the west side of town and the city of Central Point and transfers it down the Bear Creek Valley to Kirkland Road where a pump station pumps it to the RWRF.

Level of Service

The City of Medford has little flexibility in terms of the level of sanitary sewer collection it provides. City Code prohibits new on-site septic facilities. Hence, piped collection systems are installed with all new construction. Pump stations are required to service some areas, however, these are kept to a minimum to reduce operation and maintenance costs. Parcels having on-site facilities that are annexed to the City must connect to the system if they are within 300 feet of a collection line.

Capacity for Growth

The City of Medford does have some flexibility in terms of the amount of growth for which it can provide. Sewers are normally built with sufficient capacity to serve an area developed to the maximum density allowed by zoning. There is flexibility in terms of how far those sewers are extended. Sewers can be installed only in developed areas or they can be extended to undeveloped areas to provide for future growth. The citizens of the City have the option to decide, based on their goals for population growth and economic development, how much capacity for growth will be built into the sanitary sewer collection system.

TREATMENT

Existing Planning and Facilities

The Regional Water Reclamation Facility (RWRF) is located on the former Camp White treatment plant site, which was acquired from the federal government in 1948. The site is located adjacent to the Rogue River approximately one mile downstream from Touvelle Park, and is confined on the north by the River and on the south by Kirkland Road. With the exception of the old White City lagoons directly to the west and potential wetlands mitigation sites, there are no neighbors, structures, or other features in the vicinity of the plant that would constrain plant expansion. The City owns approximately 1,100 acres at the facility site; of that, approximately 350 acres is for future expansion.

The RWRF preliminary treatment facility is designed for a peak wet weather flow (PWWF) of 60 million gallons per day (mgd). The system currently consists of both primary and secondary treatments. A detailed description of the treatment process and the associated equipment is available in the *City of Medford Sewer Master Plan, 1990.*

Level of Service

The RWRF has a long history of producing an effluent that is cleaner than the discharge permit requirements. The current National Pollution Discharge Elimination System (NPDES) permit requires a summer discharge of 10 parts per million (ppm) of biochemical oxygen demand (BOD) and suspended solids (SS) and a winter discharge of 30 ppm of BOD and SS. The plant summer discharge averages 5-7 ppm BOD and SS, and the winter discharge averages approximately 8-10 ppm of BOD and SS.

Capacity for Growth

The RWRF has sufficient capacity to handle forecasted five-year population growth. Most equipment is designed for an average daily weather flow (ADWF) of 20 mgd and PWWF of 60 mgd. The average daily dry weather flow for 1997 was 16.7 mgd - about 84 percent of the ADWF capacity for most of the plant. In early January 1997, the area experienced a five-year storm event. During the storm, the plant handled flows that averaged 45 mgd, which is about 75 percent of the PWWF capacity for most of the plant. Recent wet winters have prompted investigation into projects that would further expand the capacity to accommodate

higher peak wet weather flows.

Funding

Approximately 66 percent of the of the RWRF influent is due to customers in the Medford UGB. Hence, approximately 66 percent of the costs of improvements are the responsibility of the customers within the Medford UGB. The sanitary sewer collection and treatment system is funded with specific funds and user fees.

- Sanitary Sewer Utility Fee – This "user fee" funds maintenance of the sanitary sewer main lines, manholes, and pump stations.

- System Development Charges - These charges are collected when new customers are added to the system. This is used to generate funds to build and maintain treatment plant facilities.

Sanitary Sewage Collection Conclusions

1. Medford's sanitary sewer facility plans are coordinated with Jackson County and the Bear Creek Valley Sanitary Authority (BCVSA). The City of Medford and BCVSA coordinate sewage collection efforts.

2. All areas within the City of Medford are served where possible with gravity sewers.

3. There is a low level of water inflow and infiltration into the newer sections of Medford's sewage collection system. The inflow and infiltration, however, is higher in the older sections of the collection system.

4. Medford's monthly "Sewer Utility Fee" provides funding for the maintenance of sanitary sewer lines, manholes, and pump stations.

5. A Sanitary Sewer Collection System Development Charge (SDC) helps pay for new sanitary sewage collection facilities.

Sanitary Sewage Treatment Conclusions

1. The City of Medford has sole responsibility for the operation of the Regional Water Reclamation Facility (RWRF) for regional sanitary sewage treatment.

2. The Medford urban growth area is responsible for approximately two-thirds of the Regional Water Reclamation Facility (RWRF) inflow.

3. The 1992 *Facilities Plan for the Water Quality Control Plant* developed a long-range capital improvement program to upgrade and expand the Regional Water Reclamation Facility (RWRF) to meet needs into the twenty-first century.

4. As of Spring 2000, the Regional Water Reclamation Facility (RWRF) had a dry weather flow capacity of 20 million gallons per day (MGD).

5. Ongoing capital improvements at the Regional Water Reclamation Facility (RWRF) are designed to maintain a three-year growth cushion to accommodate development throughout the region.

Sanitary Sewer Goals, Policies, and Implementation Measures

Sanitary Sewage Collection

Goal 1: *To provide appropriate sanitary sewage collection facilities to serve the Medford Urban Growth Boundary.*

Policy 1-A: The City of Medford shall plan the sanitary sewage collection system to serve all new development within the City. Existing on-site septic systems shall not be permitted to remain in use if sewage collection facilities are available within 300 feet.

Policy 1-B: The City of Medford shall extend the sanitary sewage collection system within the City as development approvals occur, consistent with the *Land Development Code* and Engineering Division standards. Sewers outside the City but within the Urban Growth Boundary are constructed pursuant to the Joint Urbanization Policies and cooperative agreements with the Bear Creek Valley Sanitary Authority.

Policy 1-C: The City of Medford shall maintain and improve the existing sanitary sewage collection system through preventative maintenance and on-going replacement or rehabilitation of deteriorated lines.

Sanitary Sewage Treatment

Goal 1: *To provide appropriate sanitary sewer treatment facilities to serve the Medford Urban Growth Boundary.*

Policy 1-A: The City of Medford shall continue to operate the regional sewage treatment facilities according to the 1969 interagency agreement with Bear Creek Valley Sanitary Authority, Jackson County, and other participating cities, until such time as a new agreement is adopted.

Policy 1-B: The City of Medford shall continue expansion of the Regional Water Reclamation Facility (RWRF) capacity sufficient to provide for continued urban growth. Facility expansion should be given a high priority in capital improvement programming. In the event that necessary funding is not forthcoming, all options, including an appropriate interagency growth management program, should be explored in a timely manner, and implemented as necessary.

STORMWATER MANAGEMENT

Introduction

Because it adds impervious areas to the landscape, urbanization disrupts the natural process of precipitation either infiltrating to become groundwater or running off into streams. This disruption causes increases both in the amount of runoff and in the speed at which runoff occurs. The effect is that flooding is much more likely to occur for any given amount of precipitation. The traditional approach to managing stormwater has focused on decreasing the likelihood of flooding and reducing the damage caused by flooding. More recently, federal and state regulations require that stormwater management programs also address water quality and natural resource protection objectives in addition to flood control.

Service Provider

Like the other cities in the Bear Creek Valley, the stormwater system in Medford employs the use of Bear Creek and its tributary streams. After runoff enters a tributary stream, it flows into Bear Creek, which flows into the Rogue River, and ultimately enters the Pacific Ocean. The area of runoff for each of Bear Creek's tributaries is its "basin" or watershed, many of which extend beyond the Medford Urban Growth Boundary (UGB). Consequently, in addition to the stormwater generated within the UGB, Medford must manage the flow generated beyond the UGB. Similarly, areas downstream of Medford must contend with Medford's runoff. **Figure 2** is a map of the drainage basins in the Medford UGB.

The role of the City in stormwater management is to reduce the risk of negative impacts to people; to residential, commercial, industrial, and institutional structures; to infrastructure, such as roads; and to the environment. The City employs a constantly evolving program of stormwater management practices and improvements designed to systematically reduce the risk. These methods may include improvements to stormwater conveyances, use of detention facilities, preservation of wetlands, and regulation of new construction in flood plains. The Medford Public Works Department is responsible for the City's stormwater management program, including evaluating and mitigating the system-wide effects of proposed development. A primary focus of the program is to control the stormwater in terms of both quantity and velocity. The City works with Jackson County in addressing the impacts of City development on County areas.

Stormwater Management Planning

The most recent drainage plan for the Medford UGB is the *Comprehensive Medford Area Drainage Master Plan* (Brown and Caldwell, 1996), which replaced the *Medford Area Drainage Master Plan* (KCM, 1981). The *Comprehensive Medford Area Drainage Master Plan* (DMP) addresses the UGB adopted in 1990. An update of the DMP will begin with a storm drain mapping project authorized by the City's 2002-2003 budget.

The objectives of the DMP include the following:

- To identify storm drainage improvements needed to satisfy existing system deficiencies and to meet future growth requirements.

- To develop an implementation plan that establishes priorities for construction of the required improvements.

- To recommend storm drainage management procedures to improve and protect water quality.

- To prepare a plan for reducing the impact of drainage improvements on wetlands and other wildlife habitats.

- To analyze the storm drainage maintenance program and recommend changes to improve system efficiency and minimize operating costs.

Recommendations for stormwater management procedures are described in Chapter 3 of the DMP and in its Appendices. Chapter 4 describes in detail the improvements recommended for each drainage basin to improve flood protection, water quality, and the overall efficiency of the system maintenance program. The need to implement the recommended management procedures has increased as water quality objectives for Bear Creek and the National Pollution Discharge Elimination System (NPDES) program (explained below) have both become more fully developed.

In conjunction with the preparation of the DMP, a Local Wetlands Inventory (LWI) was conducted in 1995 (*Local Wetlands Inventory and Oregon Freshwater Assessment Method Analysis, City of Medford*, Woodward Clyde Consultants). An update of the LWI and OFWAM will be completed in 2002. An inventory and assessment of the tributaries of Bear Creek was also completed in 2002 (*Medford Riparian Inventory and Assessment – Bear Creek Tributaries*, Wetland Consulting). The Riparian Inventory mapped all of the naturally occurring waterways in the Medford UGB. It also assessed them based on four functions: water quality, hydrologic control, wildlife habitat, and thermal regulation. The LWI provides a comprehensive inventory of wetlands and water bodies in the UGB. The wetlands were assessed according to the Oregon Freshwater Wetland Assessment Method (OFWAM) to determine the function and value of each wetland. The assessment is used to establish the "local significance" of a wetland relative to the resource protection requirements of Oregon state law (discussed below).

Level of Service

One way the level of service provided by a city's stormwater management program can be measured is through "design storm probability". Municipalities must strike a balance between the damages caused by a flood due to insufficient capacity and the cost of building and maintaining the stormwater management facilities. Another important level of service measure is the amount of environmental damage caused by building and utilizing the conveyance system, since the runoff ultimately uses natural waterways.

Design Storm Probability

There is no theoretical upper limit to how much rain can fall, and hence, no limit of how much runoff can be generated. However, for any given runoff rate, the higher the rate, the less probable that, in any one year, a yet higher runoff rate will occur. That concept can be expressed another way: the higher the runoff rate, the more years it will be on the average before a yet higher runoff rate will occur. Engineers speak of events such as the "100-year storm" - an amount of runoff that has a one percent chance of being exceeded in any one year, or which, on the average, is exceeded once in every 100 years. Since there is no theoretical upper limit, it is not possible to manage a stormwater system to protect for every possible flood event. Instead, a "design storm probability" must be selected to establish the level of protection. Sizing the stormwater system to convey a 10-year storm with no damage to structures gives greater protection than sizing the system for a 2-year storm.

There is no clear-cut "best" design storm probability. Using a less probable design storm, such as the 100-

year storm, increases public safety, but also increases the cost of constructing and maintaining the system. Cities in the U.S. use design storm probabilities ranging from the 2-year storm to the 100-year storm, with the most common design storms being the 10-year and 25-year. When a small stormwater facility overflows, the resulting damage is often slight. When rivers flood, the damage can be great. Because of this variation in the level of potential damage, it is often desirable to use different design storms for small stormwater systems than for large systems. For example, a 5-year design storm may be adequate for a small area, while a 100-year design storm is appropriate for larger streams and rivers. The federal flood insurance program for properties near larger streams and rivers uses a 100-year design storm. (For further discussion of the federal flood program and its effect in Medford, see the discussion below and the Disasters and Hazards section of the Environmental Element of the *Medford Comprehensive Plan*.)

Conveyance Type

The method of transporting runoff is dependent upon many factors, including the size of a drainage basin, its topography, and the amount of development (e.g., impervious surface). Medford's nine drainage basins range in size from less than 1,000 acres to about 5,600 acres, with most extending outside the UGB. The drainage basins in the eastern portions of the community have considerable changes in elevation, while the western area is relatively flat. The amount of development varies from basin to basin, with corresponding levels of impervious surface coverage. The City uses a variety of conveyance types to transport the stormwater runoff, including underground pipes and open waterways. Current state regulations generally prohibit the "under-grounding" of existing waterways; however, previous piping practices have left a disjointed system of above and below ground systems. As noted above, all of the UGB's natural tributary waterways were inventoried and assessed in the *Medford Riparian Inventory and Assessment* conducted in 2002.

The City requires provision of on-site stormwater facilities in conjunction with new development, and, under certain circumstances requires off-site improvements. Generally, on-site stormwater detention is a preferred practice because it alters peak flows by making them smaller but over a longer period. It can also decrease the amount of runoff through infiltration, although much of Medford's geology is not conducive to high rates of infiltration.

Irrigation District Systems

Irrigation ditches and canals are sometimes utilized in Medford as part of the stormwater conveyance system. The City and the irrigation districts have developed joint agreements allowing such use, and stipulating the sharing of costs associated with maintenance and improvements to the system. Issues related to the use of irrigation canals are becoming more pronounced as more of the canals are piped in conjunction with urban development.

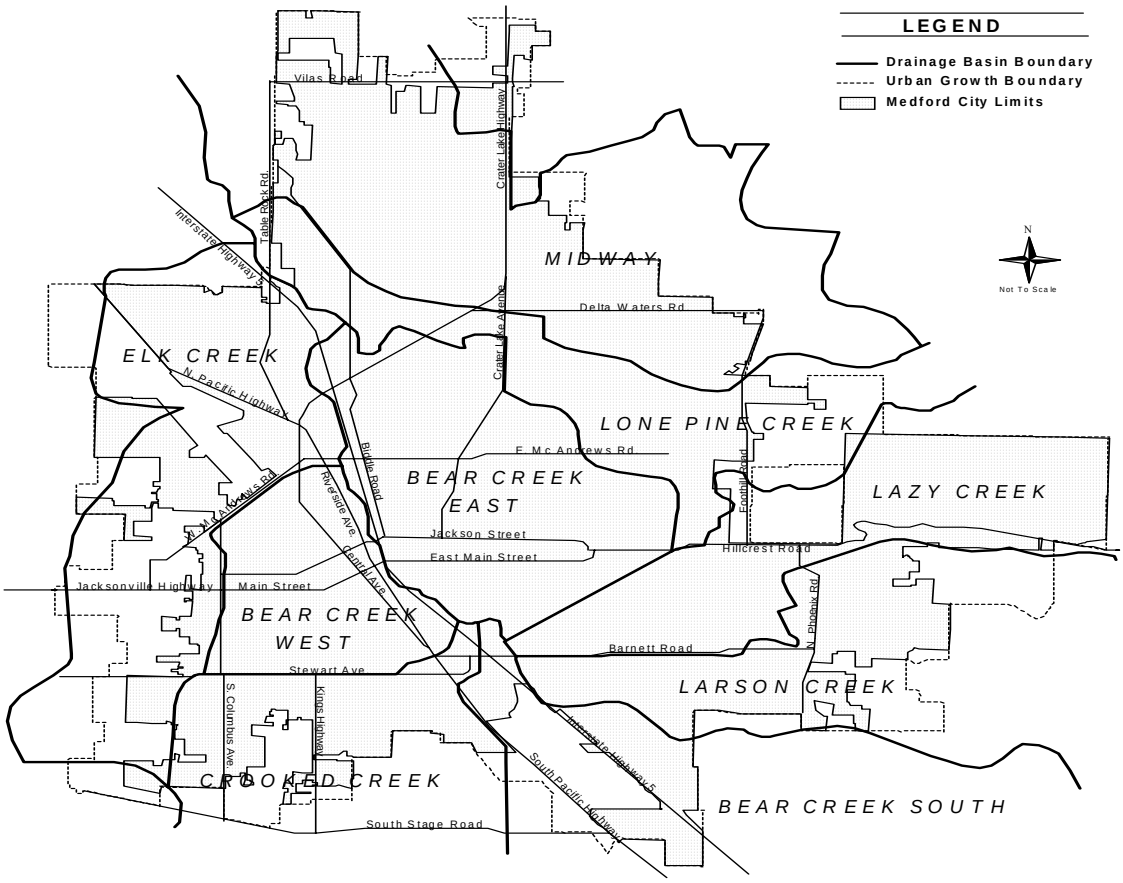
The irrigation districts having facilities located within the UGB include the following:

Medford Irrigation District: Serves east and south Medford with the Main Canal
Rogue River Valley Irrigation District: Serves north Medford with Hopkins Canal
Talent Irrigation District: Serves a small portion of the extreme southern area with the Phoenix Canal

As noted in the DMP, linking irrigation water with natural waterways can pose a risk to water quality in the receiving streams. Irrigation return flows that are allowed to discharge to natural streams may contain

pollutants, such as sediment, nutrients, pathogenic bacteria, and elevated water temperatures. Irrigation overflows typically enter receiving streams during the summer when natural flows are low and the dilution capacity is limited. Several tributary streams in the Medford UGB are captured by irrigation canals, often causing flooding problems during storms since the irrigation canals are not designed to convey stormwater. These situations also impact fish passage, since canals are not suitable fish habitat.

FIGURE 2: Medford Area Drainage Basins



Existing Facilities

The following describes the general characteristics, existing facilities, and capacities of each of the nine major drainage basins within the Medford UGB.

Midway Creek Basin This basin lies in the northern portion of the UGB, with much of it outside the UGB. The basin, which is approximately 6 miles long with an average width of 1.5 miles, encompasses 3,400 acres of relatively flat topography, hydric soils, and numerous wetlands located in the lower portion. It includes the airport, commercial and industrial lands adjacent to the airport, and residential land to the east of Crater Lake Highway. The Midway channel, which has been placed underground in many locations within the City, also flows through County areas northeast of Medford before joining Bear Creek well outside the UGB. As more of the basin is developed, increased runoff rates and amounts will potentially impact downstream properties.

Lone Pine Creek Basin This 2,000-acre basin is fairly long and narrow - approximately 6.5 miles long and less than 1 mile wide. It is predominately designated for residential use. Several tributaries of Lone Pine Creek drain the upper portions of the basin. The Hopkins Irrigation Canal intersects Lone Pine Creek just east of Crater Lake Avenue, with a series of overflow structures at this junction. The East Main Irrigation Canal traverses the easterly portion of the basin. As the basin becomes built-out, the ability of downstream portions of the stream to handle the increased runoff will be strained. The DMP recommends construction of a large detention pond within the upper reaches of the basin to decrease peak downstream flows, and reduce the need for extensive changes to the main stem of the stream. It would also offer a method for water quality treatment.

Lone Pine Creek from below Biddle Road to its confluence with Bear Creek contains habitat for salmonid species, some of which are rare or endangered. This section is designated as "essential indigenous anadromous salmonid habitat" by the state.** As such, the waterway and the riparian area located 50 feet from the tops of the banks are protected by the City's Riparian Corridor Ordinance.

Bear Creek East Basin This relatively flat 2,400-acre basin consists of a fully developed area east of Bear Creek within the City. Though this basin includes several sub-basins that drain directly into Bear Creek, it has no major tributaries. The Hopkins Irrigation Canal provides for much of the stormwater conveyance system in the northeast portion of the basin. The basin has an extensive system of short pipe segments, many of which are undersized. Numerous upgrade projects are recommended by the DMP.

Lazy Creek Basin This 2,700-acre basin, which is 5.5 miles in length and averages 1.5 miles in width, drains the east-central portion of the UGB. It contains the highest elevations in the UGB, with steep slopes extending up Roxy Ann Peak. Most of the basin is designated for residential use, with approximately half already developed. As residential development in upstream areas continues, the amount and velocity of runoff will increase, potentially causing downstream flooding and erosion-associated problems. Erosion and

**Essential salmonid habitat is defined as the habitat necessary to prevent the depletion of native salmon species (chum, sockeye, Chinook and Coho salmon, and steelhead and cutthroat trout) during their life history stages of spawning and rearing. The designation applies only to those species that have been listed as Sensitive, Threatened or Endangered by a state or federal authority.

its resulting sedimentation are a particular issue due to the steep hillsides slated for development. The flow of three major tributaries is combined into one channel near the intersection of Hillcrest Road and North Phoenix Road. The East Main Irrigation Canal bisects this basin, and the main channel of Lazy Creek flows into and through this canal via control structures just east of Fairway Circle. A large detention pond located in the area east of Hillcrest Orchards is recommended by the DMP. A site has been proposed in conjunction with the extension of East McAndrews Road.

Lazy Creek below Black Oak Drive to its confluence with Bear Creek in Bear Creek Park is reported by the Oregon Division of Fish and Wildlife (ODFW) to contain habitat for salmonid species. As such, this portion is likely to be designated as "essential indigenous anadromous salmonid habitat", and eventually protected by the City's Riparian Corridor Ordinance.

Larson Creek Basin This 5,600-acre basin encompasses the southeast portion of the UGB, which has been primarily utilized for agricultural purposes, with most development occurring at the lower end of the basin. Much of Medford's future residential development is planned to occur in this basin within the Southeast Plan Area, eventually containing up to 10,000 new residents. There are some slopes, many wetlands, and several stream corridors that remain in a mostly natural condition. The Southeast Plan requires 50-foot setbacks on both sides of the three main tributaries within the Plan Area east of North Phoenix Road. The East Main Irrigation Canal bisects the basin near North Phoenix Road. The Irrigation Canal captures two of the tributaries of Larson Creek, causing flooding during large storm events.

Larson Creek contains habitat for salmonid species, so the waterway and the riparian area located 50 feet from the tops of the banks are protected by the City's Riparian Corridor Ordinance. It is designated as "essential indigenous anadromous salmonid habitat" by the state.

Crooked Creek Basin This 4,600-acre basin encompasses the southwest portion of the UGB, extending several miles south of the UGB, with a length of 5 miles and a width varying from less than one mile to 3 miles. The majority of existing and proposed development is located within the UGB north of South Stage Road. Much of Crooked Creek has been enclosed in pipes, resulting in alternating sections of open waterway. During storms, overflow has occurred at the stream's intersection with the Phoenix Irrigation Canal.

Bear Creek South Basin This basin, which lies on both sides of Bear Creek, is a small area on the south edge of the UGB that drains directly into Bear Creek, which contains habitat for salmonid species, some of which are rare or endangered. As such, the waterway and the riparian area located 50 feet from the tops of the banks are protected by the City's Riparian Corridor Ordinance. Bear Creek in this area is in a mostly natural state with extensive riparian areas and adjacent wetlands. Plans are underway to extend the Bear Creek Greenway Path through the area, as well as to develop a large city park.

East of Bear Creek and Interstate 5, the land in the basin is mostly residential, while the land west of Bear Creek contains the South Gateway Shopping Center and land zoned mostly industrial and commercial. The existing stormwater system consists of a few culverts under Interstate-5 and some diversion ditches. This area will be heavily impacted by the proposed relocation of the South Medford Freeway Interchange relative to infrastructure development and land use changes.

Bear Creek West Basin This 1,400-acre basin includes several sub-basins that drain directly into Bear

Creek, and consists of the urbanized and long-established area of residential and commercial development just west of Bear Creek. A large portion of the area is designated for residential use, but also includes major industrial and commercial zones including the Central Business District (downtown). No major tributaries flow through the basin. Most of the basin contains piped stormwater systems that are relatively old, and the high rate of groundwater infiltration into the system during the winter reduces available capacity. There are two major stormwater lines in the basin with smaller pipes being added in upstream areas. The DMP recommends extensive upgrades to the system, including a new major diversion pipe.

Elk Creek Basin This 3,000-acre basin has an average length of 5 miles, an average width of one mile, and drains the northwest portion of the UGB. The majority of the area consists of residential land, with some light industrial, commercial, and agricultural land. The Hopkins Canal bisects the basin north of Ross Lane, and the Phoenix Canal forms the southern boundary. Most of the basin is flat with extremely poor drainage due to the high concentration of hydric soils. Presently, Elk Creek flows through roadside ditches, across fields, and through poorly defined channels creating a number of wetlands. A new 72-inch pipe intercepts the stream flow along Rossanley Drive and diverts the water to Bear Creek. A 78-inch pipe accommodates the stream flows north of Highway 99; this pipe has eliminated past drainage problems in the northern portion of the basin. Improvements to the channels are possible but will not remedy all problems.

Regulatory Effects on Stormwater Management

Although the primary goal for Medford's stormwater management program has been flood control, recent regulations have established other requirements that affect the City's program. The following is a summary of these regulations.

Statewide Planning Goals

The Statewide Planning goals that affect stormwater management planning include Goal 5 – Natural Resources, Scenic and Historic Areas, and Open Spaces; Goal 6 - Air, Water and Land Resources Quality; Goal 7 – Hazards; and Goal - 11 Public Facilities Planning. (Note that the Environmental Element of the Comprehensive Plan addresses Goals 5, 6 and 7 in more detail.)

Goal 5 - Natural Resources, Scenic and Historic Areas, and Open Spaces

Oregon Administrative Rules adopted in 1996 to implement Statewide Planning Goal 5 require local governments to inventory and evaluate certain resources, and develop land use programs that conserve and protect the "significant" ones. These resources that can be affected by stormwater management are: riparian corridors, including water and riparian areas and fish habitats; wetlands; wildlife habitat; and groundwater resources. Goal 5 requirements are met when the local government has adopted clear and objective standards that define the degree of protection for each resource. Medford has addressed Goal 5 provisions through a "safe harbor" protection ordinance for riparian corridors, which includes the adoption of a 50-foot setback from all fish-bearing streams. As noted previously, for wetlands, a local government must adopt a Local Wetlands Inventory (LWI) and develop a program to protect significant wetlands from grading, excavation, placement of fill, and most vegetation removal.

Goal 6 – Air, Water and Land Resources Quality

Statewide Planning Goal 6 requires that *"all waste and process discharges from future development, when combined with such discharges from existing development, shall not threaten to violate or violate applicable state or federal environmental quality statutes, rules and standards."* These discharges include pollutants

carried by stormwater. Goal 6 relies on federal regulations for direction and implementation, and requires jurisdictions to integrate compliance with federal and state water quality regulations in their comprehensive planning process. The federal Environmental Protection Agency (EPA) has set the guidelines for compliance through the Clean Water Act, and the Oregon Department of Environmental Quality (DEQ) has the authority and responsibility for its implementation.

Goal 7 – Areas Subject to Natural Disasters and Hazards

Compliance with Statewide Planning Goal 7, which addresses flooding, often includes measures that will help improve water quality. For example, in protecting against flooding, such as limiting development within floodways and reducing impervious surfaces that increase runoff, local governments also address water quality issues.

National Flood Insurance Program

The National Flood Insurance Program (NFIP) is a federal program that allows property owners to purchase flood insurance. Participation in NFIP is based on an agreement between local communities and the federal government. In exchange for the availability of flood insurance within the community, communities must implement measures to reduce future flood risks. NFIP establishes a local Flood Insurance Rate Map to show areas within the 100-year flood boundary, known as Special Flood Hazard Areas (SFHAs), which are subject to minimum floodplain management standards. The SFHA floodplain management standards have two purposes: 1) to prevent new development from increasing the flood threat, and 2) to protect buildings from future flood events. Cities must ensure that appropriate construction materials and methods have been used in new development and redevelopment in these areas. The Federal Emergency Management Agency (FEMA) may also designate a *floodway* in urban areas to avoid significantly increasing upstream flood elevations. A *floodway* is defined as the river channel and floodplain that must remain unobstructed in order to discharge the base flood without increasing flood levels by more than one foot. Under NFIP, communities must prohibit any development in the designated floodway that could cause an additional rise in the base flood elevation. More stringent requirements adopted at the state or local level would take precedence over the requirements outlined by NFIP.

Federal Clean Water Act

There are two key federal regulations regarding water quality that affect discharges into Bear Creek. Both of these regulations originate in the Clean Water Act, first adopted in 1972. The first regulation is the National Pollution Discharge Elimination System (NPDES) program, which addresses the effects of urbanization on stormwater runoff. The second regulation controls "total maximum daily load" (TMDL), which is the maximum amount of a pollutant that may be discharged into a stream without affecting water quality to a degree that limits "beneficial uses". Beneficial uses, as defined in law, include recreation, fisheries, and irrigation. The most sensitive beneficial use in Oregon is salmon and steelhead habitat, so the standards are intended to protect this use.

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) program is the fundamental regulatory mechanism of the Clean Water Act. The NPDES program requires anyone discharging a pollutant from a point source into the national waters to obtain an NPDES permit. Amendments also require the EPA to address discharges from urban stormwater. Accordingly, the EPA has initiated the urban stormwater permitting program because national stormwater data have demonstrated that urban stormwater is a leading cause of water quality degradation in the United States. In 1990, Phase I rules issued by EPA addressed

stormwater discharges from cities with a population of 100,000 and over. The Phase I rules also regulated all stormwater discharges associated with certain commercial and industrial activity, and construction activity resulting in the disturbance of five acres or more of land. The permits required by the Phase I rules focused on the implementation of "best management practices" (BMPs) to improve the quality of stormwater discharges. Phase II rules require that by March 2003, the Oregon DEQ must regulate municipalities with an urbanized area population of at least 50,000 and an overall population density of at least 1,000 people per square mile. Phase II rules also lower the threshold for erosion control of construction sites from five acres to one acre.

The Phase II rules require implementation of "minimum control measures." The minimum control measures include:

- Public education and outreach on stormwater impacts;
- Public involvement and participation;
- Detection and elimination of illicit discharge;
- Construction site stormwater runoff control;
- Post-construction stormwater management in new development and redevelopment; and
- Pollution prevention and good housekeeping for municipal operations.

In terms of land use and development requirements, Phase II rules specifically call for ordinances to detect and eliminate illicit discharges, manage construction site runoff on sites of one acre and greater, and regulate post-construction stormwater runoff from new development and redevelopment. The rules provide guidance on structural and non-structural BMPs that can be used to regulate post-construction runoff. In addition, they call out the need for site plan review that considers potential water quality impacts.

TMDLs

Section 303(d) of the Clean Water Act requires each state to develop a list of water bodies that do not meet standards. Most cities in Oregon, including Medford, lay within the watershed of a 303(d) listed stream. Development activity and stormwater discharge in these watersheds can directly influence the water quality of a listed stream. The listed streams in the Medford UGB are: Bear Creek, Larson Creek, Lazy Creek, Lone Pine Creek, and Crooked Creek.

When a water body is placed on the list, the Clean Water Act requires a water quality management plan to reduce the offending pollutants, such as bacteria, temperature, pH, toxic compounds, etc. Some of the streams have exceeded state and county health hazards for fecal coliform. High levels of fecal coliform typically result from leaking septic systems, dog kennels, barn wastes, dumping from portable toilets and RV's, or any other activity that results in the discharge of fecal matter directly into storm drains or streams.

A primary component of the management plan is the calculation of the total maximum daily loads (TMDLs) for each of the pollutants in the water body. TMDLs describe the amount of each pollutant a waterway can carry and still comply with water quality standards. DEQ works with local jurisdictions so that the necessary steps, including changes to development code language, are taken to protect and enhance water quality. DEQ is developing TMDLs for every stream on the 303(d) list by the year 2007. Watershed management plans must specifically describe how non-point source control activities will be managed in the watershed to comply with the established TMDLs. Designated Management Agencies (DMAs) such as the City of Medford are responsible for establishing load allocations for non-point sources.

DEQ has identified the following as contributors to non-point source pollution:

- Surface erosion from agricultural lands, construction sites, and unpaved roads;
- Storm runoff from paved roads and industrial/commercial sites;
- Removal of riparian vegetation and loss of thermal cover over streams;
- Placement of stream bank structures and fills;
- Water withdrawal;
- Animal and human waste contamination;
- Irrigation return flows; and
- Groundwater inflows.

Underground Injection Control Program

Oregon DEQ also administers the Underground Injection Control (UIC) Program, as mandated by the federal Safe Drinking Water Act. The UIC Program seeks to manage injection of fluids into the ground to protect groundwater for beneficial uses, such as drinking water. Underground injection systems distribute or inject fluids, such as wastewater or stormwater, below the ground's surface. Some stormwater infiltration devises such as French drains or dry-wells are considered underground injection systems and must be registered with the UIC program and meet certain requirements, such as not adversely impacting groundwater quality. An owner must be authorized to use an injection system either by registering the system and meeting general regulatory requirements or by obtaining a permit. Some types of injection systems, such as those injecting hazardous waste are prohibited. Local jurisdictions must address UIC regulations when adopting design standards for stormwater infiltration systems.

Endangered Species Act

The National Marine Fisheries Service (NMFS) has listed salmon and steelhead evolutionary significant units (ESUs) in Oregon as *threatened* or *endangered* under the Endangered Species Act (ESA), and the US Fish and Wildlife Service (USFWS) has authority to manage the recovery of these species. In Medford the "fish-bearing" streams (those containing salmon or steelhead habitat) are Bear Creek, and portions of Larson Creek, Lone Pine Creek, and Lazy Creek. The ESA prohibits "take" of a member of any species listed as *endangered*, and allows the same prohibitions for any species listed as *threatened*. The term "take" is defined in the ESA as to *"harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct."* "Take" has been defined to include intentional or negligent habitat modification that significantly impairs breeding, spawning, rearing, migrating, feeding, or sheltering, and which results in death or injury of a protected species. Loss or degradation of habitat resulting from land development can be considered a take, and the jurisdiction that permitted or allowed the offending development can be held liable. NMFS has described certain precautions that, if followed, would preclude prosecution for take even if a listed species were harmed inadvertently. The intent is to provide local governments and other entities greater certainty regarding their liability for take. The NMFS 4(d) rule lists 12 criteria that will be used to determine whether a local program incorporates sufficient precautionary measures to adequately conserve fish. The rule provides for local jurisdictions to submit development ordinances for review by NMFS under one, several, or all of the criteria.

The criteria for the municipal, residential, commercial and industrial development and redevelopment are listed below:

- Avoid inappropriate areas such as unstable slopes, wetlands and areas of high habitat value
- Prevent stormwater discharge impacts on water quality
- Protect riparian areas
- Avoid stream crossings – whether by roads, utilities, or other linear development
- Protect historic stream meander patterns
- Protect wetlands, wetland buffers, and wetland function
- Preserve ability of permanent and intermittent streams to pass peak flows (hydrologic capacity)
- Stress landscaping with native vegetation
- Prevent erosion and sediment run-off during and after construction
- Ensure water supply demand can be met without affecting salmon need
- Provide mechanisms for monitoring, enforcing, funding and implementing
- Comply with all other state and federal environmental laws and permits

Stormwater Management Techniques

The perception, management, and use of open channel systems within urban environments have changed considerably. Typically in the past, stormwater was managed in buried pipe conveyance systems. However, more current views of stormwater planning, as noted in the Drainage Master Plan (DMP), incorporate open systems, utilizing existing natural drainage patterns where feasible for conveying stormwater runoff. This method has the benefit of increasing the potential for wildlife habitat preservation. In addition, pollutants can be filtered out of stormwater utilizing vegetation within and beside the waterway and associated wetlands. Herbaceous wetland plants are more effective at filtering and absorbing pollutants than woody vegetation; and woody shrubs and trees are more effective at bank stabilization, and therefore more effective at preventing erosion. As noted in the DMP, many of the City's water quality problems are a result of inadequate erosion prevention. The DMP recommends that the City develop comprehensive erosion control guidelines in the form of a manual to aid developers and City staff. To improve water quality within the UGB, the DMP recommends a number of strategies, including development of sedimentation facilities, vegetated swales, and use of wetlands. Additionally, stream bank restoration projects have been identified as having a significant water quality benefit.

Because the flat topography limits the effectiveness of the conveyance system, City design standards for the Elk and Midway Basins require that peak runoff rates be limited to 0.25 cubic feet per second (cfs) per acre of new development on individual commercial, industrial, and multiple-family lots or parcels. This is accomplished through on-site detention of the stormwater, either in above or below ground facilities. These detention facilities are privately owned and maintained.

City design standards for new development require accommodation of calculated 10-year storm flows in the upper portion of the watersheds. In the lower reaches of a watershed, stormwater systems must provide capacity for 25-year storm flows, if the calculated 25-year flow is greater than 200 cfs. In most cases, on-site detention is required to meet these standards.

Since 1998, the City has discretionarily conditioned new development within every drainage basin to provide stormwater detention to help mitigate the impacts of increased flows caused by the development. Post-development runoff control is a requirement of the National Pollutant Discharge Elimination System (NPDES), Phase II rules. The City is developing ordinances to require stormwater detention facilities in

new developments, including land divisions and Planned Unit Developments. These facilities will be designed to provide for on-going maintenance so that they continue to perform as designed.

The ownership and maintenance of stormwater detention facilities can be private or public. The advantages of private ownership and maintenance, which can be handled by individual property owners or, for multiple properties, a property owners association, include the potential to have more frequent inspections and maintenance activities. They are likely to be developed and maintained more aesthetically. Private ownership and maintenance can also help in keeping down increases in citywide storm drainage utility fees. One advantage of publicly-owned and maintained detention facilities is that the City is already equipped and knowledgeable about maintenance needs; however, private parties can hire trained maintenance workers or facility managers. Public ownership can eliminate the need to create property owners' associations for multiple properties having a common facility. A factor to consider in determining private or public ownership and maintenance is whether public ownership of a facility provides a benefit to the whole community or to just a small segment.

Since the use of streams for conveying stormwater can also conflict with habitat preservation, site design methods are essential in controlling stormwater runoff. For example, reducing the amount of impervious surface materials through clustering of buildings and giving priority to the incorporation of open space in site design can decrease runoff by increasing retention and infiltration opportunities.

The transportation system can have a large impact on water quality. Roadways and parking lots create large areas of impervious surface that collect oil and other pollutants, and increase both the quantity and velocity of runoff. The connection between water quality and transportation planning is best made at the transportation project development level. Issues may include protecting or regulating development within floodways and identified Goal 5 resource areas.

Development regulations and programs can manage non-point pollutants by:

- Regulating site planning for new development and construction to better control drainage and erosion and to reduce and treat and retain stormwater runoff;
- Increasing riparian area buffer widths where appropriate to address TMDL requirements and other state and federal requirements;
- Regulating the location of permitted uses that may have higher than ordinary impacts on water quality, particularly those that generate, store or use hazardous waste or materials;
- Reducing street-related water quality and quantity problems;
- Increasing public awareness of techniques and practices private individuals can employ to help correct water quality and quantity problems;
- Increasing public awareness, minimizing the use, and encouraging the appropriate disposal of polluting substances that affect surface and groundwater resources;
- Regulating the cutting of trees and encouraging the reforestation and re-vegetation of appropriate areas;
- Requiring certain new construction and improvements to have an erosion control plan to protect water quality.

Planned Stormwater Facilities and Programs

The City of Medford projects capital improvements for five years. For the period of 2003 to 2008, stormwater management projects costing an estimated $2 million are planned. For the 2003-2004 budget year, a storm drain mapping project is included, as well as acquisition of land for the Lone Pine Creek detention facility. A federal grant is being sought to fund a flood study for the Lone Pine Creek and Lazy Creek basins.

The DMP provides guidance for prioritizing improvements. Though a detailed summary of planned stormwater facilities is not provided in this section, the DMP describes such information. A list of stormwater system improvements, costs and funding sources is provided in Section III. As noted in the plan, many of the City's water quality problems are a result of inadequate erosion prevention needed to mitigate the impacts of urban development. Specific water quality facilities identified include the design of detention ponds to perform a dual role: flood protection and water quality treatment. A number of water quality treatment opportunities exist. Sedimentation facilities, vegetated swales, use of wetlands, etc., can be added to the stormwater system to improve water quality. Recently, stream bank restoration projects have been identified as having a significant water quality benefit. The City is considering various types of facilities to meet future water quality objectives.

Funding

Storm Drain Utility Fund

The City of Medford utilizes a storm drain utility fee, established in 1984, to fund operation and maintenance of the stormwater system and capital improvements. Revenue collected from the utility fee is used to maintain the City's 110-plus miles of storm drain pipes, 55 miles of roadside ditches, and 25 miles of creeks and waterways. The goals of the maintenance program are to provide protection to citizens and infrastructure from flood damage, to improve water quality and preserve the hydrology of natural drainages, and to keep streets clean. The fund supports programs such as channel maintenance, street sweeping and leaf removal, cleaning inlets and drainpipes, and remote pipe inspection. Plans for capital improvements are based on the recommendations of the 1996 DMP. These funds significantly reduce the need for other funding sources, such as the City's General Fund, to be used for maintaining and improving the stormwater system.

The storm drain utility fee is a monthly charge to residents and businesses based on the amount of impervious area on a parcel, thus ensuring that those with a greater contribution of stormwater runoff pay the resulting cost. "Impervious area" includes roof area and paved or graveled area, such as parking lots and sidewalks. A single-family residence is considered to be one "Equivalent Residential Unit" (ERU) equal to approximately 3,000 square feet of impervious surface. The charge for one ERU in March 2002 was $3.42 per month. The Storm Drain Utility Fee brought in an average of $1.7 million per year in the early 1990's. Revenues generally increased about 3% each year due to growth. Expenditures were approximately 85% for operations and 15% for capital improvements. The City's 2002-2003 budget allocated 8.5 fulltime equivalent employees for storm drainage maintenance, although outside contractors are also used for some of the maintenance work. The City contributed $1.7 million in 2001 to construction of the Elk Creek Diversion Pipe built in conjunction with the Oregon Department of Transportation Highway 238 construction project.

Storm Drain SDC Fund

The Storm Drain System Development Charge (SDC) Fund is primarily supported through the collection of SDCs, which are fees usually charged at the time a building permit is issued or a land division plat is final. They relate to the additional load placed on infrastructure by new development or expansions. The Storm Drain SDC Fund is used for the design and construction of capacity improvements to the stormwater collection system, and cannot be used for maintenance. Storm drains constructed as part of street projects are sometimes funded by other sources. Developers required to size stormwater facilities to serve more than their own development are reimbursed for a portion of the over-sizing cost from this fund. Developer reimbursements for storm drainage projects are expected to cost approximately $125,000 per year.

New development within a specified area of the City (the CDA – "Currently Developed Area") does not have to pay Storm Drain SDCs. The CDA is defined as all parcels of less than one acre in size that were undeveloped and within the City on August 4, 1983. If a large portion of new development occurs within this area, the amount in the Storm Drain SDC Fund is reduced. In the early 2000's, the Storm Drain SDC Fund brought in approximately $200,000 per year. Revenues are expected to remain steady through 2005. A three-phase rate increase of 5% per year ended in 2002.

Stormwater Management Conclusions

1. The City of Medford operates and maintains the stormwater system, which utilizes Bear Creek and its tributary streams that eventually flow into the Rogue River, and ultimately to the Pacific Ocean. The watershed area for each tributary often extends beyond the UGB, so, in addition to the stormwater generated within the UGB, Medford must manage flow generated upstream. Similarly, areas downstream of Medford must contend with Medford's runoff.

2. The most recent public facility plan for storm drainage in Medford is the *Comprehensive Medford Area Drainage Master Plan* (Brown and Caldwell, 1996). An update of the plan (mapping project) is included in the 2002-2003 and 2003-2004 City budget.

3. Municipalities such as Medford must strike a balance between the damages caused by flooding due to insufficient stormwater capacity and the cost of building and maintaining stormwater management facilities. A storm drainage "utility fee" provides funding to support the service of providing stormwater facilities (operation and maintenance). This fee is a monthly charge to customers based on the type of land use activity. A Storm Drainage System Development Charge (SDC) pays for new stormwater facilities needed as a result of new development.

4. Previous storm drain piping practices in Medford have left a disjointed system of above and below ground stormwater systems, and, therefore, discontinuous riparian and wetland areas. Medford's wetlands, waterways and associated riparian vegetation are significant natural resources that contribute to the health, safety, and general welfare of the community. The stability of natural systems and community livability depend upon benefits provided by these resources. They provide protection from flooding and treatment of stormwater. Fish and other wildlife, some of which are endangered or threatened, also depend upon the water and habitat functions they provide.

5. Effective multi-objective management of Medford's waterways, riparian areas, and wetlands will require

the cooperative effort of various City departments, such as Parks, Planning, and Public Works, along with federal, state, and local agencies and organizations in addressing issues such as ownership, improvements, maintenance responsibility, public access, etc.

6. Much of Medford's future residential development is planned to occur in the Larson Creek basin where there are slopes, oak woodlands, wetlands, irrigation canals, and several stream corridors that remain in a mostly natural condition. Stormwater management is a significant issue in this basin.

7. Development activities that include the reduction of open space and wetlands, removal of vegetative cover, addition of impervious surfaces, channelization of waterways, and terracing of hillsides can cause increases in peak stormwater flows and decreasing water quality. The result is a loss of natural stormwater storage and filtering capacity, which are important in preventing flood damage and maintaining water quality.

8. Water pollution in Medford waterways results from both "point sources" and "non-point sources". Wastewater from a point source comes from a discernable or discrete location. Non-point source wastewater is from overland flow and includes stormwater. Bear, Crooked, Larson, and Lone Pine Creeks are listed on DEQ's 303(d) List of Water Quality Limited Streams. These streams are listed for temperature and bacteria. Bear Creek is also listed for habitat and flow modifications.

9. Federal and state regulations require Medford's stormwater management program to address water quality and natural resource protection objectives in addition to the traditional flood control objectives. The federal regulations that affect discharges into Medford's waterways, originating in the Clean Water Act, are the National Pollutant Discharge Elimination System (NPDES) Stormwater Program, which addresses the effects of urbanization on stormwater, and the limitations on "total maximum daily load" (TMDL), which is the maximum amount of a pollutant that may be discharged without affecting water quality to a degree that limits "beneficial uses". The City of Medford must implement procedures consistent with the policies and best management practices (BMPs) required by NPDES regulations. Medford will also be required to reduce pollutant loads as a result of the TMDLs to be set by the Oregon Department of Environmental Quality (DEQ). A significant portion of the load reduction will have to be achieved through changes in development and stormwater management practices.

10. Bear Creek, Larson Creek, and Lone Pine Creek downstream of Biddle Road contain habitat for salmonid species, some of which are rare or endangered. As such, the waterways and riparian areas located within 50 feet from the tops of the banks are protected by the City's Riparian Corridor Ordinance. These streams are also designated as "essential indigenous anadromous salmonid habitat" by the state. Portions of Lazy Creek may be added to this list based on ODFW fish surveys. Other waterways and riparian areas in Medford are not yet protected by local regulation.

11. Development activities permitted by the City of Medford which result in harm to a threatened or endangered species, and fall outside the provisions for "incidental take" by the federal Endangered Species Act, could result in the City being held liable. Improperly treated and/or stored stormwater could compromise salmonid recovery and also lead to an illegal "take" of an endangered species.

12. Medford's Local Wetlands Inventory and Oregon Freshwater Wetland Assessment Methodology

assessments are used to determine "locally significant wetlands". State laws pertaining to Statewide Planning Goal 5 require protection of these wetlands through local analysis and regulation.

13. As development on slopes continues, the amount and velocity of runoff will increase, potentially causing downstream flooding and erosion-associated problems such as sedimentation. Poor development practices on hillsides can cause increased public expenditures for flood and erosion control, stormwater management, and water quality treatment. An increased amount of stream sedimentation leads to a loss of in-stream floodwater storage, resulting in widening of waterways and more flooding.

14. Urban development can be designed in a manner that protects and enhances water quality through efficient site design and best management practices (BMPs), and mitigating measures can reduce the negative impacts on water quality and quantity. On-site stormwater detention and treatment is a preferred stormwater management practice. On-site management can alter peak flows by making them smaller but extending over a longer period. It can also decrease the amount of runoff through infiltration, although much of Medford's geology is not conducive to high rates of infiltration. Stormwater treatment requires a range of programs to be effective, including appropriate alterations to development, on-site treatment, and limitations on increases in impervious surfaces.

15. Compact development and efficient site planning can reduce water quality impacts by reducing the amount of impervious surface that would otherwise be created in a watershed. The impervious surfaces of the transportation system have negative impacts on stormwater quality by increasing both the quantity and velocity of runoff and by collecting oil and other pollutants that are flushed into streams when it rains. Setting appropriate street designs, setting standards that limit the amount of parking, and allowing pervious surfaces where practical are methods that can address the impact of the transportation system.

Stormwater Management Goals, Policies and Implementation Measures

(See also the Environmental Element of the Comprehensive Plan for related goals and policies.).

GOAL 1: ***To protect the citizens of Medford from the potential damage caused by flooding.***

Policy 1-A: The City of Medford shall maintain a relevant stormwater management plan for all drainage basins within the Urban Growth Boundary, and implement it through upgrading existing facilities and providing new facilities identified in the plan through public and private development.

Implementation 1-A (1): Regularly update the stormwater management plan with the following information, particularly in conjunction with significant changes to the General Land Use Plan:

Inventory of existing major facilities and assessment of condition
Description/map of projects needed to support the General Land Use Plan for the planning period
Estimate of timing and cost for the projects
Estimate of ability to fund and funding mechanisms for the projects

Implementation 1-A (2): Maintain a stormwater management funding program, including use of system development charges, monthly service charges, developer-required construction in conjunction with new development, etc.

Implementation 1-A (3): Pursue cooperative stormwater management with Irrigation Districts having facilities in the Medford UGB.

