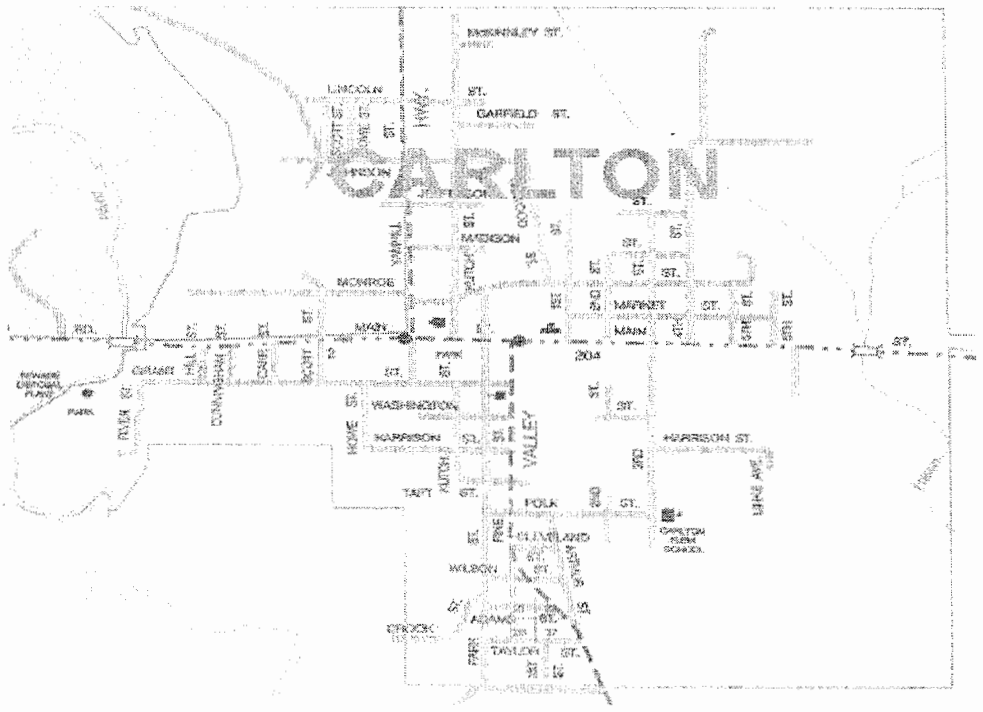
Final Report

City of Carlton
Transportation System Plan



December 1999

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The contents of this document do not necessarily reflect views or policies of the State of Oregon.

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CHAPTER 1
INTRODUCTION

This transportation system plan (TSP) addresses the anticipated transportation needs for the year 2018. The TSP is being prepared to address federal and state regulations that require urban areas to do long-range planning. The long range planning is intended to serve as a guide for the City of Carlton to management their existing transportation facilities and to plan for the development of future transportation facilities.

REQUIREMENTS

The TSP was developed in compliance with the requirements of TEA-21, the Statewide Planning Goal 12, and the Transportation Planning Rule (TPR – OAR Chapter 660, Division 12).

The TEA-21 legislation specifies requirements for statewide and metropolitan area planning. Although TEA-21 does not specify requirements for areas less than a population of 50,000, it is still relevant to Carlton TSP planning since it defines how federal aid is dispersed for highway and transit projects. The planning requirements under TEA-21 parallel the requirements under the TPR.

Statewide Planning Goal 12 was developed "to provide and encourage a safe, convenient and economic transportation system." The following guidelines are to be followed in developing or updating a TSP:

> "A transportation plan shall (1) consider all modes of transportation including mass transit, air, water, pipeline, rail, highway, bicycle and pedestrian; (2) be based upon an inventory of local, regional and state transportation needs; (3) consider the differences in social consequences that would result from utilizing differing combinations of transportation modes; (4) avoid principal reliance upon any one mode of transportation; (5) minimize adverse social, economic and environmental impacts and costs; (6) conserve energy; (7) meet the needs of the transportation disadvantaged by improving transportation services; (8) facilitate the flow of goods and services so as to strengthen the local and regional economy; and (9) conform with local and regional comprehensive land use plans."

The Oregon TPR requires that cities, counties, Metropolitan Planning Organizations (MPOs), and state agencies prepare and adopt TSPs. A TSP is defined as "a plan for one or more transportation facilities that are planned, developed, operated and maintained in a coordinated manner to supply continuity of movement between modes, and within and between geographic and jurisdictional areas." The TPR encourages multi-modal transportation systems to reduce the dependence on auto traffic.