Implementation 1-A (4): Through the development review process, require development and stormwater system improvements to comply with the standards in the current stormwater management plan.

Implementation 1-A (5): Through the development review process, secure real property or easement dedications prior to or at the time of development adequate for flood protection, conveyance of stormwater, channel access, and maintenance along waterways needed for public conveyance of stormwater.

Implementation 1-A (6): Require stormwater facilities to be designed to safely conduct less frequent, higher flows through or around facilities without damage to the facilities.

Policy 1-B: The City of Medford shall strive to reduce new development in flood plains in order to minimize potential flood damage through their use as open space, or for agricultural, recreational, or similar uses.

Implementation 1-B (1): Evaluate current local regulations that control development in flood plains and adopt amendments where needed to potential stormwater impacts on development in such areas.

Implementation 1-B (2): Provide incentives to encourage the use of planned unit developments and other flexible site design techniques for properties containing flood plains so that these areas can be designed for open space or recreational uses.

Policy 1-C: The City of Medford shall assure that stormwater is managed (infiltrated, detained and treated) on or as close as practicable to development sites in order to reduce the impact of new development on the stormwater management system and natural streams.

Implementation 1-C (1): Require stormwater to be infiltrated onsite to the greatest extent possible through a combination of provisions, such as site design standards, that reduce impervious surfaces and protect natural areas.

Implementation 1-C (2): Develop regulations that permit the appropriate use of porous surfacing materials such as porous asphalt, modular paving, lattice concrete blocks, and porous bricks.

Implementation 1-C (3): Require stormwater detention and treatment facilities for new

development, and pursue the development of area-wide stormwater detention and treatment facilities in existing developed areas, to decrease peak downstream flows and reduce the need for extensive changes to main stems of streams.

Implementation 1-C (4): Consider designing certain public parks to also serve as area-wide stormwater detention and treatment facilities, while meeting the recreational needs of the community.

GOAL 2: ***To achieve and maintain a high level of water quality in Medford's waterways and groundwater.***

Policy 2-A: The City of Medford shall protect surface and groundwater resources, including current and potential wellhead areas, from pollution through a variety of regulatory measures relating to land use, transportation, and hazardous substance management.

Implementation 2-A (1): Inventory surface and groundwater resources, including current and potential wellhead areas (groundwater areas used for drinking water).

Implementation 2-A (2): Participate in regional stormwater programs that address the Bear Creek watershed.

Implementation 2-A (3): Develop and require the use of best management practices (BMPs) to prevent water pollution from activities that are potential pollution sources.

Implementation 2-A (4): Require the quality of stormwater leaving a site after development to be equal to or better than that leaving the site before development.

Implementation 2-A (5): Focus street and parking standards to protect and enhance water quality, such as minimizing street pavement widths, limiting the amount of parking, allowing pervious paving surfaces where practical, etc.

Implementation 2-A (6): Undertake activities to increase public awareness of techniques and practices private individuals, groups, and associations can employ to help correct surface and groundwater quality problems. These may include minimizing the use and the appropriate disposal of polluting substances, educating residents regarding the function of stormwater detention and other water quality facilities, etc.

Policy 2-B: The City of Medford shall strive to assure that both public and private development complies with applicable state and federal water quality regulations.

Implementation 2-B (1): Develop a program to comply with the National Pollutant Discharge Elimination System (NPDES) Phase II permit requirements in a timely fashion.

Implementation 2-B (2): In response to the Total Maximum Daily Load (TMDL) determinations developed for the watershed by the Oregon Department of Environmental

Quality, develop an implementation plan that includes appropriate pollutant load reduction strategies.

Implementation 2-B (3): Develop a program to comply with Oregon Department of Environmental Quality requirements related to Underground Injection Control.

Policy 2-C: The City of Medford shall utilize stormwater management strategies that sustain natural streams and wetlands consistent with Environmental Element – Water Quality Section - Goal 6 and its policies and implementation strategies.

Implementation 2-C (1): Inventory and map natural features in the Medford UGB important in stormwater management planning, including waterways, wetlands, and flood plains; lands abutting significant streams; lands with significant native vegetation (woodlands, wetlands, riparian vegetation, etc.); significant slopes; and groundwater areas used for drinking water.

Implementation 2-C (2): As part of stormwater management planning, actively address issues relating to species listed as endangered or threatened.

Implementation 2-C (3): Identify sensitive habitat areas and areas that are important for the protection of water quality for public purchase and ownership or for protection through conservancy programs.

Implementation 2-C (4): Require buffering, setback requirements, maintenance of tree canopy and vegetative cover, and other best management practices (BMPs) as necessary to enhance water resources and protect their functions.

Policy 2-D: The City of Medford shall strive to eliminate sediment entering waterways consistent with Environmental Element - Soils Section - Goal 8 and its policies and implementation strategies.

Implementation 2-D (1): Require stormwater control facilities to be designed so that the rate of discharge is equivalent to a site's pre-development stormwater discharge for a determined storm frequency or multiple frequencies.

Implementation 2-D (2): Map constrained slopes (over 15% slope) for the purpose of creating a hillside protection overlay zone that requires utilization of special construction techniques before, during and after development that minimize erosion/sedimentation and stormwater runoff, particularly peak storm flows.

Implementation 2-D (3): Require development on slopes to be designed to preserve the vegetative cover (trees and vegetation) or mitigate its removal.

Implementation 2-D (4): Require land-disturbing activities associated with construction to employ comprehensive erosion control practices implemented in the form of an ordinance and a manual to aid developers and City staff.

Implementation 2-D (5): Require water quality control facilities to remove a specified portion of sediments (Total Suspended Solids) from the flow.

III. CATEGORY "A" CAPITAL IMPROVEMENT PROGRAM SUMMARY

Introduction

Included in this section are **Tables A, B**, and **C**, which describe the planned category "A" public facilities, projects for water, stormwater management, and sanitary sewer collection and treatment. These tables include information relating to general project location, project construction timing, estimated capital costs, provider, and funding sources, as required by Oregon Administrative Rules (OAR 660-11). The following is an explanation of the information in these tables.

- *Project* - A short descriptive name for the planned project.

- *Area/Drainage Basin Served* - The area(s) primarily benefited by the project are listed. See **Figure 2**. Many projects will benefit a larger section of the community to some degree. The drainage basins listed in this column are only those that receive the most direct benefit from the project. "Regional" means the project serves the entire UGB, or is spread throughout large sections of the UGB.

- *Estimated Capital Cost* - The approximate capital cost, including construction, engineering, legal and administrative costs, as estimated by the pertinent facility plan, is presented. Where known, the date of the estimate is given as short term (1-5 years) or long term (6-10 years). In almost all cases the timing is an estimate. In general, projects are built on an as-needed basis when development occurs. The capital cost for sanitary sewer and domestic water treatment projects are the proportion that the UGB is responsible for paying.

- *Provider* - The agency or utility responsible for the proposed project.

- *Funding Source* - The probable source(s) of funds for the project.

Water Service

The water system projects presented are as identified by the Medford Water Commission in the *1999 Water System Plan* that includes improvements through 2009. Like most of the other plans, the timing of the individual improvement could vary greatly based on the timing of development. Improvements include water storage in the eastern part of the UGB where development is occurring at higher elevations. The projects listed in **Table A** represent improvements outlined in the *1997 Robert A. Duff Water Treatment Facility Plan* that had not been completed as of 1999.

Sanitary Sewer Collection and Treatment

The *1990 City of Medford Sewer Master Plan* outlined near-term replacement of over 19,000 feet of existing pipe to increase capacity for growth. The replacement pipe ranges in size from 8 to 16 inches, and had a

cost of approximately $2.1 million. Many of these lines have already been replaced. In addition, the plan identified long-term expansion needs for new interceptors to accommodate growing areas. See **Table B**. The Regional Water Reclamation Facility (RWRF) is completing several tasks. Funding for RWRF improvements comes from regional sewer fees and System Development Charges (SDCs).

Stormwater Management System

The stormwater system projects in **Table C** are taken from the *1996 Medford Area Drainage Master Plan* and the Capital Improvement Program from the City of Medford 1995 Budget. The projects from the DMP are in 1996 dollars and the projects from the 1995 Budget are in 1995 dollars. The projects are organized by drainage basin because the projects generally benefit the entire basin. Storm drainage improvements are examples of projects that benefit the existing population as well as future growth. Much of the existing storm drainage system is inadequate to serve the present population, so improvements are needed whether or not growth occurs. Funding for maintenance of the storm drainage system comes from the storm drain utility fee, and the Storm Drain SDC Fund pays for new storm drainage facilities.

Table A: Water System Capital Improvements

		Estimated Capital Cost			
Area Served by Drainage Basin	Project	Short Term 2000-2005	Long Term 2006-2020	Provider	Funding Source
	Source of Supply				
Regional	BBS Property Purchase	$200,000		MWC	Utility Rates
	Purchase 1000 Acre/ft. Lost Creek Lake Water	$650,000		MWC	Utility Rates
	Watershed Red Area Property Acquisition	$300,000		MWC	Utility Rates
	Collection and Treatment				
Regional	Robert A. Duff Water Treatment Plant				
	Duff Filters Expansion	$2,675,000		MWC	SDC
	Duff Chemical Feed System w/Building & Scrubber	$890,000		MWC	Utility Rates
	Design/Implement Duff Electrical Expansion	$1,220,000		MWC	SDC
	Design/Implement Duff Flow Metering/Piping	$120,000		MWC	SDC
	Design/Implement DBP Process Modification @ Duff	$110,000		MWC	Utility Rates
	Design/Implement Duff Clearwell Baffles	$50,000	$430,000	MWC	Utility Rates
	Design/Implement Duff Earthquake Hardening	$30,000	$350,000	MWC	Utility Rates
	Design/Implement Duff High Service Pumping	$430,000		MWC	SDC
Regional	Big Butte Springs				
	Design/Implement BBS Intake/Piping Modifications	$420,000		MWC	Utility Rates
	Disinfection Project @ BBS (Ozone)		$5,000,000	MWC	Utility Rates
	Storage and Transmission				
Crooked Creek	Start/Complete SW Reservoir (2.0 mg) and Transmission	$1,600,000		MWC	SDC
Lone Pine	Design/Build Lone Pine #3 Reservoir (1.0 mg)	$1,170,000		MWC	SDC
Bear Creek East	Design/Rebuild Roof & Hardening of Capital Reservoir #3	$550,000		MWC	Utility Rates
Larson Creek	Design/Build Cherry Lane Zone #2 Reservoir (1.5 mgd) and Transmission	$100,000	$1,450,000	MWC	SDC
Lazy Creek	Design/Build Lone Pine Zone #2 Reservoir (1.0 mgd)		$1,170,000	MWC	SDC
Regional	Build Hanley Hill Reservoir (10 mgd)		$3,800,000	MWC	Utility Rates
Regional	BBS Transmission Main	$182,000	$125,000	MWC	Utility Rates
Regional	Main Replacements	$1,412,000	$1,500,000	MWC	Utility Rates
Lazy Creek	Hillcrest Road Main		$270,000	MWC	Utility Rates
Elk Creek	Stewart Main Replacement	$250,000		MWC	Utility Rates
	Distribution and Control				
Lone Pine	Design/Build Lone Pine Pump Station	$550,000		MWC	SDC
Larson Creek	Design/Build Barnett Pump Station		$440,000	MWC	SDC
Bear Creek East	Upgrade Pierce Heights Pump Station	$20,000		MWC	Utility Rates
Regional	Equipment Purchase	$865,450	$750,000	MWC	Utility Rates
	Service Replacements	$1,015,000	$1,000,000	MWC	Utility Rates
	Pump Station/Equipment Upgrades	$356,900	$600,000	MWC	Utility Rates
	Service Center Earthquake Hardening	$90,000		MWC	Utility Rates
	Meters	$733,300	$750,000	MWC	Utility Rates
	Watershed Management	$416,000	$375,000	MWC	Utility Rates
	Distribution System GIS	$365,000		MWC	Utility Rates
	In-house Computer Hardware/Software upgrades	$100,000		MWC	Utility Rates
	Distribution Telemetry Control Upgrade	$150,000		MWC	Utility Rates
	Miscellaneous Improvements	$1,445,650	$1,500,000	MWC	Utility Rates
	Estimated 1-5 year Capital Cost	$18,466,300			
	Estimated 6-10 year Capital Cost	$19,510,000			
	Total Long Term Estimated Capital Cost	$37,976,300			

Table B: Sanitary Sewer System Capital Improvements

Area Served	Project	Estimated Capital Cost Short Term 2000-2005	Estimated Capital Cost Long Term 2006-2020	Provider	Funding Source
	Collection				
Regional	Piping Improvements	$115,000		City	Bond, SDC, Sewer Rates
	Non-Treatment Facility Improvements	$120,000		City	Bond, SDC, Sewer Rates
	Treatment				
Regional	Aeration Systems Improvements	$196,000	$1,400,000	City	Bond, SDC, Sewer Rates
	Drying Bed Improvements	$4,780,000	$0	City	Bond, SDC, Sewer Rates
	Secondary Clarifier Improvements	$436,772	$4,100,000	City	Bond, SDC, Sewer Rates
	Digester Improvements	$6,000	$2,000,000	City	Bond, SDC, Sewer Rates
	Grit System Improvements	$850,000	$550,000	City	Bond, SDC, Sewer Rates
	Headworks/Inlet Improvements	$500,000	$0	City	Bond, SDC, Sewer Rates
	Instrumentation Systems	$0	$100,000	City	Bond, SDC, Sewer Rates
	Cogeneration Facility Improvements	$203,000	$305,000	City	Bond, SDC, Sewer Rates
	Sludge Storage Lagoon Improvements	$1,400,000	$2,600,000	City	Bond, SDC, Sewer Rates
	Primary Treatment Facility Improvements	$1,440,000	$900,000	City	Bond, SDC, Sewer Rates
	Sludge Thickening Facility Improvements	$6,000	$2,000,000	City	Bond, SDC, Sewer Rates
	Research Projects	$25,000	$125,000	City	Bond, SDC, Sewer Rates
	Solids Disposal Systems	$0	$200,000	City	Bond, SDC, Sewer Rates
	Trickling Filter Improvements	$0	$1,750,000	City	Bond, SDC, Sewer Rates
	Disinfection Systems	$0	$2,000,000	City	Bond, SDC, Sewer Rates
	Miscellaneous Improvements	$500,000	$1,500,000	City	Bond, SDC, Sewer Rates
	Advanced Treatment System (ATS)	$22,582,000		City	Bond, SDC, Sewer Rates
	Estimated 1-5 year Capital Cost	**$33,159,772**			
	Estimated 6-20 year Capital Cost	**$19,530,000**			
	Total Long Term Estimated Capital Cost	**$52,689,772**			

Table C: Stormwater Management System Capital Improvements

Drainage Basin	Project	Estimated Capital Cost Short Term 2000-2005	Long Term 2006-2020	Provider	Funding Source
Regional	Curb Inlet Replacements	$105,000		City	Drainage Utility
	Misc. Projects	$400,000		City	Drainage Utility
Midway	Canal Diversion Structures	$21,000		City	SDC
	Channel Improvements		$476,000	City	SDC & Developers
	Lower Main Channel Pipes		$1,600,000	City	SDC & Developers
	Upper Main Channel Pipes	$420,000		City	SDC & Developers
	Tributary Pipes	$1,680,000		City	SDC & Developers
	King Center Storm Drain	$380,000		City	SDC & Developers
Lone Pine Creek	Canal Diversions		$17,000	City	Drainage Utility
	Culverts Along Main Channel	$100,000		City	Drainage Utility
	Tributary Pipes	$400,000		City	SDC & Developers
	Bear Creek to Biddle	$200,000		City	SDC & Developers
Bear Creek East	Trunk System Replacements	$4,650,000		City	Drainage Utility
	Hopkins Canal	$430,000		City	Drainage Utility
	Spring-Sunrise Drainage	$60,000		City	Drainage Utility
	Marie and Jackson	$80,000		City	SDC & Developers
	Crown-Oregon to Barneburg	$150,000		City	SDC & Developers
Lazy Creek	Detention Basin - Hillcrest Rd.	$100,000		City	Drainage Utility
	Pipes in Developed Basin Portion	$810,000		City	Drainage Utility
	Pipes in Undeveloped Portion	$1,330,000		City	SDC & Developers
	Stanley St. Storm Drain	$80,000		City	Drainage Utility
	Littrell to Lazy Creek	$90,000		City	SDC & Developers
Larson Creek	Canal Diversions	$12,000		City	SDC
	Tributary Pipes	$400,000		City	SDC & Developers
Bear Creek South &	Canal Diversions		$12,000	City	Drainage Utility
Crooked Creek	Regional Detention Basin		$800,000	City	Drainage Utility
	Main Channel Culverts	$213,000		City	Drainage Utility
	Tributary Pipes in Developed Areas	$375,000		City	Drainage Utility
	Tributary Pipes in Growth Areas	$1,800,000		City	SDC & Developers
	Peach St. - South from Stewart	$200,000		City	SDC & Developers
	Columbus Storm Drain Extension	$100,000		City	SDC & Developers
Bear Creek West	Overflow Channels	$120,000		City	Drainage Utility
	Pipe Construction	$4,675,000		City	Drainage Utility
	NW Medford Storm Drain	$580,000		City	SDC & Developers
	13th to 12th thru Peach St.	$60,000		City	Drainage Utility
	W. Tenth to Bear Creek	$200,000		City	Drainage Utility
Elk Creek	Pipe in Developed Areas		$120,000	City	Drainage Utility
	Pipe in Growth Areas	$4,675,000		City	SDC & Developers
	Estimated 1-5 year Capital Cost	**$24,896,000**			
	Estimated 6-20 year Capital Cost	**$3,025,000**			
	Long Term Estimated Capital Cost	**$27,921,000**			

IV. CATEGORY "B" FACILITIES

FIRE AND EMERGENCY SERVICES

Planning Goals

The Medford Fire Department Mission Statement provides the focus for the Departments planning efforts. The mission of the Medford Fire Department is "*To serve, educate, and protect citizens from the effects of hostile fire, medical emergencies, hazardous material exposure, and natural and manmade disasters."* Many elements drive the mission, including, but not limited to:

- Effective emergency deployment and response
- Effective fire prevention
- Effective public education
- Maintaining water quantity/pressure levels to meet fire flow requirements as specified in the 1994 Uniform Fire Code.
- Maintaining a minimum ISO rating of Class III in the City and Class VIII in District #2

The Insurance Services Office (ISO) provides a rating system that ultimately determines the cost of fire insurance for property owners. The system rates fire protection services based on a variety of standards.

Existing Planning and Facilities

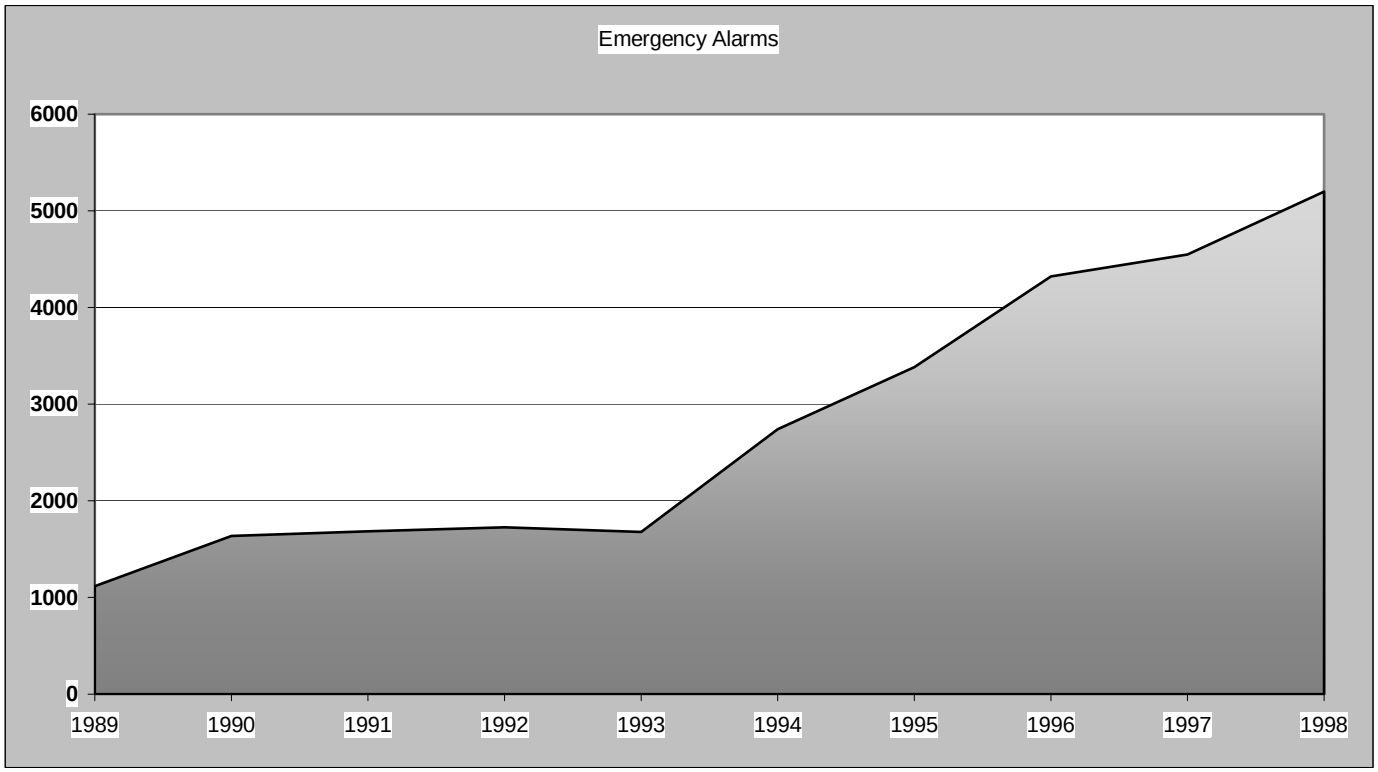
The Medford Fire and Rescue Department provides full services to a population of approximately 80,000 located both within the Medford city limits (20 square miles), and in Medford Rural Fire Protection District #2 (25 square miles). The service area contains a mix of land types, from urban to rural and farmland. Fire District #2 contracts with the Medford Fire Department for the same services provided within the City. Property owners within either jurisdiction pay approximately the same tax rate to support the services. District #2 includes properties located both within and outside Medford's Urban Growth Boundary. Properties annexed to the City are withdrawn from District #2 at the effective date of annexation. The following services are provided:

- Fire protection and suppression
- Emergency medical services
- Hazardous materials incident mitigation
- Rescue
- Disaster management
- Emergency planning
- Fire prevention
- Public education

The number of emergency responses by the Medford Fire Department has increased significantly in the past few years. See **Figure 3**. An increasing population residing within the service area, as well as the increasing number of people coming into the service area for work, shopping, education, recreation, etc., impacts the emergency response volume. Though medical and other emergency responses have increased, fire-related responses have decreased over time, averaging approximately 20 percent of total yearly

emergency alarms.

FIGURE 3: Emergency Alarm Totals by Year



Planning Efforts

The Medford Fire Department conducts strategic planning sessions at the beginning of each year that include reviewing the previous year and establishing goals for the coming year. A strategic plan is then prepared, with time lines for completion of identified tasks, responsible parties, and resources required. To handle the increasing number of emergency responses, special computer software (Fire Station Location & Mapping Environment - FLAME) has been acquired. Deployment of resources, both human and mechanical, is managed through staff planning and decision implementation based on computer modeling that uses response time, population distribution, assessed valuation, and service area fire risk. The response statistics are generated from a database of reported emergency runs.

To plan for fire station locations that will deploy resources at the highest level of efficiency, the *Medford Fire Station Location Study* was prepared by Urban Planning Associates in 1995. Fire Router computer software was used for fire station site analysis. A map containing details such as road speeds, one-way routes, grades, dead end streets, future streets, street type, etc., is combined with a database containing the current and projected population and the assessed valuation of the response area. Various scenarios can then be tested for established response time goals to identify fire station locations that generate the highest capability. Three such locations have been identified.

The Fire Department is also planning to participate in the International Association of Fire Chiefs Fire Department Accreditation Program. It is similar to the process that schools, universities, and health care facilities use to attain professional accreditation. It will assist the Fire Department in developing a concurrent strategic plan which, when complete, will form the framework for the Department's direction for five to seven years.

The Medford Fire Department as a means of "pre-planning" maintains an inventory of plans of significant and/or complicated structural facilities. The plans are used for quick reference while en route to an emergency, as well as for general reference during extended operations. They provide information regarding building layout, stored hazardous materials and explosives, sprinkler locations, critical valves, machinery shut down procedures, etc. The existence of plans of select facilities is instrumental in the initial size-up, ongoing reconnaissance, and eventual control of an incident. New computer technology will provide still photos and video through a notebook computer operated at the site of an emergency.

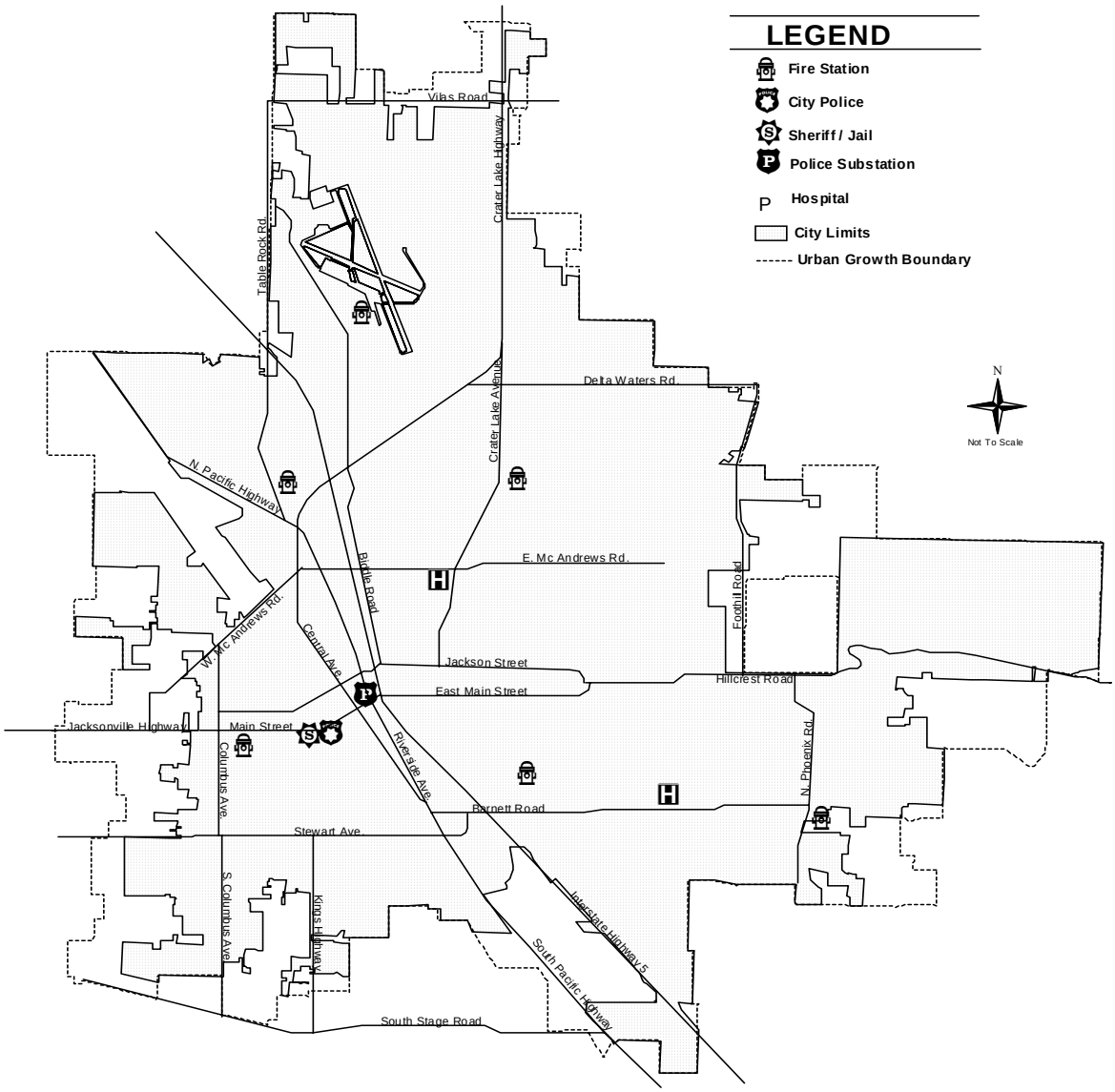
Facility Inventory

The Medford Fire Department currently responds from five locations:

City Hall Main Offices - 411 West Eighth Street at Oakdale Street
Fire Station #2 - 1241 West Eighth Street at Lincoln Street (West)
Fire Station #3 - 530 Highland Drive at Siskiyou Boulevard. (East)
Fire Station #4 - 2208 Table Rock Road (Northeast)
Fire Station #5 - 2124 Roberts Road at Keene Way (Northwest)
Fire Station #6 - 3700 Barnett Road (Southeast)

The location of these fire stations, as well as other emergency service facilities, is shown in **Figure 4**.

FIGURE 4: Emergency Service Facilities



Department Organization and Staffing

The Medford Fire Department is composed of five divisions: Administrative, Operations, Planning, Training, and Fire Prevention. The Administrative Division is responsible for the budget process and helps coordinate the budget of Medford Rural Fire Protection District #2. It handles personnel issues, annexations to District #2, and the Emergency Management Plan. The City is an active member of the Jackson County Emergency Management Committee. The City's Emergency Management Plan, when completed, will be integrated with the Jackson County Emergency Management Plan, and will include the Rogue Valley International-Medford Airport and District #2.

Medford Fire Department staffing levels have remained fairly constant over the past 20 years. As of 2000, the Fire Department employed approximately 75 employees; one fire chief, five staff chiefs, three shift commanders, 57 firefighters, four inspectors/investigators, and secretarial staff. Among the staff, 38 employees are emergency medical technicians (EMTs). Each 24-hour shift is staffed with a minimum of five engine companies. Each engine company has from three to five assigned personnel, including one Fire Captain, one Fire Engineer, and one to three Firefighters.

The Fire Department manages a training and human resource development program in order to increase effectiveness and safety, and to reduce injuries. These efforts are intended to continue a high level of fire company training in emergency medical services, hazardous materials response, commercial code enforcement, fire prevention inspections, and pre-fire planning, and to emphasize performance evaluations of fire companies. Key training program efforts continue to be directed toward accreditation to the Firefighter III level, company officer development, and promotion preparation. The Training Officer oversees the training, skills development, and skills maintenance requirements of Department personnel. Skills training occurs in areas such as firefighting, emergency medical services, rescue, and hazardous materials response. There are plans to train and equip certain firefighters to be deployed for specialty rescue situations such as structural collapse.

The Operations Division provides the 24-hour emergency services, fleet management, coordination of mutual aid, purchase and maintenance of apparatus, tools, and equipment, and coordination of radio systems and frequencies. It comprises most of the Department personnel. Emergency and routine services are provided from five fire stations. Staffing for fire stations is made up of three platoons on a rotating 24-hour shift, with 18 uniformed personnel and a supervisor at each.

The Planning Division is responsible for the management of various special projects such as strategic planning, computer/information systems such as GIS (Geographic Information System), Department accreditation, fire station site analysis and construction, computer aided dispatch (CAD), internal affairs, the Internet web site, public information, and pre-employment background investigations.

Under the direction of the Fire Marshal, the Fire Prevention and Investigation Division conducts code compliance inspections, fire cause and arson investigations, fire and safety education, fire detection/protection plan reviews, and special permit reviews. It has also initiated a Commercial Self-Inspection program for business owners. Site and plan review provides information for long-range public safety requirements and reduces hazards inadvertently created through design. This division also handles a summer weed-abatement program that requires mowing of weeds by property owners. The high volume of new construction in the City during the time period from 1988 to 1997 has resulted in increasing demands on fire prevention services. In 1996, 3,000 fire safety building inspections were conducted, weed

abatement was enforced on more than 500 lots, 67 fires were investigated, and 220 public education demonstrations were conducted.

The City of Medford is exempt from direct control by the State Fire Marshal. This permits amendment of the State Uniform Fire Code (UFC) as it applies locally. These local amendments can be more restrictive than the State UFC, but not less restrictive. For example, outdoor burning is prohibited within the city limits except for certain agricultural purposes by special permit. The sale and possession of personal fireworks are also prohibited within the city limits.

Response Apparatus Inventory

The Medford Fire Department uses four fire engines, one rescue engine, and one aerial ladder truck as its primary first-response apparatus. Ancillary apparatus includes two six-by-six wild land engines, two water tenders, two wild land pickup trucks, one shift commander utility vehicle, and one hazardous materials (Hazmat) response van. The Fire Department also maintains an inventory of three reserve fire engines.

Level of Service

Response Time - The Fire Department's emergency response time goal is to place the first arriving emergency unit on the scene within five minutes or less, and to place the second arriving unit on the scene within seven minutes or less - for 90 percent of the population. The five and seven minute time frames include two minutes allocated for 9-1-1 call receipt, radio dispatch and activation of emergency responders, and firefighter preparation for response to the incident. Travel time is the remaining component of the response time. Traffic congestion adversely affects travel time. Analyzing 1992 population data, the response goal was met for only 68 percent of the population for a first response within five minutes or less, and for only 64 percent of the population for a second response within seven minutes or less.

The Medford/Central Point 9-1-1 Communications Center, which is located in City Hall and has a staff of 17, dispatches for the Medford Police and Fire Departments, Medford Rural Fire Protection District #2, Central Point Police Department, and the Airport Rescue and Fire Fighting Unit at the Rogue Valley International-Medford Airport. Fire and medical calls amount to less than 10 percent of the 9-1-1 calls.

A multi-year effort by several agencies to establish a new regional computer aided dispatch (CAD) program has been led by the City of Medford. Jackson County fire and police agencies and the Jackson County Jail, through a consortium known as the Jackson County Public Safety Agencies (JCPSA), participated in the development of the CAD specifications to meet the needs of all the agencies. Two CAD staff positions were established in the 1997-1998 budget. The purpose of the CAD program is to improve response times, provide computerized statistics, enhance record keeping, and provide coordination among emergency agencies in Jackson County. The CAD system became operational in the spring of 2000. All emergency services are now dispatched through the system, which is integrated with Emergency 9-1-1 systems, resulting in the rapid processing of critical information, identification and assembling of response units, and dispatching of emergency crews. An exhaustive records management system (RMS) is included with the CAD, resulting in the ability to analyze current trends and effectiveness, and provide direction on how best to mobilize resources to meet the County's fire protection, medical, rescue, and general emergency needs.

Future Response Time - Response time goals as noted above are projected to remain the same in the future. The implementation of the CAD system is projected to shorten the deployment time, thus increasing the percentage of the population that can be reached within the five and seven minute windows. The continuing increase in population density (i.e., an increase in population with the service area boundary remaining roughly the same) will also result in a higher percentage of the population being reached within the response time goals.

Additionally, the fire station construction plan will strategically locate facilities to better respond to the increasing population. Without implementation of the fire station construction plan, within the year 2000, only 56 percent of the population would be reached in five minutes or less for first response, and 54 percent of the population in seven minutes or less for second response. The computer-optimized station locations, in conjunction with CAD, should enable first response to 82 percent of the population within five minutes or less, and second response to 73 percent of the population within seven minutes or less through the year 2000.

Types of Service - The fire and emergency services currently provided, including fire protection and suppression, emergency medical response, hazardous materials incident mitigation, rescue, disaster management, emergency planning, fire prevention, and public education, are projected to remain routine services delivered by the Medford Fire Department through the year 2015.

Service Deficiencies - It may become necessary to pursue a requirement for indoor residential fire sprinklers to enhance fire protection for properties in high-risk zones or located a greater distance from fire protection resources. High-risk zones are those areas outside of the five-minute response time area.

Mutual Aid - Mutual aid is a means to provide backup response when large-scale or multiple events overwhelm a community's on-duty forces and personnel available for recall. While mutual aid is usually readily available, it serves as a support function. Many agencies that respond in the Medford area may not provide the same types of apparatus, equipment, career personnel, or the same level of skill and capability as the Medford Fire Department. In addition, mutual aid forces are generally unable to meet response time goals for first and second response unless they have been pre-staged in a Medford Fire Department facility upon request. Establishing strong mutual and automatic aid agreements with surrounding jurisdictions is critical to the successful outcome of certain emergencies. The Jackson/Josephine County Regional Mobilization Plan was developed in 1992 to aid in rapidly securing and utilizing these resources. This plan establishes mutual aid response procedures for all participating jurisdictions. Future efforts should include conducting training and familiarization drills with neighboring jurisdictions for specific fire problems or targeted hazards.

A fire having a "second alarm" enacts automatic aid through agreements with the Phoenix Fire Department and Jackson County Fire District #3. These forces report to Medford fire stations for additional coverage. The "third alarm" aid assignment is composed of units from the Phoenix Fire Department and Jackson County Fire Districts #3 and #5. Additional units from Jacksonville and the Oregon Department of Forestry can cover Medford fire stations when needed. A Structural Strike Team consisting of engines from five different Josephine County agencies can be called upon when necessary. Assistance is often obtained from the Medford Police Department to help with activities such as traffic control and evacuations.

The Medford Fire Department has an agreement with the local paramedic provider, Mercy Flights, to deliver firefighter rehabilitation services when needed. Mercy Flight's basic program includes the provision of fluids, food, stretchers, monitoring equipment, etc. Utilizing pre-established guidelines, Mercy Flights monitors vital signs, core body temperature, hydration level, etc. They take an aggressive approach to the care, management, and eventual release of personnel back into the incident. Air-conditioned buses provided by the Rogue Valley Transportation District are sometimes used in the rehabilitation effort.

Funding

Fire protection and emergency services funding comprised 17 percent of the City's 1999-2000 Budget. Medford's Fire Maintenance Fund is supported by taxes on property in the City and in District #2. Voter-initiated state property tax reduction measures have decreased revenue for this fund by more than 8 percent since 1998. An Emergency Telephone Tax Fund was established in 1987 to receive emergency telephone excise tax money. This tax is imposed on every local telephone service user in order to fund dispatching. The City's 1998-1999 Capital Improvement Program (CIP) included a $1.3 million appropriation for the CAD program from the Regional CAD Fund. $2.7 million was also appropriated to begin the fire station construction program and for the replacement of major fire apparatus, including a 1982 front line fire-pump truck and a 1973 ladder truck.

Future Facilities

A new facility, Fire Station #6, which is located in the Southeast area near the intersection of North Phoenix Road and Barnett Road, is now complete. This location was computer-optimized by the *Medford Fire Station Location Study*. As noted above, the process utilized computer software to analyze components such as future population, the street system, desired response times, etc., to pick the best location. It was selected to meet the service demands of the increasing population in the southeast area of the community, including District #2.

The southeast area is the City's primary residential growth area, where approximately 1,000 acres of mostly vacant land added to the UGB in 1990, are scheduled for development over a 20-year period (to 2010). The *Southeast Medford Circulation and Development Plan*, which will accommodate more than 4,000 housing units and associated commercial and institutional development, was adopted by the City Council in 1998. The area immediately northeast of the intersection of North Phoenix Road and Barnett Road is proposed as a ATown Center≅ in which high-density residential, commercial, and institutional uses, such as the fire station, are to be concentrated.

General sites have been selected for the relocation of two existing stations. Fire Station #3 will be relocated into the downtown (West) area. This location supports both a large population (representing potential loss of life) and a high-assessed valuation (representing potential loss of property). Fire Station #2 (Southwest) will be relocated to the general area of Columbus Avenue and Cunningham Street/Garfield Avenue. This location would meet the service demands of the increasing population in the Southwest area, including District #2. The proposed location is near the intersection of two future arterial streets and a future school-park site. Southwest Medford has been one of the City's major residential growth areas since its Limited Services Area designation was lifted in 1994. Much of the development there has consisted of infill among scattered subdivisions developed prior to inclusion in the UGB.

Fire and Emergency Services Conclusions

1. The Medford Fire Department delivers fire protection and emergency services within the City of Medford.

2. Although effectiveness and productivity in the delivery of emergency services, fire prevention, public education, and emergency planning continually increases, it is recognized that Medford's facilities, apparatus, equipment, and personnel will need to be upgraded to meet the increasing demands within the service area.

3. To provide optimal emergency response in Medford, new and relocated fire stations are planned according to population growth and development patterns, and changes in circulation patterns.

4. Medford's Fire Department response time goals (five-minute first response and seven-minute second response to 90 percent of the population) are projected to remain the same in the future.

5. To achieve the best Insurance Services Office (ISO) rating possible and maintain and/or reduce fire insurance costs within the service area, the City of Medford can take additional steps, such as completing the fire station construction plan and providing a residential sprinkler program for certain areas determined to be best served by this form of enhanced fire protection.

6. To deliver emergency services effectively and safely, the City of Medford must maintain a sufficient primary response and reserve fleet of fire protection apparatus and a sufficient inventory of tools and equipment, with funding that enables rotation and replacement of apparatus, tools, and equipment on a predetermined schedule.

7. The most current technology in emergency response dispatch and records management (Computer Aided Dispatch/Records Management System) is being utilized by the City of Medford to quickly gather and process information, deploy emergency response units, document response time information, and for strategic planning and decision making purposes.

8. Funding for fire protection comes from the City of Medford's "Fire Maintenance Fund."

Fire and Emergency Services Goals, Policies, and Implementation Measures

Goal 1: *To deliver fire an emergency services effectively and safely within the City of Medford.*

Policy 1-A: The City of Medford shall strive to maintain primary response and reserve fleets of fire protection apparatus, tools and equipment inventory, and staff sufficient to deliver emergency services effectively and safely.

Implementation 1-A (1): Provide funding that enables the Fire Department to rotate and replace apparatus, tools, and equipment on a predetermined schedule.

Implementation 1-A (2): Implement the following replacement and rotation schedule for apparatus: Apparatus shall remain in front line status for no longer than 15 years, when it shall be rotated to reserve status and replaced with new apparatus. Reserve apparatus shall remain in reserve for no longer than five years, when it shall be disposed of. Prepare a replacement and rotation schedule for tools and equipment that includes rotating them into reserve status or removing them from service.

Policy 1-B: The City of Medford shall provide staffing for the Medford Fire Department sufficient for the effective delivery of emergency services and related business functions.

Implementation 1-B (1): Add additional fire companies when statistical information indicates that the existing companies cannot provide adequate emergency response or no longer meet the demands of routine business.

Implementation 1-B (2): Maintain emergency response and routine business function statistics for human resource planning.

Goal 2: *To maintain and/or reduce fire insurance costs within the City of Medford by achieving the best Insurance Services Office (ISO) rating possible, within funding capabilities.*

Policy 2-A: The City of Medford shall strive to increase its Insurance Services Office (ISO) rating while continuing to meet ISO requirements for the current ratings.

Policy 2-B: The City of Medford shall provide a residential sprinkler program for those specific areas determined to be best served by requiring this form of enhanced fire protection.

Implementation 2-B (1): Develop governing criteria for requiring installation of residential sprinkler systems in the form of a Municipal Code amendment for consideration by the City Council.

Goal 3: *To achieve the Medford Fire Department response time goals within the City of Medford.*

Policy 3-A: The City of Medford shall strive to provide fire stations in strategic locations as identified by the 1994 *Medford Fire Station Location Study* and any updates.

Implementation 3-A (1): Secure funding to move forward with the fire station construction plan.

Policy 3-B: The City of Medford shall strive to provide the most current technology in emergency response dispatch and records management to quickly gather and process information and deploy emergency response units, and to document response time information.

Implementation 3-B (1): Use a Computer Aided Dispatch/Records Management System (CAD/RMS) for strategic planning and decision-making. Establish funding to maintain the system and provide upgrades as technology changes or is mandated, including upgrades to software, hardware, and the underlying communications network.

Policy 3-C: The City of Medford Fire Department shall provide staff to adequately review development proposals for compliance with the Uniform Fire Code.

Implementation 3-C (1): Review development proposals to assure adequate and timely access for all necessary fire apparatus.

LAW ENFORCEMENT

Law Enforcement Services
The Medford Police Department provides full services to a population of 63,154 (2000 Census) people located within the Medford city limits (20 square miles).

Planning Goals
The Medford Police Department Mission Statement provides the focus for the Departments planning efforts. The mission of the Medford Police Department is "*to provide fair, high-quality law enforcement to promote Medford community livability."* Many elements drive the mission, including, but not limited to:

- Service to the community
- Emphasis on community policing
- Integrity
- Responsibility and accountability
- Professionalism
- Pride in and enjoyment of the profession

Existing Planning and Facilities

The police department has developed a strategic plan that will form the basis for all future planning efforts.

The following recommendations are designed to provide guidance for decision making when the City is confronted with specific law enforcement issues arising from changing community conditions.

- Community-oriented policing is the preferable approach to providing law enforcement services. Only through strong citizen involvement in the Police/Community partnership can this be realized.

- The underlying socioeconomic conditions conducive to crime and disorder can be affected by City actions directed at preserving and enhancing a sense of community, and City decisions influencing land use patterns, mixes, densities, and design.

- The Police cannot be solely responsible for controlling and limiting crime and interpersonal conflicts; however, the Police will continue to be the primary agency capable of immediate response and crisis intervention.

- The uniformed Police Officer will continue to be a highly visible representative of City Government.

- The public will seek increased accountability of the Police in all aspects of law enforcement activities.

Facility Inventory
The Medford Police Department is located in Medford City Hall, 411 West 8th Street in the Downtown. There are three additional off-site locations: a small office substation located at the Downtown parking garage at Sixth Street and Riverside Avenue; offices located at the Santo Community Center, 701 North Columbus Street; and the Property Control Facility at the City of Medford Service Center, 821 North

Columbus.

Department Organization

The Medford Police Department has a number of divisions. The functions of each division are as follows:

Administration - Provides the planning, direction and control of all staff and programs of the Police Department.

Records Division - Serves as a central repository and retrieval system for all police records, citations and reports generated by police activity. Another function of this program is together and record statistical data for the Police Department utilizing computer, microfilm, and hard copy files.

Patrol - Provides basic initial protection of life and property to the citizens of Medford 24 hours a day, 7 days a week. The Patrol Division is charged with the responsibility of suppressing crime, enforcing traffic laws, suppressing disturbances, arresting or citing offenders and giving aid, relief and information to all citizens as circumstances dictate. The Patrol Division utilizes canine units, which aid the law enforcement capabilities of the department.

Operations Support Division - The mission of the Operations Support Division is to provide services in support of the activities of the Patrol Division. This program includes Police Officers assigned as School Resource Officers (SRO) and a Police Officer assigned as the departments Drug Abuse Resistance and Education (DARE) Officer. This program is also charged with the mission of directing and administrating a variety of activities and programs that are elements of the department's Community-Oriented Policing (COP) and Problem-Solving style of policing which is replacing the traditional, reactive style of service delivery. Included in this program are Community Service Officers (CSO) and citizen volunteers.

Criminal Investigation Division - This division is responsible for complex cases that require extra time and specialized training. Cases include follow-up investigations of homicides, rapes, assaults, robberies, burglaries, arsons, narcotics, bad checks, frauds, embezzlement, and counterfeiting. One investigator is assigned to investigate gangs and their related activity. Two investigators are assigned to juvenile sexual/physical abuse cases.

JACNET - Jackson County Narcotic Enforcement Team provides the City's participation in the countywide narcotics enforcement team.

Administrative Support - This division is responsible for developing, organizing and managing administrative activities associated with the recruitment, selection and promotion of personnel in the department. In addition, this division is responsible for fiscal affairs and training of personnel.

Central Communications - The Medford/Central Point Communications Center (CCOM), located in Medford's City Hall, establishes the link between the citizens of the Medford Central Point area and public safety services. Twenty-four hours a day, seven days a week a citizen may call for police,

fire or medical aid by simply dialing 9-1-1.

Level of Service

Staffing - The Police Department is comprised of 94 sworn officers, 41 non-sworn full time, and 12 non-sworn part-time personnel. As of 2000, the Police Department consisted of one police chief, two deputy chiefs, three lieutenants acting as division heads, and sergeants acting as duty commanders in line personnel functions. Level of Service from the 1999 FBI crime statistics indicate that the average Pacific Coast city with a population between 50,000 and 99,999 maintains a ratio of 1.4 officers per 1,000 population. Medford's ratio was 1.56 officers per 1,000 population, which is just slightly more than the regional average. Variations from national (west coast) averages depend upon the community's particular experience with situations requiring police involvement, and the community's attitudes regarding those situations. In 2000, the Medford Police Department had 72 vehicles. These vehicles include: seven cars assigned to Administration; 49 assigned to Patrol; 7 assigned to the Operations Support Division; 13 assigned to the Criminal Investigation Division; three assigned to Jackson County Narcotics Enforcement Team (JACNET).

Response Time - The Police Departments emergency response time goal is three minutes. The Medford/Central Point 9-1-1 Communications Center dispatches for the Medford and Central Point Police Departments. Police calls amount to more than 90 percent of the 9-1-1 calls. The Center is funded in part (33 percent) by the Emergency Telephone Tax Fund. A multi-year effort by several agencies to establish a new regional computer aided dispatch (CAD) program is being led by the City of Medford. The purpose of the CAD program is to improve response times, provide computerized statistics, enhance record keeping, and provide coordination among emergency agencies in Jackson County. All emergency services are dispatched through the system, which is integrated with Enhanced 9-1-1. The result is a rapid processing of critical information, identification and assembling of response units, and dispatching of emergency crews. The CAD system became operational in the spring of 2000.

Future Response Time - Response time goals, as noted above, are projected to remain the same in the future.

Types of Service - The Law Enforcement services currently provided include, but are not limited to: traffic enforcement, criminal investigations, public assistance, school and DARE officers, Neighborhood Watch programs, first aid, and minor service calls.