Although the City of Carlton was eligible for an exemption to the TPR requirements since it has a population of less than 2,500, the city elected to produce a TSP to help plan its future transportation needs. This plan was developed under a Transportation Growth Management (TGM) grant. The TSP elements produced included the following:

- Street system plan for a network of arterials, collectors, and local streets
- Bicycle and pedestrian plan
- Public transportation plan
- Air, rail, water, and gas pipeline plan
- Policies and land use regulations for implementing the TSP

- Transportation system and demand management plan
- Transportation financing plan

PLANNING AREA

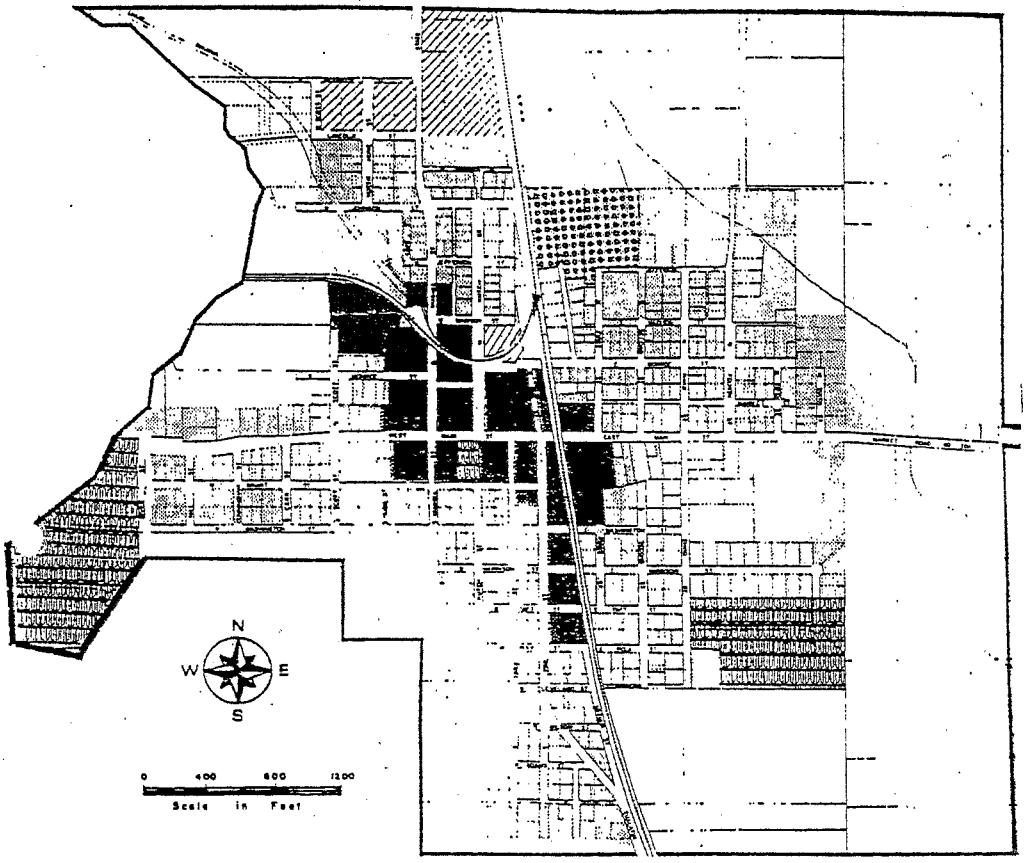
The planning area of the City of Carlton TSP is the urban growth boundary (UGB). The City of Carlton street layout is in a discontinuous grid pattern. There are only a few north-south and east-west streets that are continuous and provide significant access. Yamhill Street, Kutch Street, Park Street, Pine Street, 3rd/ 4th Street, and Highway 47 are the major north-south travel corridors serving the City. Monroe Street, Main Street, Grant Street, and Polk Street are the primary east-west roads in Carlton.

The commercial downtown area of the City of Carlton is primarily centered along Main Street. Other areas with commercial development are Yamhill Street and Pine Street. The remainder of the city streets generally serves as local access streets for the residential areas. This can be seen by the land use map depicted in Figure 1-1. For reference, the zoning within the study area is shown as Figure 1-2.

THE PLANNING PROCESS

The TSP planning process was a combination of technical analyses; comment and review by Carlton, ODOT, and Mid-Willamette Valley Council of Governments; input from a Technical Advisory committee (TAC); and public involvement through a series of public open houses. The key elements of the planning process included the following:

- Review existing plans, policies, and standards – see Appendix A
- Public Involvement – series of public open houses, newsletters, survey/questionnaire, direct mailings, and TAC meetings – See Appendix B
- Development of transportation goals, objectives, and policies
- Inventory existing transportation system and develop existing conditions
- Determine future transportation needs
- Develop and evaluate transportation system alternatives
- Develop and implement the TSP



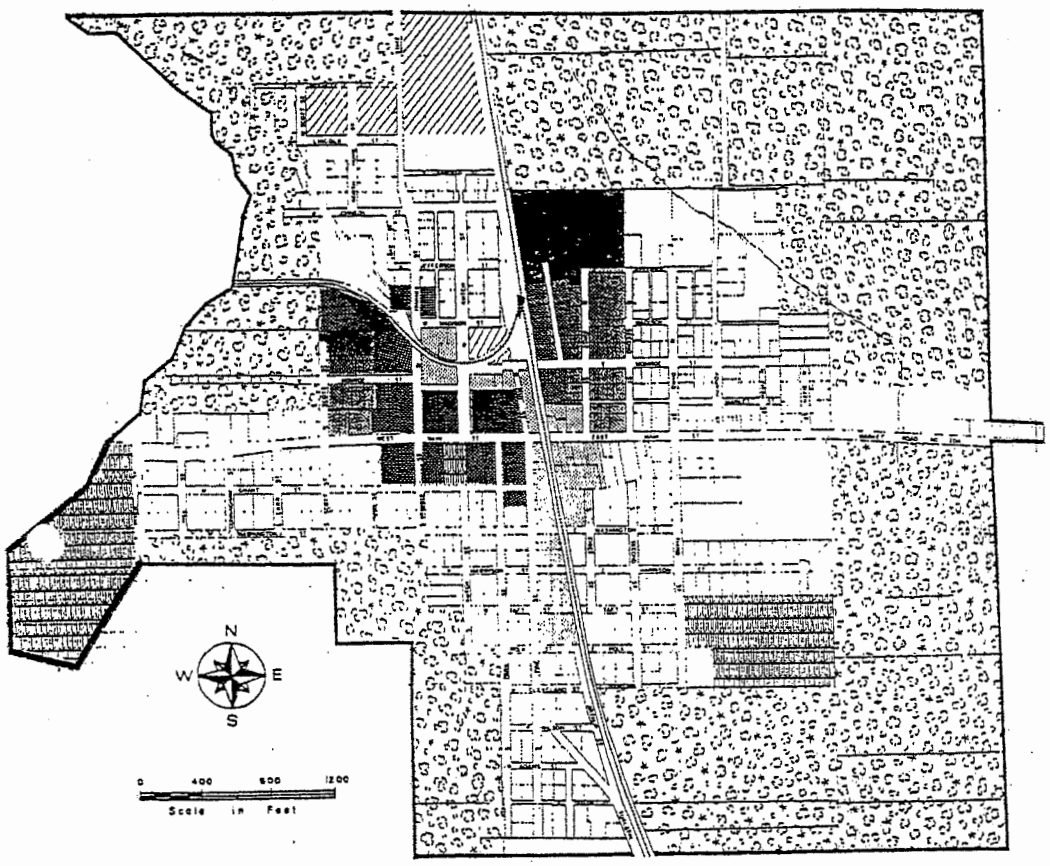
June 1981
COMPREHENSIVE PLAN MAP,

Residential
Industrial
Mobile Home Residential
Public Facility
Commercial
Agricultural Holding/
Future Residential

N

Source: City of Carlton Comprehensive Plan, June 11, 1979

Figure 1-1
Land Use Map



ZONING MAP, June 1981

Residential
Multi-Family Residential
Mobile Home
Public Facility
Commercial
Commercial-Industrial
General Industrial
Agricultural Holding

N

Source: City of Carlton Comprehensive Plan, June 11, 1979

Figure 1–2
Zoning Map

CHAPTER 2
TRANSPORTATION GOALS, OBJECTIVES, AND POLICIES

Goals, objectives, and policies for the transportation system plan (TSP) were developed to guide the planning process. The following goals and objectives were developed from information contained in the city's Comprehensive Plan, input from the public involvement process, and to meet the requirements of the Transportation Planning Rule (TPR). An overall goal was drawn for the plan, along with more specific goals, objectives, and policies.