Training – The City of Medford Police Department places a large emphasis on training of its officers and employees. Professional training occurs on a continual basis.

Service Deficiencies - There is a need for greater traffic enforcement, as this continues to be the number one complaint from Medford residents. Additional traffic enforcement will be accommodated with the installation of cameras designed to catch red-light violators. These cameras will be located at various intersections throughout the city, with initial installation occurring some time in 2001.

Mutual Aid - Mutual aid is a means to provide backup response when large-scale or multiple events overwhelm Medford's on-duty forces and personnel available for recall. Many agencies that respond in the Medford area may not provide the same types of apparatus, equipment, career personnel, nor the same level of skill and capability as the Medford Police Department. In addition, mutual aid forces are generally unable to meet response time goals unless they have been pre-staged in the Medford Police Department facility upon request. Establishing strong mutual and automatic aid agreements with surrounding jurisdictions is critical to the successful outcome of certain emergencies. The Jackson/Josephine County

Regional Mobilization Plan was developed in 1992 to aid in rapidly securing and utilizing these resources. Future efforts should include conducting training and familiarization drills with neighboring jurisdictions for specific crime problems or targeted hazard areas.

Currently, Medford's Police Department assists smaller police agencies in southern Oregon with a Special Weapons and Tactics (SWAT) unit, major assault-death investigations, and accident reconstruction assistance.

Funding

Police protection accounts for approximately 14 percent of the City's budget. The City's general fund provides the majority of funding for Medford's Police Department. As with fire protection, police facilities are added in response to particular growth demands. Aside from additional personnel and space to house them, the most identifiable increase in capital facility requirements related to urban growth is the proportional growth in need for additional patrol cars. Space to store and maintain this additional equipment will eventually be needed. Preliminary plans have been discussed to eventually utilize other City property to accommodate new public safety facilities.

Law Enforcement Conclusions

1. Law enforcement services are delivered to Medford residents by the Medford Police Department.

2. Although effectiveness and productivity in the delivery of law enforcement, police protection, crime prevention, public education, and community policing continually increases, it is recognized that Police Department facilities, equipment, and personnel will need to be upgraded to meet increasing demands.

3. The Medford Police Department plans to continue an emphasis on community policing, which is designed to reduce and prevent crime by increasing interaction and cooperation between the Police Department and the people and neighborhoods served.

4. The Medford Police Department response time goal is three minutes, and is projected to remain the same in the future.

5. To deliver law enforcement services effectively and safely, it is important that the City of Medford maintain a sufficient inventory of vehicles and equipment. Funding must be adequate to enable rotation and replacement on a predetermined schedule.

6. Law enforcement accounts for approximately 30 percent of the City of Medford budget. The City's General Fund provides the majority of funding. Grant funds (i.e., Department of Justice Block Grants) support additional officers and community policing projects.

Law Enforcement Goals, Policies, And Implementation Measures

Goal 1: *To provide a safe and secure environment for people and property in the City of Medford.*

Policy 1-A: The City of Medford Police Department shall strive to provide rapid and timely response to all emergencies.

Implementation 1-A (1): Analyze and monitor current response times, and compare them to past experience, to determine the effectiveness of such factors as police staffing and community policing programs.

Implementation 1-A (2): Provide training to certify personnel in First Aid and Cardiopulmonary Resuscitation (CPR).

Implementation 1-A (3): Maintain, train, and equip special response teams for extraordinary or extremely hazardous emergency incidents.

Policy 1-B: The City of Medford Police Department shall strive to control and/or intervene in conduct recognized as threatening to life and property.

Implementation 1-B (1): Provide on-scene services to restore the peace and prevent further injury to life or property.

Implementation 1-B (2): Identify evolving crime patterns; particularly those involving career criminals, and study methods to further enhance community-oriented policing.

Implementation 1-B (3): Enhance investigation and victim services abilities by providing advanced officer training.

Implementation 1-B (4): Continue and enhance property protection programs in the commercial and industrial sectors.

Implementation 1-B (5): Identify geographical areas or population groups experiencing noticeable crime victimization to improve effectiveness of crime prevention efforts, and commit resources, as appropriate, to these areas.

Policy 1-C: The City of Medford Police Department shall continue to provide investigative services directed toward successful prosecution of criminal offenders.

Implementation 1-C (1): Enhance the success of follow-up investigation and subsequent court presentation by providing quality preliminary investigations and case management.

Implementation 1-C (2): Document factors that help solve major crimes and monitor the effectiveness and efficiency of the investigative process.

Implementation 1-C (3): Continue and enhance the investigator/victim/witness relationship and maintain a cooperative liaison with the prosecuting attorney.

Policy 1-D: The City of Medford shall strive to coordinate law enforcement planning with local, regional, state and federal plans.

Implementation 1-D (1): Establish and maintain liaison relationships and, as appropriate,

agreements for mutual aid, with local, state and federal emergency response and planning agencies.

Implementation 1-D (2): Participate in major disaster preparedness planning at all levels of government.

Goal 2: *To increase and maintain public confidence in the ability of the City of Medford to provide quality law enforcement services.*

Policy 2-A: The City of Medford Police Department shall strive to maintain an open channel of communication with community members.

Implementation 2-A (1): Assess community needs and expectations on an ongoing basis and report periodically to the City Council regarding citizen complaints and citizen commendations received by the Communication Advisory Committee.

Policy 2-B: The City of Medford Police Department shall strive to aid those who cannot care for themselves (intoxicated, addicted, mentally ill, physically disabled, the young, the old, etc.) and provide crisis intervention and conflict management as appropriate.

Policy 2-C: The City of Medford Police Department shall strive to reduce crime by strengthening the police/community partnership.

Implementation 2-C (1): Continue and enhance neighborhood-based crime prevention activities and programs (i.e., Neighborhood Watch) designed to reinforce positive juvenile behavior, prevent juvenile delinquency and encourage citizen involvement.

Implementation 2-C (2): Continue and enhance programs designed to prevent and reduce drug and alcohol abuse, as well as school violence, including joint education programs with city schools, such as the School Resource Officer program.

Implementation 2-C (3): Evaluate the potential for a Police Athletic League or other variety of police/youth programs to allow further police/juvenile interaction and to offer a positive action alternative to children.

PARKS, RECREATION, AND LEISURE SERVICES

Introduction
The City of Medford has a number of unique natural features that offer exceptional recreational and conservation opportunities, such as the Bear Creek corridor, Roxy Ann Butte, and several other creek corridors. Medford is also fortunate to be located in an area with abundant nearby county, state, and national recreational resources that serve residents as well as enhancing tourism.

Statewide Recreation Planning Laws
Oregon's Statewide Planning Goal for Recreational Needs (Goal 8) is to "satisfy the recreational needs of the citizens of the state and visitors, and, where appropriate, to provide for the siting of necessary recreational facilities." Goal 8 requires recreation planning, including an inventory of needs and existing opportunities, and a long-range plan with an action program. It recommends that the highest priority be given to facilities that: meet the needs of high density population centers; meet the needs of persons of limited mobility and finances; conserve energy; minimize environmental degradation; are available at nominal cost; and meet the needs of visitors.

Goal 8 recommends that unique areas or resources that also meet recreational needs be inventoried and protected, with high priority given to enhancing recreational opportunities on the public waters of the state and Oregon Recreation Trails. It also recommends that parks and recreation planning take into account diverse techniques for acquisition, such as easements, cluster development, dedication, transfer of development rights, etc. Capital improvement programming and budgeting is required to achieve the desired level of service.

Existing Planning and Park Inventory

The most current planning document for Medford's parks and recreation system is the 1997 *Medford, Oregon - Parks, Recreation, and Leisure Services Plan*. This plan provides a needs assessment for park and recreation facilities covering a 15 to 20-year time frame. It describes a strategy for meeting future needs, including financing, and establishes policies and guidelines for park planning and development. It recommends improvements to existing facilities, and identifies general locations of future facilities such as park sites, trails, and open space.

The City's parks and recreation planning has included several other plans dating back to the 1960s. An emphasis on providing an integrated school/park system began in 1960, as did planning for the Bear Creek Greenway and Bear Creek Park. The Medford Parks Commission was created in 1969 to *"act as advisor to the City Council on matters pertaining to the acquisition and development of public parks, greenways and spaces, and recreation facilities,"* and to *"make recommendations, and formulate and suggest policies to assist the City Council in developing and preserving the aesthetic and recreational values which best serve the public interest."*

The current parks planning issues facing the City of Medford are the result of an increasing population and changing needs. Some of these issues include:

- Providing leisure services that meet the needs of a changing population.
- Establishing a suitable role for the City in providing leisure services.
- Properly locating future parks, trails, and open space.
- Meeting the financial demands of the future parks and recreation system.
- Determining whether the City should develop and maintain major recreation facilities such as sports complexes.

Parks and Recreation Services

The City of Medford's parks and recreation system is the primary provider of parks, recreation, and leisure services within the Medford Urban Growth Boundary. Other providers include the Medford and the Phoenix-Talent school districts, Jackson County, the YMCA, and various private and non-profit facilities, including golf courses, tennis clubs, etc. Medford has benefited from good parks and recreation planning in the past, providing facilities such as the Bear Creek Greenway and Bear Creek Park, and providing one of the best school/park systems in the northwest.

Park Classification and Inventory

See **Table D** for and Inventory of Medford's parks and recreation facilities in 1997.

Mini-Parks - *Very small single-purpose play lots usually containing a playground, picnic area, and open lawn area.*

There are two mini-parks in Medford; both parks are approximately 1.5 acres in size.

Neighborhood Parks - *Parks with a service area of 1 mile radius designed for non-organized recreation activities, typically having a playground, paved courts, sheltered picnic area, open lawn area, and usually 7 to 10 acres in size or when combined with a school, 5 acres in size. Typically located in residential neighborhoods and access is by foot or bicycle.*

There are 13 neighborhood parks in Medford ranging in size from 2.3 acres to 19.4 acres, and averaging about seven acres. Most of these are school/parks.

Community Parks - *Parks designed for organized activities and sports with a service area of 1 to 2 mile radius, and 30 to 40 acres in size. Usually having formal sports fields, restrooms, group picnic facilities, and outdoor courts.*

There are four community parks in Medford ranging in size from 8.8 acres to 32.0 acres. Two are school/parks. One of these, Fichtner-Mainwaring Park, is a 32-acre park.

Large Urban Parks - *Parks 50 acres or more in size designed to serve the entire community having sports field, indoor recreation facilities, specialized facilities such as swimming pool, food concessions, etc.*

The large urban park in Medford is Bear Creek Park. Approximately 132 acres of parkland has also been purchased for a new sports park, on the south end of town on South Pacific Highway (99) (Heitkampt property).

Linear Parks - *Open space or landscaped areas, 50 to 100 feet in width that follow elongated features such as canals, abandoned railroad rights of ways, creek corridors, etc. Usually having trails paths, viewpoints, seating, and passive activities.*

The linear parks in Medford consist of three linear areas containing multi-use paths. The paths adjoin portions of Larson Creek, Lazy Creek, and Biddle Road located on the east side of Medford, and total less than two miles collectively. The "linear parks" adjoining Larson Creek and Lazy Creek are also in effect, "greenways."

Greenways/Open Space - *Land left primarily in its natural state with recreation as a secondary objective. Wetlands, environmentally sensitive area, wildlife habitat, creek corridors, butprotected from over use. Minimal improvements such as trails and paths.*

The Bear Creek Greenway is Medford's primary designated greenway. The portion of the greenway in public ownership in Medford encompassed 41.5 acres in 1997. It includes a multi-use path that is currently 3.6 miles in length. Much of the public greenway acreage in Medford is located within Railroad Park. The greenway and path adjoining Bear Creek extends from Barnett Road in Medford, north to East Pine Street in Central Point, leaving the Medford UGB at Table Rock Road. A future extension of the greenway and path will extend south from East Barnett Road to Phoenix, leaving the Medford UGB just south of South Stage Road. The Bear Creek Greenway will ultimately create a continuous greenway beginning in Ashland, and extending through Talent, Phoenix, Medford and Central Point. It may eventually extend further, to the Rogue River, located ten miles north of Medford.

Beautification Areas - *Landscaped areas along street rights-of-way at intersections, entry features, plazas and fountains*.

There are a number of beautification areas throughout Medford, including Vogel Park, a focal point in the downtown.

Special Use Areas - *Miscellaneous public areas occupied by specialized facilities, such as waterfront parks, community gardens, etc.*

The special use areas in Medford's park system are Alba Park, Railroad Park, Veterans Park, the IOOF Historic Cemetery, and Miles Field. Miles Field is a semi-pro baseball stadium owned by Jackson County.

Undeveloped Park Land - *Land under public ownership designated for a future park or recreation purpose.*

The undeveloped parkland in Medford includes 44.4 acres of land within the city slated for use as parks, and 1,740 acres made up of Prescott Park located just east of the City. The City of Medford

also owns a 160-acre open space site located south and east of the intersection of Hillcrest Road and Cherry Lane outside the UGB.

Regional Parks - *Large parks and facilities that serve an area beyond one city, often including a specific unique feature typically for passive use unless located within an urban setting. Having viewpoints, trail system, picnic areas, and interpretive facilities.*

It is anticipated that Prescott Park will become a true regional park after certain improvements are completed.

From the Prescott Park Management Plan: "Roxy Ann Peak dominates the Bear Creek Valley in the Medford area and is the highest point on the skyline to the east of the city. Besides the landform of the peak, the vegetation patterns on the flanks of the peak contribute much scenic interest to the view from Medford. Elements presenting incongruous visual effects in the natural landscape include the off-road vehicle tracks..., the high voltage power lines, and the electronic transmitter facilities. Another facility not fitting into the natural patterns of the landscape is the rock pit on private land adjacent to the southeast corner of the park. Some areas of the park are very sensitive from a visual standpoint, and have a low ability to absorb visual change. These sensitive areas include open, grassy, steep slopes with south, southwest, and west aspect ridgelines (easily viewed from Medford) that stand out on the skyline, and the peak itself. Fortunately, the top of the peak is clothed with a fairly dense stand of trees affording good screening (of the electronic facilities)."

Prescott Park is an identified Goal 5 resource in the Jackson County *Comprehensive Plan*. It is designated as an outstanding scenic resource comprising both a "scenic viewpoint" and a "scenic site." It is listed in the 'Oregon Natural Areas' inventory. It is located in the winter range for black tailed deer (Grizzly Unit). The Jackson County *Comprehensive Plan* suggests a "scenic resource overlay zone" to protect such resources.

TABLE D: CITY OF MEDFORD

INVENTORY OF PARKS AND RECREATION FACILITIES 1997

FACILITY TYPE	NUMBER	ACRES
MINI PARKS	2	2.8
NEIGHBORHOOD PARKS	13	162
COMMUNITY PARKS	4	96.3
LARGE URBAN PARKS	1	101.2
LINEAR PARKS (MULTI-USE PATHS)	3	13.9
GREENWAYS	1	13.1
BEAUTIFICATION AREAS	5	9.2
SPECIAL USE AREAS	6	78.4
UNDEVELOPED PARK LAND	4	1,944
TOTAL	**39**	**2,420.9**

Level of Service

To assess the level of service currently provided and that desired in the future, a ratio of parkland acreage per 1,000 persons is often used. To determine specific land needs for the Medford planning area, several analytical methods were used. These include a comparison to the National Recreation Parks Association (NRPA) Standards, a comparison to other similar communities, land availability, results of a city-wide parks survey, national trends, financial feasibility, and looking at areas of Medford that are not now being served by parks and open space. Based on these findings, the *Parks, Recreation, and Leisure Services Plan* proposed the parkland needs for the City of Medford indicated in **Table E**.

TABLE E: CITY OF MEDFORD
PARK LAND REQUIREMENTS 1995 TO 2005

PARK TYPE	EXISTING ACREAGE	EXISTING* RATIO	PROPOSED RATIO Acres per 1000 residents	NEEDED ACREAGE** (Surplus)
MINIPARKS	2.9	.05	.04	(.4)
NEIGHBORHOOD PARKS	93.0	1.70	2.20	46.4
COMMUNITY PARKS	72.0	1.30	2.20	67.4
LARGE URBAN PARKS	101.7	1.80	1.30	(19.4)
REGIONAL PARKS	0.0	0.0	31.60	2,001.86
SPECIAL USE PARKS	76.1	1.40	1.60	25.3
LINEAR PARKS	13.9	.2	2.9	11.4
GREENWAYS/OPEN SPACE	41.5	.80	1.00	21.8
BEAUTIFICATION AREAS	2.7	.05	.20	3.7
UNDEVELOPED PARK LAND	1944.0	32.4	None	None
TOTAL	2,347.8	40.4	43	2177.86

***Based on 1995 population of 55,090**
****Assumes a 2005 population of 63,350**

Funding

The City's General Fund is the primary source of funding for parks and recreation. This funding is used to provide for recreational opportunities, art and cultural events, landscape and park facility maintenance, and street tree maintenance. The use of non-profit concessionaires at Medford's parks and recreation facilities generates needed revenue for the city parks and recreation system, while providing needed services and business opportunities. A System Development Charge (SDC) is a one-time fee that all new and expanding development pays. SDCs help the City provide for increased capacity needs resulting from growth and development, maintain health and safety levels, and preserve the community's investment in its resources. Parks SDCs provide for the purchase of new parkland and expansion of facilities in existing parks. The Parks SDC fee applies to residential property only, and is set to ensure that existing or future parks facilities provide the same level of access for city residents that were available prior to the development.

Parks, Recreation And Leisure Services Conclusions

1. The City of Medford is a significant provider of recreational programs in the region.

2. Medford has benefited from good parks and recreation planning in the past, providing facilities such as the Bear Creek Greenway and Bear Creek Park, and providing one of the best school/park systems in the northwest. To sustain this distinction, the City must be committed to finding creative funding methods for maintaining existing facilities and taking full advantage of future recreational and open space opportunities.

3. According to the 1997 *Medford, Oregon - Parks, Recreation, and Leisure Services Plan*, the most urgent facility needs in Medford's parks and recreation system were a sports field complex, a teen center, a trail system, and an indoor pool. By the year 2005, a number of additional parks, including neighborhood parks, community parks, a regional park (Prescott Park was considered undeveloped), special use parks, linear parks, greenways/open space areas, and beautification areas will also be needed.

4. The City of Medford General Fund is the primary source of funding for parks and recreation.

5. The use of concessionaires at the City of Medford's parks and recreation facilities generates needed revenue for the parks and recreation system, while providing needed services and business opportunities.

6. A Parks System Development Charge (SDC) provides funds for the purchase of new parkland and expansion of facilities in existing parks. The Parks SDC applies to residential property only, and is intended to ensure that parks facilities provide the same level of access for City residents that was available prior to development.

7. An increasing population residing in Medford is the primary reason for the increasing demands for parks and recreation services.

8. Medford has unique natural features that offer exceptional recreation and conservation opportunities, including Roxy Ann Butte, the Bear Creek corridor, and several other creek corridors.

9. Future parks and recreation services in Medford must reflect the needs of a changing population. Medford has an above average, and increasing, proportion of senior citizens.

10. There is strong community sentiment regarding equity between West Medford and East Medford relative to the parks and recreation system.

11. There is considerable community support in the City of Medford for use of the parks and recreation system for performing arts activities, such as the outdoor concerts in Bear Creek Park.

12. Walking and bicycling for pleasure were the top-rated recreational activities cited by Medford citizens surveyed in 1995. Nearly all respondents felt that the parkland acquisition program should emphasize acquisition of open space and creek corridors. The cost of acquisition and maintenance of open space is minimal when compared with most other recreational facilities.

13. The top five most-desired recreational facilities in Medford in the 1995 citizen survey were an indoor swimming pool, a teen center, an ice skating rink, a rollerblade/skateboard park, and bicycle paths. Neighborhood parks were the most favored type of park. A privately developed ice-skating rink is currently operating in the South Gateway Shopping Center. The City of Medford has installed a skate boarding/rollerblading facility in Bear Creek Park that was opened to the public in summer 2000.

Parks, Recreation, and Leisure Services Goals, Policies, And Implementation Measures

GOAL 1: *To provide for a full range of recreational activities and opportunities to meet the needs of all residents of Medford.*

Policy 1-A: The City of Medford shall use the *Parks, Recreation and Leisure Services Plan*, and any revision thereof, as a factual basis in the land use decision-making process.

Policy 1-B: The City of Medford shall recognize the social and economic value of nearby county, state, and national recreation resources that provide in-place recreation for Medford residents, create tourist expenditures within the City of Medford, and attract businesses and industries to the City.

Implementation Measure 1-B (1): Provide park and recreation programs that complement nearby county, state, and national recreation resources.

GOAL 2: *To preserve natural resources in the Medford Urban Growth Boundary that provide open space or have unique recreational potential, and to encourage appropriate development if such areas meet locational requirements for parks and recreation facilities.*

Policy 2-A: The City of Medford shall emphasize acquiring park land having trees, natural features, or other values that are inadequately protected and of significant interest to the public.

Implementation Measure 2-A (1): Develop a long-range public open space plan that provides for an interconnected system of creek corridors, greenways, wetlands, and other significant natural areas.

Implementation Measure 2-A (2): Investigate and implement methods for developing off-street multi-use paths along appropriate creek corridors, greenways, utility corridors, and other rights-of-way, particularly where such paths would provide links to schools and parks**.**

Policy 2-B: The City of Medford shall give special consideration to the Bear Creek corridor in order to protect this dynamic natural and recreational resource for the enjoyment of present and future generations.

Implementation Measure 2-B (1): Directly and/or cooperatively acquire, and plan appropriate park and recreation sites and public access along the Bear Creek corridor.

Policy 2-C: The City of Medford shall give special consideration to Prescott Park in order to protect this dynamic natural and recreational resource and most significant scenic view for the enjoyment of present and future generations.

Implementation Measure 2-C (1): Follow the recommendations of the *Prescott Park Management Plan*, and regularly update the Plan.

Implementation Measure 2-C (2): Pursue land additions to Prescott Park when opportunities

become available.

Implementation Measure 2-C (3): Pursue inclusion of Prescott Park in the Medford Urban Growth Boundary for eventual inclusion within the City of Medford.

GOAL 3: *To coordinate park and recreation planning, acquisition, and development processes in the City of Medford that involves a broad spectrum of citizen and institutional interests.*

Policy 3-A: The City of Medford shall adequately serve each geographic area within the City of Medford with a variety of park and recreation facilities, balanced on a per capita basis.

Policy 3-B: The City of Medford shall design and maintain parks and recreation facilities in a safe, attractive manner, so as to be positive amenities for the community and the neighborhoods in which they are located.

Implementation Measure 3-B (1): Provide signage in parks and park facilities sufficient to identify their public purpose and function.

Policy 3-C: The City of Medford shall design parks and recreation facilities that minimize operation and maintenance costs.

Policy 3-D: The City of Medford shall encourage joint acquisition of contiguous school and park sites.

Policy 3-E: The City of Medford shall allow compatible, revenue-producing concession facilities and services that enhance visitor use and enjoyment of the City's parks.

Policy 3-F: The City of Medford shall provide a fee schedule for parks and recreation programs that is uniform throughout the service area, and that does not preclude program use by disadvantaged persons living in the service area.

GOAL 4: *To provide a variety of public art in Medford's public places.*

Policy 4-A: The City of Medford shall encourage the establishment of public art in parks, on public grounds, and in public buildings.

Implementation Measure 4-A (1): Investigate mechanisms for getting art in public places.

GOAL 5: *To maintain community livability in Medford by promoting the planting of new trees and the protection of existing trees.*

Policy 5-A: The City of Medford shall encourage the retention of existing trees.

Implementation Measure 5-A (1): Develop a tree protection ordinance that protects existing trees on vacant developable property and trees of a "heritage tree" nature for consideration by the City Council.

SOLID WASTE MANAGEMENT

Introduction

The cost of providing solid waste disposal in Oregon runs as much as $260 million annually. Americans are consuming and disposing of ever increasing amounts of materials and toxins. Per capita generation has nearly doubled since 1960. Nationally in 1990, the single largest category of municipal waste (33 percent) was made up of containers and packaging; non-durable goods, such as newspapers, were 27 percent, landscaping waste was about 18 percent, and durable goods, such as furniture and tires, were 14 percent. Oregon's landscaping waste is significantly lower than the national average; however, the amount of food waste is much higher.

Waste prevention must be the initial goal in solid waste management planning, particularly to assure cost-effectiveness. Oregon has instituted a state management hierarchy of: reduce, reuse, recycle, compost, recover energy, and, then, landfill or incinerate. Only "residual" waste should end up in landfills; i.e., disposal only after a product has been used to its fullest potential. Personal responsibility is the key to reducing the waste stream, although some governmental policies do give a competitive edge to the use of virgin materials, such as energy subsidies, certain tax write-offs, use of public forests, etc. The *Solid Waste Management Plan for Jackson and Josephine Counties* estimates that regional waste generation will increase at 1 percent per year over its 20-year planning period (1993 to 2013).

"Waste that is not generated does not have to be managed."

Oregon State Integrated Resource & Solid Waste Management Plan - 1995 to 2005

Existing Planning and Facilities

Solid waste management planning in Jackson County is reflected in the *Solid Waste Management Plan for Jackson and Josephine Counties*, prepared by Parametrix, Inc. in 1994. The planning process was funded by a grant from the Oregon Department of Environmental Quality (DEQ). With a 20-year planning period, the plan provides a framework for making short and long-term decisions about solid waste management in the region. The plan focuses on evaluating long-term landfill options, waste reduction and recycling programs, transfer stations, institutional arrangements, and system funding alternatives. A Solid Waste Advisory Committee (SWAC) was formed to facilitate the planning process. State law requires new waste facilities to be compatible with an adopted solid waste management plan before being issued a DEQ permit to operate.

The solid waste management system in the region is in transition from a decentralized system to one that will send all waste to a single facility. This is the result of recent state and federal regulations that require new solid waste management approaches involving additional services and environmental compliance. The true cost of waste disposal is the sum of the long-term costs of operating, closing, and monitoring landfills. The critical waste management issues facing the region are future landfill capacity, rate stabilization, and adequacy of closure funds.

Solid waste planning efforts in Jackson County in 1974-1975 recommended a single "resource recovery" facility in the White City area in-lieu of providing landfills, which would recover recyclable materials and incinerate the remaining waste to produce energy. This facility would serve as the regional recycling center. This regional recycling facility (BIOMASS ONE), located at 2350 Avenue G in White City, provides resource recovery services.

Regional Landfills

Until recently, the primary landfill in Jackson County was the South Stage Landfill located on Bellinger Road near the city of Jacksonville. The closure process for this landfill began in 1999, with a closure cost of about $12 million. A leachate treatment system will be installed, and the landfill will be covered with soil and re-vegetated with grass. Groundwater and methane gas must be monitored for 30 years after closure. Both the Ashland and Prospect landfills will also be closing in the near future or have already closed. The Dry Creek Landfill, located approximately two miles northeast of the Medford UGB adjacent to Prescott Park, will be the single facility to serve Jackson County, and, most likely, Josephine County. The other landfills are closing because meeting the new standards is too costly. The Dry Creek facility will have a life span of 50 to 100 years. A new working area or "cell" with a thick multi-layered lining and a wastewater processing system is being constructed to replace the present working area. This new lined working area may eventually be filled with up to 300 feet of waste.

Level of Service

State and Federal Solid Waste Regulations

Solid waste must be managed to protect the public health and environment, and to conserve resources, since improper solid waste management can pollute the environment and deplete resources. Statewide Planning Goals 6 and 11 address solid waste management. Goal 6 requires solid waste facilities to comply with federal environmental quality requirements, and Goal 11 requires solid waste management to be a part of public facility planning, including siting standards for needed facilities. The Oregon DEQ takes primary responsibility for regulation of solid waste under the federal Resource Conservation and Recovery Act of 1976. The *Oregon State Integrated Resource and Solid Waste Management Plan, 1995-2005* was produced in 1994 by DEQ. The planning process began in 1991 with the establishment of regional workgroups. A representative of the City of Medford was among the ten members of the Jackson-Josephine County workgroup.

Special Wastes

Certain wastes are specially regulated, require special handling, and often cannot be disposed of in landfills. These are discussed below.

- ***Tires*** Waste tires, which cannot be placed in landfills, are sent to California or to the Portland area. The Les Schwab Tire Company has plans to incinerate tires in Central Oregon.

- ***White Goods (Appliances)*** Appliances can be disposed of in landfills if the ozone-depleting compounds have been removed; however, most are recycled.

- ***Construction/Demolition Wastes*** Construction and demolition wastes, such as concrete, bricks, asphalt, wood, glass, roofing, plaster, etc., are permitted in the region's landfills. In Jackson County in 1991-92,

14 percent of this type of waste was recycled at the Biomass One and Jo-Gro facilities. Education and rate incentives are needed to encourage separation of such materials, and to encourage salvage operations prior to demolition.

- ***Household Hazardous Waste*** Household hazardous waste, such as solvents, pesticides, paints, and motor oil, cannot be disposed of in local landfills. Voluntary hazardous waste collection events take place periodically in Medford. The materials are recycled or shipped to an appropriate storage and disposal facility. Collection of such waste also prevents it from being dumped into the sanitary sewer system, which can cause contamination of the treatment facility. Programs are needed for education about toxic use reduction to reduce the volume of such waste. Instead of one-day events, a permanent facility could be provided.

- ***Hazardous Waste from "Conditionally Exempt Small Quantity Generators" (CEG's)*** CEG's are businesses such as dry cleaners, vehicle repair shops, gasoline stations, etc. that produce lesser quantities of hazardous waste that cannot be disposed of in landfills. One-day collection events occur in conjunction with the household hazardous waste collection events. Programs are needed for education about toxic use reduction to reduce the volume of such waste.

- ***Petroleum Contaminated Soils*** These are soils contaminated by gasoline, fuel oil, etc. The amount of contaminated soil will diminish over time as leaking underground tanks are replaced. Low-level petroleum-contaminated soil can be placed in the Dry Creek Landfill. Petroleum-contaminated soil can also be remediated through incineration at Copeland Sand and Gravel in Grants Pass. Additional private sector remediation and recovery facilities are needed.

- ***Asbestos-Containing Material*** When asbestos becomes friable, it releases fibers into the air that cause lung cancer and other diseases. The Dry Creek landfill accepts asbestos subject to specific regulations. Burying the material is a good means to limit exposure. Homeowners are exempt from federal disposal regulations but must follow the local landfill rules. The need for handling will decrease over time as asbestos-containing materials are eliminated.

- ***Infectious Medical Waste*** Infectious medical waste, including used needles, blades, etc., is waste created by facilities such as hospitals, veterinaries, and funeral homes. In this region, it is held in special storage, and hauled, once per month, to Brooks, Oregon to be incinerated.

- ***Agricultural Wastes*** In Jackson County, agricultural wood waste is usually burned on-site, and some agricultural waste is sent to the Jo-Gro facility. The Sabroso Company sends waste from orchard products processed in Medford to the regional water reclamation treatment plant.

- ***Sewage Sludge*** Sludge (biosolids) is a final product of sewage treatment. It can be applied to land as fertilizer, buried in special landfills, or incinerated. Medford's regional Water Reclamation Plant typically disposes of sludge in landfills and has also provided sludge for agricultural land application.

Refuse Collection

Counties have the authority under state law to design, construct, and operate solid waste facilities, and about three-quarters of the landfills in Oregon are publicly owned. Cities and counties can establish franchises for collection, recycling, and disposal. A franchise gives a certain company or companies' exclusive rights to a

specific service area. In Jackson County, franchised haulers collect refuse from specified areas on a regular schedule, and provide recycling services in urban areas. They pay a franchise fee, which is a percentage of net income or a set amount. Collection service is not yet mandatory for residential or commercial generators. A private company, Rogue Waste Systems, Inc. serves the Medford area, and also owns the South Stage and Dry Creek landfills.

Recycling Programs

Oregon's first legislation dealing with recycling was the renowned 1971 *Oregon Bottle Bill* that required the return of beverage containers to the manufacturers. It placed part of the waste management burden on the manufacturer by requiring them to accept their products for reuse or reprocessing. In 1983, the *Opportunity to Recycle Act* set clear public policy about the recycling opportunities afforded to the citizens of the state. Oregon Senate Bill 66, the *1991 Recycling Act*, required statewide waste reduction. It also attempted to assure markets for the recyclable material, e.g., it established minimums for the recycled material content of certain items marketed in Oregon, such as glass, rigid plastic, and newsprint. The only previous state government role in these markets had been in areas such as tax credits.

The current statewide recycling goal is to have 50 percent material recovery by the year 2000. Recovery rates include all materials except those recycled by vehicle and scrap metal yards. In Oregon, 70 percent of newsprint is recycled to make more newspapers. Jackson County met its 1998 waste recovery rate goal of 25 percent set by the state plan. One-third of the current waste recovery in Jackson County consists of the materials received at the Biomass One facilities, which accept primarily wood waste (not including grass or leaves). The materials are shredded into landscaping or soil amendments or burned as fuel to create energy.

The 1991 Recycling Act also set recycling program component choices for local governments; or, a unique program can be developed if the goals and objectives of the Act are met. There are eight recycling program component choices. Cities of more than 10,000 in population, such as Medford, must implement at least four or five of the elements. They are:

A) Curbside collection containers for recyclables provided for residential customers
B) Weekly collection of recyclables on same day as refuse collection
C) Expanded education and promotion of recycling
D) Recycling for multiple-family complexes of five or more units
E) Yard debris recycling program
F) Commercial recycling program
G) Expanded recycling depots
H) Rate incentives for recycling

In Medford, elements A, B, C, and H have been implemented. Element E, yard debris recycling, takes place only during the fall, when the City provides a free leaf pickup service for three months. Approximately 33 tons of leaves are taken to the Jo-Gro facility in Josephine County, where they are combined with sewage sludge and composted into a soil amendment. Public recycling centers (element G) are located at the Dry Creek Landfill and the White City Transfer Station.

Curbside recycling collection is provided in Medford by Rogue Waste Systems, which also conducts

recycling promotion and education. The higher density of Medford's residential and commercial development, compared to elsewhere in the County, allows for greater recycling opportunities at a lower cost. The curbside collection program collects newspapers, glass, cardboard, aluminum, used oil, and plastic milk jugs. The recycling centers accept other recyclables such as magazines, scrap paper, phone books, certain plastics and "tin" cans.

Recycling Facilities

A coordinated regional approach to recycling is needed. Start-up costs are initially higher for waste reduction and recycling than for land filling, but more cost-effective over the long-term. Removing recyclables initially from other waste is more cost-effective than mechanically removing them from a mixed waste stream in a resource recovery facility.

Presently, collected recyclables are sorted and compacted, and most are then transported to Portland-area industries. The Recycling Act will require a substantial upgrade of services to the haulers of recyclables in the future; for example, currently, some recycled glass is not paid for. Southern Oregon Recycling and Sessler Recycling accept scrap metals, and Biomass One accepts wood waste and yard debris, but not grass or leaves. Some of the wood waste is ground into soil amendments, and some is burned as "hogged fuel" to generate electricity. The Biomass One facilities have been expanding and upgrading.

The local solid waste plan recommends three program opportunities to increase the level of diversion from the solid waste stream. The first is to form a regional waste reduction steering committee to coordinate regional options for improving material recovery. Some of these options include expanded industrial, commercial, and institutional collection; expanded drop-off collection; and expanded multiple-family collection. The second is to provide an expanded yard waste collection program that would expand non-energy options for diverted yard waste, establish more sites for accepting such waste, and increase marketing of the final products. The third is to provide hauler/recycle demonstration (pilot) programs, such as a program to increase commercial waste recovery, especially for office paper and food waste. The commercial sector in the region generates 60 percent of the waste, with only a 12 percent recovery rate.

Transfer stations are one means to help maintain service levels while cost-effectively playing a significant role in waste reduction and recycling. The local solid waste plan recommended providing transfer facilities to make up for the loss of the landfills. Ideally, they should be located within 20 minutes of the majority of the users. The White City area was chosen as the location for a transfer station due to the location and the availability of vacant industrial land. In 1999 the Rogue Waste Systems transfer facility in the Whetstone Industrial Park near White City was opened. The Whetstone Industrial Park is property owned by the City of Medford. A portion of the site at one time contained a landfill, which is the subject of an on-going clean-up process.

City of Medford Solid Waste Policies and Regulations

The City of Medford has an unwritten policy to purchase high quality, recycled materials such as paper products whenever economically feasible. Used office paper is also regularly collected for recycling in city facilities by providing a container at each workstation. The Medford *Land Development Code* permits most solid waste-related facilities in a variety of zoning districts. Trucking facilities, including sanitation trucks, and scrap metal and other recycling facilities are permitted in the Heavy Commercial and all of the industrial zoning districts. Solid waste collection and disposal sites are permitted in the industrial zones. Community services, which include indoor recycling collection centers, are conditional uses in residential zones. Rogue

Waste Systems has trucking facilities within the city of Medford in General Industrial (I-G) zones on Crater Lake Avenue and on Myers Lane.

Illegal dumping, an important waste disposal issue, is usually caused by the cost and perceived inconvenience of collection or disposal at a landfill. Strong anti-dumping ordinances are necessary as illegal dumping increases. The most effective prevention activities are education, reporting, and community cleanups. In the city of Medford, unlawful accumulation of junk or garbage is an infraction. If such an accumulation is determined to be a public nuisance, the City can remove it after conducting a public hearing. The property owner is then assessed the cost of the abatement as a lien against the property. Many communities address illegal dumping by imposing mandatory garbage collection. As of 1997, residential rental owners in the city of Medford are required to provide garbage receptacles that accommodate 30 gallons per unit, and to provide weekly garbage collection service.

Dry Creek Landfill and Prescott Park

Prescott Park, a 1,740-acre park owned by the City of Medford, adjoins the Dry Creek Landfill along the northeast section of the park. The park is not within Medford's UGB, although it abuts the UGB. Prescott Park is an identified Goal 5 resource in the Jackson County *Comprehensive Plan*. It is designated as an outstanding scenic resource, comprising both a "scenic viewpoint" and a "scenic site." The Jackson County *Comprehensive Plan* suggests a "scenic resource overlay zone" to protect such resources. Many regard Prescott Park (Roxy Ann Butte) as the City's premier open space and most significant natural view, currently and historically. The interface with lands surrounding Prescott Park is critical for preserving this open space/view shed.

It has been recommended that a comprehensive planning program for a specifically defined area be developed to ensure long-term protection of the Roxy Ann Butte view shed, and protection of the natural resources (plant and animal habitat). Such a program should also address the park's interface and view of the Dry Creek Landfill.

Funding

The cost of solid waste disposal is funded by "tipping" fees, which are usually based on the weight of the waste. The private waste disposal companies in the region have begun to increase fees to cover funding landfill closures, remediation, and monitoring, which is very expensive. Financial assurance is required as a part of closure plans prepared five years in advance of closure. According the regional plan, local governments may be able to promote funding of such activities at a lower cost through general obligation or revenue bonds. The formation of a county service district or a regional sanitary district or authority, which have the ability to ask the voters to levy additional property taxes, would make it easier to issue bonds. An in-depth analysis of various funding methods is needed. Importing waste from surrounding rural counties could help fund long-term financial stability, since a capacity shortage is not anticipated.

Solid Waste Management Conclusions

1. The City of Medford is required to participate in the preparation and implementation of a regional solid waste management plan developed through a cooperative effort by local governments and the private sector, in compliance with the state solid waste management plan.

2. The most critical solid waste management issues facing the City of Medford and the region are future landfill capacity, rate stabilization, and adequacy of closure funds. A coordinated regional public/private strategy will be needed to address landfill closures and long-term remediation of closed landfills.

3. The Dry Creek Landfill, located approximately two miles northeast of the Medford Urban Growth Boundary adjacent to Prescott Park, is the solid waste facility serving Jackson and Josephine Counties.

4. Private waste disposal companies in the region fund the cost of solid waste pickup and disposal through "tipping" fees, which are usually based on the weight of the waste.

5. Waste prevention must be the initial goal in solid waste management planning, particularly to assure cost-effectiveness. Public/private efforts to develop, implement, and fund innovative, cost-effective waste prevention and recycling activities are needed, with a commitment to making such activities a part of daily decisions and business practices.

6. The City of Medford can educate and lead through good example by purchasing durable, reusable, repairable, recycled, and recyclable products, by participating in recycling, and by educating employees about waste prevention and recycling in the workplace.

7. Jackson County met its 1998 waste recovery rate goal of 25 percent set by the state plan. The current statewide recycling goal is to have 50 percent of materials recovered.

8. Additional recycling efforts needed in the region include expanded industrial, commercial, and institutional collection, especially for office paper and food waste (the commercial sector generates 60 percent of the waste in the region, with only a 12 percent recovery rate); expanded drop-off collection; expanded multiple-family collection; and expanded yard waste collection with non-energy options for diverted yard waste, more sites for accepting such waste, and increased marketing of the final products.

9. A solid-waste transfer station located on Table Rock Road in White City, plays a significant role in the region's waste reduction and recycling ability.

10. Planning is needed to assure compatibility between the development and use of the Dry Creek Landfill and Prescott Park.

Solid Waste Management Goals, Policies, And Implementation Measures

Goal 1: *To achieve a cost-effective, locally controlled, technologically feasible, environmentally sound, and publicly acceptable solid waste management system for the City of Medford.*

Policy 1-A: The City of Medford shall support and promote compliance with state and county solid waste management plans.

Policy 1-B: The City of Medford shall participate in the implementation of the regional solid waste management plan developed through a cooperative effort of local governments and the private sector.

Implementation 1-B (1): Provide City technical staff assistance, as appropriate, to ongoing interagency committees dealing with solid waste management.

Policy 1-C: The City of Medford shall review City policies and ordinances governing the siting, permit review process, and development standards for those solid waste system facilities that may be needed within the Medford Urban Growth Boundary in the future.

Policy 1-D: The City of Medford shall continue to carry out a program that effectively addresses illegal dumping of solid waste.

Policy 1-E: The City of Medford shall assure that appropriate measures are taken to secure compatibility between the development and use of the Dry Creek Landfill and Prescott Park.

Goal 2 - *To achieve a steady long-term decrease in the per-capita amount of solid waste being disposed of in landfills by the residents of Medford.*

Policy 2-A: The City of Medford shall strive to manage the City's solid waste according to the state management hierarchy of reduce, reuse, recycle, compost, recover energy, incinerate, and landfill.

Policy 2-B: The City of Medford shall cooperate in public/private efforts to develop, implement, and fund innovative, cost-effective waste prevention and recycling activities and programs.

SCHOOLS

Introduction

The Medford School District (549C) serves approximately 85 percent of the Urban Growth Boundary (UGB). The Phoenix-Talent School District serves the southeastern portion of Medford, totaling approximately 15 percent of the UGB.

Cooperative agreements have existed for a number of years between Medford School District 549C and the City of Medford with respect to joint development of school parks. Over the past several years, many such facilities have been constructed and existing facilities have been significantly improved with the use of local and federal funds. These joint-use improvements have provided all Medford residents with a wide range of excellent recreational opportunities. Continued mutual cooperation in the provision and enhancement of school parks is anticipated.

Long-range planning for school facilities is an important and somewhat complex process requiring the cooperation and coordination of school districts, local government, and citizens. Long-range planning occurs within the Medford and Phoenix-Talent School Districts. It is a different type of planning, however, from the long-range planning activities of local "general purpose" government, whose responsibility it is to direct the location and intensity of community growth and development, and perform functions of community and regional planning that fall within the jurisdictional and statutory authority of their boundaries. Conversely, school districts are "special purpose" government entities, whose role it is to coordinate with city and county agencies, and react appropriately to the service demands generated by the growth and development policy decisions of general-purpose government.

Existing Plans and Other Source Documents

Medford School District

1. Medford School District 549C Enrollment Projection Update, 1997 to 2001, by Judith A. Barmack, Ph.D., February 1997 (advisory).
2. Medford School Board Class Size Policy, 4/21/81 (adopted).
3. Medford School District enrollment summaries, 10/1/98.
4. Medford School District Map, 1992.

Phoenix-Talent School District

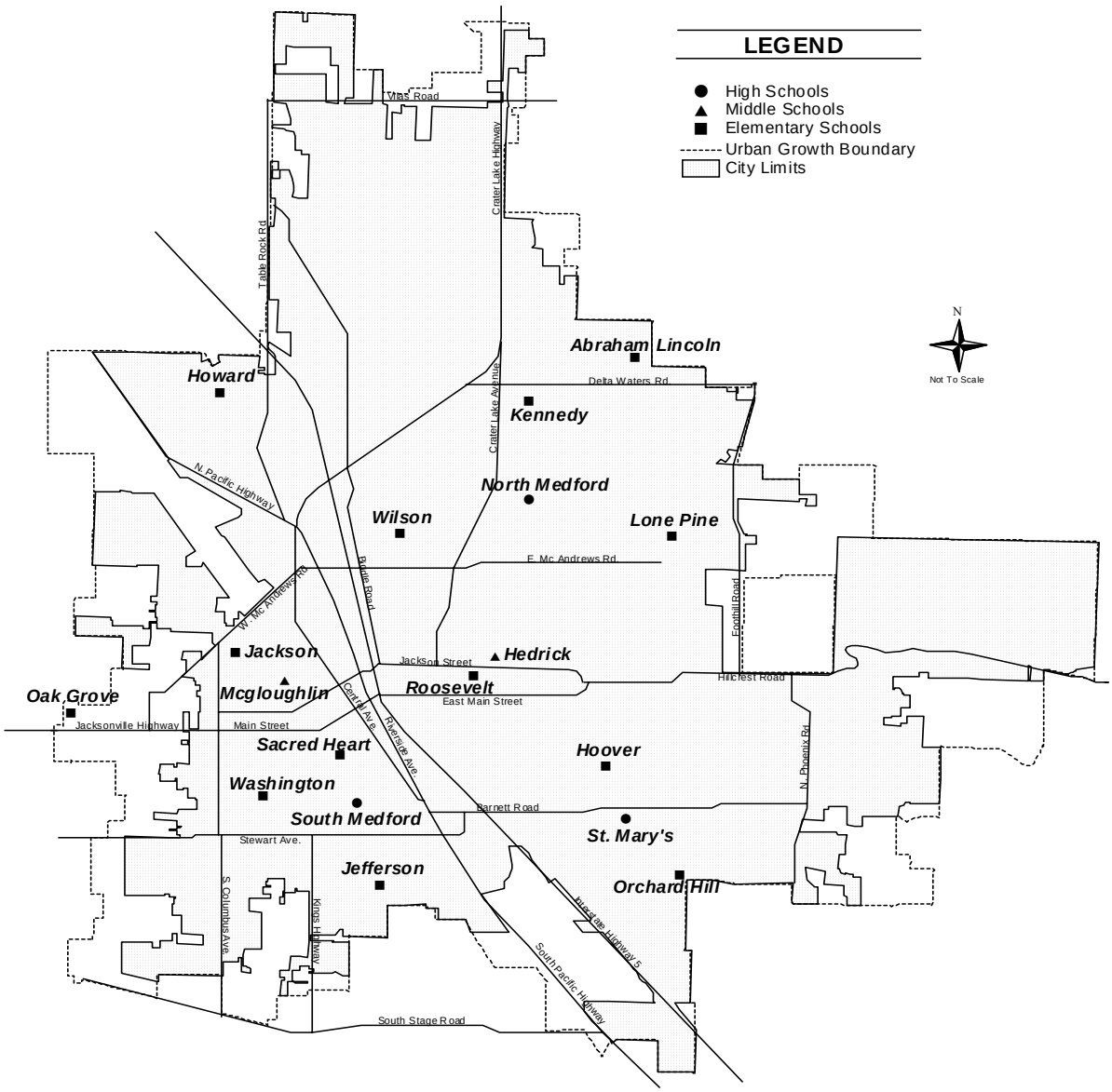
1. Phoenix-Talent School District Daily Class Load Policy, 2/3/83 (adopted).
2. Phoenix-Talent School District Class Size Policy, 2/3/83 (adopted).
3. Phoenix-Talent School District enrollment summaries, 10/1/98.
4. Phoenix-Talent School District Map, Jackson County GIS Files, 1/1/99.

Existing Planning and Facilities

Within the city of Medford and its Urban Growth Boundary area, there are currently a total of 15 public and four private schools serving the population.

FIGURE 5: School Location

Medford Urban Growth Boundary



Medford School District

11 Elementary Schools inside the UGB
3 additional Elementary Schools outside the UGB (Griffin Creek Elementary, Ruch Elementary, and Jacksonville Elementary)
4 Secondary Schools (2 middle schools and 2 senior high schools)

Private Schools
New Dimensions Elementary
Sacred Heart Elementary
Grace Christian Elementary
St. Mary's High School

Those school facilities located outside Medford's UGB do serve areas within the UGB. There are also two elementary schools within the Phoenix-Talent School District that serve a portion of the UGB population. One of these schools (Orchard Hill) resides within Medford's UGB and serves the southwestern portion of the UGB. **Figure 5** shows the location and type of schools located within Medford's UGB.

A school district's estimate of future enrollment levels and school needs is based on the forecast population levels in the urban area and nearby rural lands. Both school districts (549C and Phoenix-Talent) have developed enrollment projections utilizing a variety of information including population and residential development forecasts. These school districts also coordinate with the City of Medford and Jackson County, utilizing recent land use studies to better evaluate ways to ensure the timely development of new schools in the urban area.

The identification of locations for new public schools is an important function of any general plan adopted by a school district. The need for new schools is closely related to residential development and housing densities in the community. It is important that new schools be located with reference to development patterns planned in the local jurisdictions (city, county, etc.) adopted comprehensive plan.

Public school facilities within the Medford and Phoenix-Talent School Districts are currently adequate and meet the needs of the community. Demographic changes, the upgrading of physical facilities, and change of grade structure will precipitate other changes to physical facilities. Additional minor remodeling and improvement of existing facilities will continue to occur, as needed, on a periodic basis.