OVERALL TRANSPORTATION GOAL

Develop a balanced multi-modal transportation system that will accommodate future growth in a safe, convenient, and economically feasible manner. In developing the future transportation system of the City of Carlton, the existing character of the city should be preserved.

Goal 1 – Preserve the function, capacity, level of service, and safety of State Highway 47.

Objectives

A. Develop access management standards that will meet the requirements of the TPR and also consider the needs of the community.

B. Develop an alternate truck route to mitigate current truck impacts through downtown Carlton.

C. Preserve the capacity and function of the state highway by promoting alternative modes of transportation, transportation demand management programs (i.e. ridesharing and park and ride), and transportation system management (TSM) measures.

D. Maintain a volume/capacity ratio of 0.80 or better along Highway 47.

E. Evaluate the need for traffic control devices along Highway 47.

Policies

A. The City shall coordinate all transportation-related activities impacting Highway 47 with the Oregon Department of Transportation.

B. The City shall conform to Oregon Department of Transportation standards and practices with transportation issues concerning Highway 47.

C. The City shall coordinate with the Oregon Department of Transportation on all land use decisions impacting Highway 47.

D. The City shall work with the Oregon Department of Transportation to further refine and eventually implement the Highway 47 transportation improvements identified in the Transportation System Plan.

Goal 2 – Enhance the transportation mobility and safety on the local street system.

Objectives

A. Continue to develop the road system as the principal mode of transportation.

B. Maintain a level of service standard of LOS D or better.

C. Develop a local street plan to preserve future rights-of-way for future streets and to maintain adequate local circulation in a manner consistent with Carlton's existing street grid system.

D. Require developments to construct their accesses consistent with the local street plan.

E. Develop an access management policy for the local arterial system and direct commercial development access to local streets wherever possible.

F. Encourage development to occur near existing community centers where services are presently available to minimize the need for expanding services and to more efficiently utilize existing resources.

G. Examine the need for speed reduction in specific areas such as adjacent to local schools.

H. Identify local traffic problems and recommend solutions.

I. Review and revise, if necessary, street cross section standards for local, collector, and arterial streets to enhance safety and mobility.

J. Develop and adhere to a transportation improvement program implementing the improvement recommendations of the TSP as funding is identified.

Policies

A. Approval Processes for Transportation Facilities

The following policies relate to the approval processes for transportation facilities:

1. The Transportation System Plan is an element of the City's Comprehensive Plan. It identifies the general location of transportation improvements. Changes in the specific alignment of proposed public road and highway projects that shall be permitted without plan amendment if the new alignment falls within a transportation corridor identified in the Transportation System Plan.

2. Operation, maintenance, repair, and preservation of existing transportation facilities shall be allowed without land use review, except where specifically regulated.

3. Dedication of right-of-way, authorization of construction and the construction of facilities and improvements, for improvements designated in the Transportation System Plan, the classification of the roadway and approved road standards shall be allowed without land use review.

4. Changes in the frequency of transit services that are consistent with the Transportation System Plan shall be allowed without land use review.

5. For State projects that require an Environmental Impact Study (EIS) or Environmental Assessment (EA), the draft EIS or EA shall serve as the documentation for local land use review, if local review is required.

   (a) Where the project is consistent with the Transportation System Plan, formal review of the draft EIS or EA and concurrent or subsequent compliance with applicable development standards or conditions;

   (b) Where the project is not consistent with the Transportation System Plan, formal review of the draft EIS or EA and concurrent completion of necessary goal exceptions or plan amendments.

B. Protection of Transportation Facilities

The following policies relate to the protection of existing and planned transportation facilities:

1. The City shall protect the function of existing and planned roadways as identified in the Transportation System Plan.

2. The City shall include a consideration of their impact on existing or planned transportation facilities in all land use decisions.

3. The City shall protect the function of existing or planned roadways or roadway corridors through the application of appropriate land use regulations.

4. The City shall consider the potential to establish or maintain accessways, paths, or trails prior to the vacation of any public easement or tight-of-way.

5. The City shall preserve right-of-way for planned transportation facilities through exactions, voluntary dedication, or setbacks.

   The one exception to this policy is the right-of-way of requirement for the truck by-pass improvement alternative identified in the Transportation System Plan. This alternative is the preferred alternative and requires right-of-way takes from the railroad and a private land owner. Due to the uncertainty in funding from the Oregon Department of Transportation and public comment at the Transportation System Plan hearings, the Planning Commission and City Council has determined that land use actions related to the private land owner affected by the truck by-pass improvement alignment right-of-way needs will not be required to dedicate the needed right-of-way. The needed right-of-way will only be obtained if funding becomes available prior to any land use actions by the private land owner.

C. The local street plan in the Transportation System Plan shall be implemented by local developments. The local street plan identifies general alignments of future local streets and maintains a grid system whenever possible. Developers shall be required to follow

the general goals and objectives of the local street plan. Flexibility is allowed only as the proposed modifications still meet the integrity of the overall plan and circulation objectives.

Any modifications to the local street plan shall be reviewed by the Planning Commission. The Planning Commission will then make a recommendation to the City Council. The City Council will make a final determination to allow or deny any modification. The decision for modification shall be based on the criteria whether the integrity of the overall local street plan is still met and circulation objectives can still be achieved.

D. Railroad Crossing

In the event a developer is unable to acquire the necessary right-of-way and permission to cross the Southern Pacific Railroad right-of-way, for the purposes of street extensions as shown in the City's Transportation System Plan, after good faith attempts, then the City shall proceed to acquire such right-of-way through the exercise of the City's power of eminent domain. The street extension must serve proposed uses which are permitted under the City Zoning Code, and for which preliminary plat approval has been granted if required.

The City shall keep account of time and expenses incurred in acquiring said right-of-way, including court costs, and the developer shall pay all such expenses, together with the amount of judgement or settlement, as a condition of issuance of construction permits. The City may require the posting of a cash bond, or other security acceptable to the City, to cover the estimated costs of the proceeding and costs for compensation to the owner of the railroad right-of-way.

Any settlement of condemnation action must be concurred in by the developer. In the event a developer decides to abandon the development, they shall pay to the City all costs incurred in preparing for and prosecuting the condemnation action.

All rights-of-way acquired by the developer, or for the developer, shall be dedicated to the City prior to construction of any street.

Goal 3 – Increase the use of alternative modes of transportation (walking, bicycling, rideshare/carpooling, and transit) through improved access, safety, and service. Increasing the use of alternative transportation modes includes maximizing the level of access to all social, work, and welfare resources for the transportation disadvantaged. The City of Carlton seeks for its transportation disadvantaged citizens the creation of a customer-oriented regionally coordinated public transit system that is efficient, effective, and founded on present and future needs.

Objectives

A. Develop a city-wide pedestrian and bicycle plan providing for sidewalks, bikeways, and safe crossings.

B. Promote alternative modes and rideshare/carpool programs through community awareness and education.

C. Plan for future expanded transit service by coordinating with regional transit service efforts.

D. Seek Transportation and Growth Management (TGM) and other funding for projects evaluating and improving the environment for alternative modes of transportation.

E. Seek further improvement of mass transit systems to the City of Carlton by encouraging more frequent scheduling of commercial carriers and by continued support of those systems presently developed for mass transit in the region.

F. Transportation Disadvantaged

1. Continue to support programs for the transportation disadvantaged where such programs are needed and are economically feasible.

2. Increase all citizens' transportation choices.

3. Identify and retain community identity and autonomy.

4. Create a customer-oriented focus in the provision of transportation services.

5. Hold any regional system accountable for levels and quality of service.

6. Enhance public transportation sustainability.

7. Promote regional planning of transportation services.

8. Use innovative technology to maximize efficiency of operation, planning, and administration of public transportation.

9. Inter-community and intra-community transportation is equally necessary for the transportation disadvantaged.

Policies

A. Pedestrian and Bicycle Circulation

1. It is the policy of the City to plan and develop a network of streets, access-ways, and other improvements, including bikeways, sidewalks, and safe street crossings to promote safe and convenient bicycle and pedestrian circulation within the community.

2. The City shall require streets and accessways where appropriate to provide direct and convenient access to major activity centers, including downtown, schools, shopping areas, and community centers.

3. The City shall follow the sidewalk improvement plan to develop the pedestrian system. Included within the pedestrian plan is a priority system that shall be followed.

4. Bicycle facilities on local streets shall be shared facilities with general traffic since local street traffic volumes are low and narrow local roads create a hardship in the development of exclusive bike lanes.

5. Retrofitting existing arterials and collectors within the Urban Growth Boundary with bike lanes shall be considered only when deemed appropriate and practical by the City Council.