Level of Service

Although state and national standards exist with respect to school facilities, these standards are general in nature and reflect the statistical evaluation of school systems having widely divergent demographic, social and economic characteristics. Additionally, state and national standards are expressed as a strictly quantitative measure of facility adequacy, and do not always reflect accepted local standards with respect to school size and more qualitative measures of facility adequacy.

The measurement most often used as a level of service standard is the ratio of students per classroom. Students per classroom (i.e., class size) is suggested as the level of service standard measurement for schools because (1) it is easily understood as a measure of facility capacity, (2) it is frequently used as a workload barometer in teacher contracts, and (3) analysis of schools often use class size as an indicator of educational quality and facility adequacy.

Both Medford 549C and Phoenix-Talent School Districts have adopted similar level of service standards based on this measurement. The number of students per classroom ratio recommended by both districts is: 18 students (K – grade 1), 23 students (grade 2 – grade 3), 28 students (grade 4 – grade 6), and approximately 32 students (high school).

Medford's 549C and the Talent/Phoenix school districts currently have a policy that requires the utilization of qualified teaching assistants to supplement regular teaching staff when overcrowding occurs. In these cases of classroom overcrowding, this practice assists regular teachers by providing greater teacher to student ratios, increasing instructor and student interaction. In most cases, overcrowding is considered to exist when there are two or more additional students above the recommended class size.

Overcrowding of classrooms is an important factor affecting a schools ability to provide quality educational services. The number of children in specific grades in a given school, considering the type and number of available classrooms, can serve to significantly increase or decrease the actual operating capacity of the school. For example, an elementary school heavily weighted with grade 4, 5, and 6 students, but with few grade 1, 2, and 3 students, would exceed the classroom space for grade 4, 5, and 6, representing an overcrowding situation before the total capacity of the school was actually reached. It is important to note alternatives that exist, other than new school construction, when overcrowding/capacity problems exist or are anticipated to occur.

Other steps that can be taken to mitigate or minimize temporary, localized or long-range/permanent overcrowding problems include:

1. Revise the service area boundaries for particular schools or student bussing, to shift excess student populations to schools that have additional capacity. These are typically the best alternatives and work well except in those instances where all schools in an area are experiencing overcrowding and capacity problems.

2. Placement of temporary classrooms, when circumstances indicate an overcrowding condition to be only temporary, or when funds are unavailable for new permanent classroom construction of overcrowding, is a possibility.

3. Construction of additional permanent classrooms, under circumstances of long-term overcrowding, when funds are available.

4. Increasing class sizes when overcrowding conditions are temporary and other alternatives are unavailable.

5. As a last resort alternative, doubling school sessions.

6. Other specific alternatives may also exist and should be evaluated on a case-by-case basis.

Rogue Community College

Rogue Community College (RCC) was established in November 1970 by vote of the electorate of Josephine County. On May 21, 1996, voters in Jackson and Josephine Counties approved expansion of RCC's

boundaries to include all of Jackson County, allowing a wider range of educational programs, more job-training opportunities, and greater access for students throughout the Rogue Valley.

Each year the college provides educational experiences to more than 13,000 students (3,400 full-time equivalent) in lower division transfer, job training, and development studies programs. The college district now includes Josephine and Jackson Counties; and programs and services will continue to be extended to Jackson County over the next several years.

In Jackson County, RCC has developed the Riverside Center in downtown Medford. Located at Ninth, Bartlett, and Riverside Streets, the three-building complex houses classrooms, labs, Student and Community Services and library services. The Education and Resource Center (ERC), located in the Rogue Valley Mall, offers education, business, and community services. Classrooms on the premises allow convenient scheduling of day and evening college credit classes, training, workshops, certificate programs and seminars. Responding to increasing enrollment, the college has developed college programs in a number of additional nearby facilities all within Medford's downtown area.

Southern Oregon University

Southern Oregon University is an accredited four-year public university offering baccalaureate and masters degree programs. Though the main campus is in Ashland, outside of Medford's UGB, the university maintains a satellite campus in Medford. Located at the Mary Phipps Center (229 North Bartlett Street), this campus extension provides classrooms and office space.

In a cooperative arrangement with Rogue Community College, Southern Oregon University offers college courses to RCC students. These courses are designed to provide supplemental coursework for students interested in transferring to the university.

Funding

Prior to the 1990s, local school boards and the district voters determined the size of K-12 school district budgets. The majority of school funds were raised locally through property taxes, with the state providing less than 30 percent of operating funds. During the 1990s, Oregon's voters approved a series of property tax limitation measures that have shifted the major responsibility for funding public schools from local school boards and district voters to the State Legislature. Today the state income tax and, to a lesser degree, the lottery provide about 70 percent of the operating revenue for K-12 schools with local property tax providing the bulk of the remaining funding.

Schools Conclusions

1. The City of Medford and its urban growth area is served by the Medford 549C and Phoenix-Talent school districts.

2. The location and development of school facilities can affect neighborhood formation and traffic patterns.

3. Cooperative agreements have existed for several years between the Medford and Phoenix-Talent School Districts and the City of Medford with respect to joint development of school parks.

4. Funding for public schools comes primarily from state income taxes and state lottery proceeds (70 percent), with local property taxes making up the remaining funds.

5. As demographic trends change, so too do the geographic demands for various types of school facilities. Through careful and continuing analysis of demographic data, and coordination with local governments such as the City of Medford, school districts can keep pace with the changing demand for the facilities and services they provide.

Schools Goals, Policies, and Implementation Measures

Goal 1: *To support excellent public education for Medford's citizens.*

Policy 1-A: The City of Medford will cooperate with Medford School District 549C and Phoenix-Talent School District in providing public improvements and services needed to support adopted educational programs, and urge the school districts to participate actively in the City's comprehensive planning and development review process.

Goal 2: *To utilize Medford public school facilities as positive community assets.*

Policy 2-A: The City of Medford shall strive to minimize the costs of schools and parks by continuing the practice of joint location, acquisition, and use of sites for both schools and parks.

Policy 2-B: The City of Medford shall encourage the use of schools as an integral part of the community by urging the school districts to allow community use of school facilities when the uses do not conflict with the primary use of the school facility.

HEALTH SERVICES

Introduction

The City of Medford is recognized as a regional health service center, serving several counties from around southern Oregon and northern California and a population base exceeding 500,000. As a regional health service center providing general and specialized care, Medford has become a destination for those seeking temporary and long-term health care treatment.

The quality and abundance of health care facilities and services available locally has been an important factor in attracting an increasing population of persons choosing to relocate and/or retire to the Medford area. As this trend continues it is important for local general-purpose governments, such as the City of Medford, to plan its public facilities and services accordingly. Efforts must be made to adequately provide for transportation, utilities, and other public facilities and services needed to support health care facilities within the Urban Growth Boundary, consistent with their growth requirements.

Existing Facilities

There are two hospitals in the Medford area, providing medical, surgical, obstetrics, pediatric, psychiatric, and critical care facilities.

> ***Providence Medical Center*** **(PMC)** - Fully accredited community hospital is a licensed 153-bed acute-care facility composed of more than 375 physicians, 800 employees, and 350 volunteers. In addition to inpatient and outpatient services, surgery, and clinical services, Providence also offers the community a variety of other services including education, hospice, adult day health care, transportation, and home health programs.
>
> ***Rogue Valley Medical Center (RVMC)*** - Fully accredited and licensed not-for-profit 305-bed facility has 300 physicians on staff, representing nearly all specialties and sub-specialties. RVMC is the largest, most comprehensive regional medical facility between Eugene, Oregon, and San Francisco, California. RVMC serves the health care needs of more than 500,000 individuals throughout southern Oregon and northern California.

Level of Service

While national guidelines for levels of service exist, they tend to focus on occupancy rather than a ratio of beds per thousand population. For hospitals over 4,000 admissions per year, such as PMC and RVMC, the national guidelines allow an occupancy standard of 80 percent, or 75 percent for hospitals with fewer admissions. The latter situation is most often found in small and rural hospitals. The selection of a specific occupancy standard is a judgment to be made by each community. Occupancy rates at PMC and RVMC average 80 percent. Lower occupancy rates mean greater scheduling convenience for doctors and patients, but there is a tradeoff to be made in terms of reduced efficiency and therefore higher costs.

With two hospitals within Medford's Urban Growth Boundary, health care facilities and services are adequately accommodated presently and for some time into the future. The City of Medford and the health care institutions located within the urban area should continue to work together to address public facilities and services needed to accommodate future comprehensive health services.

Health Services Conclusions

1. Medford is the regional center for health services for southern Oregon and a portion of northern California.

2. The presence of high quality health care facilities influences people's decisions to visit and relocate to the Medford area.

3. Health services in the Medford planning area appear to be adequate for the present and into the foreseeable future.

4. Health care institutions, local jurisdictions, and the communities they represent are best served when they participate together in planning for future public facilities and services.

Health Services Goals, Policies, and Implementation Measures

Goal 1: *To support the provision of adequate health services and facilities to meet the needs of the people within the Medford Urban Growth Boundary and the region.*

Policy 1-A: The City of Medford shall strive to provide transportation, utilities, and other public facilities and services needed to support health care facilities within the Urban Growth Boundary, consistent with the health care facilities' growth requirements.

Policy 1-B: The City of Medford shall encourage cooperation among local, state, federal, and private agencies in planning and providing for health and related social services.

Policy 1-C: The City of Medford shall encourage the development and/or expansion of health services to meet regional as well as local needs.

CITY OF MEDFORD COMPREHENSIVE PLAN

GENERAL LAND USE PLAN ELEMENT

PREPARED BY
CITY OF MEDFORD PLANNING DEPARTMENT
200 SOUTH IVY STREET
MEDFORD, OREGON 97501

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STEVE REHN, AICP, ASSISTANT PLANNER

REVISED BY
MEDFORD CITY COUNCIL
DECEMBER 16, 2004
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General Land Use Plan (GLUP) Map

GENERAL LAND USE PLAN (GLUP) MAP

INTRODUCTION

The General Land Use Plan (GLUP) Map graphically represents the present and future land use patterns within the City of Medford, and the future patterns within the Urban Growth Boundary (UGB). Medford's GLUP Map is maintained in a larger sized format and is a part of this element by reference. The purpose of the GLUP Map is to project the probable land uses in the city at the end of the planning period, based on the needs analyses in the other elements of the Medford *Comprehensive Plan*. For example, the "*Housing Element"* provides a close look at residential land needs, while the "*Economic Element"* details commercial and industrial land needs.

To properly administer the GLUP Map, several things must be kept in mind. The first is that the GLUP Map is dynamic. The current projections for land needs are based on past and present trends, and assumptions about the future. However, community needs and priorities tend to change over time, so amendments to the GLUP Map must be possible.

The second is that the GLUP Map is "general". The designations on the GLUP Map are not intended to follow property lines. Interfaces between different designations are purposefully non-site-specific so as to discourage using GLUP Map designations as the sole basis for making decisions on zone change applications. Having the appropriate GLUP Map designation is a prerequisite for a zone change. "Article II" of the Medford *Land Development Code* establishes specific criteria and procedures required for GLUP Map and Zoning Map amendments.

Special Area Plans

In addition to GLUP map designations, some portions of the UGB have more detailed planning provisions in the form of adopted special area plans. The Southeast Plan is an example of an adopted plan that provides more specific land use categories that dictate zoning district options. See the Neighborhoods Element of the Medford Comprehensive Plan for the special area plans and maps.

GLUP MAP DESIGNATIONS

The GLUP Map has 13 different land use designations, as listed below. Permitted land uses, as well as the development standards associated with each zoning district noted, are listed in "Article III" of the *Land Development Code.* The City's SFR-00 (Single-Family Residential – one dwelling unit per existing lot) zone is permitted in all GLUP Map designations because it is considered a holding zone for parcels that are being converted from County to City zoning. These parcels are not eligible for development to urban density or intensity until facility adequacy has been determined through the zone change process. It is the City's intent to have these parcels converted to zoning that is consistent with the following GLUP Map designations as soon as a property owner can show that urban facilities are adequate or will be made adequate to serve the uses permitted by the proposed urban zoning.

1. ***Urban Residential*** This designation permits lower density urban residential uses (one to ten units per gross acre), including standard and small lot detached single-family dwellings,

accessory dwelling units, and mobile home parks. Depending upon the physical development constraints, the permitted zoning districts are SFR-2, SFR-4, SFR-6, and SFR-10 (Single-Family Residential - 2, 4, 6, or 10 dwelling units per gross acre). Such constraints that may affect the ultimate developed density, and, therefore, the most suitable zoning district, include steep slopes, unstable soils, wetlands and/or riparian habitat, woodlands, fire hazards, etc. When a Planned Unit Development (PUD) is approved, the maximum residential density per gross acre can be increased.

2. ***Urban Medium Density Residential*** This designation permits medium density urban residential uses (10 to 15 units per gross acre), including townhouses (rowhouses), duplexes, apartments, mobile home parks, and group quarters. The zoning district permitted in this designation is MFR-15 (Multiple Family Residential - 15 units per gross acre). When a Planned Unit Development (PUD) is approved, the maximum residential density per gross acre can be increased.

3. ***Urban High Density Residential*** This designation permits higher density urban residential uses (15 to 30 units per gross acre), and provides for multiple-family development, including duplexes, apartments, and group quarters. The zoning districts permitted in this designation are MFR-20 and MFR-30 (Multiple-Family Residential - 20 or 30 units per gross acre). In addition, the Southeast Plan authorizes an increase in the maximum permitted density in this designation from 30 to 36 units per acre. When a Planned Unit Development (PUD) is approved, the maximum residential density per gross acre can be increased

4. ***Service Commercial*** This designation permits offices, medical facilities, and other limited service-oriented businesses as well as residential development under certain circumstances. It permits multiple-family dwellings meeting the density standards of the MFR-30 (Multiple-Family Residential - 30 units per gross acre) zoning district. In addition, the Southeast Plan authorizes an increase in the maximum permitted density in this designation from 30 to 36 units per acre. This designation may be located adjacent to residential designations. The corresponding zoning district permitted in this designation is the C-S/P (Service Commercial and Professional Office) zone which is intended to be customer oriented, while limiting the number of retail uses.

5. ***Commercial*** This designation permits the largest spectrum of commercial development as well as residential development under certain circumstances. It permits multiple-family dwellings meeting the density standards of the MFR-30 (Multiple-Family Residential - 30 units per gross acre) zoning district, except for mixed–use (commercial-residential) buildings, which have no maximum density limitation. In addition, the Southeast Plan authorizes an increase in the maximum permitted density in this designation from 30 to 36 units per acre, and a maximum of 60 dwellings per acre in the Southeast Commercial Core Area if in a mixed-use building. The C-N (Neighborhood Commercial), C-C (Community Commercial), C-R (Regional Commercial) and C-H (Heavy Commercial) zoning districts are permitted in this designation

   The most appropriate zoning district for each site designated Commercial shall be determined based on the following:

The C-N zone provides land for the development of small integrated commercial centers servicing the frequent and daily convenience requirements and service needs of adjacent residential neighborhoods. The C-N zone shall be located in commercial designations which are under three acres in size and are within residential neighborhoods.

The C-C zone provides land for the development of commercial facilities servicing the shopping needs of the local community. The C-C zone shall be located on collector and arterial roadways and cohesive, integrated shopping facilities shall be encouraged.

The C-R zone provides land for the development of those service and commercial uses which serve shoppers from the surrounding region as well as from the local community. The C-R zone shall be located in areas served by adequate regional and local street systems to avoid the impact of regional traffic using neighborhood streets.

The C-H zone is primarily intended to accommodate existing heavy commercial development along highways. The C-H zone shall be located near industrial zones and away from zones permitting residential, retail commercial, and general office uses.

6. ***General Industrial*** This designation permits the I-L (Light Industrial) and the I-G (General Industrial) zoning districts. The most appropriate zoning district for each site designated General Industrial shall be determined based on the following:

   The I-L zone is intended for office uses and light manufacturing. The I-L zoning district is suitable for areas near residential and commercial properties.

   The I-G zone provides land for industrial uses in which production and processing activities involve a degree of noise, vibration, air pollution, radiation, glare, and fire and explosive hazards. The I-G zoning district is suitable for areas near the Heavy Commercial and the Heavy Industrial zoning districts due to the higher intensity of uses permitted in this zone.

7. ***Heavy Industrial*** This designation permits uses with a large amount of noise, vibration, air pollution, or other nuisance. It permits the I-G (General Industrial) and I-H (Heavy Industrial) zoning districts. The most appropriate zoning district for each site designated Heavy Industrial shall be determined based on the following:

   The I-G zone provides land for industrial uses in which production and processing activities involve a degree of noise, vibration, air pollution, radiation, glare, and fire and explosive hazards. The I-G zoning district is suitable for areas near the Heavy Commercial and the Heavy Industrial zoning districts due to the higher intensity of uses permitted in this zone.

8. ***Parks and Schools*** This designation depicts existing and proposed public parks and schools. There is no specific zoning district associated with this designation.

9. ***Greenway*** This designation denotes linear parklands, Riparian Corridors, or public or private open space, particularly those along stream corridors and waterways. All zoning

districts are consistent with the Greenway designation, provided that property designated as a Greenway is developed and used in compliance with provisions adopted in the Medford *Land Development Code*. The general location of Greenways is depicted on the GLUP Map, with the Greenway designation extending a specified distance from the top-of-bank on each side of the channel, or for a specified width if there is no associated waterway. The width of the Greenway from top-of-bank will be determined by state and federal regulations or the Medford *Land Development Code*, whichever is more restrictive. The size and location of Greenways may be altered when necessary to comply with state and federal regulations governing streams, wetlands, and fish and wildlife habitats. See the description of the Greenway land use designation below for more details.

10. ***City Center*** This designation identifies the regional governmental, financial, and business service center complex in the downtown area. It encompasses the area defined as the "downtown core area" in the *City Center Revitalization Plan*, an urban renewal plan and program for the City of Medford, as well as the area identified in the *Civic Center Plan*. The city center area exhibits tremendous potential for enhancement of its physical and economic linkages between the regional government, finance, and business service functions of the downtown core area, and the civic center. The enhancement of these linkages will further secure Medford's current competitive advantage as a regional service center. The enhancement of the area's physical and economic linkages will require a long-term vision and commitment. Therefore, it is the primary purpose of this land use designation to define a "City Center," and to encourage development to comply with the *City Center Revitalization Plan* and the *Civic Center Plan*.

    There is no specific zoning district associated with this designation. However, the C-B (Central Business) overlay zone, which is intended to provide special standards that recognize the unique and historic character of the downtown, covers most of the area in the City Center designation, although the two are not exactly contiguous.

11. ***Airport*** This designation identifies the area that makes up the Rogue Valley International - Medford Airport and its specifically affected environs. The I-L (Light Industrial) zoning district best accommodates the airport area and its associated uses. The A-A (Airport Approach) overlay zone, which is intended to minimize restrictions on airport operations caused by incompatible development, covers most of the area in the Airport designation, although the two are not exactly contiguous.

12. ***Limited Service Area Overlay*** This overlay designation represents those areas within the Urban Growth Boundary (UGB) that are not presently serviced with adequate public facilities or other services required for development to urban densities. The fundamental objective of distinguishing such areas is to provide development management programs that will eventually facilitate the provision of necessary facilities and services. One such area is identified on the GLUP Map. The "Lone Pine/Foothills Limited Service Area,"

located in the northeast part of the city, lacks a sufficient water system. (See the *Public Facilities Element* for additional information regarding this area.)

13. ***Urban Growth Boundary*** The City of Medford and Jackson County have established an Urban Growth Boundary (UGB), which delineates Medford's urban and urbanizable areas. Following the 1990 UGB amendment there was a total of 17,889 acres (27.95 square miles) within the UGB including that land within the City. The UGB is site specific. Since the GLUP Map does not indicate lot lines, the UGB is also specified on the City of Medford Zoning Map, a map having lot lines, so that the location of specific parcels inside or outside of the UGB can be determined.

GREENWAY GLUP MAP DESIGNATION

The General Land Use Plan designation of Greenway applies to certain stream corridors and waterways in the Southeast Plan Area, and to other locations within the Urban Growth Boundary. The designated Greenways are indicated on the General Land Use Plan (GLUP) Map. This designation denotes linear parklands, Riparian Corridors, or public or private open space, particularly those along stream corridors and waterways. The Environmental Element of the Medford *Comprehensive Plan* and the *Medford Parks, Recreation, and Leisure Services Plan* (1996) identify the location of several existing and potential Greenways for parks, open space, habitat preservation, and recreational purposes. Based upon the *Comprehensive Medford Area Drainage Master Plan* (1996), some Greenways may require limited improvement for all-weather access by vehicles and equipment for storm drainage maintenance and storm observation. As long as the impact on the riparian area is minimized, such improvement can often include facilities for public pedestrian and bicycle circulation, fostering transportation goals simultaneously with storm water management.

Land under the Greenway designation owned by the City may be acquired in a variety of ways, such as: 1) negotiated purchase; 2) eminent domain; 3) benevolent dedication; 4) dedication in lieu of parks systems development charges (SDCs); 5) exaction at the time adjacent lands are approved for development; or, 6) easements or less-than-fee acquisitions. Greenways may also be privately held and maintained. Greenways dedicated to the City, whether in fee-simple or as easements, are usually maintained by the City. The responsibility for improving Greenways to provide access to storm drainage facilities is often on the owners of land adjacent to the Greenway. The improvements needed for storm drainage maintenance and/or for pedestrian and bicycle circulation are usually determined on a case-by-case basis by the approving authority at the time of development approval. Adopting Greenway improvement plans in advance of development is recommended.

Projects within Greenways along waterways should be designed to ensure that disturbance of banks and natural vegetation in the riparian area is minimal, and that disturbed areas are promptly re-vegetated with native vegetation and protected from erosion. The trees, shrubs, and vegetation provide shade to reduce water temperature, woody debris to provide shelter for fish, and roots to prevent bank erosion. The design should ensure that upstream and downstream fish passage is maintained.

The *Greenway* designation serves the following purposes:

A. To preserve and maintain natural waterways consistent with the *Comprehensive Medford Area Drainage Master Plan* (1996) in order to protect adjacent lands from flooding, to provide maintenance for natural storm drainage, and to provide a means for the observation of storm events.
B. To protect, preserve, and enhance natural riparian corridors, wetlands, and open space.
C. To protect and enhance habitat for fish and wildlife species.
D. To facilitate opportunities for outdoor education and recreation.
E. To provide necessary and convenient pedestrian and bicycle circulation.
F. To implement the following documents, incorporated by reference as part of the Medford *Comprehensive Plan:*

Southeast Plan, as amended
Comprehensive Medford Area Drainage Master Plan (1996)
Medford Parks, Recreation, and Leisure Services Plan (1997)
Environmental Element of the Medford Comprehensive Plan, as amended

All zoning districts are consistent with the Greenway designation, provided that property designated as a Greenway is developed and used in compliance with provisions adopted in the Medford *Land Development Code*. The general location of Greenways is depicted on the GLUP Map, with the Greenway designation extending a specified distance from the top-of-bank on each side of the channel, or for a specified width if there is no channel.. The width of the Greenway from top-of-bank will be determined by state and federal regulations or the Medford *Land Development Code*, whichever is more restrictive. The size and location of Greenways may be altered when necessary to comply with state and federal regulations governing streams, wetlands, and fish and wildlife habitats.

Uses permitted within Greenways are usually limited to:

A. Streets, roads, bridges, and paths where necessary for access or crossings, provided these uses are designed and constructed to minimize intrusion into e riparian areas.
B. Drainage facilities, utilities, and irrigation pumps.
C. Water-related and water-dependent uses.
D. Replacement of existing structures with structures in the same location that do not disturb additional riparian area.
E. Interpretive and educational displays, and overlooks, including benches and outdoor furniture.
F. Interpretive and educational displays.
G. Habitat enhancement activities.

Removal of vegetation in Greenways is discouraged, except certain noxious weeds and nonnative plant species. Restoration of Greenways through appropriate planting of native species is often desirable. When feasible, rights-of-way for public streets should be collinear and adjacent to Greenways as long as they do not disturb riparian areas. This allows the Greenways to become visible community assets. When open for public view and access, they are not as likely to become unsafe dumping grounds as often happens when placed at the back of subdivision lots or commercial development.

CONCLUSIONS
GENERAL LAND USE PLAN

1. The General Land Use Plan (GLUP) Map represents Medford's future land use patterns based on anticipated growth and land needs.

2. The GLUP Map is dynamic, and, as such, must be amendable, to guide and reflect the needs and tastes of the city's residents.

3. The GLUP Map is non-site-specific, and is not intended to be the sole basis for making decisions on zone changes. The Zoning Map and the *Land Development Code* more specifically delineate permitted uses and development criteria.

4. The GLUP Map delineates three residential, two commercial, two industrial, a parks and schools, a greenway, a city center, an airport, and a limited service area designation. It also indicates the Urban Growth Boundary (UGB).

5. The SFR-00 (Single-Family Residential – One Unit per existing lot) zone is intended to function as a holding zone in all GLUP map designations until facilities can be shown to be adequate to accommodate a higher intensity or density zoning designation as permitted by the GLUP map designation.

6. To more specifically address the needs and concerns of certain areas of the community, more detailed land use provisions, in the form of special area plans, have been adopted. [See the Neighborhoods Element of the *Medford Comprehensive Plan* for the adopted special area plans and maps.]

GOALS AND POLICIES
GENERAL LAND USE PLAN

Goal 1: To maintain and update the City of Medford General Land Use Plan Map.

Policy 1-A: The City of Medford General Land Use Plan Map shall be reviewed at least every five years, and may be amended whenever it is determined that a change is warranted. Amendment criteria are contained in the *Review and Amendment* section of the *Comprehensive Plan*, and procedural requirements are contained in "Article II" of the *Land Development Code*.

Goal 2: To administer the City of Medford General Land Use Plan Map so as to further the purposes of the Map and the Comprehensive Plan.

Policy 2-A: The City of Medford General Land Use Plan Map shall not be used as the sole justification for making decisions on zone changes. However, zone changes must be consistent with the General Land Use Plan Map designation.

Policy 2-B: Because the City of Medford General Land Use Plan Map is general and non-site-specific, ambiguities may arise. If it is unclear whether a specific property is in a particular designation, the Planning Commission shall be requested to interpret the designation boundaries. The Commission shall consider the character of surrounding uses, past interpretations, and applicable goals and policies of the *Comprehensive Plan* when making an interpretation.

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ADOPTED BY
MEDFORD CITY COUNCIL
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SOUTHEAST PLAN

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Note: The Southeast Plan Area Neighborhood Circulation Plan and Transportation Policies and Guidelines follows the Southeast Plan.

SOUTHEAST PLAN

PREFACE

When looking east from the intersection of Barnett and North Phoenix Roads at the tranquil setting of oak-studded rolling hills and grazing cattle, imagining a future community of more than 10,000 people may be hard. The southeast area of Medford, 1,000 acres extending from the ridge above Cherry Lane south to Coal Mine Road, is poised for urban development, but not just ordinary urban development. In 1990, the site was identified as Medford's primary future growth area and included within the Urban Growth Boundary (UGB). Since then, extensive planning studies have created a plan for an out-of-the-ordinary community.

The primary purpose of the planning studies, partially funded by state transportation grants, was to find ways to reduce future auto traffic within the area. The resulting Southeast Plan has many features intended to help achieve that goal and create a more livable community. It represents the collaborative efforts of many, including property owners, city staff, consultants, interest groups, and appointed and elected officials. Recognizing that land uses directly affect traffic, the plan situates different land uses so that many auto trips will be unnecessary and necessary ones will be shorter.

The Southeast Plan provides for a centrally located commercial area near the intersection of Barnett and North Phoenix Roads surrounded by an area of denser housing and institutional uses, such as a park, church, community center, and fire station. This TOD (Transit Oriented District), the Southeast Village Center, will allow many residents - children, adults, seniors - to live within a five-minute walk of services for their daily needs. The Southeast Village Center places at least 40% of the Southeast Area's future housing units within one-quarter mile of the commercial area. Elsewhere in the Southeast Area, a variety of housing is planned, including large, standard, and small single-family lots, rowhouses, multiple-family dwellings, and retirement housing.

Other features that will help ease traffic congestion include having a gridded street and alley pattern so that walkers, bicyclists, and drivers have many options for reaching destinations. The plan proposes to preserve the area's abundant natural features and vegetation, and adds amenities, such as street trees, to promote a desirable walking and bicycling environment. Creekside greenways, while supplying natural storm drainage and protecting native habitat, will furnish locations for pedestrian and bicycle paths along the forks of Larson Creek and other waterways.

The Southeast Plan was originally approved by the Medford City Council on April 2, 1998 in the form of amendments to the City's *Comprehensive Plan* and *Land Development Code*. Changes to the Southeast Plan, including the *Comprehensive Plan* and *Land Development Code,* which were the result of even more detailed planning efforts, have been subsequently adopted.

SOUTHEAST PLAN

INTRODUCTION

This section of the "Neighborhoods Element" of the Medford *Comprehensive Plan*, entitled *Southeast Plan*, is a special land use plan for the southeast area of the community (SE Area). Extensive planning studies for the SE Area, described below, led to the adoption of this section and its implementing provisions in the Medford *Land Development Code.* The *Southeast Plan Map* included within this plan element is the implementing map governing land use in the SE Area.

This mostly undeveloped area of approximately 1,000 acres lies within the Urban Growth Boundary (UGB) east of North Phoenix Road, north of Coal Mine Road, and generally south of Hillcrest Road. The location and boundaries of the area are depicted on the Medford *General Land Use Plan* (GLUP*) Map*. The area has slopes that range from moderate to nearly level, with some steep slopes, although rolling terrain predominates. It is characterized by south and west facing slopes which produce magnificent vistas and a near-perfect orientation for solar energy utilization. The SE Area also contains Medford's primary undisturbed natural areas, including stream corridors, wetlands, hilltops, and oak woodlands.

Much of the SE Area was historically devoted to fruit and cattle production, and some portions are still used for those purposes, although previous agricultural uses have diminished. The irrigated soils in the area are not classified as excessively productive for agriculture.[1] Besides dwellings on large home sites, the area previously contained a tennis club and two fraternal lodges on North Phoenix Road, riding stables, and a radio tower.

In 1988, the City undertook studies to determine whether additional land was required in the Medford UGB to satisfy future urbanization needs for a 20-year planning period. The City's work resulted in a documented need for additional land, and the SE Area was among several areas proposed for inclusion in the UGB. The amended UGB was adopted in October 1990 by the Medford City Council and Jackson County Board of Commissioners, and was later acknowledged by the Oregon Land Conservation and Development Commission (LCDC). The acknowledgment was not appealed. The entire SE Area was then designated for Urban Residential (UR) use on the GLUP Map, permitting single-family residential uses at a density of two to ten dwelling units per acre.

SPECIAL CIRCULATION AND LAND USE PLANNING STUDIES IN SOUTHEAST MEDFORD

Following inclusion of the SE Area in the UGB, there were serious concerns that development of the SE Area might overwhelm Medford's already stressed transportation system. In 1992, the City undertook the first special planning study (See the *Southeast Medford Land Use and Transportation Study*, 1993) to compare the future traffic impacts produced by two different land use schemes in the

[1] The USDA Soil Conservation Service classifies soils within the area as falling generally within the Class 4 category. Agricultural soils are ranked for agricultural productivity between Class 1 and Class 8, with 1 being the best, and 8 being the worst. Statewide Planning Goals 3 and 14 require the preservation of farm lands having a 1 through 4 agricultural capability.

SE Area. This study was funded through the State of Oregon's Transportation Growth Management (TGM) grant program.

The first scheme considered in the study was a "contemporary plan" that used single-use zoning and a circulation system that fed all traffic onto collector and arterial streets. This type of development pattern with segregated land uses usually results in almost complete dependence upon auto travel for daily activities, such as shopping, education, recreation, etc. The second scheme was a "neo-traditional" development pattern facilitated by mixed-use zoning and an interconnected street system - a street system that distributed peak period (7-9 a.m. and 4-6 p.m.) traffic to all streets, not just collectors and arterials.

The analysis indicated that, during peak periods, both land use schemes would generate similar traffic levels due to employment locations outside the area. However, the neo-traditional development pattern would reduce off-peak traffic within the area, and produce trips of shorter length. Additionally, it could increase pedestrian and bicycle trips within the area by as much as 60 percent.

Based upon the findings of this first phase of the special land use planning for the area, the City began the second phase in 1994, again funded through a state TGM grant. The phase 2 study used the conceptual assumptions developed in the neo-traditional development scheme to prepare a generalized circulation and land use plan for the area (See the *Southeast Medford Circulation & Development Plan Project Report,* August 1995). Neo-traditional development design includes features such as narrow streets with short blocks in a grid pattern, alleys, housing of different types in the same blocks, accessory dwelling units, narrow building setbacks from streets, prominent public buildings and places, and mixed land uses. It places higher density housing near compact commercial centers and transit, and gives neighborhoods well-defined centers and edges.

The phase 2 plan was used to guide the preparation of amendments to the Medford *Comprehensive Plan* and *Land Development Code* for the SE Area. The City worked closely with all interested parties in the preparation of the plan, including public facility and utility providers, Medford and Jackson County Planning Department staff, property owners, school districts, developers, and members of the Medford Planning Commission. The study included a market analysis that verified the marketability and potential absorption rate of the recommended type of development.

To facilitate future implementation of the phase 2 plan, the City then undertook several land use actions. One was the adoption of a new GLUP designation of Urban Medium Density Residential (UMDR) and corresponding zoning district of MFR-15 (Multiple-Family Residential - 15 units per acre) which permit a density range of 10 to 15 dwelling units per acre. The UMDR designation was needed to allow more specific placement of a "rowhouse" land use type in the SE Area. The Commercial GLUP designation and commercial zoning districts were then amended to limit the size of businesses in the Community Commercial (C-C) zoning district to 50,000 square feet, and to create a new Regional Commercial (C-R) zoning district. This action was needed to allow the use of C-C zoning in the SE Area without permitting large regional retail uses. Finally, changes to the Medford Street Classification Map were adopted which set a circulation pattern for the arterial, collector, and standard residential streets in the SE Area.

This section of the "Neighborhoods Element", the *Southeast Plan*, represents the latest phases of the special planning efforts in the SE Area. The intent of these extensive planning efforts is to create an area that is much less reliant on automobile travel, and that preserves the natural environment, incorporating it into a desirable, livable community. The principal function of the *Southeast Plan* is to apply detailed land use planning and implementation techniques to a geographical area of the community that has important and unique physical qualities, including having a large tract of undeveloped land, rolling terrain, the general availability of public facilities and services, and few ownerships to divide the tract.

The primary purposes of the *Southeast Plan* include:

A. To establish land use patterns and development design that emphasizes transportation connectivity and promotes viability for many modes of transportation;
B. To require coordinated planning and encourage the development of neighborhoods with a cohesive design character;
C. To provide a mix of compatible housing types at planned densities,
D. To establish a special central core - the Southeast Village Center as a Transit Oriented District (TOD) with compact, pedestrian-oriented commercial, institutional, and residential uses.
E. To preserve natural waterways while providing routes for pedestrian and bicycle travel.
F. To require the approval of much of the development through the Planned Unit Development (PUD) ordinance in order to coordinate planning of designated areas, including the Southeast Village Center.
G. To establish special design and development standards for streetscapes, building orientation, setbacks, building height, access, lot coverage and density, and the use of pedestrian street lighting, greenways, alleys, and street trees.

Commercial Center Planning

The Commercial Center area, including the abutting Greenway, encompasses approximately 53 acres located east of North Phoenix Road and north of Barnett Road. A detailed planning effort for this site was undertaken in 2000 through an Oregon Transportation and Growth Management (TGM) Program "Quick Response Grant". (See the *SE Medford Village Center Plan – Medford, Oregon*, November 2000.) The plan, prepared by Lennertz Coyle and Associates, recommended realigning Barnett Road, a Minor Arterial street, east of its intersection with North Phoenix Road to create a pedestrian-friendly retail "main street" with commercial buildings on both sides. For the retail uses to be viable, a high level of slow moving traffic with on-street parking, similar to a traditional main street, was deemed necessary.

The plan included a market study by Robert Gibbs to determine the amount and types of commercial businesses that would serve the area and which would be economically feasible. The preferred alternative recommended approximately 100,000 square feet of retail commercial uses and up to 50,000 square feet for a grocery store, with the remainder of the commercial area utilized for civic, office, service, and high-density residential uses, including mixed uses. Based on the recommendations of this study, the retail core area, approximately 18 aces in size, located between North Phoenix Road and Stanford Avenue along both sides of Barnett Road has been designated as the "Commercial Center Core Area".

The *Southeast Plan* and its implementing *Land Development Code* provisions also aid the City in meeting the requirements of Oregon's Transportation Planning Rule (TPR). The TPR requires cities to implement measures that reduce reliance on automobile travel. It requires the planned land use patterns and transportation system to promote an increase in the number of trips accomplished through walking, bicycling, and transit use. This can be achieved if safe and convenient opportunities are provided, and if land use types and density are appropriate. The *Southeast Plan* translates neo-traditional land uses developed in the phase 2 study into special categories to guide zone change and development approvals in the SE Area. As explained below, the special categories have been established to address the uses, needs, and issues specific to the SE Area.

SOUTHEAST OVERLAY ZONING DISTRICT

The *Southeast Plan* is implemented through various planning and zoning controls in the Medford *Land Development Code*. The Southeast (S-E) Overlay Zoning District is a primary tool to carry out the *Southeast Plan*, and establishes special standards and criteria for planning and development approvals. The Southeast Overlay Zoning District requires much of the development in the SE Area to be approved through the Planned Unit Development process, and lays out regulations for design features such as pedestrian-friendly site design, streetscapes, greenways, alleys and street trees.

An Oregon Transportation and Growth Management (TGM) Program Code Assistance Grant was utilized to update the S-E Overlay Zoning District. In addition, the Medford City Council appointed the Southeast Plan Implementation Advisory Committee to oversee the update of the S-E Overlay District as well as the development of the Neighborhood Circulation Plan. The Committee consists of two City Council members, two Planning Commissioners, a community member, and five "stakeholders". Over a period of two years, the Committee developed recommendations, through unanimous consensus, regarding the detailed planning efforts.

SOUTHEAST PLAN MAP

In 1990, when the SE Area was included in Medford's UGB, all of the land was placed under the "Urban Residential" GLUP Map designation. The phase 2 study created other land use categories to produce an environment of mixed land uses, housing types, and densities. The different land uses, identified in the study as estate lot, standard lot, small lot, rowhouse, high density residential, commercial center, greenway, park and school, were applied to specific sub-areas.

Figure 1: Southeast Plan Map

The existing GLUP Map designations that are most similar to each land use category have been applied to the SE Area on the GLUP Map, while the *Southeast Plan Map* (Figure 1) applies the special land use categories to each of 21 consecutively numbered sub-areas. Additionally, the boundaries of the phase 2 sub-areas have been adjusted to better accommodate existing parcel boundaries, existing and planned land uses, and planned street locations. Regulations specific to the *Southeast Plan Map* land use categories are set forth in the Southeast Overlay Zoning District of the Medford *Land Development Code*. The approximate acreage and target dwelling unit range in each sub-area is set forth in Table 1.

TABLE 1

SOUTHEAST PLAN MAP SUBAREAS

TARGETED LAND USE, ZONING, AND DENSITY AND ESTIMATED DWELLING UNIT RANGE

Sub Area	Land Use Category	GLUP Map	Corresponding Zoning	Density Range Du/Ac (PUD)**	Gross Acres	Dwelling Unit Range (PUD)**
1	Estate Lot	UR	SFR-2	0.8 to 2.0 (2.4)	237	190-474 (569)
2	Standard Lot	UR	SFR-4 or SFR-6	2.5 to 6.0 (7.2)	219	548-1,314 (1,577)
3	High Density	UHDR	MFR-20 or MFR-30	15.0 to 36.0 (43.2)	20	300-720 (864)
4	Rowhouse	UMDR	MFR-15	10.0 to 15.0 (18.0)	28	280-420 (504)
5	High Density	UHDR	MFR-20 or MFR-30	15.0 to 36.0 (43.2)	15^	225-540 (648)
6	Small Lot	UR	SFR-10	6.0 to 10.0 (12.0)	23^	138-230 (276)
7A	Commercial Center - Core	C	C-C	Mixed-use buildings only	18^	NA
7B	Commercial Center – Service/Office	SC	C-S/P	20.0 to 36.0 (43.2)	35^	NA
8	School	PS (UR)	SFR-4 to SFR-6	NA	9	NA
9	Park	PS (UR)	SFR-4 to SFR-6	NA	6	NA
10	High Density	UHDR	MFR-20 or MFR-30	15.0 to 36.0 (43.2)	46^	690-1,656 (1,987)
11	Small Lot	UR	SFR-10	6.0 to 10.0 (12.0)	43	258-430 (516)
12	Commercial Center – Service/Office	SC	C-S/P	20.0 to 36.0 (43.2)	3^	NA
13	Rowhouse	UMDR	MFR-15	10.0 to 15.0 (18.0)	19^	190-285 (342)
14	High Density	UHDR	MFR-20 or MFR-30	15.0 to 36.0 (43.2)	16^	240-576 (691)
15	Small Lot	UR	SFR-10	6.0 to 10.0 (12.0)	102	612-1,020 (1,224)
16	Standard Lot	UR	SFR-4 or SFR-6	2.5 to 6.0 (7.2)	31	78-186 (223)
17	Standard Lot	UR	SFR-4 or SFR-6	2.5 to 6.0 (7.2)	124	310-744 (893)
18	School	PS (UR)	SFR-4 or SFR-6	NA	17	NA
19	Park	PS (UR)	SFR-4 or SFR-6	NA	10	NA
20	Standard Lot	UR	SFR-4 or SFR-6	2.5 to 6.0 (7.2)	17	43-102 (122)
21	Park	PS (UHDR)	MFR-20 or MFR-30	NA	3^	NA
	TOTALS			**4.0 to 8.5 (10.2)**	**1041**	4,102-8697

^ Within the Village Center TOD (Transit Oriented District) (approx. 178 acres)
** Medford's Planned Unit Development process permits an increase in density of up to 20%.

The implementing provisions in the Southeast Overlay Zoning District ensure that the target housing densities anticipated for each residential land use category will be met at the time development approvals are granted by the City. A key difference between the SE Area and other parts of the community is that the sub-areas are restricted to specific zoning districts to meet the density targets, rather than having a wide range of zones.[2] The overlay zone establishes permissible density ranges and one or two zoning districts for each of the special land use categories. Additional restrictions, discussed below, regulate the permitted uses within the SE Area's central Transit Oriented District (TOD), the Southeast Village Center, which encompasses several sub-areas. The amendment procedures for the *Southeast Plan Map* are the same as for a minor or major GLUP Map amendment.

SOUTHEAST VILLAGE CENTER

Several *Southeast Plan Map* sub-areas in the central part of the SE Area have been combined to form the Southeast Village Center, which is one of the City's four adopted Transit Oriented Districts (TODs). (See the Transportation System Plan for more detailed information about Medford's TODs.) The land uses proposed for the Village Center include commercial, institutional, medium and high density residential, and a greenway/park. The Southeast Village Center TOD consists of three concentric areas nestled within one another. The Village Center of approximately 178 acres contains sub-areas 5, 6, 7A, 7B, 10, 12, 13, and 14. Sub-areas 7A and 7B make up the 53-acre Commercial Center. The Commercial Center Core Area (sub-area 7A) of approximately 18 acres is the primary retail center located on both sides of Barnett Road extending from North Phoenix Road to a point east of Stanford Avenue. The Core Area will contain 150,000 square feet of retail and commercial businesses with residential uses above ground floor level and a portion of the Greenway. These areas are depicted in Figure 2.

The Village Center's Commercial Center area is surrounded by medium and high density residential uses to assure that many residents are within a five-minute walking distance. The Village Center is intended to be the main neighborhood activity center for the SE Area, and may also include a church, , park, community center, and fire station (already constructed), besides locally-oriented shopping and services. Providing higher residential densities within one-quarter mile of shopping and employment areas, along with safe and convenient pedestrian and bicycle circulation, will also foster future transit viability. Specific Village Center regulations have been developed in the Southeast Overlay Zoning District.

The purpose of having a Village Center with special regulations is:

A. To foster a clear sense of place by establishing a geographical focal point, central area, and gathering place for the social, cultural, political, and recreational interaction of people living and working in the SE Area.

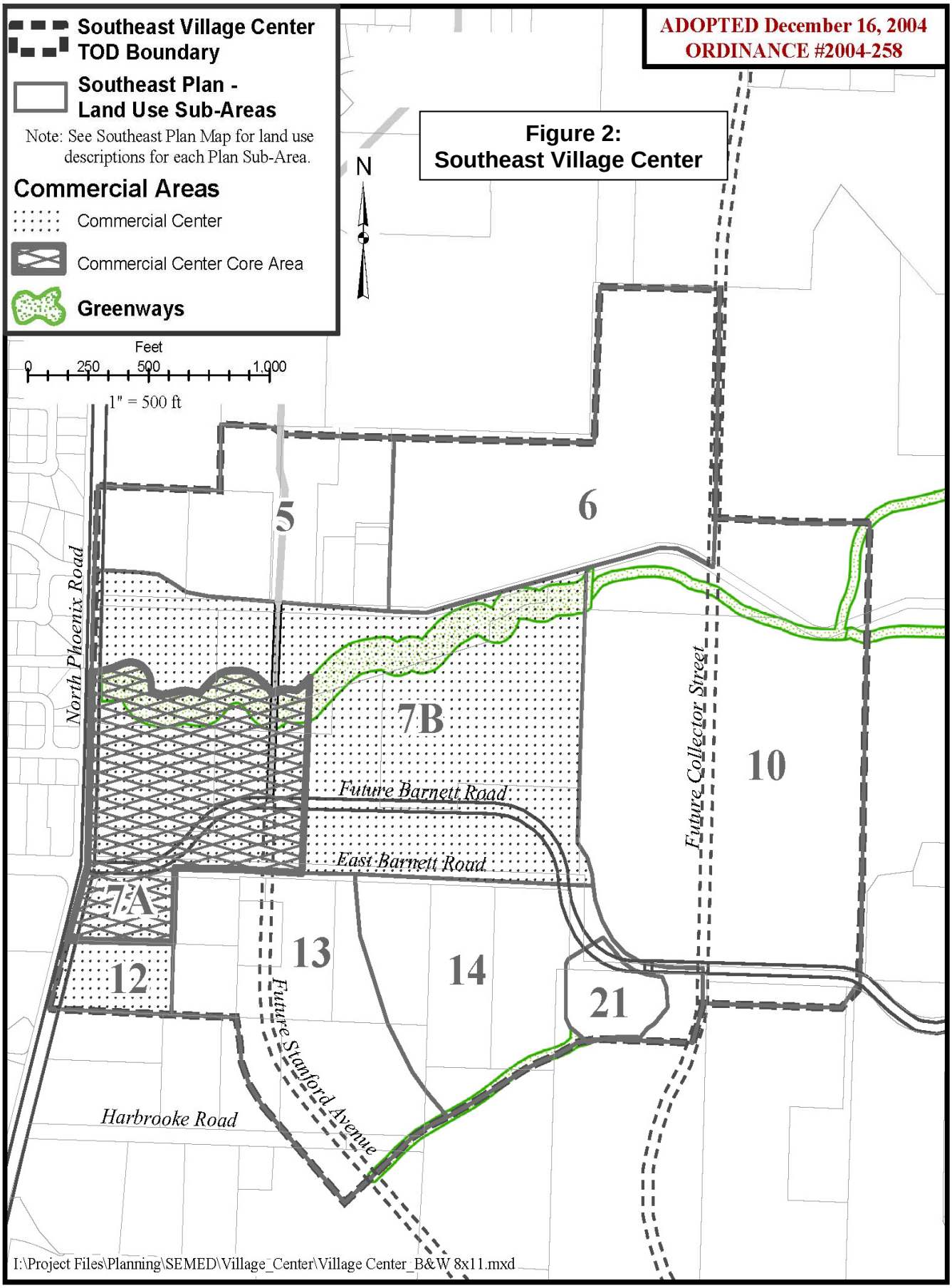
B. To provide convenient opportunities for shopping accessible by all modes of transportation to reduce traffic congestion, and facilitate greater convenience and community livability.

[2] For example, the City's Urban Residential GLUP Map designation permits the application of four different zoning districts: SFR-2, SFR-4, SFR-6 and SFR-10. Under the regulatory scheme for the SE Area, each sub-area is permitted to develop under only one or two zones that best approximate the development types and densities recommended in the Phase 2 study.

C. To provide a development design that produces a pedestrian-oriented central core (Transit Oriented District) that endeavors to reduce reliance on the automobile.

D. To provide a design that incorporates and promotes the existing waterway and wetland areas into the Commercial Center.

E. To fulfill the *Rogue Valley Regional Transportation Plan's* Land Use Element and the City of Medford Transportation System Plan as one of the designated areas of mixed land use and denser residential development that increases future transit opportunities (Transit Oriented Districts).


Southeast Village Center TOD Boundary
Southeast Plan - Land Use Sub-Areas
Note: See Southeast Plan Map for land use descriptions for each Plan Sub-Area.
Commercial Areas
Commercial Center
Commercial Center Core Area
Greenways
ADOPTED December 16, 2004
ORDINANCE #2004-258
Figure 2:
Southeast Village Center
N
Feet
0 250 500 1,000
1" = 500 ft
5
6
7A
7B
10
12
13
14
21
North Phoenix Road
Future Barnett Road
East Barnett Road
Future Collector Street
Future Stanford Avenue
Harbrooke Road
I:\Project Files\Planning\SEMED\Village_Center\Village Center_B&W 8x11.mxd

CONCLUSIONS
SOUTHEAST PLAN

1. Special planning studies for the SE Area have determined that a neo-traditional circulation and development pattern could reduce the number and length of motor vehicle trips within the area.

2. The SE Area is the only area of the community where streams and waterways remain in a mostly natural state.

3. During the preparation of the special planning studies for the SE Area, the property owners indicated a very strong desire to preserve the natural resources, especially the streams, wetlands, and woodlands.

4. The creation of a Village Center Transit Oriented District in the SE Area with denser mixed land uses will be a primary means of reducing traffic within the SE area by serving the daily needs of residents through walking, bicycling, transit, and shortened motor vehicle trips.

5. Assuring that the minimum densities and housing types are achieved and located as proposed, particularly in the Village Center, is essential in carrying out the purposes of the *Southeast Plan*.

6. Steeper slopes in the SE Area will require expertise in hillside development techniques, particularly regarding storm drainage retention/detention and street design.

7. Residential design features such as placing garages on alleys, providing front porches, park strips with street trees, sidewalks, and pedestrian-scale lighting, etc., promotes alternative forms of transportation such as walking.

GOALS, POLICIES, AND IMPLEMENTATION MEASURES
SOUTHEAST PLAN

Goal 1: To assure that development in the SE Area occurs in a manner that reduces reliance on automobile travel within the area and promotes multi-modal travel, including pedestrian, bicycle and transit.

Policy 1-A: The City of Medford shall assure that circulation and development design in the SE Area emphasizes connectivity and promotes multi-modal transportation viability.

Implementation 1-A (1): Do not allow private streets to prevent vehicular or pedestrian connectivity or public access to greenways, parks, schools, or other activity centers.

Implementation 1-A (2): Discourage gated or dead-end developments because they prevent connectivity and neighborhood formation. Require adjacent developments to integrate with one another.

Implementation 1-A (3): Assure that development design and street improvements on North Phoenix Road promote non-vehicular access across this major arterial at intersections.

Implementation 1-A (4): Discourage development site design along collector and arterial streets from creating a walled effect near the sidewalk.

Implementation 1-A (5): Encourage the Rogue Valley Transportation District (RVTD) to serve the SE Area with transit service as soon as feasible.

Policy 1-B: The City of Medford shall assure that the Village Center is developed as a pedestrian-oriented, mixed use, higher density central core (Transit Oriented District) for the SE Area.

Implementation 1-B (1): Require special design for development within the Village Center, affecting such elements as building location and orientation, lighting, signage, parking, outdoor storage and display, greenway/wetlands treatment, etc.

Implementation 1-B (2): Limit the commercial zoning districts and permitted uses within the commercial portion of the Village Center to assure pedestrian-oriented development.

Implementation 1-B (3): Require master planning of the entire Commercial Center Core Area of the Village Center prior to development approval.

Implementation 1-B (4): Promote the location of public and quasi-public uses within the Village Center, such as a fire station, day care center, community center, church, park, public plaza, etc.

Policy 1-C: The City of Medford shall support the location of small neighborhood commercial sites in the SE Area outside the Village Center.

Goal 2: To assure that development in the SE Area occurs in a manner that preserves its abundant natural features and resources.

Policy 2-A: The City of Medford shall strive to provide a system of interconnected open spaces in the SE Area utilizing drainageways and stream corridors open to public view and access.

Implementation 2-A (1): Accentuate drainageways and stream corridors by locating street rights-of-way collinear and adjacent to them in order to open them for public view and access. Such placement should be outside the Greenway, should not disturb the riparian area, and should be in conjunction with enhancement and/or restoration. Creekview Drive in particular should be so located in relation to the Middle Fork of Larson Creek.

Policy 2-B: The City of Medford shall strive to protect natural features and resources in the SE Area, including restoration when necessary.

Implementation 2-B (1): Encourage clustered development to avoid alteration of important natural features.

Implementation 2-B (2): Apply best management practices for private and public development activities that affect streams, drainageways, and wetlands, including reducing impervious surfaces so that runoff is slowed and filtered.

Implementation 2-B (3): Require hillside development to meet stringent standards limiting grading and vegetation disturbance, and minimizing visual intrusion.

Implementation 2-B (4): Require tree preservation plans indicating existing trees of more than six inches in diameter, in conjunction with development applications.

Policy 2-C: The City of Medford shall pursue the continuing evaluation of the SE Area's natural resources to determine which should be protected by permanent use restrictions or public ownership, and which can be included in environmentally sensitive development.

Goal 3: To provide for the implementation of the Southeast Plan.

Policy 3-A: The City of Medford shall use zone change procedures as the timing mechanism to control development within the SE Area, based upon the availability and adequacy of public facilities and services, as required by the Medford *Comprehensive Plan* and Medford *Land Development Code*. However, future zone changes in the City will be exempt from meeting the minimum transportation LOS standard for the alternatively-designed section of Barnett Road located within the Southeast Commercial Center because Barnett Road within the Commercial Center is desired to have a high level of slow moving traffic.

Implementation 3-A (1): Assess *Medford Land Development Code* language related to transportation LOS to determine if changes are needed to accommodate the exemption of zone changes in the City from meeting the minimum transportation LOS standard for the alternatively-designed section of Barnett Road located within the Southeast Commercial Center.

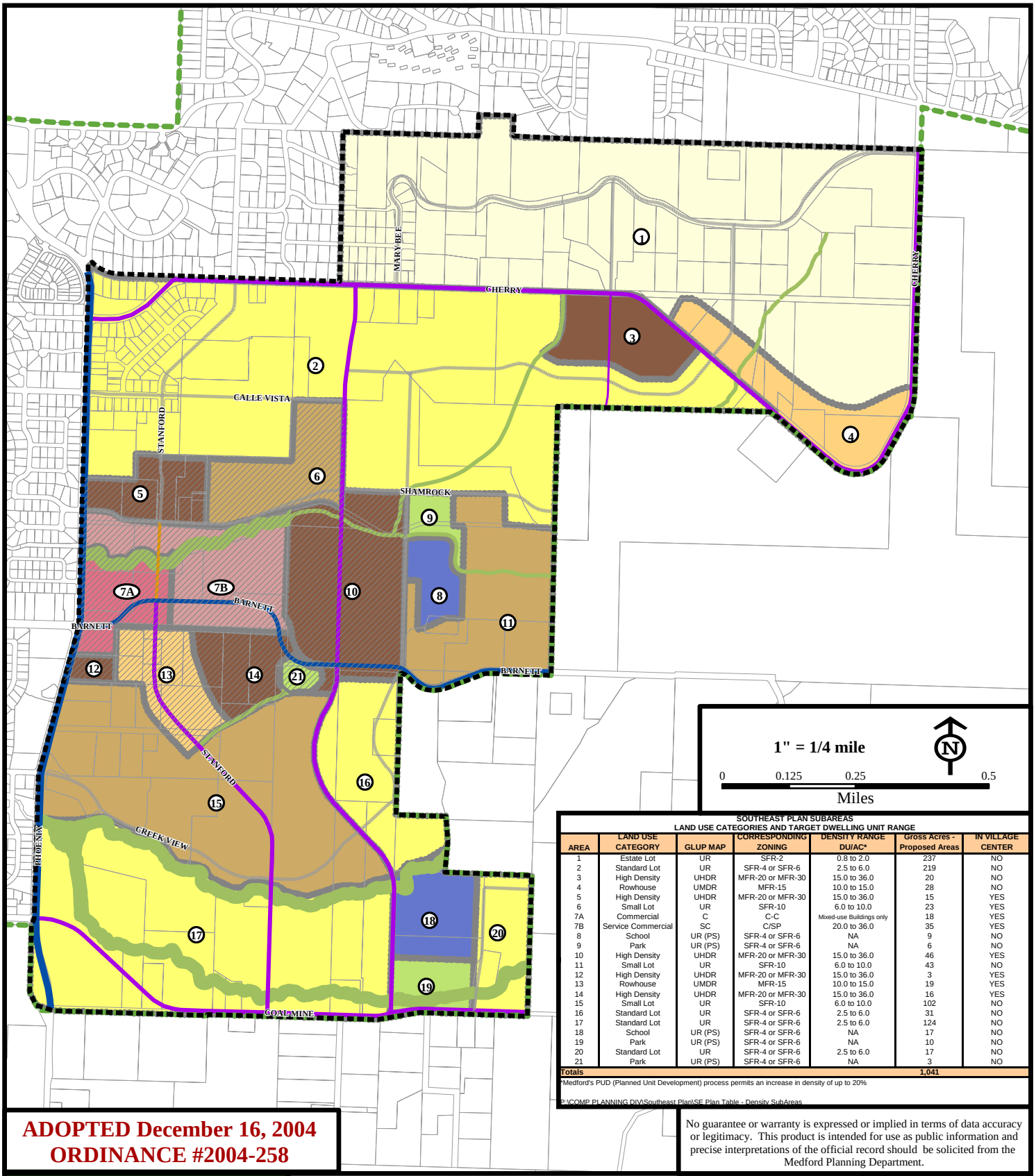
Policy 3-B: Where a street functions as the boundary separating two land use designations or categories in the SE Area, changes to the street location resulting from planning actions shall shift the designations or categories accordingly. Encourage similar land use types to be located facing one another across streets with changes in land use types occurring at the backs of lots where possible.

Policy 3-C: The City of Medford shall pursue the future adoption of regulations and design criteria that promote transportation oriented design in the SE Area pursuant to the recommendations of the *Rogue Valley Regional Transportation Plan, the Medford Transportation System Plan,* and other plans as adopted.

Policy 3-D: The City of Medford shall assure that notice is provided to the Medford and Phoenix-Talent School Districts that land designated for future schools and/or parks in the SE Area may be

acquired by the City or school district for such purposes. The City shall notify the applicable school district of pending development permit applications on such land. The City shall not withhold the approval of zoning or development permit applications solely on the basis that a school district or the City has not acquired title to the property. Nothing in this policy prohibits the location of a school or park from changing.

Policy 3-E: The City of Medford shall seek to expend parks systems development charges (SDCs) collected within the SE Area on park-related improvements within the same SE Area.



1" = 1/4 mile

N

0 0.125 0.25 0.5

Miles

SOUTHEAST PLAN SUBAREAS
LAND USE CATEGORIES AND TARGET DWELLING UNIT RANGE

AREA	LAND USE CATEGORY	GLUP MAP	CORRESPONDING ZONING	DENSITY RANGE DU/AC*	Gross Acres - Proposed Areas	IN VILLAGE CENTER
1	Estate Lot	UR	SFR-2	0.8 to 2.0	237	NO
2	Standard Lot	UR	SFR-4 or SFR-6	2.5 to 6.0	219	NO
3	High Density	UHDR	MFR-20 or MFR-30	15.0 to 36.0	20	NO
4	Rowhouse	UMDR	MFR-15	10.0 to 15.0	28	NO
5	High Density	UHDR	MFR-20 or MFR-30	15.0 to 36.0	15	YES
6	Small Lot	UR	SFR-10	6.0 to 10.0	23	YES
7A	Commercial	C	C-C	Mixed-use Buildings only	18	YES
7B	Service Commercial	SC	C/SP	20.0 to 36.0	35	YES
8	School	UR (PS)	SFR-4 or SFR-6	NA	9	NO
9	Park	UR (PS)	SFR-4 or SFR-6	NA	6	NO
10	High Density	UHDR	MFR-20 or MFR-30	15.0 to 36.0	46	YES
11	Small Lot	UR	SFR-10	6.0 to 10.0	43	NO
12	High Density	UHDR	MFR-20 or MFR-30	15.0 to 36.0	3	YES
13	Rowhouse	UMDR	MFR-15	10.0 to 15.0	19	YES
14	High Density	UHDR	MFR-20 or MFR-30	15.0 to 36.0	16	YES
15	Small Lot	UR	SFR-10	6.0 to 10.0	102	NO
16	Standard Lot	UR	SFR-4 or SFR-6	2.5 to 6.0	31	NO
17	Standard Lot	UR	SFR-4 or SFR-6	2.5 to 6.0	124	NO
18	School	UR (PS)	SFR-4 or SFR-6	NA	17	NO
19	Park	UR (PS)	SFR-4 or SFR-6	NA	10	NO
20	Standard Lot	UR	SFR-4 or SFR-6	2.5 to 6.0	17	NO
21	Park	UR (PS)	SFR-4 or SFR-6	NA	3	NO
Totals					1,041	

*Medford's PUD (Planned Unit Development) process permits an increase in density of up to 20%

P:\COMP PLANNING DIV\Southeast Plan\SE Plan Table - Density SubAreas

ADOPTED December 16, 2004
ORDINANCE #2004-258

SOUTHEAST PLAN MAP

- UGB
- SE Plan Boundary
- Village Center TOD
- Existing Taxlots
- Greenway
- Major Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Commercial Street
- Standard Residential
- Estate Lot
- Standard Lot
- Small Lot
- Row House
- High Density
- Commercial
- Service Commercial
- Schools
- Parks

CITY OF MEDFORD OREGON

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Southeast Medford Plan Area Neighborhood Circulation Plan and Transportation Policies and Guidelines

"Street system design is the most important element of a community."

Prepared By:

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Jim Bennett

Adopted By Medford City Council on December 16, 2004
By Ordinance No. 2004-258

Southeast Medford Plan Area Neighborhood Circulation Plan and Transportation Policies and Guidelines

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Southeast Medford Plan Area Neighborhood Circulation Plan and Transportation Policies and Guidelines

Plan Objective

To adopt maps, plan policies, and ordinance standards that assure that the transportation network in the Southeast Plan Area provides direct connected and convenient routes for pedestrians, bicyclists, transit, and motor vehicles to neighborhood activity centers and destinations.

Southeast Plan

The Southeast Plan, adopted by the Medford City Council in 1998 provides the following Goal and Policy*: **Goal 3:** To provide for the implementation of the Southeast Plan. **Policy 3-C:** The City of Medford shall pursue the future adoption of regulations and design criteria that promote transportation oriented design in the Southeast Area pursuant to the recommendations of the Rogue Valley Regional Transportation Plan and other plans as adopted.*

This Neighborhood Circulation Plan is intended to fulfill this policy. The purpose of this plan is to implement the Southeast Plan through adoption of guidelines and regulations relating to the detailed design of a multi-modal transportation system. Subsequent to adoption of the *Rogue Valley Regional Transportation Plan,* the City of Medford adopted the *Medford Transportation System Plan* (TSP) in November 2003. The Medford TSP and the *Medford Land Development Code* provide for the development of Neighborhood Circulation Plans. The TSP also adopted the Southeast Village Center as a Transit Oriented District (TOD) explained more fully in Part I of this document. TSP Implementation Strategy 8-B(2) directs the City to: *"Complete and adopt a land use/transportation plan, design guidelines, street and streetscape standards, and implementing ordinances for the Southeast Medford Transit Oriented District (TOD), the West Medford TOD, and the Delta Waters TOD, and mixed-use areas."*

Neighborhood Circulation Plans

The adopted Southeast Area Neighborhood Circulation Plan Map provides the location of streets and other transportation facilities classified and arranged in such a manner as to meet the objectives and policies of this plan and the TSP. Implementation Strategy 2-C(1) of the TSP provides that *"… neighborhood plans should determine the specific look and character of each neighborhood and its street system".* Street arrangement and design is reviewed and approved by the Planning Commission in the land division and development review process. The Planning Commission must find that proposed transportation improvements conform with any adopted Neighborhood Circulation Plan as well as the Transportation System Plan. Transportation system features, such as street arrangement and location, may depart from the adopted plan if it can be found that the principles and objectives of the adopted plan will be carried out.

TSP Implementation Strategy 2-D(1) directs the City to *"Identify unique street design treatments, such as boulevards or "main" streets, through the development and use of special area plans, neighborhood plans, or Neighborhood Circulation Plans adopted in the Medford Comprehensive*

Plan." This Neighborhood Circulation Plan anticipates a town center "main street" along Barnett Road in the Southeast Village Commercial Center.

This Neighborhood Circulation Plan and Map is adopted by the City Council as a part of the Medford Street Classification Map as well as part of the Southeast Plan, which is in the General Land Use Plan Element of the *Medford Comprehensive Plan*. It is supplemental to and takes precedence over the *Medford Transportation System Plan* in cases of disagreement.

Figure 1: Southeast Area Neighborhood Circulation Plan Map

PART I – Existing and Planned Activity Centers and Transportation System in the Southeast Area

A. Existing and Planned Neighborhood Activity Centers

Designated Transit Oriented District

The *Rogue Valley Regional Transportation Plan* (RTP) and the Medford *Transportation System Plan* (TSP) have adopted four areas in Medford as Transit Oriented Districts (TODs). These TODs include the Southeast Village Center. The purpose of the TOD designation is to provide centers where dwellings and employment are provided in close proximity (mixed-use) and with adequate density to make transit service viable. It is also critical that TODs provide "pedestrian friendly" streets and transportation facilities to increase non-vehicular trips within the area.

Southeast Village Center

The Southeast Village Center TOD is to contain a Commercial Center Core Area with up to 100,000 square feet of community commercial uses, plus up to 50,000 square feet for a grocery store, residential uses of up to sixty units per acre, and a Greenway with shared-use paths. The TOD will also contain an additional 35 acres of service and professional office commercial and high-density residential uses, and a surrounding 150 acres of other residential uses, ranging from small lot single-family and medium density (rowhouses), to high-density residential, including retirement facilities. The streetscape and street/alley designs in this area will have special character to assure pedestrian friendliness and a "town center" atmosphere. Rogue Valley Transportation District (RVTD) transit service is being extended to the area from the west via Barnett Road. Initially, a transit stop will be provided in the Commercial Center Core Area.

Lennertz-Coyle Commercial Center Plan

The Commercial Center area, including the Core Area and Greenway, encompasses approximately 53 acres located east of north Phoenix Road and north of Barnett Road. A detailed planning effort for this site was undertaken in 2000 through an Oregon Transportation and Growth Management (TGM) Program "Quick Response Grant". The results of that plan, prepared by Lennertz Coyle and Associates, have been incorporated into this document. The plan recommended realigning Barnett Road, a Minor Arterial Street, east of the intersection with North Phoenix Road to create a pedestrian-friendly retail "main street" with commercial buildings on both sides. For the retail uses to be viable, a high level of slow moving traffic with on-street parking, similar to a traditional main street, is necessary.

The preferred alternative for the community commercial site recommended approximately 100,000 square feet of retail commercial uses and up to 50,000 for a grocery store located generally between North Phoenix Road and Stanford Avenue, with the remainder of the commercial area utilized for civic, office, and high-density residential uses, including mixed uses. Stanford Avenue designated a Commercial Street where the abutting zoning is commercial, will be the north-south retail street. The block on Barnett Road between its intersections with North Phoenix Road and Stanford Avenue will need to be addressed to assure pedestrian connectivity due to its considerable length.

Larson Creek Shopping Center

The Larson Creek Shopping Center, located at the southwest corner of North Phoenix Road and Barnett Road, is an important neighborhood activity center. This site contains a 50,000 square foot grocery store and fueling station and 47,650 square feet of other retail and services. Primary pedestrian, bicycle, and motor vehicle access to and from the Southeast Plan Area will be via the North Phoenix Road and Barnett Road intersection. The multi-modal design and improvement of this intersection will be essential in connecting it with the future Southeast Plan Area Commercial Center Core Area located diagonally across the intersection. Due to the width of the intersection, designing for pedestrian and bicycle friendliness will be crucial.

The existing traffic signal at the Larson Creek Shopping Center mid-access point will not directly serve the Southeast Plan Area except for pedestrians/bicyclists from the Harbrooke Road area. Relocation of the signal to the intersection of Creek View Drive and North Phoenix Road will assure multi-modal access from the "South of Barnett" portion of the Southeast Plan Area. In addition, a signal at this location will provide a safe crossing of North Phoenix Road for those using the shared-use Greenway paths.

Parks and Schools

Parks and schools are neighborhood activity centers. The Southeast Plan Area is planned to contain a future City park and Medford School District school abutting the Southeast Village Center TOD on the east. The site is located on two Standard Residential streets, and will be linked to the Commercial Center Core Area via a shared-use Greenway path, as well as by at least one direct lower-order street connection. It will be linked to neighborhoods to the north, including a higher density residential area, by a shared-use Greenway path extending to Cherry Lane. The current Barnett Road is the Medford School District boundary. Another future City park and Phoenix-Talent School District school is planned in the far southeasterly portion of the Southeast Plan Area near Coal Mine Road. This site is to be served by shared-use paths in the east-west Greenways along its north and south edges. Other access will be via two Major Collector streets having bicycle lanes, Stanford Avenue and Major Collector Street 'A', upon which the school/park will front.

The City of Medford was given the 165-acre natural "Chrissy Park" on the east side of Cherry Lane currently outside the Medford Urban Growth Boundary (UGB). Access to this park will be via Cherry Lane; however, future access may be provided through the extension of Greenways with shared-use paths from their termini at the UGB to Chrissy Park. Eventual off-street path linkage from Chrissy Park to the 1,740-acre Prescott Park on Roxy Ann Peak is desired.

Other Existing Facilities

Other existing facilities in the Southeast Plan Area include the Swim and Tennis Club on North Phoenix Road, the Medford Fire Station on Barnett Road, and two fraternal lodges. Adequate access for the fire station located on the south side of Barnett Road in the future Commercial Center Core Area will be critical. The planned realignment of Barnett Road to the north in the vicinity of the fire station will necessitate driveway and traffic signal design that assures quick access to North Phoenix Road as well as to the east.

B. Existing and Planned Streets

Table 1: Southeast Plan Area Existing and Planned Major Streets

Street Name	Street Classification
North Phoenix Road	Major Arterial
Barnett Road (to 250 feet east of North Phoenix Road)	Major Arterial
Barnett Road (from 250 feet east of North Phoenix Road to easterly UGB)	Minor Arterial
Cherry Lane (east of North Phoenix Road)	Major Collector
Coal Mine Road	Major Collector
Stanford Avenue (New) (S. of Barnett Road)	Major Collector
Unnamed New Collector A	Major Collector
Stanford Avenue (New) (N. of Commercial Center)	Standard Residential
Stanford Avenue (New) (N. of Barnett Road in Commercial Center)	Commercial
Unnamed New Collector B	Minor Collector
Various New Streets	Standard Residential

PART II – General Circulation System Policies and Guidelines for the Southeast Area

A. Interconnected Street Network

Goal 1*: To provide a street network in the Southeast Plan Area that is an interconnected, densely-gridded system that also accommodates topography and natural features such as greenways and wetlands.*

Goal 2: *To provide safe and convenient pedestrian, bicycle, and motor vehicle access and circulation to and within neighborhood activity centers in and near the Southeast Plan Area.*

The purpose of a densely-gridded street system is to avoid concentrating motor vehicle traffic onto a few wide auto-oriented pedestrian-unfriendly major streets, and to allow residents and employees to choose a direct route to neighborhood activity centers, making it more likely that motor vehicle trips will be short or substituted by alternatives such as walking, bicycling, or taking transit. Street design that results in traffic calming will assure that the densely-gridded street system produces livable neighborhoods.

Street Alignment

Street alignment should ensure that direct routes to neighborhood activity centers (schools, parks, Greenways, Commercial Center, etc.) are provided. The alignment should also consider natural features, such as topography and natural resources, including established trees and groves of trees. *Medford Land Development Code* Section 10.452 requires street arrangement to save and preserve natural and ornamental trees where practicable. Streets should abut public facilities and features such as Greenways, parks, schools, and open space. The provision of pedestrian/bicycle connections that provide direct convenient routes to neighborhood activity centers should also be ensured.

The Southeast Plan contains a policy about land use designations and street locations. (Policy 3-B: *Where a street functions as the boundary separating two land use designations or categories in the SE Area, changes to the street location resulting from planning actions shall shift the designations or categories accordingly.)* This policy has been changed to clarify that land use type changes generally should not occur at street frontages. This results in dissimilar development types facing one another. A more desirable situation is having land use type changes occur at the backs of properties so that streetscapes can be consistent and integrated.

Block Length

Maximum block length standards optimize convenience for pedestrians and enhance street connectivity. Street intersections should be located approximately every 600 to 800 feet in single-family areas and 400 to 600 feet in the Village Center and other higher density areas. This standard should be balanced against the preservation of natural resources and topography. Street crossings of Greenways should be minimized, particularly those that are fish-bearing Riparian Corridors. Longer block length should be considered if needed to save significant established trees or groves of trees. Approximately one-quarter mile spacing of Riparian Corridor crossings is considered adequate. Individual developments should not be isolated or "dead-end" because they prevent connectivity and neighborhood formation.

Street Design Standards

Private streets are often utilized when a deviation of City street standards is desired to accommodate a particular site design or difficult property. Private streets or alleys should be utilized only when neighborhood interconnectedness and convenient public access to activity centers will not be compromised. The "Exceptions" (variance) process has also been used to vary public street standards when a private developer is constructing a public street. When the City is constructing the street, a Transportation Facility process is used to vary street standards. A clear process for considering alternative street design standards should be developed for the *Land Development Code* since these processes do not provide the best means for determining when alternative standards are acceptable. Locations where alternative street designs are appropriate in the Southeast Plan Area have been identified in this plan where known.

Steep Slopes

Streets in steeply sloped areas, such as those north of Cherry Lane, will necessitate narrower rights-of-way generally located to follow elevation contour lines in order to reduce cut and fill and gradient. Standard street design should be altered if necessary. Standard Residential streets should maintain two full lanes for passing vehicles; however, modification of other components should be permitted in order to reduce width as long as designs encourage pedestrian use. Placing sidewalks next to the curb and eliminating planter strips is one means of reducing street width, which reduces the amount of cut and fill needed. Where there are long blocks, pedestrian accessways between streets should be utilized where topography allows. The current (unpaved) east-west street located north of Cherry Lane (not yet dedicated right-of-way) is the general location of the primary east-west Standard Residential street serving this area.

Access Management

Motor vehicle access management is important to maintaining the multi-modal function of higher order streets over time. Access to individual properties can be appropriately managed at the same time as providing attractive pedestrian-friendly streetscapes along Collector and Arterial streets. Since a densely-gridded street system is desired in the Southeast Area, intersection spacing on higher order streets will be controlled through use of medians to control turning movements rather than increasing block lengths.

The use of residential through-lots should occur only when no other site design options are available. Such through-lots tend to produce an undesirable walking environment by creating the need to "wall-off" the street with tall fencing or walls at the right-of-way line. In addition, walled-off neighborhoods or commercial centers do not promote "community-building". An even poorer condition is created when through-lot development is located adjacent to or interspersed with front-facing development along the same street.

The City currently does not require abutting residential property owners to maintain landscape areas in rights-of-way along Collector and Arterial streets, including the area between the sidewalk and the fencing or the street trees and landscaping within the planter strips. Abutting property owners often have no access to maintain such areas. In the Southeast Plan Area, creation of these situations should be avoided by use of site design and street layouts that do not require through-lots or the need for tall fencing along the right-of-way line. The most desirable pedestrian-friendly options are siting of land uses that do not require fenced areas and the use of front-facing dwellings with access from the rear, such as from alleys.

Another option is the use of frequent lower order street intersections that produce side yards abutting the higher order street. This design is less pedestrian-friendly but does not create a continuous

walled effect. Other, but less desirable, options are creation of Frontage streets (commercial areas) or use of shared driveways. Shared driveways are not an available option on Arterial streets. Depending upon the speed limit of the higher order street, which affects access spacing, the use of shared driveways could result in the need for lots wider than the maximum width permitted by the zoning district.

The proposed Southeast Overlay District requires residential owners abutting Collector streets to landscape and maintain the planter strips and any landscape area between the property line and sidewalk. When through-lots are demonstrated to be necessary, a fencing setback of at least 10 feet and full improvement of the abutting right-of-way with landscaping and irrigation is required, along with a property owners' association or another design or mechanism that will assure continued maintenance. In the Southeast Area, North Phoenix Road is the only higher order street expected to contain several abutting residential through-lots due to its higher speed limit. This design can likely be avoided elsewhere in the Southeast Area. The North Phoenix Road "Arterial Street Frontage Landscaping and Vertical Separation Features" are displayed on pages 19 and 20.

Alleys

It is expected that alleys will serve as an important site design feature in the Southeast Area, particularly in higher density single-family and medium-density residential areas. As noted above, alleys should be utilized as an alternative to residential through-lots on Collector and Arterial streets. Alleys should also be utilized to enhance neighborhood appearance and residential streetscapes by placing garages to the rear of dwellings. Narrow residential lots (less than 50 feet in width) are required by the S-E Overlay District to have rear access to avoid having driveways and garages dominate the streetscape.

The City should develop standards to help alleys function correctly and in accordance with utility and service providers' needs. New alleys should be accepted as public rights-of-way when a public benefit results, such as eliminating the need for through-lots along a higher order street. "Dead-end" public alleys not exceeding 400 feet in length should be permitted if a public benefit for the alley can be established.

B. Streetscape Design

Goal: *To have a streetscape in the Southeast Area designed so that streets are comfortable and convenient for all travel modes and encourage non-motor vehicle trips, and designed so that fast-moving traffic is discouraged on local streets, neighborhood Collectors, and in the Commercial Center.*

Traffic Calming

Traffic calming is necessary in areas with densely-gridded streets to preserve livability. The primary traffic calming method is use of street widths appropriate for the traffic demand and emergency access needs. Curb extensions and demarcated crosswalks should be utilized at intersections of lower order streets within the Southeast Area. Other traffic calming measures include features such as medians and raised intersections. Traffic calming measures not recommended include stop signs, undulations, and street barriers and diverters. Traffic calming measures will generally not be included on Collector or Arterial streets, or other streets that are considered "Primary Emergency Response Routes".

Intersection roundabouts should be considered when intersection controls are warranted. The Insurance Institute for Highway Safety reported that roundabouts, when compared with intersections equipped with stop signs or signal lights, can reduce injury-producing crashes by 80% and significantly reduce traffic delays. The Federal Highway Administration noted that the absence of left turns across traffic is beneficial, including eliminating the potential for head-on crashes. Lower speeds also give drivers more time to react to potential conflicts with other vehicles, and they promote smoother traffic flow. Roundabouts make pedestrian movement safer and more convenient. They are less costly over time because installation and maintenance of signals is unnecessary.

Right-of-Way Design

Right-of-way design in the Southeast Area is intended to be "context sensitive". This means that modifications to designs have been considered based upon the abutting planned land use. The needs of the abutting planned land use should be balanced with area-wide and citywide transportation needs. The context of the Southeast Village Center as a Transit Oriented District (TOD) will dictate the design of the rights-of-way in this area, and most particularly in the Commercial Center portion of the TOD. The proposed street design in the Commercial Center is described in more detail under the Streetscape Design section for Barnett Road.

Medford TSP Implementation Strategy 1-A(3) requires that the City maintain Arterial streets to a minimum overall performance during peak travel periods meeting Level of Service (LOS) "D." This test usually occurs at the time facility adequacy is determined during consideration of a proposed zone change. Because Barnett Road within the Commercial Center is desired to have a high level of slow moving traffic, future zone changes in the City will be exempt from meeting the minimum LOS standard for the alternatively-designed section of Barnett Road located within the Commercial Center. Land Development Code language related to LOS should be assessed to determine if changes are needed to accommodate this special situation.

In the Southeast Area, right-of-way landscaping, except for Arterial street frontages abutting residential zones, is the responsibility of the abutting property owner. Plans for such landscaping will be reviewed at the time of land use decision by the approving authority (usually the Site Plan and Architectural Commission or Planning Commission). Such plans will include planter strips and street trees, as well as any undeveloped right-of-way such as that at the back of the sidewalk. If street trees cannot be accommodated within the right-of-way, they must be provided on private property behind the sidewalk. When street designs are used that require street trees to be installed on private property, tree location and maintenance should be controlled through CC&Rs to reduce confusion over property owners' responsibilities and conflicts with public utility easements. The S-E Overlay District includes landscaping and street tree requirements. Street trees must be located so as to not conflict with pedestrian-scale streetlights or emergency vehicles (fire engines). The lower branches should be at least 13.5 feet above the ground where emergency vehicles will be turning. Any landscaping must adhere to clear sight distance requirements at intersections and driveways.

Right-of-Way Landscaping

Right-of-way landscaping design in the Southeast Area should provide:

- A consistent and unique character that relates to the context and conditions
- Appropriate plantings that require minimal irrigation and maintenance, including alternatives to lawn and conditions that discourage weeds (except where CC&Rs designate specific private responsibility for maintenance)

- Appropriate street trees that will provide significant prominence and shading
- Long-term street tree and plant growth opportunities
- Irrigation systems designed for maximize efficiency and avoiding over spray
- A high quality of construction and maintenance

As noted above, right-of-way landscaping and street tree installation and maintenance responsibility is that of the abutting property owner except in Major and Minor Arterial streets in residential zones and in median islands, where the City is responsible. In rare cases where through-lots are created along Collector Streets, property owners' associations will be required to maintain the fencing setback area as well as the planter strips. A landscaping and street tree design(s) for Arterial street planter strips should be developed by the City for installation at the time of street improvement.

Street Lighting

Medford *Land Development Code* Section 10.495 permits the use of pedestrian-scale street lighting (used to light the sidewalk) except on Collector and Arterial streets. In addition, a standard streetlight (used to light the roadway) is required to be installed at each street intersection and at any other pedestrian street crossings. The operation and maintenance costs of pedestrian-scale street lighting are charged to the benefiting property owners through a utility fee.

Such lighting is required in the S-E Overlay District on both sides of the street at least every 80 feet. They are placed within the planter strips where there are planter strips. Where there are no planter strips, they are placed on abutting private property or within extra wide sidewalks. They will be essential on certain Collector and Arterial streets as well, to provide the continuity and where there will be high pedestrian activity, especially in the Southeast Village Center TOD, including a portion of Barnett Road. The Code should be clarified to allow pedestrian-scale streetlights to be required where needed in the S-E Overlay District, including on Collectors and Arterial streets.

C. Pedestrian/Bicycle Circulation

Goal: *To have pedestrian and bicycle circulation in the Southeast Area designed so as to encourage the use of these modes for many trips within the Area and to outside destinations by making such trips convenient, safe, and pleasant.*

Sidewalks

Because streets in the Southeast Area will be highly interconnected, sidewalks should be required on both sides of all streets, including Residential Lanes. A Residential Lane, unless it is a cul-de-sac, will be just as likely as another street type to carry "through" pedestrian traffic. The sidewalk should not end abruptly when a Residential Lane is reached. In high pedestrian areas, where on-street parking is located within the right-of-way, such as the Commercial Center, extra-wide sidewalks with tree wells and grates should be used in lieu of landscaped planter strips.

Accessways

Accessways are off-street public rights-of-way. They are not the same as pedestrian walkways or sidewalks. They are basically a short shared-use path. Accessways are reserved for situations where street connections are infeasible. Since blocks will be short and the use of cul-de-sacs uncommon in the Southeast Area, accessways will be needed infrequently. They should be used with frequent spacing, however, where there are long blocks in steeply sloped areas, and for connections to uses such as schools, parks, civic facilities, Greenways, open space, etc. Accessways may not be feasible

where path grade would exceed 12%, but stairs should be considered as an alternative. The City standard for accessways is a 12-foot wide right-of-way with an 8-foot wide paved surface, designed to allow one end of the accessway to be seen from the other. They must be lighted. Accessways should be designed and improved in such a way as to require little maintenance, and are maintained by the City. It is recommended that the design be amended to require paving for the full width of the accessway to avoid narrow strips of ground that must be landscaped and maintained, and that the width be reduced to ten feet.

Shared-Use Paths

Off-street shared-use paths are used in situations where there will be very infrequent crossing of the path by driveways or street intersections. The City design is a ten-foot wide paved surface within a 20-foot wide easement or right-of-way. Exacting design at driveways or street intersections is essential due to high danger for path users. Motor vehicle drivers are not accustomed to looking for bicyclists in particular if the path appears similar to a sidewalk. Shared-use paths are planned in the Southeast Area along or within Greenways. Shared-use paths should not terminate or cross streets at mid-block except on very low use streets. They should be considered for use in lieu of a required sidewalk on the side of a street abutting a Greenway. They should not be used in lieu of required bicycle lanes, as they do not accommodate fast moving bicyclists. Figures 2 though 5 display the planned design of the various Greenways within the Southeast Area. The reach numbers in the lower left of each figure (i.e., G 1) correspond to the reach number displayed on the Southeast Area Neighborhood Circulation Plan Map.

Users of the shared-use paths in the Middle Fork and South Fork Larson Creek Greenways will be able to connect with the future Larson Creek path located west of North Phoenix Road. This path will be essential in providing an alternative to the use of Barnett Road between the Southeast Area and central Medford and the Bear Creek Greenway. The widening of Barnett Road to properly accommodate bicyclists and pedestrians is not likely to be feasible in the foreseeable future due to cost. An alternative such as the Larson Creek path is a necessity. It would also provide a means for users from elsewhere in the City to reach the Southeast Area Greenways.

Shared-use paths in Greenways are planned to extend easterly in the future beyond the current UGB to connect the Southeast Area with Chrissy Park. Such a connection could make eventual off-street access feasible further north to Prescott Park, for pedestrian and bicycle users and even equestrians.

Any paths, bridges, or right-of-way improvements within a designated Riparian Corridor (measured 50 feet from the tops of the banks) require authorization through a Conditional Use Permit. When a project is in the public interest, adverse impacts to the Riparian Corridor may be authorized if they can be mitigated (made up for by other actions such as habitat restoration). Habitat mitigation recommendations are obtained from the Oregon Department of Fish and Wildlife (ODFW). City staff reviews restoration plans, with final action by the applicable City approving authority.

Where Coal Mine Road right-of-way widening and the Larson Creek South Fork Greenway would result in a potential property depth of less than 90 feet, the City should consider acquisition of the property between the right-of-way and the Greenway. Deviations in the Greenway width (meandering or reducing) to achieve lot depth should be considered only as a last resort since this stream is a designated Riparian Corridor intended for habitat protection.

Figure 2: *MAJOR GREENWAY – RIPARIAN CORRIDOR*

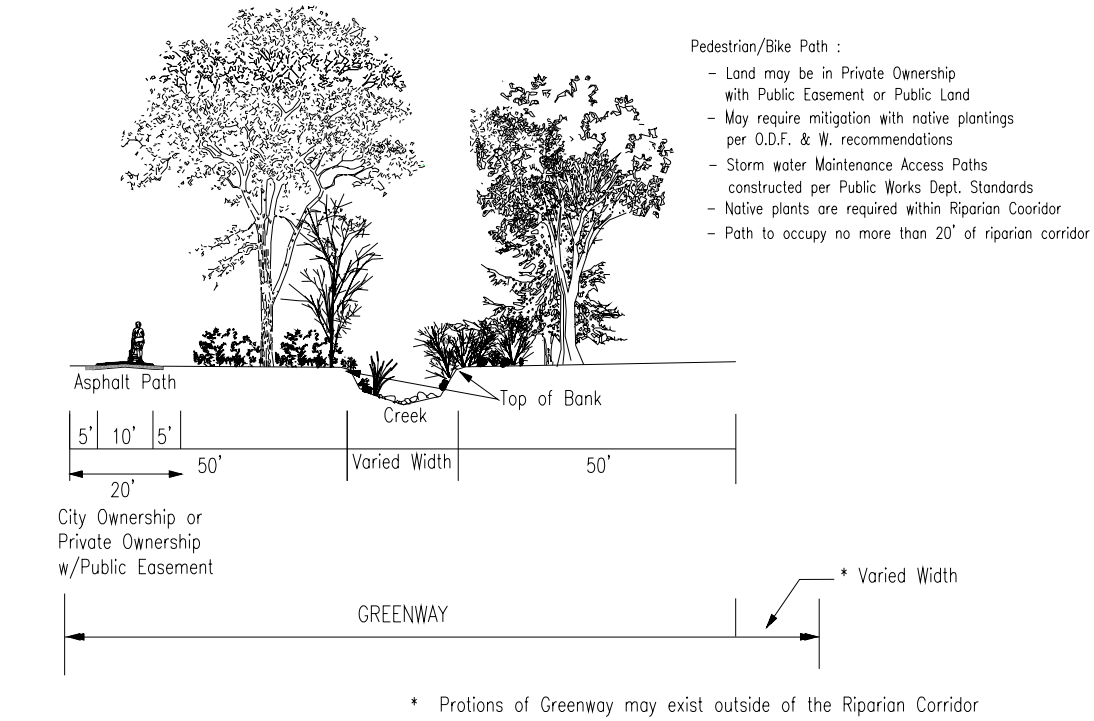
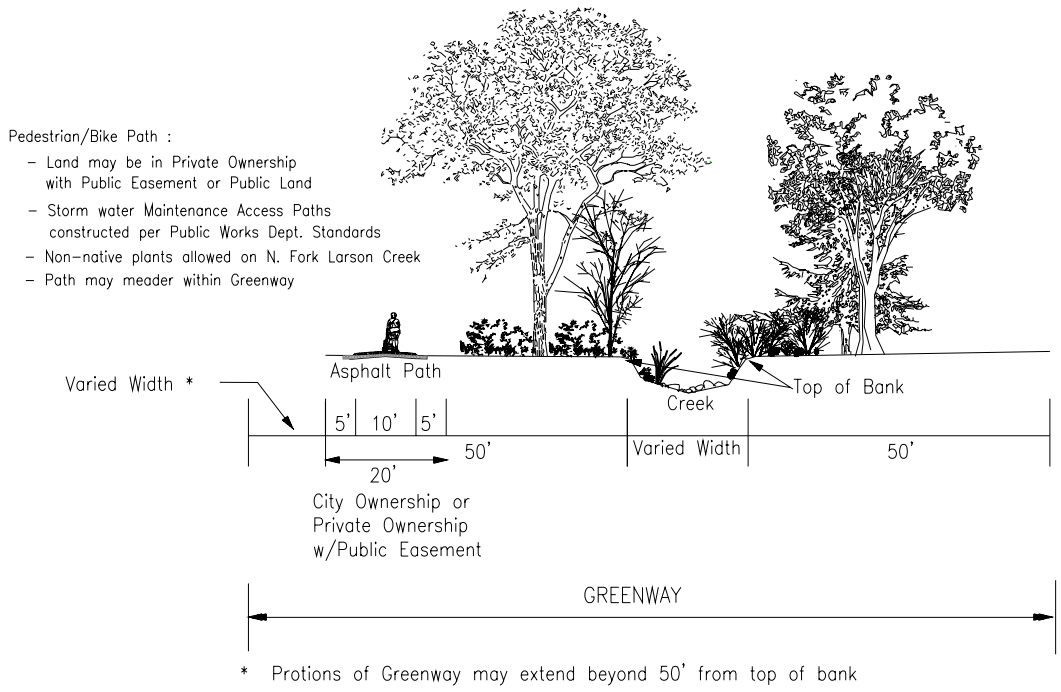


Figure 3: *MAJOR GREENWAY NOT RIPARIAN CORRIDOR*



G 2 Major Greenway– Not riparian corridor

City of Medford Greenway Detail

Figure 4: MAJOR GREENWAY-PATH IN LIEU OF A SIDEWALK

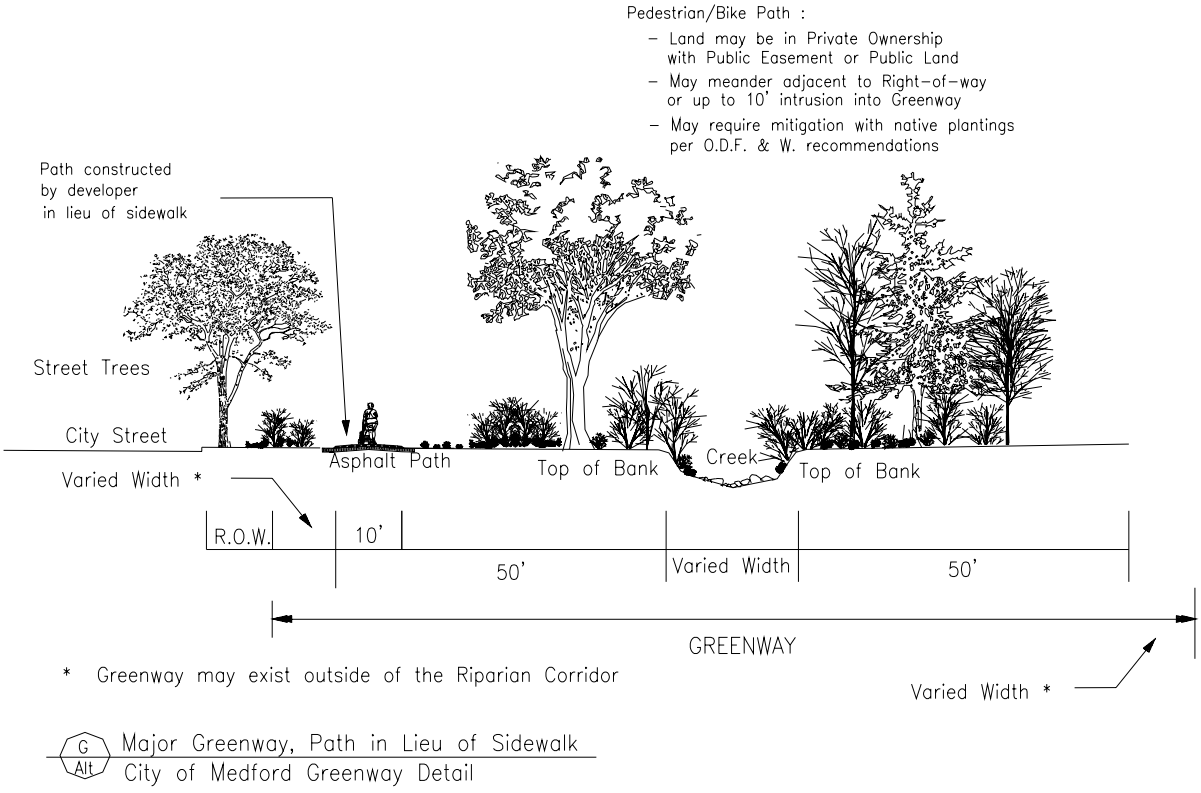
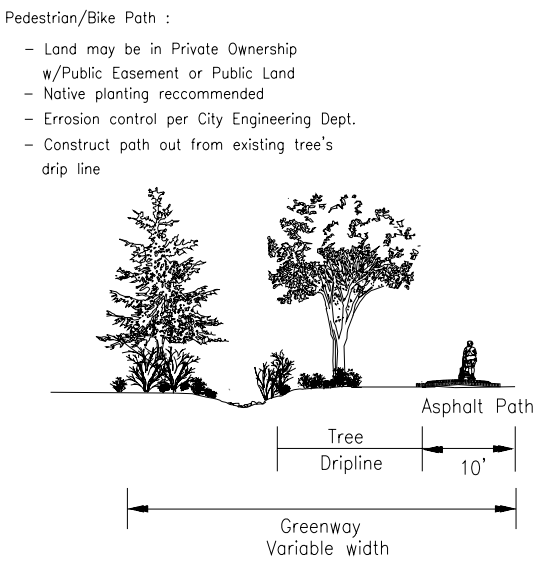
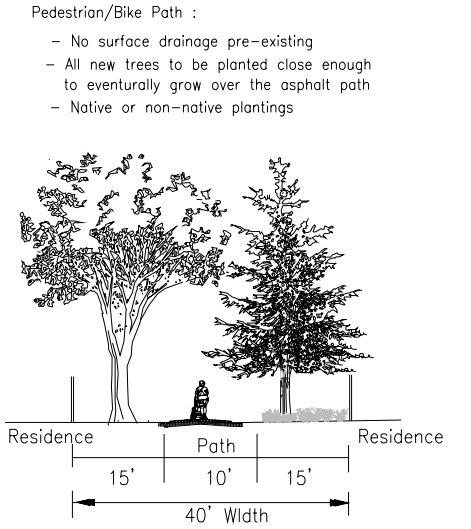


Figure 5: MINOR GREENWAY



G 3 Minor Greenway w/surface drainage
City of Medford Greenway Detail



G 4 Minor Greenway w/out surface drainage
City of Medford Greenway Detail

D. Transit

Transit service by the Rogue Valley Transportation District will initially be extended easterly on Barnett Road to the Commercial Center. In the future, a major transit stop or station will be provided within the Southeast Village Center TOD. For viable transit service, generally a residential density of at least seven units per acre is needed. The Southeast Village Center TOD is expected to contain over 2,000 dwelling units at build-out with a gross density of 12 units per acre or more. Since transit users are also pedestrians, the overall pedestrian-friendly design of the area will be essential in encouraging transit use. The Commercial Center Core Area should include provisions for the major transit stop.

PART III – Street Specific Circulation System Policies and Guidelines for the Southeast Area

A. North Phoenix Road (Major Arterial Street)

Planned Intersections – North Phoenix Road

Barnett Road with North Phoenix Road (Major Arterial with Major Arterial)

The primary pedestrian, bicycle, and motor vehicle access to and from the Southeast Area will be via this intersection. It will function as the "gateway" to this neighborhood. The multi-modal design and improvement of the intersection will be essential in connecting the Larson Creek Shopping Center with the future Commercial Center Core Area located diagonally across the intersection. Retail commercial development will be located at three corners of the intersection with office development at the northwest corner. Widening of the intersection is planned as a "medium range" project (2009-2013). Due to the potential expansive width of the intersection, designing specifically for pedestrian and bicycle friendliness will be crucial. (Note that the classification of Barnett Road is transitions from a Major Arterial to a Minor Arterial about 250 feet east of North Phoenix Road.)

Creek View Drive with North Phoenix Road (Standard Residential with Major Arterial)

This intersection will provide important east-west connectivity between the Southeast Area and the remainder of the City. It will also provide the point at which users of the Larson Creek shared-use paths will cross North Phoenix Road. Single-family residential development will be located at three corners of the intersection with the Larson Creek Shopping Center at the northwest corner. When traffic volume warrants a traffic signal at this intersection, the relocation of the signal from the center point of the Larson Creek Shopping Center to this intersection will be necessary. However, new homes to the east will generate pedestrian and bicycle traffic crossing North Phoenix Road at this intersection to access the shopping center before signalization of the intersection. When the signal is relocated, the center point access to the shopping center will be redesigned to limit turning movements to right in/right out. Pedestrian and bicycle traffic continuing to cross at this location from the Southeast Area may be an issue.

Coal Mine Road with North Phoenix Road (Major Collector with Major Arterial)

This intersection will be relocated to coincide with Juanipero Way in conjunction with development of the area north of Coal Mine Road, and will be signalized when warranted. This intersection will provide indispensable east-west connectivity between the Southeast Area and the remainder of the City. This Major Collector street (Black Oak Drive/Juanipero Way/Coal Mine Road) will provide a needed alternative to the use of Barnett Road for east-east travel. High-density residential development approved as part of the Stonegate Estates Planned Unit Development will be located at northeast corner of the intersection and single-family development at the southeast and northwest corners, with the southwest comer outside the UGB.

Cherry Lane with North Phoenix Road (Major Collector with Major Arterial)

This intersection has been relocated to improve safety and sight-distance concerns, and is planned to be signalized as a "medium range" project (2009-2013). Motor vehicle access to North Phoenix Road from the old intersection has been blocked, but a pedestrian stairway has been constructed. Most traffic at this intersection is from three directions, as the leg of the intersection to the west terminates in a short residential cul-de-sac. Single-family development is located at three comers of

the intersection, with a small park at the northeast corner. Safe pedestrian access to the park will be a concern.

Calle Vista Drive with North Phoenix Road (Standard Residential with Major Arterial)
A future center median in North Phoenix Road will result in right-in/right-out only turning movements at this intersection. Single-family development is located at all comers of the intersection, including an existing historic home at the northeast corner. Completing the sidewalk and planter strip in North Phoenix Road in front of this home may be difficult due to a lack of space. However, alternatives should be studied because the missing 150-foot+/- section of sidewalk will force pedestrians to use the bicycle lane in the roadway. Completion by the City of the missing 150-foot+/- sidewalk and planter strip in Calle Vista Drive at the side of the existing home should be considered, as adequate room exists.

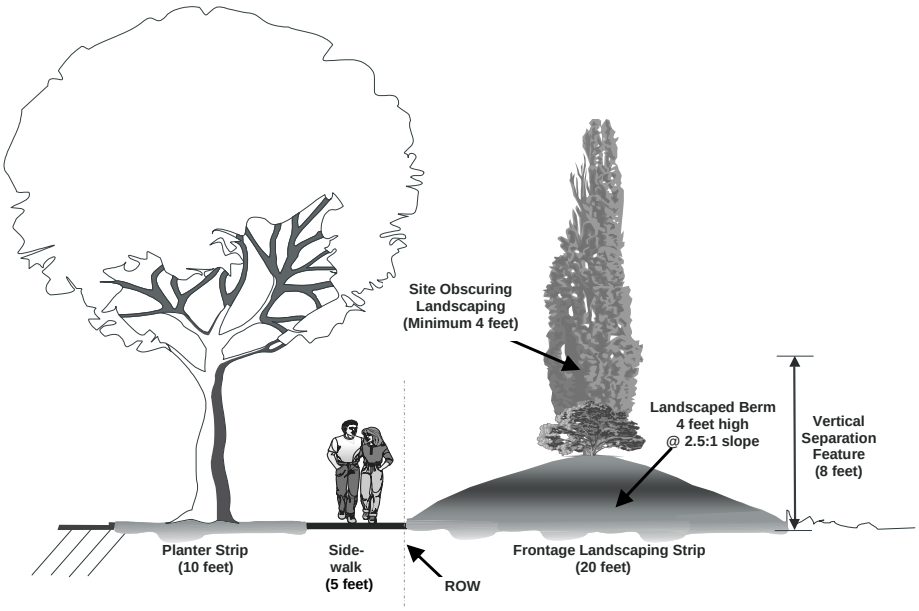
Shamrock Drive with North Phoenix Road (Standard Residential with Major Arterial)
This intersection will be realigned to coincide with Shamrock Drive on the west side. A future center median in North Phoenix Road will result in right-in/right-out only turning movements at this intersection. Commercial development is to be located at the southeast corner of the intersection and high-density residential development at the northeast corner, with existing single-family development to the west. This intersection will be located at the top of a rise resulting in possible visibility issues.

Streetscape Design – North Phoenix Road

Consistent treatment of this major street frontage is important. The frontage treatment should avoid the appearance of a "walled" or separate community. The City is responsible for the installation and maintenance of the improvements in the planter strips and medians along North Phoenix Road, including street lighting and street trees. A consistent design should be developed for the planter strips and medians. Installation of landscaping should occur at the time the improvements are constructed. Pedestrian-scale street lighting is desirable abutting the Commercial Center Core Area near the Barnett Road intersection and in other high pedestrian areas.

To comply with the requirement for a "vertical separation feature", the typical street frontage treatment for residential through-lots abutting the east side of the North Phoenix Road right-of-way *north of Barnett Road* is five feet of wrought iron fencing atop a three-foot stucco wall, engineered to stand straight, with landscaping behind, to complete a total of eight feet of in height to buffer the adjacent residential lots. The typical street frontage treatment for residential through-lots abutting the east side of the North Phoenix Road right-of-way *south of Barnett Road* is a landscaped strip 20 feet in width outside the right-of-way, consisting of a four-foot berm with landscaping on top totaling at least eight feet in height. Any fencing is to be located on private property beyond the 20-foot area. Such features are to be located entirely on private property.

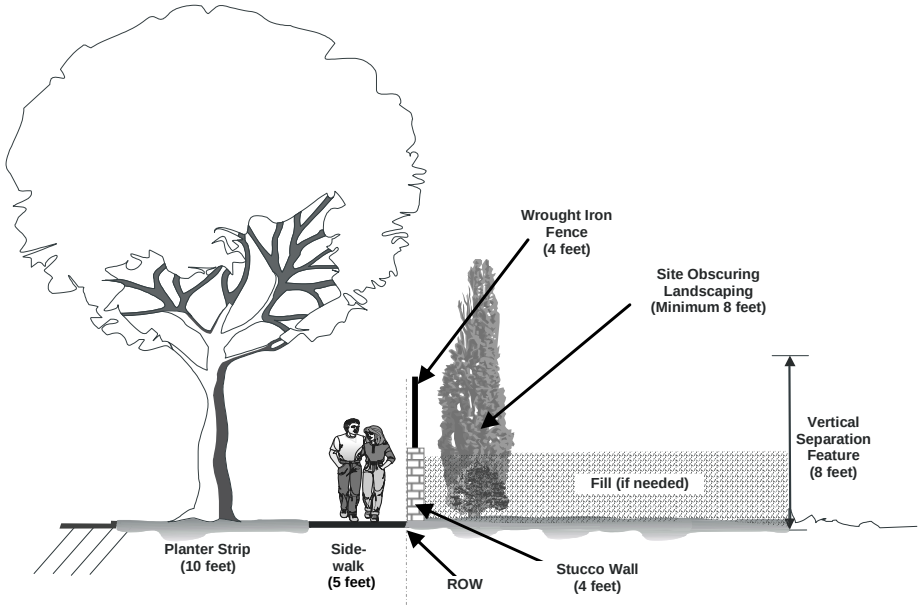
*Figure 6: NORTH PHOENIX ROAD ARTERIAL STREET FRONTAGE LANDSCAPING AND VERTICAL SEPARATION FEATURE 'A'**



For the easterly side of North Phoenix Road between Barnett Road and Coal Mine Road

*To fulfill the requirements of Medford Land Development Code Section 10.797 (1)

*Figure 7: NORTH PHOENIX ROAD ARTERIAL STREET FRONTAGE LANDSCAPING AND VERTICAL SEPARATION FEATURE 'B'**



For the easterly side of North Phoenix Road between Barnett Road and Old Cherry Lane

*To fulfill the requirements of Medford Land Development Code Section 10.797 (1)

The City should fill in gaps in sidewalks and planter strips along the east side of North Phoenix Road adjacent to pre-existing development expeditiously as areas develop so that pedestrians are not forced to walk in the bicycle lanes when a sidewalk ends abruptly.

Minor street and driveway intersections with North Phoenix Road will be limited to right-in/right-out turning movements, including the existing Harbrooke Road, through the installation of median islands. The design of the medians should be consistent with the existing median (concrete with trees in tree wells).

B. Barnett Road (Minor Arterial Street)

Planned Intersections – Barnett Road

Stanford Avenue with Barnett Road (Major Collector (south)/Commercial (north) with Minor Arterial)
This signalized intersection will be the key intersection in the town center (Commercial Center Core Area). The intersection must be located to the east of the US Sprint Communications facility due to the location of underground facilities that may be too costly to move. The intersection will have retail buildings close to the street on all corners and will convey the identity and character of entire town center. It will have on-street parking and features to aid in pedestrian crossing, such as curb extensions and medians. Short pedestrians crossing of no more than 50 feet are needed in town centers. These must be designed so as to facilitate emergency vehicle movement due to the close proximity of the fire station. The Commercial Center Core Area will extend approximately 300 to 400 feet east of the intersection. Stanford Avenue to the south of the intersection will contain bicycle lanes, but to the north will not. The intersection must be designed to convey to all users the location, in all four directions, where bicyclists are to be expected.

Collector Street 'A' with Barnett Road (Major Collector with Minor Arterial)
This intersection will be located east of the southerly curve in Barnett Road. Its location will be affected by the location of Collector Street 'A' on the large hill to the south of Barnett Road. The Collector Street will bend around to the west of the top of the hill, generally following the elevation contour lines. The intersection will have high-density residential uses on the both sides of Barnett Road. The high-density designation has been placed on the south side of the Arterial Street to allow for site design that assures pedestrian-friendliness along the frontage and avoids "though-lots".

Standard Residential Street 'B' with Barnett Road (Standard Residential with Minor Arterial) There will be high-density residential uses on the west comers of this intersection, with medium density residential to the northeast, and rural uses on the southeast corner outside the UGB. This Standard Residential Street will serve a park and school to the north of Barnett Road and connect with Creek View Drive to the south of Barnett Road.

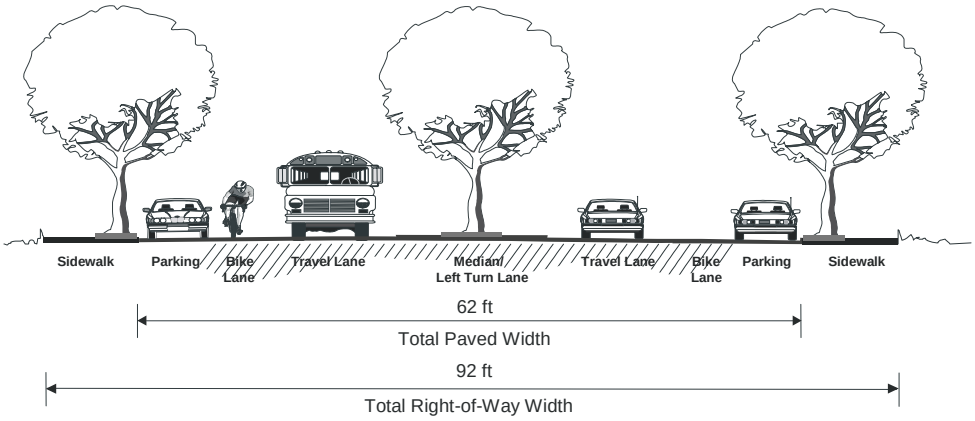
Future Collector Street with Barnett Road outside east UGB (Minor Collector with Minor Arterial)
If this Future Growth Area is added to the UGB, this intersection will generally be located east of the current UGB and west of the crossing of the middle fork of Larson Creek by Barnett Road, to achieve a Collector Street spacing of approximately ¼ to ½ mile. The future abutting land uses are unknown.

Streetscape Design – Barnett Road

Commercial Center
To achieve commercial zoning on both sides of Barnett Road, which will be essential to creating a town center, Barnett Road will be curved northward through the commercially designated area, where the City will acquire a new right-of-way. The current Barnett Road right-of-way will be vacated to the abutting property owners leaving the Commercial designation north of the centerline of the old right-of-way. This will provide a commercial lot depth of approximately 250 feet. The recommended speed in town centers is 25 mph. *"A high volume of slow moving traffic is critical to a successful retail main street. A lowered design speed will allow smaller main street style businesses to capture traffic without long frontages or large signs."* (Lennertz-Coyle Commercial Center Plan).

The Scottish Rite Lodge has been changed to a commercial designation to provide a consistent commercial designation on both sides of the street. Since there will be on-street parking in the town center, extra wide sidewalks (15+/- feet) with tree wells should be used in lieu of planter strips. Bicyclists should not be permitted on the sidewalks in the Commercial Center. The fire station should retain its frontage on Barnett Road due to the value of having a striking civic building at this location. A "green" should be considered for the newly-created area between the fire station and the relocated street. It will be essential that proper access and traffic signals are provided for quick response from the fire station in all directions.

Figure 8: East Barnett Road Cross Section in Southeast Commercial Center*



* Beginning approximately 250 feet east of North Phoenix Road

The City will be responsible for the installation and maintenance of the landscaping in the planter strips on Barnett Road only where abutting residential zones. A consistent design should be developed for the Commercial Center, including pedestrian-scale streetlights. A consistent design for landscaped medians for which the City will be responsible should also be developed. Where on-street parking is planned in the Commercial Center, street trees will be located in extra wide sidewalks in lieu of planter strips. The special cross section for Barnett Road, including on-street parking, should extend from approximately 250 feet east of North Phoenix Road to the easterly edge of the Commercial Center designation.

Where Barnett Road abuts the UGB, most of the future widening of the right-of-way to 78 feet in width will take place on the side of the street opposite the UGB. The ultimate cross section, until such time the UGB may be relocated, will include sidewalks and planter strips on the City side only, with bicycle lanes on both sides. Where planter strips are planned, a consistent landscape design should be developed. It is not expected that land uses along Barnett Road (mostly commercial and higher density residential) will require the use of fencing or walls along the right-of-way. The higher density residential designations to the north of the street has been carried to approximately 100 feet south of the right-of-way to assure that similar land use types are facing one another, and to avoid the need for though-lots. It is expected that intersections along Barnett Road in the Southeast Plan Area will be more frequent and controlled with medians.

C. Cherry Lane (Major Collector Street)

Intersections – Cherry Lane

Stanford Avenue with Cherry Lane (Standard Residential with Major Collector)
This intersection will provide direct access from the Hillcrest Road area to the Southeast Commercial Center. There will be large lot single-family uses on all corners. The new lots on the south corners will have access from Stanford Avenue. The lots with existing single-family homes on the north side currently have roadside ditches and no adjacent street improvements.

Collector Street 'A' and Cherry Lane (Major Collector with Major Collector)
This will be a T-intersection. The Southeast Plan has envisioned street 'A' as the major "connector" running through the heart of the plan area. It will have distinctively landscaped medians. There will be large lot single-family uses on all corners of this intersection. A house is being built directly at the end of the proposed T-intersection. There is a pre-existing one+ acre vacant lot on the southeast corner.

Collector Street 'C' with Cherry Lane (Minor Collector with Minor Arterial)
The leg of this intersection north of Cherry Lane will be a Standard Residential Street. Curb extensions like those on Mary Bee Lane will slow vehicles coming down the hill. The intersection will have high density residential on the south corners and large lot single family on the north corners. The need for 'C' Street to be a Collector would only be realized if the Future Growth Area to the south is added to the UGB for development, in which case, the street would extend to Coal Mine Road.

New Standard Residential Street with Cherry Lane (Standard Residential with Major Collector)
This intersection will have larger lot single-family uses on the southerly corners and medium-density residential on the northerly corners.

Future Standard Residential Streets with Cherry Lane outside east UGB (Standard Residential with Major Collector)
Due to the curving nature of Cherry Lane in this location, these intersections will likely be T-intersections. They will have medium density residential uses on the northerly side and unknown land uses on the south corners.

Shared-Use Paths and Cherry Lane - There are two locations where shared use paths are proposed to intersect with or cross Cherry Lane. To be designed for safety, users should be directed to safe crossing points, usually at controlled intersections.

Streetscape Design – Cherry Lane

Site design along Cherry Lane will have residential lots and dwellings fronting on the street. This will be accomplished through use of alleys or shared driveways. The use of side yards is also acceptable. Alternative designs in the medium and high-density areas (Areas 3 and 4) may be acceptable; however, designs requiring fencing near the right-of-way will comply with the fencing setback and landscaping requirements of the S-E Overlay District. Cherry Lane will not contain on-street parking. Center medians or islands will be utilized as needed to control turning movements at intersections.

The City will strive to complete the street improvements in front of existing homes expeditiously, including sidewalks, planter strips, pedestrian-scale street lighting where appropriate, street trees,

and bicycle lanes. Because a portion of the edge of the current Cherry Lane right-of-way serves as the Urban Growth Boundary (UGB), in this area, much of the future widening of the Cherry Lane right-of-way to 74 feet in width will take place on the side of the street opposite the UGB. The ultimate cross section, until such time the UGB may be relocated, will include sidewalks and planter strips on the City side only, with bicycle lanes on both sides. Along the street frontage where the street and the UGB abut the city-owned Chrissy Park, the right-of-way will be designed to facilitate safe and convenient pedestrian and bicycle use of the park as well as an enhanced streetscape.

Abutting property owners will be responsible for the landscaping and maintenance of planter strips. The City will be responsible for the landscaping and maintenance of right-of-way medians or islands.

D. Coal Mine Road (Major Collector Street)

Intersections – Coal Mine Road

Stanford Avenue with Coal Mine Road (Major Collector with Major Collector)
This will be a T-intersection with the possibility of Stanford Avenue being extended to the south if the Future Growth Area is added to the UGB. There will be a shared-use Greenway path crossing Stanford Avenue at the intersection. The land uses will be single-family at the northwest corner of the intersection, Greenway at the northeast corner, and rural outside the UGB to the south. A Conditional Use Permit will be required for the Stanford Avenue crossing of the Riparian Corridor and associated wetland near the intersection. Sidewalks, or shared–use Greenway paths in lieu of sidewalks, and planter strips will be constructed on the north side only of Coal Mine Road unless/until the UGB is expanded to the south.

Collector 'A' Street with Coal Mine Road (Major Collector with Major Collector)
This will be a T-intersection with the possibility of Collector 'A' Street being extended to the south if the Future Growth Area is added to the UGB. There will be a shared-use Greenway path crossing Collector 'A' Street at the intersection. The land uses at this intersection will be Greenway on the north side and rural outside the UGB to the south. Collector 'A' Street will serve a future park and school to the north. The intersection will be in the Riparian Corridor requiring a Conditional Use Permit. Sidewalks, or shared–use Greenway paths in lieu of sidewalks, and planter strips will be constructed on the north side only of Coal Mine Road unless/until the UGB is expanded to the south.

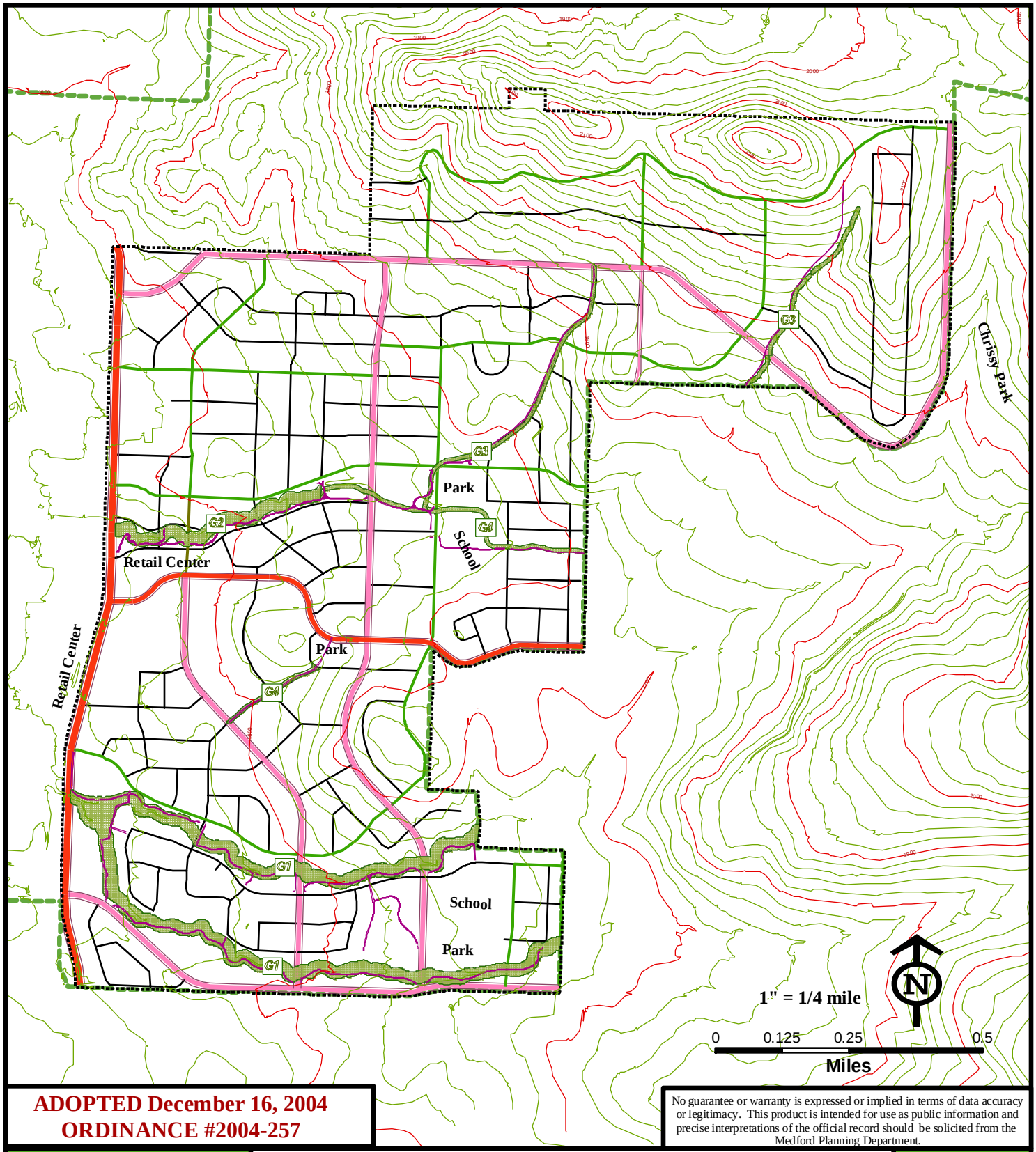
Standard Residential 'B' Street with Coal Mine Road (Standard Residential with Major Collector)
This will be a T-intersection with the possibility of the street being extended to the south if the Future Growth Area is added to the UGB. The intersection will have single-family uses on the northwest corner and will be located on the UGB line to the east and south, with rural uses outside the UGB. The Standard Residential Street will extend north beyond Barnett Road nearly to Shamrock Drive if properties in the Future Growth Area to the north are included in the UGB in the future.

Streetscape Design – Coal Mine Road

Except where the Greenway or other pubic facilities abut the street, site design along Coal Mine Road will have residential lots and dwellings fronting on the street. This will be accomplished through use of alleys or shared driveways. The use of side yards is also acceptable. Coal Mine Road will not contain on-street parking. The City will strive to complete the street improvements in front of existing homes inside the Urban Growth Boundary (UGB) expeditiously, including

sidewalks, planter strips, pedestrian-scale street lighting, street trees, and bicycle lanes. Because the edge of the southerly right-of-way serves as the UGB, most of the future widening of the right-of-way to 74 feet in width will take place on the north side of the street opposite the UGB. The ultimate cross section, until such time the UGB may be relocated, will include sidewalks and planter strips on the City side only, with bicycle lanes on both sides. Abutting property owners will be responsible for the landscaping and maintenance of planter strips.

A pedestrian crossing at a street intersection should be provided from the proposed development south of the relocated Coal Mine Road to the future Greenway shared use path. Any shared use paths in the Larson Creek South Fork Greenway should connect to the future intersection of Coal Mine Road/Juanipero Way and North Phoenix Road. Any shared use paths in the Larson Creek South Fork Greenway should cross the Collector Streets at controlled intersections or otherwise be designed for safe crossing. Residential lots should not 'backup' to the Greenway unless no other options are viable. Where the Larson Creek South Fork Greenway abuts Coal Mine Road, a shared use path may be constructed within the Greenway outside of the right-of-way in lieu of the sidewalk. Streetscape features, including street trees and pedestrian street lighting where appropriate, will still be required within the right-of-way in conformance with the Medford Land Development Code. Pedestrian/bicycle access to North Phoenix Road should be preserved along the 'old' Coal Mine Road alignment.



ADOPTED December 16, 2004
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SOUTHEAST CIRCULATION PLAN MAP

- Major Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Commercial Street
- Standard Residential
- Local Street
- Multi-Use Paths
- Greenway
- G1 Greenway Design Standard (See Circulation Plan Document)
- UGB
- SE Plan Boundary

Contours
- 100 Foot
- 20 Foot

CITY OF MEDFORD OREGON

P:\COMP PLANNING DIV\Comprehensive Plan\Adopted Comprehensive Plan Document\Neighborhoods\Adopted Circulation Plan 8x11

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NOTE

The entire *City of Medford Transportation System Plan* document, adopted as a part of the *Medford Comprehensive Plan*, has been printed as a separate document which contains all of the chapters and appendices, and is available for review or purchase from the City of Medford Planning Department, 200 South Ivy Street, Medford, OR 97501, phone 541-774-2380, and is online on the City of Medford Website www.ci.medford.or.us.

This "Transportation System Plan Element" of the *Medford Comprehensive Plan* is an abbreviated version containing the Executive Summary, the Transportation and Land Use chapter, the Goals, Policies, and Implementation Strategies, and various other significant maps or tables. It also includes, at the end of the Element, the full Table of Contents for your reference.

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FIGURES AND TABLES

FIGURES AND TABLES CONTINUED

Executive Summary

Introduction

A Transportation System Plan (TSP) establishes a city's goals in developing its transportation system for both the short and long term. The Plan identifies both existing and future needs, and includes improvements to meet those needs. The document is intended to serve as a blueprint or master plan to guide transportation decisions as development occurs in a city. The Medford TSP outlines a twenty-year plan to guide transportation improvements and enhance general mobility throughout the City. Presently with over 66,000 (2002) residents, the City will use this document to balance transportation needs and improvements in the coming decades.

The Medford TSP addresses Oregon Statewide Planning Goal 12 and the *Oregon Transportation Planning Rule* (TPR). The TPR directs cities and counties to develop balanced transportation systems addressing all modes of travel including motor vehicles, transit, bicycles and pedestrians. The TPR envisions development of local plans that will promote changes in land use patterns and transportation systems that make it more convenient for people to walk, bicycle, use transit, and drive less to meet their daily needs. A fundamental issue in local and regional transportation system plans is a strategy to reduce reliance on the automobile.

The *2001-2023 Rogue Valley Regional Transportation Plan* promotes a strategy of increasing investment in alternative modes and promoting land use patterns that will complement investment in alternative modes as the locally preferred approach to reducing reliance on the automobile. The regional plan calls for increasing investment in facilities for pedestrians, bicyclists, and transit users, and contemplates development of Transit-Oriented Development (TOD) in key locations throughout the valley. To measure the effectiveness and success of this strategy, the regional plan includes a package of seven performance measures with targets for implementation that are phased in five-year increments through 2020. These performance measures have been approved by the Oregon Land Conservation and Development Commission, and serve as a basis for development of local TSPs in the Rogue Valley.

Spanning a nine-month period, the TSP development process was initiated in September 2002. The process consisted of five main steps:

- Analyzing existing conditions,
- Assessing future needs,
- Evaluating future alternatives,
- Creating a Draft TSP document and code revisions, and
- Finalizing the TSP.

Several stakeholder groups participated in developing Medford's *Transportation System Plan*. Two committees were established specifically to guide the planning process: a Citizen Advisory Committee (CAC) and a Technical Advisory Committee (TAC). The CAC addressed goals and policies related to Medford's transportation system, addressed the general needs of each transportation mode, and reviewed improvement strategies and potential development

alternatives. The TAC included a focus on technical and interagency issues, as well as reviewing policies, improvement strategies and recommendations. The City's previously established Joint Transportation Subcommittee (JTS) also participated in the development of the TSP. The JTS is comprised of City Council and Planning Commission members as well as other individuals and is responsible for providing overall policy guidance for the planning process. Three public meetings were also conducted. Taking place at the project's beginning, end, and midpoint, the meetings allowed Medford citizens to provide input regarding the City's future transportation network.

The TSP begins with an overview of existing plans and studies relevant to transportation planning in the Medford area. An inventory and assessment of existing conditions follows, along with a list of current goals and policies guiding transportation decision-making. Following is a discussion of the various development strategies and alternatives for each transportation mode, which also includes general and specific actions. The transportation modes examined in the document include:

- Motor vehicles,
- Public transit,
- Other surface transportation (including intercity bus and rail),
- Air transportation,
- Non-motorized,
- Freight, and
- Parking management.

The report concludes with a specific project list categorized into short-, medium-, and long-term timeframes. A funding and implementation plan also provides a guide for the *Transportation System Plan* components to become a reality.

TSP Strategies

The following pages summarize the specific strategies included in the TSP for each travel mode and transportation system component. Also included are strategies related to transportation and land use integration.

Street System Plan

This portion of the TSP documents an assessment of street system needs, deficiencies, and improvements affecting the street system within the Medford Urban Growth Boundary (UGB). This section of the TSP addresses:

- Summary of existing and future (2023) street system needs and deficiencies
- Street functional classification
- Access management
- Level of Service standards
- Roadway, intersection and bridge improvements
- Safety improvements

Summary of Street System Needs and Deficiencies

The street system in the Medford UGB consists of a one- and two-way grid system in the downtown and in the older urban core area located largely to the west of downtown. The City is bisected by Interstate 5, running in a northwest to southeast direction on the east side of downtown. There are two interchanges with I-5 that serve Medford: at Highway 62 at the north end of town (serving the airport, Rogue Valley Mall and other "big box" commercial areas, and the northwest industrial portion of the City), and Barnett Road at the south end of town serving much of the City's residential area, as well as the commercial node located in the interchange area.

On the east side of I-5, the City's street system follows a looser grid pattern and is characterized by a lack of higher order streets (arterial and collectors) that provide connections for longer distance, north-south through trips from one part of the City to another. Foothills Road/N. Phoenix Road on the eastern edge of the UGB provides the only arterial street connection that links the southern and northern portions of the UGB east of I-5. A partial north-south arterial connection is provided by Crater Lake Avenue, but this street truncates at Main Street east of the downtown core. A partial north-south collector connection has been designated along the Highland/Sunrise/Springbrook corridor, but the segment of this route between Main and Jackson Streets had not previously been designated for a collector street function. This plan designates this section as a Minor Collector. Because of the lack of higher order street connectivity on the east side of town, traffic intrusion onto local streets is an identified problem. Better arterial and collector connections are available for east-west traffic on the east side of the UGB. The eastern portions of the UGB are also characterized by rolling topography and the street system is influenced by this factor.

Existing travel patterns within the Medford area focus on the major activity centers within the City and on several major travel corridors. Major activity centers include, but are not limited to such areas as the downtown core area, the Rogue Valley Mall, South Gateway Center, Crater Lake Plaza, the commercial strips along Biddle Road and Highway 99, and the airport area. Major travel corridors include Highway 99, Highway 62, McAndrews Road, Crater Lake Avenue, Barnett Road/Stewart Avenue, Columbus Avenue/Sage Road, Foothills/North Phoenix Roads, Biddle Road, and Table Rock Road. Pending improvements to the South Medford interchange with I-5 will add Garfield Street to the list of major travel corridors within the city.

Existing and Future Congestion Deficiencies

Based on 2002 PM peak hour traffic volumes, existing traffic problems focus largely on the state highway system including key intersections along Highway 62 , and in the vicinity of the two I-5 interchanges. Five signalized intersections under the jurisdiction of ODOT currently do not meet the state's mobility standards. Three signalized intersections under the jurisdiction of the City of Medford or Jackson County exceed the City's LOS (level of service) D standard. An additional ten un-signalized intersections currently experience significant delays for side street traffic (LOS E or F conditions). Eight of these intersections have been planned for signalization to address the identified deficiencies, while the other two will be improved through larger street improvement projects.

By 2023, growth in population, employment and through-traffic volumes in the Medford UGB will result in increased traffic congestion on city streets and county roads within the UGB. As the community grows, traffic volumes will also grow, leading to a worsening of existing congestion problems and the addition of new problem locations. Significant improvements are planned to the North and South Medford interchanges with I-5 that will address many of the existing and projected future intersection congestion problems in the UGB. However, congestion problems are still anticipated to occur at seven signalized intersections along Highways 62, 99 and 238. An additional ten signalized intersections at various locations throughout the UGB are also anticipated to experience significant (LOS E or F) peak hour congestion by 2023. Locations of existing and projected future (2023) traffic congestion problems are illustrated in Figure 1-1.

Crash History

From 1999 through 2001, 533 intersections within the Medford UGB experienced recorded vehicle crashes, with 153 intersections averaging at least 1.0 crash per year during the same time period. Analysis of crash rates reveals that 28 intersections had a rate equal to or higher than 1.0 crash/million entering vehicles (MEV), including five intersections each along Riverside and Central Avenues, four along 10th Street (in addition to the intersection of 10th at Central), three each along Barnett Road (in addition to the intersection of Barnett at Riverside) and Crater Lake Avenue, two on McAndrews Road (in addition to the intersection of McAndrews at Riverside) and two on Highway 62. Two intersections – Central Avenue/4th Street and Riverside Avenue/Jackson Street – experienced crash rates greater than 2.5 crashes/MEV.

FIGURE 1-1 – 2002 and 2023 Street System Deficiencies

Bridge Deficiencies

The status of existing bridges in the Medford UGB was assessed to identify functional obsolescence and structural deficiencies. The bridge assessment was conducted by ODOT for 33 structures. This assessment identified six locations where the existing bridge is structurally deficient and four locations where the existing bridge is functionally obsolete. Three of the structurally deficient bridges are under the jurisdiction of the City of Medford, including the crossings of Bear Creek on McAndrews Road, 10th Street and Barnett Road. The remaining three structurally deficient bridges are located on I-5 and are under the jurisdiction of ODOT. One of the ODOT structures has recently been improved (the I-5/Medford Viaduct) while the other two are slated for improvement in 2005 (north and south spans over Bear Creek).

Street System Strategies

In summary, the Street Plan includes the following strategies:

- Implement the revised street functional classification system and revised street standards. Consider neighborhood impacts, unique topography or neighborhood features and street connectivity needs, as well as opportunities for street design treatments such as boulevards or "main" streets. The functional classification system is presented in Figure 1-2. Street standards are shown in Table 5-6 below.

- Develop and adopt Neighborhood Circulation Plans to address local traffic issues. [Note that the boundaries of the adopted Neighborhood Circulation Plans are indicated on Figure 1-2, the Medford Street Functional Classification Plan Map. The Neighborhood Circulation plan maps are also included below as Figures 1-2 (A) Southwest Medford Circulation Plan, 1-2 (B) North Medford Circulation Plan, and 1-2 (C) Southeast Area Neighborhood Circulation Plan. The Southeast Area Neighborhood Circulation Plan document, which contains specific guidelines and policies for the Southeast Plan Area, is included within the Neighborhoods Element of the Medford Comprehensive Plan.]

- The City, County and ODOT should utilize access management, including access location and spacing, as a strategy to increase the capacity and safety of the transportation system. The City should adopt ODOT access management standards for state highways in Medford and revise City access management standards to maximize efficiency of the existing and future street system appropriate to the street classification. ODOT access management standards are illustrated in Table 5-7 of the complete Transportation System Plan document.

- Maintain the current Level of Service "D" standard to identify needed congestion relief improvement projects. Further study revisions to transportation concurrency ordinance.

- Implement roadway and intersection improvement projects as identified in Table 5-8 of the complete Transportation System Plan document. Action plan lists of short, medium and long-term projects identified for implementation over the 20-year planning period based on timing and funding availability are identified in Chapter 13 of the complete Transportation System Plan document and illustrated in Figure 1-3. Roadway and intersection improvement projects include:
    - New roadways needed to serve developing areas;

  - Improvements to address traffic congestion that currently exceeds or is expected to exceed the Level of Service D standard or the applicable state highway volume-to-capacity (V/C) standard;
  - Urban upgrades of County roads to meet City design standards

- Implement bridge improvements to address existing city bridges that have been identified as structurally deficient. Bridge improvements are identified in Table 5-9 of the complete Transportation System Plan document. For deficient bridges within the City, federal Highway Bridge Rehabilitation and Replacement (HBRR) grant funding should be sought. Additionally, it will be important that traffic management plans be developed to accommodate current travel demand during the time that bridge improvements are under construction. Development of these plans should take into account current function of the bridge and any special needs such as freight routing and/or bicycle/pedestrian connections.

- Implement roadway safety measures, including improvements to address existing safety problems and other relevant actions by the City to enforce existing municipal code provisions that enhance travel safety. Safety projects are included in Table 5-1 of the complete Transportation System Plan document.

FIGURE 1-2 – Medford Street Functional Classification Plan

FIGURE 1-2(A) – Adopted Southwest Medford Circulation Plan

FIGURE 1-2(B) – Adopted North Medford Circulation Plan

FIGURE 1-2(C) – Adopted Southeast Medford Circulation Plan

Table 5-6

FIGURE 1-3 – Planned Tier 1 Medford Transportation Improvements

Freight Plan

Medford's freight transportation system consists of streets and highways where the demand for access and circulation by large vehicles is expected to be the highest. The foundation of this system are the critical "backbone" routes identified by the Federal Highway Administration as the "National Highway System", which includes Highways 62 and 99 and Interstate 5. The *Regional Transportation Plan* also identifies other routes regionally significant to the movement of freight.

Freight Plan Strategies
Good freight mobility and accessibility is essential to the on-going economic vitality of the Medford/Jackson County region. While a detailed analysis of freight issues is currently underway by the Rogue Valley Metropolitan Planning Organization (RVMPO), several initial actions have been identified. Specific actions that should be taken by the City of Medford include the following:

- Approve the freight route system map, install signage and focus improvements on accommodation of large vehicles along these routes. Figure 1-4 reflects the truck freight route system within the Medford UGB.

- Remove inappropriate truck route signage in downtown Medford that directs motorists to the old route for Highway 238.

- In cooperation with RVMPO, Jackson County and ODOT, identify street improvements that enhance freight mobility. Table 6-1 of the complete Transportation System Plan document provides insight into a preliminary list of these improvements including locations where the City's "Level Of Service Study" identified specific improvement needs. Establish a priority list of improvements for implementation and secure funding.

- Address deficient bridges along freight routes, in particular, McAndrews Road over Bear Creek, including assigning weight restrictions as necessary. Evaluate and develop improvement projects to address these deficiencies, secure necessary funding, and manage freight traffic during construction to minimize adverse impacts on both freight mobility and local multi-modal traffic circulation.

- Work cooperatively with freight providers and other jurisdictions to balance freight mobility with community livability including:

    - Increase freight transport safety awareness
    - Reduce the number and severity of commercial transport-related accidents
    - Enforce regulations related to safe transport of hazardous materials
    - Address issue of commercial vehicles blocking travel lanes on arterial and collector streets while loading or unloading during peak travel periods
    - Reduce through truck traffic on residential streets

FIGURE 1-4 – Medford Designated Truck Routes and Other Freight Facilities

The freight system also includes air freight (which is discussed under Air Transportation Plan), freight rail (which is discussed under Rail Plan), pipelines and water transportation. As there are no navigable waterways in the Medford UGB, this mode is not addressed in the Medford TSP.

Pipeline strategies include:

- That the City establish policies to promote accessibility to, protection of and siting of appropriate locations for regional pipeline systems within the City.

Public Transit Plan

Public Transit Needs and Deficiencies

The Rogue Valley Transportation District (RVTD) currently provides public transportation in the Medford area, and between Medford and its surrounding communities in Jackson County. Service includes nearly 300 miles of fixed route and paratransit service. Over 2.7 million passenger miles are traveled annually with approximately 848,000 fixed route passengers and nearly 70,000 paratransit passengers carried in 2001-2002. RVTD also promotes alternative transportation through various travel demand management (TDM) strategies such as ridesharing, a "bikes on buses" program, telecommuting, and other activities. RVTD works with major employers in the area to provide a variety of different incentives, including a guaranteed ride home program to increase the use of fixed route bus service by employees.

RVTD's fixed route service typically radiates outward from downtown Medford, connecting this portion of the City to a variety of other destinations. With the exception of the east/west service within Medford that is currently provided by Routes 2 and 4, fixed route service is primarily designed to provide intercity service that connects central Medford to the communities of Ashland, Phoenix, Central Point, Jacksonville, Talent and White City. The existing route structure generally provides very good coverage within 1/4 mile of most activity centers in the greater Medford area. However, connections between activity centers are not easily made and there is limited or no service in much of the eastern (and largely residential) portion of the city, including the SE Medford TOD and in the southwestern portion of the urban area. Additionally, little or no service is provided to the northwest industrial portion of the city and to the southwest, largely residential area. Service to the Rogue Valley International-Medford Airport is provided upon request only. Figure 3-5 of the complete Transportation System Plan document shows the existing RVTD fixed route structure and ¼ mile service coverage area.

RVTD operates eight fixed routes, generally from 7:30 am to 6:00 pm. Service is currently provided Monday through Friday and there is no weekend service. Of the eight fixed routes currently operated by RVTD, only four operate on 30 minute frequencies. The rest operate with one hour service frequency, with the exception of Jacksonville (Route 30) with a total of only nine runs per day. RVTD has designated bus stops and, in many locations, has installed amenities for passengers. However, there are existing problems with inadequate waiting areas and pedestrian access to many other stops throughout the UGB.

A passenger survey conducted by RVTD in November 2001 indicated that the following service deficiencies were identified by current riders:

- Riders want weekend service, especially on Routes 10 (between Medford and Ashland) and 60 (White City) so that riders who work Monday to Friday can shop on the weekend after they have been paid.
- One Route 10 bus is needed for evening service (e.g., as late as 9:00 pm for those working late who need to get home).
- One express bus run during each of the morning and evening peak hours on Route 10 is needed. A slightly higher fare would be acceptable.
- Regular, all day service on Route 30 rather than 9 times/day as is currently provided.
- Expanding or modifying existing route structure to reach pockets of elderly housing to minimize walking distances to bus stops for these individuals.

According to the *2001-2023 Rogue Valley Regional Transportation Plan (RTP)*, the existing hours of operation do not fully meet the demand for general public transit service, particularly for Southern Oregon University students, Rogue Community College students, Bear Creek Corporation employees, residents living at the Veteran's Domiciliary in White City, Rogue Valley Medical Center, Providence Hospital and the Rogue Valley Manor. Modifications are needed to provide transportation to employees whose shifts begin early in the morning and for employees who work graveyard shifts.

To achieve the transit ridership goals identified in the "Alternative Measures" contained in the *2001-2023 Rogue Valley Regional Transportation Plan* (RTP) for reduction of reliance on single occupant automobiles, RVTD must significantly increase the amount of intracity service within the RVMPO area. The first step toward meeting these goals was taken when the RVMPO, acting on behalf of its member local governments, chose to dedicate half of the federal Surface Transportation Program (STP) funds expected to be received in the region over the next 18 years to funding improved RVTD service. This commitment is expected to meet the financial obligation identified in Measure 7 of the RTP "Alternative Measures". A recent service improvement financed through the use of STP funds dedicated to transit was the increased service frequency on Route 60 (White City). In 2003, increases in service frequency will also be implemented on Routes 4 (East Medford) and 40 (Central Point).

In addition to the region's financial commitment to improved public transit service within the Rogue Valley area, achieving transit ridership goals will require strong community support and adherence to the policies set forth in the public transit component of the City's *Transportation System Plan*. It will also require integration of transit improvements with improvements identified under other TSP components including Transportation Demand Management, Bicycle, and Pedestrian components that include policies and strategies designed to support and encourage the use of public transit by improving access to transit. In addition, achieving transit ridership goals will require land use actions designed to strengthen the activity centers (including TODs) where RVTD intends to emphasize high quality service.

Public Transit Strategies
To meet City and regional goals of encouraging the development of public transit as a viable form of transportation in the Medford UGB, the City and RVTD will work cooperatively to identify specific actions involving the City that would encourage transit use. These actions include:

Short-Term Actions (0 to 5 years)
In cooperation with the Rogue Valley Transportation District (RVTD), the City should use the provision of convenient and accessible transit service to meet travel needs in the Medford UGB through the short-term implementation of the following actions:

- Support efforts to implement funding strategies that provide adequate, long-term and stable revenue sources for transit.

- Support efforts by RVTD to develop and implement a transit system that effectively combines components of radial, neighborhood and circumferential services with a minimum of transfers.

- Support efforts by RVTD to increase transit service including increasing the frequency of service, extending hour of operations, expanding weekend service and providing express bus service during peak travel periods.

- Assure that land use planning activities promote transit service viability and accessibility. These activities could include:

    - Locating mixed-use development within ¼ mile of transit corridors. To this end it is recommended that the City complete and adopt a land use/transportation plan, design guidelines, street and streetscape standards and implementing ordinances for the Southeast Medford Transit Oriented District (TOD), the West Medford TOD, the Delta Waters TOD and other mixed use areas, including neighborhood centers and major transit stops.

    - Requiring transit-supportive improvements as part of the land development process to facilitate the use of transit. This could include installing passenger amenities, bus signs and other information displays, improved sidewalk access between the stop and the adjacent development, bus pullouts and/or other features as necessary.

    - With the designation of major transit routes and major transit stops in the TSP (see Figure 7-1 below) focus enforcement of the transit-supportive land use and site design provisions in sections 10.806 through 10.808 of the *Medford Municipal Code*.

FIGURE 7-1 – Medford Designated Major RVTD Transit Routes and Stops

- Provide transit-supportive street system including:

    - Providing financial or other appropriate support to RVTD to retrofit existing major bus stops to add amenities such as paved, ADA-compliant waiting areas, bus signs and other information displays, improved sidewalk access between the stop and major destinations, bus shelters, bike racks, trash cans, benches, lighting, bus pullouts and/or other features as necessary. RVTD priorities for adding these amenities should be considered. An initial project list is included in Table 7-5 of the complete Transportation System Plan document.

    - Evaluating locations and appropriate operational strategies for transit signal priority treatments. One example of where these treatments might be successfully implemented is in the Highway 62 corridor where such treatments have been considered as part of the overall corridor improvement strategy. Transit signal priority treatments can make transit service more attractive to riders by increasing its reliability through reductions in travel time and missed transfers.

    - In designing and constructing improvements to the arterial and collector street system, the City should incorporate transit-supportive components that promote pedestrian connectivity, convenience, and safety, along with operational components to enhance transit vehicle movement.

- Working in partnership with RVTD to address the planning and development of future transit service within the Medford UGB, including sharing costs of surveys, studies, and research needed for long range planning.

- Working with RVTD to ensure that transit transfer stations and park-and-ride facilities are accessible by pedestrian, bicycle, transit, and motor vehicle travel modes, including provisions for secured bicycle parking, passenger loading, and taxi service.

- Work with employers to increase commuter transit ridership through employer-based incentives, such as subsidized transit passes.

Longer-Term Actions (5-20 years)
All of the foregoing, short-term strategies should continue to be implemented. In addition, the City of Medford should:

- Consider entering into an agreement with RVTD for focused and specific service improvements that would be funded by direct City financing. Such service improvements could include the options discussed in Table 7-2 of the complete Transportation System Plan document or other strategies that become important to the City.

- Increase coordination between RVTD staff and City staff in planning for and the development of needed transit routes and services, and in securing financial resources to meet long-term goals and policies for encouraging the use of transit as part of a complete multi-modal transportation system.

Intercity Bus Needs

Intercity bus service between Medford and other destinations in Oregon and elsewhere in the United States is provided by Greyhound Bus Lines. As described in Chapter 3 of the complete Transportation System Plan document, existing Greyhound service is offered seven days a week in both northbound and southbound directions, with service focused on the I-5 corridor. There are six buses each day to and from the north (including the Willamette Valley and Portland) and five buses each day to and from the south. The Greyhound Bus Depot is located in downtown Medford a few blocks from RVTD's Front Street station (the hub of all RVTD fixed route service) and is accessible via the local RVTD bus system. No significant improvements are proposed for expansion of the existing privately-operated intercity bus service or facilities.

Intercity Bus Strategies

To support the continued availability of intercity bus service to/from the Medford area, the City should consider the following actions:

- Ensure that the existing intercity passenger facilities in downtown Medford are connected to adequate pedestrian facilities.

- Ensure that there is continued availability of transit, taxi and/or shuttle services to connect with all intercity passenger facilities.

- Encourage the continued operations and future expansion of intercity bus service to and from Medford.

Transportation System Management/Transportation Demand Management

Transportation System Management Needs

Transportation System Management (TSM) improvements include actions designed to maximize efficient use of the existing transportation system. TSM strategies include actions such as traffic signalization, signal synchronization to improve traffic progression (particularly along major arterial streets), signal retiming, channelization improvements, one-way streets, parking prohibitions, turn prohibitions and other actions. Analysis of TSM-related deficiencies in the Medford UGB focused on identifying locations for traffic signal coordination, traffic signal upgrades and modernization, traffic signal installation, stop sign control, installation of Intelligent Vehicle Transportation System (ITS) measures, and traffic calming.

Transportation System Management Strategies

Along with showing street and intersection improvements, Figure 1-3 also presents Tier 1 (funded) improvements to traffic signal control in the City. Included are signal installations at currently un-signalized intersections, signal upgrades where appropriate, and other appropriate

improvements such as all-way stop control or roundabout treatments. These improvements are also depicted in Table 8-2 of the complete Transportation System Plan document.

- Improve traffic signal coordination in the Medford UGB by establishing priorities for and implementing coordinated traffic signal timing plans (these could generally be based on traffic volumes and/or street hierarchy). Employ signal timing plans that maximize operational efficiency during different time periods.

- Continue to modernize traffic signal equipment and to improve its efficiency by ultimately connecting all signals to a centralized traffic control management center.

- Install traffic signal or other traffic control improvements as identified in Table 8-2 of the complete Transportation System Plan document.

- Install a fiber-optic ring within the City to provide enhanced communications for operations of the traffic signal system;

- Install permanent electronic traffic counters at key intersections to provide current information about rapidly growing segments of the existing collector and arterial street system to facilitate better management of traffic signal operations. Currently permanent counters have been installed at three locations and installation of three to five more counters is anticipated.

- Add 40 to 60 traffic monitoring cameras over the next 20 years at critical locations in the City's street system. These cameras can be used to modify traffic signal timing in response to actual conditions. They can also be connected with a web site such as ODOT's Trip Check for use by motorists to evaluate road conditions before they leave home so they can plan travel routes accordingly.

- Install ITS equipment at selected intersections to facilitate traffic flow and enhance system communications.

- Identify and provide for traffic calming street improvements focused on non-arterial or collector streets to achieve program objectives.

- Utilize design techniques for local streets, such as reduced widths and lengths, curb extension and other traffic calming measures to achieve the objectives identified above.

Transportation Demand Management Needs

Transportation Demand Management (TDM) is any action that helps to improve the performance and efficiency of the transportation system by reducing reliance on the single occupant vehicle during peak travel periods. TDM measures involve a wide range of potential strategies including the use of transit, carpooling, vanpooling, working flexible hours and/or a compressed work week, bicycling, walking, working from home using communications technology, and preferential parking for rideshare vehicles. Land use actions, particularly higher density and mixed-use development, are also TDM measures when located along transit routes.

Implementation of TDM measures will be an important component of a coordinated, comprehensive plan to reduce reliance on the single occupant automobile in the Medford area and to achieve the goals in the Alternative Measures set forth in the *2001-2023 Rogue Valley Regional Transportation Plan*.

Transportation Demand Management Strategies
The City should build upon actions currently being taken by the Rogue Valley Transportation District (RVTD) to encourage use of TDM strategies in the Medford area. More specifically:

- The City should promote the use of alternative commute options to reduce motor vehicle travel generated by employment sites and schools by serving as a role model for the community by joining the Medford area Transportation Management Association (TMA) and actively supporting its mission.

- The City should support the use of transit among major employers in the Medford area by encouraging purchase of individual or subsidized group transit passes, or other actions to meet requirements for employee commute trip reductions.

- The City should encourage the development of discount transit fare programs and shuttle services by offering to share start-up costs with employers, schools and special event sponsors.

- The City should participate in public outreach to raise awareness about the use of TDM strategies and should actively market to groups having the greatest potential for reducing single occupancy vehicle trips, such as large employment sites and commuting students.

Air Transportation Plan

Air Transportation Needs and Deficiencies
The Rogue Valley International-Medford Airport is the area's only provider of regularly-scheduled commercial airline service providing a national and international connection for the region. The airport is also the focal point for regional air cargo activity and employment growth in the adjacent Foreign Trade Zone (FTZ) and other business parks. The airport also provides for the air freight needs of the Rogue Valley area.

The *Rogue Valley International-Medford Airport Master Plan* serves as the primary guide to future development at the airport. The document identifies facility improvements and additions that the airport will need in the coming decades to sufficiently handle increases in passenger and freight activity while also meeting Federal Aviation Administration requirements. While growth in passenger volumes largely dictates the timing of airport improvements, the Master Plan includes a prioritized list of improvements based on short-, intermediate-, and long-term planning horizons. In addition, the City's "Level of Service Study" that identified street system needs and deficiencies throughout the Medford UGB, addresses airport landside access issues, and deficiencies.

Along with issues related to airport on-site development needs to meet anticipated travel demand for this mode and the off-site airport landside access needs as identified below, airports typically can have significant impacts on land uses in their vicinity. These impacts include not only potential safety issues related to both aircraft operations and risks to surrounding land uses, but also potentially neighborhood quality of life issues related to airport noise. The economic and transportation needs associated with airport use and development must be balanced against these potential land use issues.

To address airport area land use issues, the Oregon Administrative Rules (Section 660-013-Airport Planning) requires local agencies with planning authority for one or more airports or for areas within safety or compatibility zones around airports to adopt Comprehensive Plan and land use regulations for airports consistent with the requirements of that division and ORS 836.600 through 836.630. These plans and regulations are intended to encourage the long-term viability and compatibility of airports with their surrounding communities. Medford currently has provisions in its Municipal Code to address airport compatibility issues, including Airport Approach (A-A) and Airport Radar (A-R) Zoning Districts. However, review of these code provisions is appropriate to ensure that they meet all of the requirements of OAR 660-013.

Air Transportation Strategies

Improvements at or in the vicinity of the Rogue Valley International-Medford Airport include those related to on-site enhancement, off-site improvements, and land use compatibility.

- On-site - The City of Medford should work with the Jackson County Airport Authority (the owner/operator of the airport) to implement the recommendations of the *Rogue Valley International-Medford Airport Master Plan*.

- Off-site - Improvements in the vicinity of the airport to enhance off-site transportation system access include the following:

    - Construct the North Medford Interchange improvements included in the Highway 62 Unit 1 strategy.
    - Improve existing and likely future traffic operations at the intersection of Highway 62 with Poplar Drive by adding additional vehicle turning lanes. Further consideration of potential of grade-separation of this intersection should be made as part of the on-going study for Highway 62 Unit 2 improvements.
    - Improve the intersections of Highway 62 with Delta Waters Road and West Vilas Road.
    - Address long-term improvement needs at the existing at-grade intersection of Highways 99, 62 and 238 which could include future grade-separation.
    - Extend and provide bicycle and pedestrian facilities along Biddle Road to the airport terminal access roads.
    - Support and encourage provision of public transportation services to the airport to meet the travel needs of passengers, employees and other airport visitors.
    - Work with Jackson County to develop an appropriate long-term strategy for airport terminal area access (identified in the Airport Master Plan as a future grade separation).

- Land Use - To address land use compatibility issues in the vicinity, the City of Medford should work cooperatively with the Jackson County Airport Authority to evaluate the City's current Comprehensive Plan and Code to ensure the following:

    - That the types and levels of public facilities and services needed to support development located at or planned for the airport are provided;
    - That there is adequate mapping of the airport area as required by OAR 660-013;
    - Develop and consider any ordinances necessary to carry out the requirements of OAR 660-013 consistent with applicable statewide planning requirements. This might include revisions to the City's existing Airport Approach (A-A) and Airport Radar (A-R) Zoning Districts if these are determined to be inadequate to meet the requirements of OAR 660-013 for the safety provisions of an Airport Overlay Zone;
    - Consider land use plans in the vicinity of the airport to minimize potential safety and noise related impacts associated with the airport.

Non-Motorized Transportation Plan

Bicycle System Plan

Although bicycle facilities are located on several arterial and collector streets in the Medford UGB, the majority of streets presently lack bicycle amenities. The facilities that do exist cover only a limited geographic area and, in most cases, are disconnected from each other. In addition, there is a general absence of connectivity between major destinations such as schools and employment areas, as well as an absence of such amenities as bicycle detection devices to facilitate travel through signalized intersections. Improvement of the bicycle circulation system is a key goal of the TSP, as well as the *Regional Transportation Plan's* (RTP) "Alternative Measures" to reduce reliance on the single occupant automobile. The RTP has established specific targeted benchmarks for incorporating bicycle facilities (shoulders or lanes) along the arterial and collector street system in the Rogue Valley region.

Bicycle System Strategies

To enhance bicycle safety and to encourage the use of bicycling as a viable travel mode and an alternative to the single occupant automobile, the City of Medford should implement the strategies identified below. Priorities for bicycle system improvements as identified in the goals and policies for this mode are to serve major destinations (such as schools, parks, shopping and employment areas) while filling in gaps to create an interconnected system. Figure 1-5 illustrates a complete bicycle circulation network including existing facilities, facilities that would be added as a part of the roadway improvement projects, and facilities that will fill gaps and serve activity centers.

- Construct new bicycle lanes as part of roadway improvements.
- Retrofit bicycle lanes onto existing streets by parking removal, street widening, narrowing travel lanes, or providing additional space through other means.

- Complete Bear Creek Greenway path, the Larson Creek Greenway path, limited segments of a greenway path along Lone Pine Creek (particularly near the Kennedy School) and identify other opportunities for multi-use paths.

- Overcome barriers to bicycle circulation through the use of "bicycle boulevards", accessways, multi-use paths or easements, or other creative strategies.

- Evaluate the contributing causes of bicycle accidents to identify needed street or intersection improvements, such as those affecting sight distance, clear rights-of-way, etc.

- Implement operational improvements such as installing bicycle loop detectors at signalized intersections where bicycle lanes are present

- Create a City Bicycle Advisory Committee to prioritize bikeway improvements, advocate and advise on bicycle issues and needs, and encourage bicycle education

- Improve the general bicycling environment:

    - Support facilities like parking and safe storage, "share the road" signage or others
    - Routine maintenance of bicycle facilities
    - Encourage RVTD's "Bikes on Buses" and similar programs
    - Support efforts to encourage safe bicycle use through staff training, data collection about bicycle use, public education and outreach, and other activities

FIGURE 1-5 – Medford Bicycle Facilities Plan

Pedestrian System Plan

Medford's sidewalk system varies widely from neighborhood to neighborhood. Sidewalks exist in most of the downtown area and in surrounding older neighborhoods, particularly to the west and south of the downtown core. However, many of the older neighborhoods on the east side of the City either do not have sidewalks or have only a limited and disconnected sidewalk system. Improvement of the pedestrian circulation system is a key goal of the TSP, as well as the *2001-2023 Regional Transportation Plan's* (RTP) Alternative Measures to reduce reliance on the single occupant automobile. The RTP has established specific targeted benchmarks for incorporating pedestrian facilities (sidewalks) along the arterial and collector street system in the Transit-Oriented Developments proposed for the Rogue Valley region.

Pedestrian Plan Strategies

Pedestrian system strategies range from the physical expansion of facilities to Transportation System Management (TSM) and safety improvements. Physical improvements are generally focused on the arterial and major collector street network as shown in Figure 1-6. Priorities established for pedestrian improvements focus first on providing safe routes to schools, then access to major transit stops, followed by general accessibility to activity centers like shopping and employment.

The City of Medford shall implement the following pedestrian system strategies:

- Construct new and/or setback sidewalks (wherever possible) as part of roadway improvement projects.

- Add new sidewalks or pathways along existing arterial and major and minor collector streets to fill in gaps and connect to schools, transit stops and other important pedestrian destinations (see Figure 10-3 of the complete Transportation System Plan document). Use adaptable sidewalk standards that fit the environment considering available right-of-way, adjacent land use, and speeds and volumes of traffic on the adjacent street.

- Overcome barriers to pedestrian circulation through the use of accessways, multi-use paths or easements or other creative strategies. Ensure ADA compliance on pedestrian facilities.

- Complete Bear Creek Greenway, Larson Creek Greenway, selected improvements along Lone Pine Creek, and identify other opportunities for multi-use paths.

- Implement safety improvements such as evaluating and addressing where possible the contributing causes to existing pedestrian accidents to identify appropriate street or intersection improvements (this could include sight distance, lack of clear rights-of-way, or other factors).

- Improve the general pedestrian environment:
    - Incorporate planter strips or other separation from vehicle traffic into pedestrian improvement projects
    - Address the need for pedestrian connectivity and accessibility through the land use/land development process including development of pedestrian-friendly mixed-use development and pedestrian-friendly building/site orientation and design
    - Develop accessways between buildings to shorten walking distances
    - Provide street lighting
    - Conduct routine maintenance of pedestrian system

- Encourage schools, safety organizations and law enforcement agencies to provide information/instruction regarding pedestrian safety.

- Implement operational improvements, such as crosswalks where active pedestrian protection can be provided (such as a signal or flashing beacon), curb extension to reduce street crossing distances for pedestrians, adequate signal timing for safe pedestrian street crossing, pedestrian detection, such signal pushbuttons or other devices as appropriate

- As appropriate, use an established City transportation committee, such as the proposed Bicycle Advisory Committee to help identify and prioritize pedestrian system improvement projects, to advocate and advise of pedestrian issues, and to encourage pedestrian education

FIGURE 1-6 – Medford Major Pedestrian Facilities Plan

Rail Plan

Freight Rail

Freight rail service in the Medford area is provided by the Central Oregon & Pacific Railroad (CORP). The City of Medford has no direct responsibility for the development, operations, or maintenance of the CORP or for the provision of freight rail service in the Rogue Valley. However, there are specific actions that the City can take to ensure safety around existing rail trackage and general land use compatibility with the freight rail corridor. The City can offer support and encourage the CORP and ODOT in securing state and/or federal funding to improve existing rail trackage and service. The City can also offer support if and when market forces should dictate the need for developing rail reload or intermodal facilities in the Medford area. Specific actions for the City to take include the following:

- Consistent with *Oregon Rail Plan* recommendations, establish City policy that:
    - Seeks to avoid or minimize the number of future railroad at-grade crossings when new streets are planned for growing portions of the community;
    - Avoids creating intersections of major streets and railroads where possible;
    - Locates new parallel streets at least 500 feet from railroads to allow for industrial development between the tracks and the highway;
    - Plans community development (particularly residential uses) with sensitivity to rail noise and other potential conflicts.

- Consider adding additional railroad crossing protection at existing Clark, Joseph and Fir Street crossings.

- Improve at-grade railroad crossing on South Stage Road.

- Provide for on-going maintenance and repair of streets at existing at-grade crossings.

- Work with railroads and appropriate state agencies to minimize the blockage of public streets at railroad crossings to facilitate traffic movement, especially emergency service vehicles.

Passenger Rail

Passenger rail service is not presently available in Medford. The City should encourage efforts to make intercity passenger rail service available to the Medford area.

Parking Management

The *Medford Transportation System Plan* must address the state transportation planning requirement that local governments adopt land use and subdivision regulations to reduce reliance on the automobile through the use of parking management strategies. OAR 660-01209945 (5)(c) requires that these regulations implement a parking plan that *"achieves a 10 percent reduction in the number of parking spaces per capita in the MPO area over the planning period"*. This

reduction can be achieved through a variety of means including a reduction in the number of new parking spaces, redevelopment of existing parking spaces for other uses, or other strategies.

It has long been known that the availability of free parking in our cities has contributed significantly to many of the quality of life problems experienced by these same cities. Free parking contributes to the choice to drive rather than seek an alternative means of travel, leading to increased congestion, air pollution, energy consumption and a degradation of neighborhoods. Free parking consumes substantial acreage in our city centers and suburban areas, and creates an environment that is often hostile to transit riders, bicyclists and pedestrians. The challenge in meeting the required parking reduction goal is to reduce the parking supply in ways that not only help to achieve multi-modal travel and quality of life goals, but which is also equitable for all parties involved.

Parking Management Strategies
Strategies for parking management are segregated into three categories including: on-street parking management, off-street parking management, and general strategies affecting parking supply reduction.

On-Street Parking Management Strategies
The use of street space for parking is a conscious choice about the use of a valuable community resource. This same space could be used for multiple other purposes, including vehicle travel lanes, bicycle lanes, and/or widened sidewalks that could enhance the pedestrian-friendly appearance of a street. Thus, the decision to use this space for on-street parking should be based on a managed approach that seeks to maximize overall community return on investment. Accordingly, the following approach should be taken in managing the City's current and future on-street parking supply:

- Prohibit on-street parking on arterial and major collector streets to maximize street capacity.

- Manage on-street parking in the downtown and TODs to slow traffic, support businesses and facilitate pedestrian movement.

- Provide on-street carpool/vanpool parking spaces in preferential locations.

- In all decisions about on-street parking, strive to achieve a balance among parking needs, congestion, and safety for all users, including pedestrians.

- Consider allowing use of available on-street parking to satisfy parking requirements for development.

Off-Street Parking Management Strategies

City management of off-street parking includes both facilities that are owned by the City and those that are owned privately but subject to land use review and approval by the City. Key issues with off-street parking include both the supply (does existing code require an excessive

supply) and design (not only should it be safe for vehicles, but also safe and friendly for pedestrians and bicyclists). Consistent with the approach of balancing competing community goals discussed above for on-street parking, the following strategies are made for management of the City's off street parking supply:

- Require the appropriate supply and design of off-street parking facilities to address the need for balance between parking supply and achieving community goals

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- Undertake review of existing parking demand patterns in Medford to facilitate review of the Municipal Code for the purpose of establishing parking maximums that represent typical daily needs for specific land uses.

- Develop a pricing management strategy for City-owned public parking facilities with a particular focus on long-term, employee parking demand.

- Consider offering parking incentives for carpools or vanpools.

- For off-street parking lots over 3 acres in size, provide street-like features along major driveways (including curbs, sidewalks, and street trees or planting strips) to enhance pedestrian safety.

- Provide bicycle parking at major developments

Parking Supply Reduction Strategies

As part of the regional effort to meet the state goal of a 10 percent per capita reduction in the parking supply over the net 20 years, the City of Medford should undertake the following actions:

- Monitor existing parking supply on an ongoing basis to determine goal compliance.

- Allow non-residential development to satisfy the off street parking requirements currently in the City *Municipal Code* by developing and implementing a Transportation Demand Management program to increase the use by employees and/or customers of travel modes other than the single occupant auto.
- Permit and encourage major facilities with high parking demand (particularly high seasonal demand) to meet their parking needs through a combination of shared, leased and new off street parking facilities.

- Encourage employers to charge their employees for parking in the downtown and at other locations where good transit service is available.

Funding and Implementation

The overall goal of Medford's *Transportation System Plan* is to provide for a multi-modal transportation system that supports the safe, efficient and accessible movement of people and goods while achieving the City's vision for its future as an outstanding livable community. This goal recognizes that Medford plays a unique role in Southern Oregon as the financial, medical, tourist and business hub for a large geographic area. The goal also recognizes the importance of all travel modes to ensure that viable alternatives to auto travel are available and that the community's economic needs for transportation services are met. In addition, the TSP is a key component of the City's plan for encouraging compact urban development to reduce vehicle miles of travel and improve existing air quality problems.

Modal plans for walking, bicycling, transit, automobile, rail, air transportation, and freight truck were developed as part of the TSP and include action plans for projects, programs, policies and ordinances. These modal plans are founded on the guidance provided by the 2002 community visioning process that lead to the *Vision Strategic Plan*.

The funding and implementation discussion includes a synthesis of the modal plans with an emphasis on identifying the timing and costs associated with the necessary improvements, and the availability of transportation revenues to carry out the strategies. Included is a brief summary of:

- Transportation revenue forecasts and anticipated revenue shortfall;
- Strategies for project funding and timing (e.g., short, medium or long term).

Transportation Revenue Forecasts

Based on data provided by the City's Public Works and Finance Departments, total revenue expected to be received from all existing and reasonably predictable transportation revenue sources is projected to be approximately $195 million over the next 20 years[1]. Of this amount, slightly more than $171 million are needed for fixed expenditures, including operations (including staff, indirect, non-road capital expenditures), repayment of the revenue bonds issued for the "17-Project List", street maintenance (between 65 and 70 percent of all fixed expenditures), and local match for the South Medford Interchange improvement project. This leaves about $24 million. Coupled with the expected revenue carryover from fiscal year 2003, a total of $34 million is expected to be available for transportation improvement projects over the 20-year planning period.

A review of the project lists in the modal plans (which are summarized by time period anticipated for implementation in Chapter 13 of the complete Transportation System Plan document) indicates that transportation funding needs for the City are estimated at nearly $120 million. This leaves a gap between available funding from existing sources and transportation

[1] Per spreadsheets from Cory Crebbin, Public Works Director dated 6/20/03. Grants and other miscellaneous income includes assumed HUD (CDBG) and CMAQ grant funding for sidewalk improvements; a grant from ODOT for installation of fiber optic communications equipment; and approximately $600,000 from the Medford Urban Renewal Agency (MURA) as that agency's share of transportation improvements in the downtown core.

needs identified for implementation during the 20-year planning period of about $86 million. Beyond these needs, an addition $82 million in projects has been identified for potential implementation beyond the 20-year planning period or if significant additional transportation revenues become available.

Most of the revenue available for transportation improvements would be concentrated over the next ten to fifteen years. Under the City's adopted ordinances for System Development Charges and Street Utility Fees, annual revenues from both programs are scheduled to decrease beginning in 2014. SDC revenue is scheduled to decrease by 50 percent between 2014 and 2017 when the revenue bond repayments are complete. The Street Utility Fund is slated to decrease by 35 percent between 2016 and 2019. Without an increase in transportation revenue, it is anticipated that, beginning in about 2019, existing revenues would be insufficient to maintain current levels of transportation operations and maintenance. No revenue would be available for capital improvements during the latter portion of the 20-year planning period. Without additional revenue increases, many of the basic safety, congestion relief, urban upgrade or multi-modal (e.g., bicycle and pedestrian) improvement projects that have been identified in the modal plans could not be constructed.

Based on policy direction received during development of the TSP, and to partially fund the anticipated revenue gap, it was assumed that increases of 3 percent per year for the entire 20-year planning period would be authorized by the City for both Street Utility Fees and System Development Charges. While not entirely eliminating the anticipated gap between identified transportation needs and available financial resources, these revenue increases would provide sufficient funding to implement a wide variety of multi-modal improvement projects. Typical projects included in the TSP multi-modal action plan include the remainder of the "17-Project List"; safety projects that address existing high crash rate locations and other potentially high risk safety needs; projects that address current and anticipated congestion problem locations; projects to encourage the use of alternative travel modes, such as walking, bicycling and transit through the provision of needed infrastructure; economic development projects; and projects that make more efficient use of the existing transportation system.

Revenue estimates based on existing funding sources, pending legislation to increase state transportation revenues (Medford's estimated share) and the SDC and Street Utility Fee increases are summarized in Table 1-1.

Table 1-1
Summary of City of Medford 20-Year Revenue Estimates

Item	2004-2008	2009-2013	2014-2023
Estimated Revenue from Existing Sources	$51,533,000	$56,789,000	$87,347,000
Estimated Revenue from Anticipated Sources [1]	$4,146,000	$7,012,000	$23,338,000
Total Estimated Revenue	**$55,679,000**	**$63,801,000**	**$110,685,000**
Fixed Expenditures	$36,207,000	$39,090,000	$96,268,000
Balance Carried Forward	$10,000,002	$0	$0
Total Revenue Available for Capital Projects	**$29,474,000**	**$24,711,000**	**$14,417,000**

[1] Includes pending State transportation revenue increase and 3 percent per year increase in both the city's System Development Charges (SDCs) and Street Utility Fee.

Improvement Projects

Based on the existing and anticipated revenues from pending state legislation and/or locally-controlled revenue sources that can be increased to meet funding needs, a 20-year transportation improvement program of approximately $68.6 million is proposed. Referred to as Tier 1 or "funded" projects, specific transportation projects are presented in the tables detailing short, medium and long-term funding priorities in Chapter 13 of the complete Transportation System Plan document. These priority lists include not only projects that would be implemented by the City of Medford, but also those that would be implemented by ODOT or Jackson County within the Medford Urban Growth Boundary.

In summary, the City of Medford projects include the following:

- Completion of the "17-Project List", except for the N. Front Street extension. With an estimate of $8.7 million, refinement planning should be conducted to identify the most cost-effective approach to meeting the goals of this project. Total share of the 20-year improvement program = 27 percent.

- Address all congestion relief improvement projects identified in the City's "Level of Service Study" (except where the need appears to be beyond 20-years or part of the Highway 62 Unit 2 improvement program). Total share of the 20-year improvement program = 14 percent.

- Address all high crash rate or potential high safety need locations (including some bicycle lane and/or sidewalk projects in areas of potential high risk). Total share of the 20-year improvement program = 20 percent.

- Substantial improvements in alternative transportation modes including sidewalks, bicycle lanes and transit. During the first five years of the 20-year program, approximately $3 million of sidewalk improvements are proposed as part of the "Safe Routes to School" program. Other projects include urban street upgrades to add

sidewalks and bicycle lanes (along with street reconstruction to add curbs and gutters), some retrofit bicycle lane and sidewalk projects along existing streets (with specific priorities to be refined by the proposed Bicycle Advisory Committee), and some transit bus stop improvement projects (approximately $45,000 per year which could fund 6 to 8 bus stop improvements each year). Total share of the 20-year improvement program = 14 percent (including 4 percent for non-defined stand alone bicycle and sidewalk improvements, 2.5 percent for specific "safe route to school" projects, 1.5 percent for transit, and 6 percent for street upgrades).

- A variety of other projects including:

    - Traffic signal communications systems to improve traffic flow
    - Projects focused on access to developing industrial areas to help stimulate economic development or improve freight mobility
    - Portions of the basic street system in the Southeast Medford TOD
    - Local match for federal funding to repair Medford's structurally deficient bridges
    - More urban upgrades to bring former County roads up to City street standards including curbs, gutters, sidewalks and bike lanes

In addition to the Tier 1 (funded) projects, an additional $53 million of Tier 2 projects have been identified. These projects reflect identified improvement needs that are typically less urgent than those funded under Tier 1. Should additional improvement funding become available during the planning period, projects from the Tier 2 list can be moved onto the Tier 1 list and implemented.

As indicated previously, there is also a Tier 3 list of approximately $82 million representing project needs that are not anticipated to require mitigation within the 20-year planning period, projects which constitute a significant investment of resources for which no revenue source has been identified, or projects which require further refinement planning to determine need, feasibility and optimal solutions.

Transportation and Land Use

Overview

This chapter presents a discussion of the interrelationship between land use and transportation, with particular emphasis on how Medford will manage land uses through its planning program to optimize performance of the transportation system and to identify future improvement needs. Included in the chapter is:

- A discussion of the current land use-based assumptions regarding generation of travel demand in the Medford area, including anticipated growth in population and employment;

- A discussion of how land use policy will change in response to policy direction set by the *2001-2023 Rogue Valley Regional Transportation Plan*;

- A discussion of activities that are currently underway to respond to regional and local policies, including the encouragement of mixed-use development and development of Transit-Oriented Districts (TODs) in the greater Medford area; and

- Future actions to be taken by the City of Medford to monitor progress in carrying out regional and local policies.

Population/Employment Growth and Transportation Forecasts

Traffic patterns and the demand for transportation services within a community are closely interrelated with existing and anticipated future land use patterns. The location of housing, places of employment, shopping, education and other services, and the relationships between these land uses in terms of distance and transportation system connections, all influence the type and magnitude of travel demand that is experienced in a community. Locations where land use patterns are dispersed and built at lower densities will be difficult to serve by any other mode than the automobile. More compact, mixed use development where good multi-modal transportation system connections are provided will encourage the use of a variety of transportation modes making it possible for the traveler to choose whether to drive, walk, bicycle or take transit.

To estimate the future relationship of land uses and transportation system performance, land use development expectations must be more specifically defined to describe the type, amount and location of anticipated future housing and employment growth. Planning for the community's land use and transportation system begins with a vision of where and how the community wants to grow, and follows with more technical analysis of population forecasts, allocations of future housing and employment to areas of the community and an analysis of how land use patterns affect the need for transportation facilities, and vice versa.

Medford Community Development Vision

As noted in the introduction to this plan, Medford's *Vision Strategic Plan* identifies the long-term goals for community development. Components and specific actions provide a framework for integrating decisions about land use and transportation system investment in the community. Most importantly, the Vision reflects a desire by the community to change past practices in order to create a balanced land use and transportation system that provides greater travel opportunities to residents beyond reliance on the single occupancy vehicle.

Historic Trends

Population and employment in the Rogue Valley region have increased significantly over the past 40 years. Taken as a whole, Jackson County's population has grown from 73,926 in 1960 to a 181,269 persons in 2000. This represents a growth of 145 percent over the 40-year period. During the years from 1995 to 2000, the County's population grew by 16,869 persons or 10.3 percent. Of particular significance for the *Transportation System Plan* is the growth in persons of retirement age who may increase the demand for viable mobility alternatives to the automobile. Between 1970 and 1990, the population group over age 65 more than doubled in Jackson County. In the MPO region, this age group makes up a relatively large portion of the population (17 percent in Medford, 14 percent in Central Point and 27 percent in Phoenix).

Within the City of Medford, the population has grown from 24,425 in 1960 to 63,154 in 2000, representing an increase of nearly 160 percent. During the years between 1995 and 2000, Medford's population grew by 8,064 persons or 14.6 percent. This is less than the 29.9 percent growth experienced by Central Point during the same time period but higher than the countywide rate.

Employment activity in the Rogue Valley has seen a dramatic shift away from a resource-based economy to an economy that is more heavily dependent on trade and service employment[2]. Between 1995 and 2005, the Oregon Department of Employment projects an increase of 16 percent in overall employment in the County, with employment in trade expected to grow by 23 percent and employment in the service industry expected to grow by 26 percent. Growth in tourism has had a significant impact on the local economy. In 1981, only 9 percent of visitors came to the region as a vacation destination (as opposed to a stop-over on the way to somewhere else). By 1990, this figure was up to 47 percent, and by 1995, 58 percent of visitors were coming to the region as a vacation destination.

The change in the local economy from largely manufacturing and resource-based employment to service and trade employment has impacted the region's transportation system in a significant way. Typically, industrial employment generates about 2.5 trips per employee each day, while retail employment generates 15 trips per employee. For example, 100 industrial employees would generate about 250 daily trips while 100 retail employees would generate 1,500 daily trips (this includes trips made by the employee and all others coming to and from the employment site). Thus, the same level of overall employment, but a change in the type of employment and its location, significantly affects travel demand on the road system. Residents have clearly seen

[2] *2001-2023 Regional Transportation Plan*, Rogue Valley MPO, April 25, 2002, page 5-2.

changes in the transportation system resulting from the changing economic makeup of the community. The downtown has declined significantly as a portion of the regional employment base leaving a large amount of available and unused public infrastructure. At the same time, large areas along major local streets and state highways have become commercial shopping districts, and in turn have reduced the function of the transportation system and created the demand for expensive new projects. Decisions about where and how the community chooses to grow, and how transportation investments are managed, greatly influence community livability and future performance of the transportation system.

Future Projections

Data analyzed for the *2001-2023 Rogue Valley Regional Transportation Plan* suggests that population in the Rogue Valley MPO region is expected to increase by over 37 percent between 2000 and 2023, while employment is expected to increase by over 41 percent. Within the City of Medford, population is expected to increase by nearly 31 percent from 63,154 in 2000 to 82,879 in 2023. Employment is expected to increase by 39 percent from 38,858 to 53,944.

The *2001-2023 Rogue Valley Regional Transportation Plan* made a number of technical assumptions and policy decisions about future community growth in order to develop a transportation plan that balances many competing objectives. A key assumption and decision made in the regional planning process is that a large proportion of future development will be directed to areas that can be well-served by transit – including the downtown, transit corridors, mixed-use areas, and transit-oriented districts or TODs. Table 4-1 presents more detailed information about anticipated growth in population, housing and employment in the City of Medford.

Between 2000 and 2023, the share of City population that is anticipated to reside in a TOD will grow by 86 percent. The largest share of new TOD population is forecast in the SE Medford TOD – the area with the greatest opportunity to absorb new development. Population in the Downtown TOD is expected to grow only slightly as this area is largely fully developed. Population growth in the Delta Waters and West Medford TODs is expected to be more closely aligned with citywide population growth. On an average, population in TODs in the City of Medford is expected to nearly double over today's levels. These are only forecasts of anticipated growth patterns; achieving the forecasts and the attendant benefits to the transportation system will require conscious and specific changes to development policies and practices in Medford.

Table 4-1
Population, Housing and Employment Growth Projections in Medford

Data Type	2000	2005	2010	2015	2023	% Increase 2000-2023
City Population	63,154	64,979	71,138	75,036	82,879	31.2%
City Dwelling Units	24,245	26,016	28,565	30,225	33,451	37.9%
City Employment	38,858	41,449	43,669	46,751	53,944	38.8%
- Industrial	*4,750*	*5,067*	*5,074*	*5,432*	*6,267*	*31.9%*
- Retail	*10,252*	*10,936*	*12,096*	*12,949*	*14,942*	*45.7%*
- Service	*15,338*	*16,361*	*17,905*	*19,169*	*22,118*	*44.2%*
- Other	*8,518*	*9,085*	*8,594*	*9,201*	*10,617*	*24.6%*

Employment growth in the City of Medford is expected to be higher in the retail and service sectors than in other employment categories. Between 2000 and 2023, current retail employment is expected to increase by over 45 percent, while current service employment is expected to increase by approximately 44 percent. Industrial employment is expected to increase at a lower rate, growing only 32 percent, while other employment sectors (including agriculture) is expected to grow by only 25 percent. Growth of employment in the Downtown TOD, as well as the other TODs will be an important part of the strategy to reduce vehicle miles of travel

Vehicle Travel Demand

Forecasts of vehicle travel demand were prepared for the Medford *Transportation System Plan* using the regional travel demand model developed and maintained by the Rogue Valley MPO. The assumptions and structure of this model are documented in the *2001-2023 Rogue Valley Regional Transportation Plan.*

In general and regardless of identified strategies to build mixed-use development and transit-oriented districts, significant growth in motor vehicle traffic is anticipated on Interstate 5, Highway 99, Crater Lake Highway (Highway 62), Barnett Road, McAndrews Road, and Crater Lake Avenue among others. In addition, the area around the proposed new South Medford interchange is also expected to see significant vehicle traffic growth taking advantage of state and local investments in the interchange. According to the *2001-2023 Rogue Valley Regional Transportation Plan*, areas with a high percentage increase in traffic volumes over current levels will also include the urban fringes where rural land is transitioning to urban uses. Areas of particular importance to Medford include the east side of Medford, unincorporated Jackson County west of Medford and to the north of Medford. The regional travel model does not forecast comparable increases in travel in and around the Medford downtown.

Land Use Policy in Relation to Transportation Demand

The Oregon Transportation Planning Rule (TPR) implements Statewide Planning Goal 12 related to transportation. The TPR promotes development of safe, convenient, and economic transportation systems that are designed to reduce reliance on the automobile so that air

pollution, traffic and other livability problems faced by urban areas in other parts of the country might be avoided. The TPR aims to help local governments improve the livability of urban areas by promoting changes in land use patterns and the transportation system that make it more convenient to walk, bicycle, use transit, and drive less to meet daily needs.

State policy puts special emphasis on metropolitan planning areas and the opportunities that exist within these areas to coordinate transportation planning and investment decisions with overall community development objectives. Because metropolitan areas are by their nature more varied and complex, land use and transportation plans can result in more than a one-size-fits-all approach. Some areas such as downtowns, Transit Oriented Districts, and other mixed-use centers will be very convenient for all means of travel, while other areas will remain automobile-oriented and include more modest measures to accommodate walking, bicycling, and transit users. It is left to regional and local plans to work out the details.

The integration of land use and transportation decision-making has been discussed at some length in the *2001-2023 Rogue Valley Regional Transportation Plan*. The RTP calls on local jurisdictions to implement the following land use policies when preparing a TSP:

Policy 1: Local governments shall utilize transit-oriented design strategies to encourage the use of local public transportation and discourage reliance upon single-occupancy vehicles.

Policy 2: Local governments shall consider ordinances or amendments to their Comprehensive Plans to protect and preserve corridors for transportation purposes.

Policy 3: Local governments shall amend their Comprehensive Plans to promote mixed or higher density developments in areas that would lower the vehicular demand on the regional transportation system.

Policy 4: Local governments shall discourage cul-de-sac or dead-end street designs whenever an interconnection alternative exists. Development of a modified grid street pattern shall be encouraged for connecting new and existing neighborhoods during subdivisions and partitions.

Policy 5: Wherever possible, subdivisions and any approved cul-de-sacs shall be designed to provide pedestrian connectivity between neighborhoods.

Policy 6: Where appropriate, local governments shall consider the use of traffic calming techniques and reduced street widths to minimize negative impacts of traffic on neighborhoods.

A fundamental aspect of the TPR is the direction to local governments to plan for reduced reliance on the automobile. Typically, transportation planning tracks automobile reliance through monitoring a standardized statistic such as vehicle miles traveled (VMT) per capita. The TPR recognizes that measuring VMT per capita is just one means of assessing automobile reliance, and that it does not reflect varied conditions across local governments. Therefore, the

TPR provides a mechanism for metropolitan areas to develop and implement measures specifically tailored to local needs. In the Rogue Valley region, the RVMPO developed seven "Alternative Measures" designed to reduce the region's reliance on single-occupant automobiles and to encourage the use of alternative transportation modes. These measures include five actions to be implemented by the MPO, and two by the three cities in the MPO region (Medford, Phoenix and Central Point). As the largest city in the Rogue Valley region, Medford will have a significant responsibility for carrying out the mandated measures assigned to the three cities.

The seven alternative measures and accompanying benchmarks are summarized in Table 2-2 of the complete Transportation System Plan document. Measures specifically pertinent to land use planning and the integration of transportation and land use decision-making in Medford are illustrated in Table 4-2. These measures include:

- Increasing the percentage of dwelling units that are located within transit corridors that are defined as the area within ¼ mile (reasonable walking distance) of a transit route. The land use decisions made by Medford (as well as Central Point and Phoenix) will strongly influence the ability of RVTD to successfully meet the identified benchmarks. Development of land use patterns within the City and the UGB that support the efficient and cost-effective provision of transit service are critically important.

- Increasing the percentage of new dwelling units in mixed-use development within the City and within transit-oriented districts in relation to total housing development within the City. Mixed- use development and transit-oriented districts are distinguished by a pattern of residential units and employment generating uses in close proximity with an emphasis on the provision of a high level of bicycle, pedestrian and transit access and mobility.

- Increasing the percentage of new employment in mixed-use development and transit-oriented districts in comparison to total new employment in the City.

Table 4-2
Alternative RTP Performance Measures Related to Land Use Planning
For the Rogue Valley MPO

Measure	How Measured	Current 2000	Benchmark 2005	Benchmark 2010	Benchmark 2015	Target 2020
Measure 2: % Dwelling Units (DU's) w/in ¼ mile walk to 30-min. transit service	Determined through GIS mapping. Current estimates are that 12% of DU's are within ¼ mile walking distance of RVTD transit routes.	12%	20%	30%	40%	50%
Measure 5: % Mixed-use DU's in new development	Determined by tracking building permits – the ratio between new DU's in TODs and total new DU's in the region.	0%	9%	26%	41%	49%
Measure 6: % Mixed-use employment in new development	Estimated from annual employment files from State – represents the ratio of new employment in TODs over total regional employment.	0%	9%	23%	36%	44%

Source: Land Conservation and Development Commission, OAR 660-012-0035(5), April 3, 2002.

Medford Land Use Activities to Influence Changes in Transportation Demand

Medford is currently undertaking actions and proposes future actions to change land uses patterns to support reduced reliance on the automobile and to develop a balanced transportation system. The primary emphasis is on facilitating mixed-use development and focusing development in transit oriented districts (TODs). These actions are intended to help implement the *2001-2023 Rogue Valley Regional Transportation Plan's* strategy of increasing investment in alternative modes (including facilities for pedestrians, bicyclists, and transit users) and promoting land use patterns that will complement investment in alternative modes as the locally preferred approach to reducing reliance on the automobile.

The *Transit Oriented Design and Transit Corridor Development Strategies* (or "TOD Study") was conducted to ensure that the 1997 Rogue Valley *Regional Transportation Plan* (RTP) would adequately address state transportation planning (TPR) requirements for reducing reliance on the automobile. The objectives of the "TOD Study" were to:

- Identify and designate major transit service routes supportive of transit oriented development.
- Identify and assess principal activity centers throughout the RVTD boundary capable of supporting transit-oriented districts.
- Develop model ordinances, zoning and design guidelines that support the planning principles necessary to enhance transit-oriented districts and transit corridors.

Based on the results of the "TOD Study", and policies adopted by the MPO, local governments in the Rogue Valley are preparing specific plans for implementing the TOD sites. In the City of

Medford four TOD sites were identified: City Center (Downtown) Medford, Southeast Medford, the Delta Waters area along Highway 62, and West Medford. The general location of these TODs along with other significant activity centers in the City are presented in Figure 4-1.

This section describes on-going planning activities and outlines the current development trends within the four Medford TODs and provides ideas to help fulfill the strategy outlined in the Rogue Valley RTP. To date, the City has focused its planning and implementation activities on the Downtown TOD and the Southeast Medford TOD. The Medford Urban Renewal Agency (MURA) is currently preparing plans, ordinances and guidelines for adoption in the Downtown Medford TOD. The City of Medford is implementing the TOD site located near the intersection of Barnett Road and North Phoenix Road through the Southeast Area Plan implementation process.

FIGURE 4-1 – Medford Conceptual TOD Boundaries and Other Activity Centers

City Center Medford TOD

Current Planning Activities

The boundaries of the Downtown Medford TOD are illustrated in Figure 4-1. MURA recently prepared the proposed *Downtown 2050 Plan* that is intended to provide vision along with goals and policies for the Downtown. This plan is being followed by a series of design standards and guidelines for development within the Downtown Medford TOD. The purpose of the standards and guidelines is to ensure that the unique historic and pedestrian character of the downtown core is preserved and enhanced.

The policy framework for the *Downtown 2050 Plan* includes seven topical visions:

- *Regional Position*: Downtown is the Rogue Valley's largest integrated mixed-use urban center, a vibrant, enjoyable, and highly regarded regional hub for residential, business, retail, finance, government, arts and entertainment, and education; and it is the Rogue Valley's largest Transit Oriented District with convenient multi-modal access to all areas of the region.

- *Growth*: Downtown's position as a vibrant and attractive integrated 24-hour urban center is firmly established as part of the City's urban centered growth management objective, with plans and programs to assure the sustained growth and development of downtown as the Rogue Valley's largest urban service center. Downtown is not only the heart of Medford, but also the Rogue Valley, and is a unique irreplaceable component to the City's identity and sense of community.

- *Urban Design:* Downtown is the region's most recognizable and enjoyable urban center with its traditional historic character, a comprehensive network of sidewalks, bike and pedestrian ways, attractive streetscapes, ground-level retail, a network of parks and plazas, and convenient transportation linkages to surrounding neighborhoods.

- *Housing*: Downtown is a vibrant 24-hour urban center with a large residential community supported by convenient services within easy walking distance.

- *Transportation*: Downtown is a balanced multi-modal urban center with easy access to all areas of the Rogue Valley. Within downtown there is provided a full range of transportation opportunities with an emphasis on the quality of travel and preservation of a highly livable and pedestrian downtown environment.

- *Historic Preservation*: Throughout downtown, it is visibly evident that Medford's heritage is a major contributor to the community's livability and identity. The historic architecture and traditional designs of downtown have been preserved through renovation, and enhanced and complemented by new development, making downtown a truly unique and enjoyable urban place for both residents and visitors, while providing a competitive advantage over, and setting it apart from, other commercial centers.

- *Partnerships*: The revitalization and redevelopment of downtown is a long-term program supported by a unique public-private partnership that recognizes past investments, and works to leverage public, institutional, commercial and private investments; and to share the benefits and risks of future downtown investments to achieve a common objective, and a healthy and vibrant downtown.

Land Use Types

The City Center TOD encompasses the same area as the central business district and is generally bounded by Jackson Street, Oakdale, 10th Street and Bear Creek. The City Center TOD includes about 210 acres. The current land uses include downtown retail type uses and civic uses in older two and three story buildings. There are a number of vacant lots or underutilized lots within the City Center TOD and auto-oriented commercial on the edges of this TOD boundary. The City is preparing proposed new zoning code language for the City Center TOD that would emphasize the role of the City Center as a TOD. The purpose of the proposed new regulations is to preserve the unique pedestrian character, implement a plan of improved pedestrian and vehicular circulation and parking management, and promote a variety of retail consumer and service businesses. The proposed new changes prohibit auto-oriented uses in the City Center TOD such as new and used car dealers and auto repair.

Because much of the development in the City Center TOD occurred in the early 1900's it represents the type of development that the TOD strategy is trying to replicate in other parts of the City. The proposed new zoning code changes reinforce the past design pattern and require new development to imitate the existing development. Future development, however, may be dependent on developer incentives or partnerships with the urban renewal agency. The RVCOG "TOD Study" gave the City Center TOD low marks for development opportunity because of the high cost of converting historic structures, creating structured parking and including vertical mixed use within the project. However, the City Center TOD does have significant momentum with new redevelopment projects, including the Craterian Ginger Rogers Theater and the Rogue Community College building and represents a known market and a desirable place to live for many residents, if the right housing products were made available. The City should consider the potential for competition between the new Southeast TOD and the City Center TOD and make an effort to differentiate the types of development between these two TOD areas.

Implementation Ideas

The City appears to be on the right track with requiring new development to imitate the original development found in the City Center TOD. The City should consider focusing more on the design of the use than the type of use. The City Center TOD could include everything from light industrial to housing uses under this approach. It is important to recognize that there may be a substantial rent differential between older City Center TOD buildings and new buildings found in other TOD areas and the lower rents found in the City Center can be used to create momentum in this area. As with most TOD areas, housing is very important and the City should consider spending Urban Renewal resources on housing projects before other projects. Housing types should include mostly flats or lofts at higher densities than found in other parts of the City.

Southeast Medford TOD

Current Planning Activities

The Southeast Village Center TOD is centered on Barnett Road east of North Phoenix Road. The Southeast TOD has been the subject of much study and planning in recent years, and the City is implementing the Southeast Medford Plan (includes the Southeast TOD), a special area plan that uses specific overlay zoning standards and additional land use designations. The City's Southeast Plan is intended to create a livable community of approximately 10,000 residents that encourages walking and cycling to nearby destinations and shorter automobile trips. Adopted in 1998, the Southeast Plan provides a major street grid and land use plan for an area of approximately 1,000 acres on the east side of Medford. The more recent Southeast Area Neighborhood Circulation Plan adds lower order streets and shared-use paths. The City adopted modifications to the Southeast Overlay Zone that provide additional specificity to carry out the purposes of the Southeast Plan and, in particular, development of the TOD.

Land Use Types

The core of the Southeast Plan Area, the Southeast Village Center TOD encompasses approximately 175 acres located along Barnett Road containing a retail commercial center core area with a surrounding mixed-use commercial area, and additional medium and high density residential and institutional uses. The commercial area is to be designed as a "town center" with on-street parking and ground-floor retail adjacent to the sidewalks. The neighborhood circulation plan includes design standards for streets, streetscapes and non-motorized transportation circulation.

Development of residential uses in this TOD is likely to occur through the City's Planned Unit Development (PUD) process, which can result in an increase of maximum permitted density of up to twenty percent. Also, recent code changes increased the maximum permitted densities in the TOD to support transit oriented development. New development will have to conform to the Comprehensive Plan goals and the revised zoning requirements for the Southeast Area. Goal 1 seeks to create a transit friendly environment by assuring *"that development in the SE Area occurs in a manner that reduces reliance on automobile travel within the area and promotes multi-modal travel, including pedestrian, bicycle and transit."* Given proper implementation of the Southeast TOD, the development found within this area should meet the requirements of the DLCD order ("Alternative Measures") requiring pedestrian and transit friendly development.

Implementation Ideas

Likely land use types within this TOD include community commercial shopping opportunities, such as grocery stores to compete with Albertsons across the street, chain stores such as Office Depot and smaller specialty shops that cater to the residents of the higher density residential within the Village Center and those living in the surrounding trade area. The Southeast Plan limits the Commercial Center Core Area to 150,000 square feet of retail uses. Individual business uses are limited to no more than 50,000 square feet. Perhaps the key to making the Southeast TOD successful is creating a distinctive housing type that will attract empty-nesters and younger Medford residents to this area. Housing types could range from loft-style buildings to town homes. There should be a focus on design standards to insure that the new housing development is good quality.

West Medford TOD

The West Medford TOD is located directly west from the City Center TOD and includes about 450 acres. The West Medford TOD is generally bounded by Western Avenue on the east, Maple Park Drive on the north, Meadows Lane on the South and the UGB on the west. The current land uses within this TOD include auto-oriented, low-density commercial, low density residential and some higher density residential. This area of the City contains some of the older, less expensive residential development in the City. There is no TOD overlay or other special zoning for the West Medford TOD yet in place. The zoning includes general commercial, low density residential and a small amount of higher density residential (MFR-20 and 30).

Creating a pedestrian-friendly TOD development out of the West Medford TOD represents a significant challenge. The primary transit route is along West Main Street, which mainly consists of low density, auto-oriented commercial uses and limited pedestrian and bicycle amenities. The other portions of the TOD are generally low density residential, typically a land use type that is not easily changed. Perhaps the best strategy for spurring TOD development in this area is to focus on one node and try to build on the success of a few projects.

Implementation Ideas

Due to the large potential for redevelopment found in the West Medford TOD and the current prevalence of low density uses, development should focus on one key intersection in the TOD. This intersection should be along the current transit route, or in an area where transit can be easily routed and should have the opportunity for redevelopment along one entire block. The project should be a one or two-story commercial building with retail on the first floor and if applicable, office space on the second floor. Design is important. The uses should be local if possible, not chains, and the rents should reflect the need to accommodate local merchants. To make this happen, it may be necessary to extend the City Center Urban Renewal district to this area, or create a new urban renewal district. A partnership between the City and the development community will likely be required to jump start redevelopment in this TOD area.

North Medford TOD

The North Medford TOD is located on the east side of Crater Lake Highway and includes about 460 acres. This TOD is bounded by the UGB on the north, Crater Lake Highway on the west, Springbrook Road and McLoughlin Drive on the east, and approximately Delta Waters Road on the south. The current land uses within the North Medford TOD include a combination of light industrial, highway commercial and medium density residential. Portions of this TOD also are outside the city limits, but within the UGB. The zoning for the area echoes the current land uses and includes general and light industrial, MFR-20 and a range of single family zoning, from SFR-10 to SFR-4. The significant feature of this TOD is the presence of Crater Lake Highway, which serves as both a barrier and a major transportation corridor. Much of the development directly fronting Crater Lake Highway relies on the good access this facility provides and there are a number of land intensive uses such as warehousing. Long-range plans for Crater Lake Highway include remaking the highway into a more pedestrian friendly roadway that better allows connections to the commercial developments on the west side of the highway.

The high concentration of light industrial uses directly along Crater Lake Highway make transforming this area into a TOD relatively difficult. Perhaps the best opportunity for new TOD development lies along Owen Drive. Owen Drive will become a major connector between the residential areas to the east and the Crater Lake Plaza shopping center and industrial employment centers to the west. By focusing this TOD on Owen Drive it is possible to create a walkable main street that also serves as a major connector. The connection across Crater Lake Highway will be important to make this TOD successful. The land to the north of Owen Drive could be zoned for employment uses that support the main street development on Owen Drive.

Implementation Ideas

Potential land uses for this TOD include the main street uses along Owen Drive such as restaurants, coffee shops, and personal services, and employment uses north of Owen Drive and potentially focused along Coker Butte Road. Differentiation from the uses on the west side of Crater Lake Highway will help this TOD area become successful.

Transit Oriented District Conclusions

- Each TOD area has unique opportunities and issues and designing a one-size fits all TOD overlay is not likely to be effective.

- The Southeast TOD could focus on housing to attract buyers interested in a different sort of housing market.

- The Central City TOD already contains the type of development that the other TOD areas are trying to achieve and the strategy for this TOD area should focus on the strength of the existing development while creating new housing opportunities to draw more people to the area.

Development Tracking

The value of measures to track progress meeting the policy objective of building a more balanced land use and transportation system is only as good as monitoring, assessment, and periodic update. The region has set ambitious targets for changing land use patterns and directing growth to specific areas potentially served by transit. However, many mixed-use and TOD development practices are not yet codified in Medford plans. Therefore, a mechanism must be developed for Medford and the rest of the MPO area to track and report on the success in developing mixed-use developments, including the TOD areas.

The overall intent of tracking is to promote development of mixed-use, pedestrian and transit-supportive centers. Until city plans and codes fully implement TOD development principles, the following general attributes will guide the City's tracking of new mixed-use development:

- Mixed-use development will include medium to higher density residential development (e.g., 10 or 12 units per acre) and at least one of the following land uses: retail commercial, service commercial or light industrial. To be counted, residential and employment uses must be within ¼ mile of each other (via a reasonably direct pedestrian route) and within ¼ mile of a transit stop. Residential and other land uses may be located

vertically in relation to each other. Other land uses such as parks or plazas, and/or civic, community and cultural uses are also appropriate in mixed use development areas.

- All development within the site is connected by internal sidewalks or other pedestrian pathways.

- The local street network includes a frequency of streets and street crossings that make it attractive and convenient to walk within the area and to the surrounding areas. Streetscape components should include human-scaled design features that encourage safety and convenience of pedestrians, bicyclists, and transit users. On-street parking is allowed. Transit stops are incorporated into the design and function of the area.

- Primary building entrances are located on the street and are not separated from the street by off-street parking or maneuvering areas.

- Low-intensity, land extensive uses, and automobile-oriented uses are prohibited from the area.

A further discussion of mixed-use development and a proposed tracking mechanism is included in Appendix I of the complete Transportation System Plan document.

Neighborhood Activity Centers and Major Transit Stops

While the emphasis on changes to Medford land use patterns lies with focusing development in mixed-use developments and TODs, other areas of the community play an important role in helping balance the transportation system. Neighborhood activity centers are places in and around residential neighborhoods that draw people for shopping, employment, or recreation. They should, by their nature and location, be accessible by walking and by bicycle. Proposed pedestrian and bicycle projects are oriented to improve connection and accessibility to and from neighborhood activity centers.

City land development standards will require all new land uses to assure safe and convenient, reasonably direct routes for pedestrians and bicyclists within, to, and from neighborhood activity centers. Land development standards will require facilities be provided along public streets, connections between adjacent developments, and internal design features that encourage short trips conducive to walking or bicycling.

The TSP also identifies major transit stops that are existing or planned stops with higher than average frequency that serve existing or planned land uses that generate potential for higher ridership from medium or higher density residential or commercial uses within ¼ mile walking distance of the stop . The expectation for planning at major transit stops is to take advantage of transit service as well as encourage better transit service by bringing riders in close proximity to routes.

Land development regulations will increase residential and commercial intensity near major transit stops, assure that buildings are oriented to transit to provide reasonably direct walking

connections without out-of-direction travel, and provide improvements such as shelter and lighting that make transit use safe and convenient.

Arterial and Collector Street Frontages

There has been discussion and some implementation undertaken toward improving the look of adjacent single-family residential development along arterial and collector streets when the lots back up to arterial and collector street frontages. The most favored standard has been to put a wall along the street frontage. Discussion is now underway about the possibility of having the adjacent houses face the street in order to create a much more inviting street environment.

Some of the issues associated with arterial and collector street design are neighborhood integration, pedestrian friendly spaces, maintenance of orphan landscape strips, integrated construction materials, noise and dust, preservation of vehicular traffic capacity, access management and safety.

In Medford, there has been a consistent desire for residential development to include some large lots. By providing some larger or estate lots with front-facing houses along the main thoroughfares, a win-win situation for the community could be created. Larger lots with increased setbacks from the street could provide a diversity in lot size, eliminate wall maintenance issues, allow neighborhood integration, be more pedestrian friendly, give noise and dust protection and provide access management controls. It is recommended that there be more discussion regarding this issue.

Transportation and land Use Strategies

To address the need for integrated land use and transportation policy and decision-making, the following strategies have been identified:

- The City of Medford should complete and adopt a land use/transportation plan, design guidelines, street and streetscape standards and implementing ordinances for the Southeast Medford TOD, the West Medford TOD and the Delta Waters TOD, and mixed-use areas.

- The City should review its existing Code and prepare the necessary ordinances and/or *Comprehensive Plan* amendments to protect and preserve future corridors identified in the TSP for transportation purposes.

- The City should initiate discussion to address potential Code revisions to address issues related to arterial and collector street frontages.

Goals, Polices, and Implementation Strategies

Modal plans for walking, bicycling, transit, automobile, rail, air transportation, and truck freight were developed as part of the TSP and include action plans for projects, programs, policies and ordinances. These modal plans are founded on the guidance provided by the 2002 community visioning process that lead to the *Vision Strategic Plan*.

The adopted *Vision Strategic Plan* calls for:

- An efficient arterial street system that provides good north-south and east-west connectivity.
- A sidewalk system and a network of bikeways that allows travel throughout the City.
- Encouragement of mixed-use development that puts shopping and work opportunities in close proximity to residential areas, thus allowing for more efficient use of transit, bicycle and pedestrian travel modes.
- Partnering with the region to enhance transit service and amenities.
- Completion of the Bear Creek Greenway with east-west bicycle and pedestrian connections to a variety of destinations.
- Aggressive implementation of transportation improvements through planning, community education and funding.
- Convenient and affordable air transportation service.
- Competitive freight and passenger rail service.
- Effective partnerships with state and federal highway agencies to ensure that the community is well-served by inter- and intra-state highways.

Below are the transportation goals, policies and implementation strategies that are based on the foregoing elements of the *Vision Strategic Plan*. Chapter 13 of the complete *Transportation System Plan* document presents a discussion of the strategic policy choices and alternatives considered in each modal plan and how these were synthesized to identify priorities and establish a multi-modal plan to meet the requirements of the state *Transportation Planning Rule* (Statewide Planning Goal 12). Chapter 13 also presents an assessment of anticipated transportation revenues, cost estimates for multi-modal transportation projects, priorities for short, medium and long-term implementation, and identification of unfunded improvement needs for the 20-year planning period. A revenue shortfall has been identified and there is discussion of potential new funding sources included near the end of the chapter. Lastly, Chapter 13 identifies issues that will require further refinement planning to determine an appropriate course of action.

Medford Transportation System Plan
Goals, Policies and Implementation Strategies

Several goals along with supporting policies and implementation strategies were developed for Medford's future transportation system. These goals, policies and implementation strategies reflect the key policy strategies established by the TSP.

Overall Transportation System

GOAL 1: To provide a multi-modal transportation system for the Medford planning area that supports the safe, efficient, and accessible movement of all people and goods, and recognizes the area's role as the financial, medical, tourism, and business hub of Southern Oregon and Northern California.

Policy 1-A: The City of Medford shall manage projected travel demand consistent with community, land use, environmental, economic and livability goals.

Implementation 1-A(1): Utilize the projections in the *Regional Transportation Plan* (RTP) regarding projected travel demand over the 20-year planning period in managing the transportation system.

Implementation 1-A(2): Utilize the *Medford Comprehensive Plan*, including the land use plan covering the 20-year planning period, in managing transportation system.

Implementation 1-A(3): Design and improve arterial streets so that the minimum overall performance during peak travel periods meets Level of Service "D."

Implementation 1-A(4): Consider revisions to the City's concurrency ordinance to manage development-related traffic impacts consistent with other community goals.

Policy 1-B: The City of Medford shall use the *Transportation System Plan* as the legal basis and policy foundation for decisions involving transportation issues.

Implementation 1-B(1): Utilize the *Medford Transportation System Plan* to identify the measures and programs to be undertaken to increase mobility for all travel modes, including implementing standards and ordinances, and design standards and construction specifications for capital construction projects that are consistent with the Plan.

Implementation 1-B(2): Update the *Medford Transportation System Plan* as necessary to remain consistent with regional and statewide plans and laws.

Implementation 1-B(4): Coordinate transportation planning and construction with appropriate agencies.

Implementation 1-B(5): Adopt the *Regional Transportation Plan* (RTP) by reference in the *Medford Comprehensive Plan* to the extent that this Plan is consistent with the *Medford Transportation System Plan*. Where inconsistencies exist, the City shall work cooperatively with the Rogue Valley Metropolitan Planning Organization (RVMPO) to resolve differences.

Implementation 1-B(6): Require *Comprehensive Plan, Land Development Code*, and Zoning Map amendments to contain findings that show how the action is in conformity with the adopted tenets of the *Medford Transportation System Plan*.

Implementation 1-B(7): Include projects and programs adopted in the *Medford Transportation System Plan* that are of regional or statewide significance, or that require the use of state or federal funding, within the Regional Transportation Improvement Program and State Transportation Improvement Program.

Overall Transportation System – Funding

Policy 1-C: The City of Medford's top priority for the use of transportation funds shall be to address the maintenance, operational, and safety needs of the transportation system.

Implementation 1-C(1): Utilize a street utility fee as the primary funding source for street system operations and maintenance activities and utilize state highway fuel tax funds to meet the financial requirements of the street operations and maintenance program.

Implementation 1-C(2): Participate in cooperative agreements with state and local jurisdictions for maintenance and operations activities, based on equitable determinations of responsibility and benefit.

Implementation 1-C(3): Pursue federal, state, and private grants to augment operations and construction.

Policy 1-D: The City of Medford's second priority for the use of transportation funds shall be to maximize efficient use of the existing transportation system through use of Transportation System Management (TSM) and Transportation Demand Management (TDM) measures prior to expending transportation funds on capacity improvements.

Implementation 1-D(1): Utilize transportation demand management measures as the first choice for accommodating travel demand and relieving congestion in a travel corridor, before street widening projects are undertaken.

Policy 1-E: The City of Medford's third priority for the use of transportation funds shall be to fund capital improvements that add capacity to the transportation system. These improvements shall be prioritized based on availability of funds, reducing reliance on the automobile, improving safety, relieving congestion, responding to growth, and system-wide benefits.

Implementation 1-E(1): Give priority to funding projects that most increase capacity and relieve congestion, such as intersection improvements as opposed to general street widening, consistent with the adopted level of service (LOS) standards.

Implementation 1-E(2): Require new development to mitigate its impacts on the transportation system through on-site system improvements consistent with the TSP required as conditions of approval. Also require off-site improvements consistent with the TSP when they can be found to be proportional to the impacts on the transportation system ("Dolan finding").

Implementation 1-E(3): Collect transportation system development charges (SDC's), as defined by *Oregon Revised Statutes* and local ordinances, to mitigate impacts of new development on area-wide transportation facilities in the Medford planning area.

Implementation 1-E(4): Utilize the projects and needs identified in the *Medford Transportation System Plan* as the basis for selecting and prioritizing transportation improvement projects in the Capital Improvement Program and into regional and state transportation improvement programs, consistent with the adopted goals and policies of the *Medford Comprehensive Plan.*

Implementation 1-E(5): Seek federal funding for capital improvements through participation in the Rogue Valley Metropolitan Planning Organization (RVMPO) or other designated distribution process as provided in federal transportation legislation.
Implementation 1-E(6): Utilize the sale of bonds as a means to finance capital improvements to the transportation system. Select such projects through authorization by the City Council or a vote of the citizens of the City.
Implementation 1-E(7): Investigate establishing a trust fund account for acquisition of property for future right-of-way opportunities

Street System

GOAL 2: To provide a comprehensive street system that serves the mobility and multi-modal transportation needs of the Medford planning area.

Street System – Classification

Policy 2-A: The City of Medford shall classify streets so as to provide an optimal balance between mobility and accessibility for all transportation modes consistent with street function.

Implementation 2-A(1): Utilize the Medford Street Functional Classification Plan Map of the *Medford Transportation System Plan* to identify land for public rights-of-way and to give advance notice to property owners and citizens regarding future expansions of the street system.
Implementation 2-A(2): Provide a grid network of higher order (i.e., Arterial and Collector) streets that link the central core and major industrial areas with major highways and that connect with each other and the lower order street system.
Implementation 2-A(3): Provide a grid network of interconnected lower order (local) streets that disperses traffic and supplies connections to higher order streets, employment centers, and neighborhood activity centers, and provides appropriate emergency access**.**
Implementation 2-A(4): Develop and adopt conceptual Neighborhood Circulation Plans as stand alone plans or as part of neighborhood or area plans to be implemented as development of these areas occurs. Such Plans shall indicate the function of proposed streets and design standards needed to minimize disruption of existing neighborhoods while assuring adequate access commensurate with the intensity of planned new development and redevelopment. Such plans shall also identify key neighborhood destinations and an interconnected system of bicycle and pedestrian facilities to serve these destinations, as well as to connect with areas outside of the neighborhood.
Implementation 2-A(5): Develop a system of Collector and local residential streets that have adequate capacity to accommodate planned land uses, but preserve the quiet, privacy, and safety of neighborhood living by staying within their capacity.

Policy 2-B: When classifying streets, the City of Medford shall consider impacts to neighborhood livability. Prior to upgrading a street classification in a residential area to a higher order classification, the City shall consider alternatives that would preserve the livability of the affected residential neighborhood, and, if reclassification proceeds, shall consider mitigation measures.

Implementation 2-B(1): Apply the following measures to mitigate noise, aesthetic, and safety impacts when streets that are adjacent to or bisect residential areas are reclassified and

constructed to Collector or Arterial street standards: (a) Connect affected residential areas to other areas of the community with safe and efficient bicycle and pedestrian improvements; and (b) Consider mitigation measures to physically buffer the affected residential areas from traffic noise. These may include installation of major landscape/streetscape components such as landscaped buffers, walls or fencing, tree plantings, and the creation of open spaces.

Street System – Design

Policy 2-C: The City of Medford shall design the street system to safely and efficiently accommodate multiple travel modes within public rights-of-way.

Implementation 2-C(1): Apply the street design standard that most safely and efficiently provides multi-modal capacity respective to the functional classification of the street, mitigating noise, energy consumption, neighborhood disruption, economic losses, and other social, environmental, or institutional disruptions. Use of adopted neighborhood plans should determine the specific look and character of each neighborhood and its street system.

Implementation 2-C(2): Limit Major Arterial streets to a total cross-section width of no more than five travel lanes, except at intersections. Accommodate travel demand that would otherwise require a width of more than five lanes through increased system connectivity, transit service, use of transportation demand management (TDM) strategies, and other alternative modes of transportation.

Implementation 2-C(3): Require pedestrian/bicycle accessways when there is not a direct street connection, to pass through long blocks, or to connect cul-de-sac streets with nearby streets, or to connect to nearby bicycle paths, etc. to create more direct non-motorized access where appropriate.

Implementation 2-C(4): Involve affected citizens in an advisory role in transportation project design.

Implementation 2-C(5): Design the transportation system with consideration of the needs of persons with disabilities by meeting the requirements in the Americans with Disabilities Act (ADA).

Implementation 2-C(6): Assure that the design and operation of the transportation system allows for the safe and rapid movement of fire, medical, and police vehicles.

Implementation 2-C(7): Require new development and redevelopment projects, as appropriate, to connect to and extend local streets to planned future streets, to neighborhood activity centers, such as parks, schools, and retail centers, to transit routes, and to access adjoining undeveloped or underdeveloped property.

Implementation 2-C(8): Require new development and redevelopment projects to include accessibility for all travel modes and coordinate with existing and planned developments.

Implementation 2-C(9): Limit cul-de-sac streets, minimum access streets, and other "dead end" development to situations where access cannot otherwise be made by a connected street pattern due to topography or other constraints.

Implementation 2-C(10): Adopt maximum block length standards for local streets to assure good circulation.

Implementation 2-C(11): Incorporate into the *Medford Land Development Code* standards to govern the spacing of street intersections, signal installation, driveway access, and sight distance.

Policy 2-D: The City of Medford shall balance the needed street function for all travel modes with adjacent land uses through the use of context-sensitive street and streetscape design techniques.

Implementation 2-D(1): Identify unique street design treatments, such as boulevards or "main" streets, through the development and use of special area plans, neighborhood plans, or neighborhood circulation plans adopted in the *Medford Comprehensive Plan*.

Implementation 2-D(2): Utilize design techniques for local streets, such as reduced widths and lengths, curb extensions, and other traffic calming measures, to lower vehicular speeds, provide a human-scale environment, facilitate pedestrian crossing, and minimize adverse impacts on the character and livability of neighborhoods and business districts, while still allowing for emergency vehicle access.

Implementation 2-D(3): When designing new or reconstructed streets, make adjustments as necessary to avoid valuable topographical features, natural resources, historic properties, schools, cemeteries, significant cultural features, etc. that affect the livability of the community and the surrounding neighborhood.

Policy 2-E: The City of Medford shall design to enhance livability by assuring that aesthetics and landscaping are a part of Medford's transportation system.

Implementation 2-E(1): Incorporate aesthetic streetscape features into public rights-of-way, such as street trees, shrubs, and grasses; planting strips and raised medians; street furniture, planters, special lighting, public art, and paving materials which include architectural details.

Policy 2-F: The City of Medford shall bring Arterial and Collector streets up to full design standards where appropriate, and facilitate improving existing local streets to urban design standards where appropriate.

Implementation 2-F(1): Balance the needs of pedestrians, bicyclists, and motor vehicles when reconstructing streets that cannot meet full functional classification standards.

Street System – Transportation Demand Management

Policy 2-G: The City of Medford shall undertake efforts to reduce per capita vehicle miles traveled (VMT) and single-occupancy vehicle (SOV) demand through transportation demand management (TDM) strategies.

Implementation 2-G(1): Promote the use of alternative commute options to reduce motor vehicle travel generated by employment sites and schools by serving as an institutional model for the community through participation in the Transportation Management Association (TMA), providing incentives for City of Medford employees to utilize transportation demand management (TDM) strategies, and actively participating in local, state, and national TDM activities, such as Car Free Day. (Examples of TDM strategies include free or subsidized bus passes, trip reduction planning, compressed work weeks, telecommuting options, flexible work schedules, ride matching for car/van pools, customer and employee parking management, guaranteed rides home in emergencies, indoor bicycle storage, shower/locker facilities, etc.)

Implementation 2-G(2): Encourage employers to design and implement trip-reduction plans, including strategies that encourage use of alternative transportation modes, discourage commuting in single occupancy vehicles, and promote telecommuting and the use of work

hours that do not contribute to peak-hour congestion. Encourage private sector employers to take advantage of tax incentive programs for transportation demand management efforts. Encourage the formation of employer transportation management associations that allow the pooling of resources in implementing trip reduction plans, such as guaranteed emergency ride home and vanpool programs.

Implementation 2-G(3): Support and assist the efforts of the Rogue Valley Transportation District in maintaining a regional transportation demand management (TDM) program, which includes such components as a rideshare matching program, carpool/vanpool matching, park-and-ride lots, and information regarding transit service, bicycle routes, telecommuting, etc.

Implementation 2-G(4): Participate in public outreach to raise awareness about the use of transportation demand management (TDM) strategies, such as periodic newsletters for decision-makers, employers, schools, organizations, and individuals; information handouts at appropriate public events; advertising and public service announcements; school outreach; services for employers; and recognition for TDM efforts. Actively market to groups having the greatest potential for reducing single occupancy vehicle trips, such as large employment sites and commuting students.

Implementation 2-G(5): Encourage school districts to promote and utilize walking, bicycling, and school busing whenever possible to reduce motor vehicle trips needed to transport students to and from classes and events.

Street System – Transportation System Management and Safety

Policy 2-H: The City of Medford shall manage and maintain the transportation system in an efficient, clean, and safe manner.

Implementation 2-H(1): Require Traffic Impact Analyses (TIAs), as appropriate, in conjunction with development applications to assess impacts on the existing and planned transportation system, and require transportation system improvements that are identified through the TIA or by other *Medford Municipal Code* requirements as a condition of approval of development permits and land use actions.

Implementation 2-H(2): Utilize access management, including access location and spacing, to increase the capacity and safety of the transportation system. Incorporate access management techniques, such as raised medians, access management plans, driveway consolidation, driveway relocation, and closure of driveway access, into Arterial and Collector street design and development applications.

Implementation 2-H(3): Continue to modernize the traffic signal system and improve its efficiency by ultimately connecting all signals to the centralized traffic control center. Employ traffic signal timing plans that maximize efficiency during different time periods. Provide a program to identify locations for new/modified signals.

Implementation 2-H(4): Utilize Intelligent Transportation Systems (ITS) such as real-time traffic monitoring cameras and management projects, that provide motorist information and incident response/clearance programs, to alleviate traffic congestion.

Implementation 2-H(5): Provide adequate funding to preventatively maintain and manage public paved surfaces, sidewalks, bikeways, bridges, traffic control devices, street lighting, etc., at the lowest life-cycle cost.

Implementation 2-H(6): Provide a street cleaning program that uses best management practices (BMPs) to reduce impacts on air and water quality from street debris.

Policy 2-I: The City of Medford shall promote transportation safety.

Implementation 2-I(1): Maintain an inventory of traffic control devices (i.e., traffic signals, signs, striping, and markings).

Implementation 2-I(2): Require maintenance of sight-distance areas adjacent to intersections and driveways, to keep clear of fencing, landscaping, foliage, etc. that could obstruct the view of motorists, bicyclists, and pedestrians.

Implementation 2-I(3): Actively enforce motor vehicle codes related to transportation safety.

Implementation 2-I(4): Promote traffic safety education and awareness, emphasizing the responsibilities required of motor vehicle drivers, in order to reduce the per capita number of motor vehicle accidents.

Street System – Parking Management

Policy 2-J: The City of Medford shall prohibit on-street parking on Arterial and Major Collector streets in order to maximize the capacity of the transportation system except in the Downtown Parking District, in adopted Transit Oriented Districts **(**TODs), or where permitted through the development and use of special plans adopted in the *Medford Comprehensive Plan*.

Implementation 2-J(1): Remove existing on-street parking in preference to widening Arterial and Collector streets to gain additional travel lanes, bicycle lanes, and sidewalks, except where on-street parking has been determined to be essential through special plans adopted in the *Medford Comprehensive Plan.*

Implementation 2-J(2): Expand the Downtown Parking District boundaries to be consistent with the Central Business District (C-B) overlay zone boundaries and manage as a financially self-supportive operation.

Policy 2-K: The City of Medford shall manage on-street parking in the Downtown and in other adopted Transit Oriented Districts (TODs) to assist in slowing traffic, facilitating pedestrian movement, and efficiently supporting local businesses and residences consistent with the land use and mobility goals for each street.

Implementation 2-K(1): If necessary to preserve the supply of on-street parking in residential areas for use by residents, restrict the overflow parking of nearby employment centers, entertainment venues, schools, or other institutions through use of a residential parking permit program.

Implementation 2-K(2): In areas where demand exists, provide on-street carpool and vanpool parking spaces and/or loading zones having preferential location/timing over general purpose on-street parking spaces, giving consideration to locations where on-street parking is needed to support an existing business district.

Policy 2-L: The City of Medford shall require an appropriate supply and design of off-street parking facilities to promote economic vitality, neighborhood livability, efficient use of urban space, reduced reliance on single occupancy motor vehicles, and to make certain areas, such as Transit Oriented Districts (TODs), more pedestrian friendly.

Implementation 2-L(1): Require a minimum and maximum number of off-street parking spaces based on the typical daily needs of the specific land use type. **(**A parking space maximum standard assures that unnecessary consumption of land area is avoided.) Designate areas of the City where no off-street parking would be required.

Implementation 2-L(2): Set prices for city-owned public parking facilities to a level that discourages employees from using single occupancy vehicles to commute to work, and that reflects the relative demand for parking and the cost of constructing, maintaining, and operating such facilities. Offer free or discounted prices for carpool parking in public parking facilities.

Implementation 2-L(3): For off-street parking lots over three (3) acres in size, require street-like features along major driveways and safe pedestrian access facilities between the street, locations within the lot, and buildings.

Policy 2-M: The City of Medford shall undertake efforts to contribute to a reduction in the regional per capita parking supply to promote the use of alternatives to the single occupancy motor vehicle.

Implementation 2-M(1): Every five years, estimate the parking supply in areas designated for commercial, industrial, and institutional uses by the *Medford Comprehensive Plan* in order to monitor progress toward meeting the goal of reducing parking supply per capita by ten percent over the 20-year planning period.

Implementation 2-M(2): Allow non-residential development to satisfy off-street parking requirements through preparation and implementation of a trip reduction plan to increase the use of alternative modes of transportation by employees and customers.

Implementation 2-M(3): Assure that major facilities with a high parking demand meet the demand through a combination of shared, leased, and new off-street parking facilities, access by transit, and encourage designs that reduce parking need.

Implementation 2-M(4): Encourage employers to charge for employee parking.

Public Transportation System

GOAL 3: To facilitate the increased use of public transportation in the Medford planning area, as the adequacy of transit service is a measure of the quality of life in a community.

Policy 3-A: The City of Medford shall undertake efforts to increase the percentage of total daily trips taken in the Medford planning area by transit, consistent with the target benchmarks in the "Alternative Measures" of the *2001-2023 Rogue Valley Regional Transportation Plan* (RTP).

Policy 3-B: The City of Medford shall support the provision of convenient and accessible transit service to, from, and within the Medford planning area, especially to higher density residential areas, employment centers, and major commercial areas.

Implementation 3-B(1): Support efforts to implement funding strategies that provide adequate, long-term, and stable revenue sources for the transit system, including fares that balance the need for passenger revenues with the goal of maximizing ridership.

Implementation 3-B(2): Support efforts by the Rogue Valley Transportation District to develop and implement a transit system that effectively combines components of radial,

neighborhood, and circumferential services, with a minimum of required transfers, to best serve the citizens of and visitors to Medford.

Implementation 3-B(3): Support efforts by the Rogue Valley Transportation District to increase transit service, including increasing the frequency of service (shorter headways), extending the hours of operation, expanding weekend service, and providing express transit service during peak travel periods.

Implementation 3-B(4): Assure that land use planning activities promote transit service viability and accessibility, including locating mixed residential-commercial, multiple-family residential, and employment land uses on or near (within ¼-mile walking distance) transit corridors.

Implementation 3-B(5): Provide transit-supportive street system, streetscape, land division, and site design and operation requirements that promote efficient bus operations and pedestrian connectivity, convenience, and safety.

Implementation 3-B(6): In conjunction with the Rogue Valley Transportation District, establish designs for and implement effective and safe transit stops on Arterial and Collector streets.

Implementation 3-B(7): Work with the Rogue Valley Transportation District to ensure that transit transfer stations and park-and-ride facilities are accessible by pedestrian, bicycle, transit, and motor vehicle travel modes, including provisions for secured bicycle parking, passenger loading, and taxi service, and encourage transit service to intercity passenger bus and aviation terminals.

Implementation 3-B(8): Work with employers to increase commuter transit ridership through employer-based incentives, such as subsidized transit passes.

Policy 3-C: The City of Medford shall undertake efforts to increase the percentage of dwelling units in the Medford planning area located within one-quarter mile walking distance of transit routes, consistent with the target benchmarks in the "Alternative Measures" of the *2001-2023 Rogue Valley Regional Transportation Plan* (RTP).

Policy 3-D: The City of Medford shall link intercity passenger transportation facilities in central Medford to adequate pedestrian facilities, and strive to link all intercity passenger transportation facilities to transit, taxi, and/or shuttle services. The City shall encourage continued operations and future expansion of intercity bus service to and from Medford.

Policy 3-E: The City of Medford shall encourage efforts to make intercity passenger rail service available to the Medford planning area.

Bicycle System

GOAL 4: To facilitate the increased use of bicycle transportation in the Medford planning area, as bicycle facilities are a measure of the quality of life in a community.

Policy 4-A: The City of Medford shall undertake efforts to increase the percentage of total daily trips taken by bicycling in Medford consistent with the target benchmarks in the "Alternative Measures" of the *2001-2023 Rogue Valley Regional Transportation Plan* (RTP).

Implementation 4-A(1): Develop a network of bicycle facilities linking Downtown, other Transit Oriented Districts (TODs), residential neighborhoods, commercial/employment centers, schools, parks and greenways, community centers, civic and recreational facilities, and transit centers.

Implementation 4-A(2): Design streets and other public improvement projects to facilitate bicycling by providing bicycle-friendly paving, lane width, traffic control, storm drainage grates, striping, signage, lighting, etc.

Implementation 4-A(3): Review all development plans for bicycle system continuity and expansion of the system.

Implementation 4-A(4): Work with the Oregon Department of Transportation to improve bicycling conditions on state highways within the Medford planning area.

Implementation 4-A(5): Provide interconnected off-street multi-use paths along stream and waterway corridors, such as Bear Creek and Larson Creek, and in other suitable locations where multiple street or driveway crossings are unlikely and where such facilities can be constructed without causing significant environmental degradation.

Implementation 4-A(6): Regularly review Medford *Land Development Code* provisions to assure that bicycle facility standards for development projects are adequate to achieve the goals and policies of the *Medford Comprehensive Plan*, including the *Transportation System Plan.*

Implementation 4-A(7): Consider development of on-street "bicycle boulevard" treatments using local streets to enhance the connectivity of this system

Policy 4-B: The City of Medford shall undertake efforts to increase the percentage of Arterial and Collector street miles in Medford having bicycle facilities, consistent with the targeted benchmarks in the "Alternative Measures" of the *Rogue Valley Regional Transportation Plan* (RTP).

Implementation 4-B(1): Assure that bicycle facility improvements are a factor in Medford's annual capital improvement programming and budgeting, using the *Medford Transportation System Plan* as the basis to determine priorities.

Implementation 4-B(2): Utilize all opportunities to add bike lanes on Collector and Arterial streets, such as during reconstruction and re-striping projects. Give priority to bicycle traffic over on-street parking on Collector and Arterial streets designated in the *Transportation System Plan* as, or otherwise determined to be, important bicycling routes. Alternatives should be considered where on-street parking is determined to be essential to the success of adjacent businesses in a pedestrian-friendly environment, such as in Downtown, other TODS, activity centers, etc.

Policy 4-C: The City of Medford shall encourage bicycling as an alternative mode of transportation as well as a recreational activity.

Implementation 4-C(1): Form a bicycle advisory and planning committee to support the City's bicycle transportation goals and advise the City on issues related to bicycles.

Implementation 4-C(2): Continue to coordinate with local and regional bicycling proponents, such as the Jackson County Bicycle Advisory Committee and the Bear Creek Greenway Committee.

Implementation 4-C(3): Regularly maintain bicycle facilities and take actions to improve crossings of railroad tracks, creeks, major streets, etc.

Implementation 4-C(4): Perform accurate record keeping of bicycle volume and accident counts.

Implementation 4-C(5): Whenever feasible, provide public bicycle storage facilities at critical locations within the Downtown and at other activity centers.

Implementation 4-C(6): Install "Share the Road" signage on those Collector and Arterial streets that do not yet have bike lanes.

Implementation 4-C(7): Assure that City of Medford employees, particularly Police Department staff, have adequate training regarding bicycle safety and enforcement issues. Continue and enhance the "Cops on Bikes" program.

Implementation 4-C(8): Initiate a "Share the Road" or similar public information campaign, coordinated with agencies such as the Rogue Valley Transportation District, the Rogue Valley Council of Governments, Jackson County, local bicycling organizations, and nearby municipalities, etc.

Implementation 4-C(9): Support the Rogue Valley Transportation District efforts to facilitate transportation demand management (TDM) strategies that integrate bicycling and transit, such as "bikes on buses", bicycle storage facilities at transit stations and stops, etc.

Implementation 4-C(10): Encourage and support efforts by Medford schools or other community organizations to develop and use a bicycle safety curriculum for students.

Pedestrian System

GOAL 5: To facilitate the increased use of pedestrian transportation in the Medford planning area.

Policy 5-A: The City of Medford shall develop a connected, comprehensive system of pedestrian facilities that provides accessibility for pedestrians of all ages, focusing on activity centers such as Downtown, other Transit Oriented Districts (TODs), commercial centers, schools, parks/greenways, community centers, civic and recreational facilities, and transit centers.

Implementation 5-A(1): Require development and street construction/renovation projects to include sidewalks and walkways.

Implementation 5-A(2): Design street intersections, particularly Arterial and Collector street intersections, with convenient, safe, and accessible pedestrian crossing facilities.

Implementation 5-A(3): Require development within activity centers, business districts, and Transit Oriented Districts (TODs) to focus on and encourage pedestrian travel, and require sidewalks, accessways, and walkways to complement access to transit stations/stops and multi-use paths.

Implementation 5-A(4): Utilize an interconnecting network of multi-use paths and trails to compliment and connect to the sidewalk system, using linear corridors such as creeks, canals, utility easements, railroad rights-of-way, etc.

Policy 5-B: The City of Medford's first priority for pedestrian system improvements shall be access to schools; the second priority shall be access to transit stops.

Implementation 5-B(1): Complete the pedestrian facility network based on the priorities established in the *Transportation System Plan*, with emphasis on gaps in the system.

Policy 5-C: The City of Medford shall undertake efforts to increase the percentage of total daily trips taken by walking in Medford consistent with the targeted benchmarks in the "Alternative Measures" of the *2001-2023 Rogue Valley Regional Transportation Plan* (RTP).

Implementation 5-C(1): Encourage walking for both travel and recreation, emphasizing the health, economic, and environmental benefits for the individual and community.

Implementation 5-C(2): Prepare for consideration by the City Council ordinances that require pedestrian-friendly development design that encourages walking.

Policy 5-D: The City of Medford shall undertake efforts to increase the percentage of Collector and Arterial street miles in Medford's adopted Transit Oriented District (TODs) having sidewalks, consistent with the targeted benchmarks in the "Alternative Measures" of the *2001-2023 Rogue Valley Regional Transportation Plan* (RTP).

Policy 5-E: The City of Medford shall promote pedestrian safety and awareness.

Implementation 5-E(1): Develop crosswalk marking and traffic calming policies that address pedestrian safety in appropriate locations, including signalized intersections, controlled intersections near schools, activity centers, Transit Oriented Districts (TODs), and other locations of high pedestrian volumes.

Implementation 5-E(2): Establish standards for maintenance of pedestrian facilities, accessways and paths, including the removal of hazards and obstacles, and maintenance of benches, landscaping, etc.

Implementation 5-E(3): Comply with the requirements of the Americans with Disabilities Act (ADA) regarding the location and design of sidewalks, walkways, and multi-use paths, and discourage the placement of obstructions within sidewalks.

Implementation 5-E(4): Increase enforcement of pedestrian safety laws and regulations, focusing attention on areas of high pedestrian volumes and in activity centers and Transit Oriented Districts (TODs).

Implementation 5-E(5): Encourage schools, safety organizations, and law enforcement agencies to provide information/instruction regarding pedestrian safety, focusing on accident prevention and education of roadway users regarding their responsibilities when driving, bicycling, and walking.

Implementation 5-E(6): Work toward completion of street lighting systems on all Arterial and Collector streets, and facilitate the formation of neighborhood street lighting districts to provide appropriate street lighting on local streets.

Air Transportation

GOAL 6: To facilitate the provision of efficient, safe, and competitive movement of people and goods to and from the Rogue Valley International-Medford Airport, recognizing the value of the Rogue Valley International-Medford Airport as a regional resource.

Policy 6-A: The City of Medford shall encourage and support the operation, maintenance, and expansion of facilities and services provided at or near the Rogue Valley International - Medford Airport that accommodate domestic and international passenger air travel services, air cargo, charter flight operations, and airport shuttle service, while balancing adverse community impacts.

Implementation 6-A(1): Encourage the Jackson County Airport Authority to coordinate implementation of the *Rogue Valley International-Medford Airport Master Plan*, and any updates, with the City.

Implementation 6-A(2): Provide for transportation improvements that increase vehicular, pedestrian, bicycle, and public transportation connections to the Rogue Valley International-Medford Airport, and encourage direct transit service to the airport passenger terminal when warranted.

Implementation 6-A(3): Prepare for consideration by the City Council, amendments to the *Medford Comprehensive Plan* that provide for the types and levels of public facilities and services needed to support development located at or planned for the airport, including transportation facilities and services, as required by OAR 660-013 "Airport Planning". Consider the airport environs as a priority area for providing urban levels of public facilities and services.

Implementation 6-A(4): Prepare for consideration by the City Council, amendments to the *Medford Comprehensive Plan* that include the maps and information required by OAR 660-013 "Airport Planning". If the airport sponsor does not provide the economic and use forecast information required by the OAR, the City may limit the airport boundary to areas currently devoted to the airport uses described in the OAR.

Implementation 6-A(5): Prepare for consideration by the City Council ordinances to carry out the requirements of OAR 660-013 "Airport Planning", which require an Airport Safety Overlay Zone to promote aviation safety, if the currently adopted Airport Approach (A-A) and Airport Radar (A-R) Overlay Zoning Districts are not in compliance.

Implementation 6-A(6): Prepare for consideration by the City Council ordinances to carry out the requirements of OAR 660-013 "Airport Planning" regarding airport compatibility, consistent with applicable statewide planning requirements.

Implementation 6-A(7): Regularly review the *Medford Comprehensive Plan Map* and *Land Development Code* provisions to assure adequate mitigation of aviation impacts, and to assure that land uses near the Rogue Valley International-Medford Airport are compatible with and support airport operations, and minimize noise and safety conflicts and community impacts.

Freight Movement

GOAL 7: To facilitate the provision of a multi-modal transport system for the efficient, safe, and competitive movement of goods and services to, from, and within the Medford planning area.

Policy 7-A: The City of Medford shall promote accessibility to transport modes that fulfill the needs of freight shippers.

Implementation 7-A(1): Develop and adequately sign a street system that provides direct and efficient access to and between industrial and commercial centers, regional intermodal freight facilities, and statewide transport corridors.

Implementation 7-A(2): Utilize street design standards that meet the weight and dimensional needs of trucks for streets that serve industrial and commercial areas and those designated as "truck routes".

Implementation 7-A(3): Encourage the development of railroad freight services to industrial and commercial areas.
Implementation 7-A(4): Encourage the development of air freight services at the Rogue Valley International-Medford Airport.
Implementation 7-A(5): Encourage the development of intermodal freight transfer facilities.
Implementation 7-A(6): Review results of Rogue Valley Metropolitan Planning Organization (RVMPO) "Freight Study" and incorporate these into the *Medford Transportation System Plan* as appropriate.

Policy 7-B: The City of Medford shall strive to balance the needs of moving freight with community livability.

Implementation 7-B(1): Work to increase freight transport safety awareness, and promote commercial vehicle safety programs provided by public or private agencies and organizations.
Implementation 7-B(2): Work with public agencies and private freight service providers to reduce the number and severity of commercial transport-related accidents.
Implementation 7-B(3): Encourage responsible agencies to develop and enforce regulations assuring the safe transport of hazardous materials through the Medford planning area, and prepare to respond to emergencies involving the transport of hazardous materials.
Implementation 7-B(4): Employ physical and/or legal measures to reduce through-commercial vehicle traffic on residential streets.
Implementation 7-B(5): Work with railroads and appropriate state agencies to minimize the blockage of public streets at railroad crossings to facilitate traffic movement, especially emergency service vehicles.
Implementation 7-B(6): Consistent with the Oregon Rail Plan, establish City policy that seeks to avoid or minimize the number of future railroad at-grade crossings when new streets are planned; avoids creating intersections of major streets and railroads where possible, locates new parallel streets at least 500 feet from railroads to allow for industrial development between the tracks and the roadway, and plans community development with sensitivity to rail noise and other potential conflicts.
Implementation 7-B(7): Coordinate on-going maintenance and repair of streets at existing at-grade rail crossings with applicable owner/operator of railroad trackage.

Policy 7-C: The City of Medford shall promote accessibility to, protection of, and the appropriate location of regional pipeline systems.

Transportation and Land Use

GOAL 8: To maximize the efficiency of Medford's transportation system through effective land use planning.

Policy 8-A: The City of Medford shall facilitate development or redevelopment on sites located where best supported by the overall transportation system that reduces motor vehicle dependency by promoting walking, bicycling and transit use. This includes altering land use patterns through changes to type, density, and design.

Implementation 8-A(1): Through revisions to the *Medford Comprehensive Plan* and *Land Development Code*, provide opportunities for increasing residential and employment density in locations that support increased use of alternative travel modes, such as along transit corridors.

Implementation 8-A(2): Maintain and continue enforcement of the *Medford Land Development Code* provisions which require new development to accommodate multi-modal trips by providing bicycle racks, connecting sidewalks, building entrances near the street, and transit facilities.

Policy 8-B: The City of Medford shall undertake efforts to increase the percentage of dwelling units and employment located in Medford's adopted Transit Oriented Districts (TODs), consistent with the targeted benchmarks in the "Alternative Measures" of the *2001-2023 Rogue Valley Regional Transportation Plan* (RTP).

Implementation 8-B(1): Through revisions to the *Medford Comprehensive Plan* and *Land Development Code*, pursue changes to planned land uses to concentrate employment, commercial, and high density residential land uses in Transit Oriented Districts (TODs).

Implementation 8-B(2): Complete and adopt a land use/transportation plan, design guidelines, street and streetscape standards and implementing ordinances for the Southeast Medford TOD, the West Medford TOD and the Delta Waters TOD, and mixed-use areas.

Implementation 8-B(3): Review and revise the *Land Development Code* to define "mixed-use development" for purposes of tracking this type of development. In the interim, the definition of mixed-use development contained in the Oregon Transportation Planning Rule (TPR) will be used.

Implementation 8-B(4): Establish a mechanism like that discussed in Appendix I of the *Medford Transportation System Plan* entitled "Development Tracking" for the purpose of tracking mixed-use development within the City consistent with the requirements of "Alternative Measures" 5 and 6 of the *2001-2023 Rogue Valley Regional Transportation Plan* (RTP).

The following is the Table of Contents for the Full City of Medford Transportation System Plan Document

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REVIEW AND AMENDMENTS

INTRODUCTION

Planning is a process. It is naïve to assume that a single document can answer all the questions or resolve all the problems for all the problems for all times. Conditions change, resources are shifted and community goals are altered. For this reason it is essential that the means exist to keep the Plan dynamic. Oregon's statewide planning program addresses this need in two ways. First, a *post acknowledgement review process* exists to assure that local amendments to a state acknowledged plan or its implementing ordinances are consistent with the statewide planning goals and with the plans of other affected agencies. The second statewide approach to assuring the maintenance of local comprehensive plans is by means of a more thorough *periodic review* program which will occur cyclically beginning at least five years after plan acknowledgment. The *periodic review* program emphasizes internal plan consistency as well as overall compliance with new and revised state rules and statutes.

In addition to these state administered programs, a well defined local process to review and revise the *Comprehensive Plan* is essential. The local plan amendment process should reflect a balance between the desire for maintaining a dynamic and locally responsive plan, and the need to provide a reasonable degree of certainty and stability in the rules and processes governing land use. Such a plan amendment process is presented below.

TYPES OF AMENDMENTS

Because of the diverse structural nature of the *Comprehensive Plan*, it is necessary to categorize plan amendments in several different ways (bearing in mind that all plan amendments are land use actions as defined by state statutes). It is apparent that this Plan contains a variety of components, i.e., Data, Conclusions, Goals and Policies, Implementation Strategies, a General Land Use Plan Map, a City–County adopted Urban Growth Boundary and Urbanization Policies and several other components. Specific procedural requirements for all land use actions are codified in Article II of the *Land Development Code.* Two different procedural categories will apply to *Comprehensive Plan* amendments as follows:

Procedural Requirements
For
Comprehensive Plan Amendments

Class A	Class B
Conclusions	General Land Use Plan Map (minor)
Goals and Policies	Urban Growth Boundary (minor)
Implementation Strategies	
General Land Use Plan Map (major)	
Urban Growth Boundary (major)	
Citizen Involvement Program	
Review and Amendment Procedures	

The distinction between major and minor plan amendments is based on the following definitions which were derived from the Guidelines associated with statewide Goal 2:

> Major Amendments are those land use changes that have widespread and significant impact beyond the immediate area such as quantitative changes producing large volumes of traffic; a qualitative change in the character of the land use itself, such as conversion of residential to industrial use; or a spatial change that affects large areas or many different ownerships.
>
> Minor Amendments are those which do not have significant effect beyond the immediate area of the change, should be based on special studies or other information which will serve as the factual basis to support the change. The public need and justification for the particular change should be established.

CRITERIA FOR PLAN AMENDMENTS

Because of the important functional differences among the various Plan components, no common set of criteria can be used to assess all proposed Plan amendments. Below are listed the criteria with must be considered when evaluating proposed amendments to each of the specified Plan components. While all of the criteria may not apply to each proposed amendment, all must be considered when developing substantive findings supporting final action on the amendment, and those criteria which are applicable must be identified and distinguished from those which are not.

Conclusions – Amendments shall be based on the following:

1. A change or addition to the text, data, inventories, or graphics which substantially affects the nature of one or more conclusions.

Goals and Policies – Amendments shall be based on the following:

1. A significant change in one or more Conclusion.

2. Information reflecting new or previously undisclosed public needs.
3. A significant change in community attitude or priorities.
4. Demonstrable inconsistency with another Plan provision.
5. Statutory changes affecting the Plan.
6. All applicable Statewide Planning Goals.

Implementation Strategies – Amendments shall be based on the following:

1. A significant change in one or more Goal or Policy.
2. Availability of new and better strategies such as may result from technological or economic changes.
3. Demonstrable ineffectiveness of present strategy(s).
4. Statutory changes affecting the Plan.
5. Demonstrable budgetary constraints in association with at least one of the above criteria.
6. All applicable Statewide Planning Goals.

Street Re-classifications, that include the re-classification of a lower order street to either a collector or arterial street, or when re-classifying a collector street to an arterial street, and when the re-classification is not a part of a major (Class A) legislative amendment, shall be based on the following:

1. A demonstrated change in need for capacity which is consistent with other plan provisions.
2. Consideration of alternatives to the proposed revision which includes alternative vehicle routes and alternative travel modes that would better preserve the livability of affected residential neighborhoods.
3. A significant change in one or more Goal or Policy.
4. Statutory changes affecting the Plan.
5. Demonstrable budgetary constraints in carrying out the existing plan.
6. All applicable Statewide Planning Goals.

Map Designations – Amendments shall be based on the following:

1. A significant change in one or more Goal, Policy, or Implementation strategy.
2. Demonstrated need for the change to accommodate unpredicted population trends, to satisfy urban hosing needs, or to assure adequate employment opportunities.
3. The orderly and economic provision of key public facilities.
4. Maximum efficiency of land uses within the current urbanizable area.
5. Environmental, energy, economic and social consequences.
6. Compatibility of the proposed change with other elements of the City *Comprehensive Plan.*
7. All applicable Statewide Planning Goals.

Urban Growth Boundary – Amendments should be based on the following:

1. A significant change in one or more Goal, Policy, or Implementation Strategy.
2. Demonstrated need for the change to accommodate unpredicted population trends, to satisfy urban hosing needs, or to assure adequate employment opportunities.
3. The orderly and economic provision of key public facilities.
4. Maximum efficiency of land uses within the current urbanizable area.
5. Environmental, energy, economic and social consequences.
6. Compatibility of the proposed change with other elements of the City *Comprehensive Plan.*
7. All applicable Statewide Planning Goals.

It should be noted that amendments to the Urban Growth Boundary and Urbanization Policies must also be approved by a majority vote of the Jackson County Board of Commissioners pursuant to applicable County procedures and the joint Urban Area Management Agreement.

Citizen Involvement Program – Amendments shall be based on recommendations from the Committee For Citizen Involvement (CCI) and on Statewide Goal 1 and any other applicable Statewide Goals.

Review and Amendment Procedure – Amendments shall be based on Statewide Goal 2 and any other applicable Statewide Goals.

REVISIONS OF DATA, INVENTORIES AND GRAPHICS

Revisions of those portions of the Plan document which do not affect a Plan Conclusion, Goal, Policy, Implementation Strategy, General Land Use Plan Map designation, Urban Growth boundary, Citizen Involvement Program or Review and Amendment Procedures may be made when needed by order of the Planning Director. Such revision shall be transmitted to the Planning Commission, City Council, and all other recorded holders of the *Comprehensive Plan.*