6. The development of bike lanes shall be considered for all new arterials and collectors within the Urban Growth Boundary except on limited access freeways. The consideration the development of bike lanes shall be based on availability of right-of-way and financial ability.

7. Wherever and whenever practically possible, bikeways and pedestrian accessways shall connect to local and regional travel routes.

8. Bikeways and pedestrian accessways shall be designed and constructed to minimize potential conflicts between transportation modes. Design and construction of such facilities shall follow the guidelines established by the Oregon Bicycle and Pedestrian Plan.

9. Bicycle parking facilities shall be provided at all new residential multifamily developments of four units or more, commercial, industrial, recreational, and institutional facilities.

B. Transit

1. Support the continued operation of existing public transit services is a priority.

2. The City shall support efforts to coordinate with governmental and private agencies in the planning and provision of public transportation services and support a regional program to improve services, particularly for the transportation disadvantaged.

3. The City will cooperate with Yamhill County and other agencies in investigating public transit possibilities, including bus and rail.

4. The City will coordinate with other jurisdictions when the need for park-and-ride facilities is studied.

Goal 4 – Improve coordination between the City of Carlton, Yamhill County, and the Oregon Department of Transportation (ODOT).

Objectives

A. Cooperate with ODOT in the implementation of the Statewide Transportation Improvement Program (STIP).

B. Encourage improvement of state highways, especially Highway 47.

C. Work with Yamhill County and ODOT in establishing cooperative road improvement programs and schedules.

D. Work to establish the right-of-way needed for new roads identified in the TSP.

E. Take advantage of federal and state highway funding programs.

Policies

A. The City shall coordinate with the Oregon Department of Transportation to implement the highway improvements listed in the Statewide Transportation Improvement Program (STIP) that are consistent with the Transportation System Plan and comprehensive plan.

B. The City shall consider the findings of ODOT's draft Environmental Impact Statements and Environmental Assessments as an integral parts of the land use decision-making procedures if the documents are received in a timely manner for review by the City of Carlton. A timely manner shall constitute a minimum time frame of 45 days for review and comment by the City of Carlton. Other actions required, such as a goal exception or plan amendment, will be combined with review of the draft EA or EIS and land use approval process.

CHAPTER 3
TRANSPORTATION SYSTEM INVENTORY

As part of the planning process, an inventory was conducted of the existing transportation system in the City of Carlton. This inventory included the street system as well as pedestrian, bikeway, public transportation, rail, air, water and pipeline systems.

STREET SYSTEM CHARACTERISTICS AND FUNCTIONAL CLASSIFICATION

The existing street system inventory was conducted for all roadways within Carlton. Inventory elements include:

- street classification and jurisdiction
- street width and right-of-way
- number of travel lanes
- presence of on-street parking, sidewalks, or bikeways
- speed limit; and
- general pavement conditions

Appendix C lists the complete roadway inventory.

State Highways – Highway 47

Carlton is served by one state highway, Highway 47. Highway 47 serves as the major route through town with significant commercial and residential development focused along it.

Highway 47 is a two-lane roadway from the north city limits to Main Street with a 30 mph speed limit. This section of Highway 47 is also known as Yamhill Street and has a north-south alignment. The roadway has intermittent curbs, sidewalks, and on-street parking. The pavement is in generally poor to fair condition with 11-foot travel lanes and 3 to 8-foot shoulders based on the existing street system inventory in Appendix C.

As Highway 47 enters downtown Carlton, it changes to an east-west alignment and is locally known as Main Street. The downtown section of Highway 47 is between Yamhill and Pine Streets. The highway along this section is 40 feet wide with on-street parking on both sides of the roadway, eight-foot sidewalks, and a 20 mph speed limit. The pavement condition is fair based on the 1997 Pavement Condition Report published by the Pavements Unit Section of the Oregon Department of Transportation.

When Highway 47 reaches Pine Street, it changes back to a north-south alignment and is locally known as Pine Street. Highway 47 runs along the Pine Street alignment to south of Cleveland Street. South of Cleveland Street, Highway 47 runs along its own alignment. Sidewalks generally exist along both sides of the roadway. On-street parking only exists along a small section between Main Street and Grant Street. The roadway width ranges from 22 to 34 feet with pavement conditions ranging from poor to fair. The speed limit is 30 mph. A school zone with a 20 mph speed limit during school commuting hours exists between Taft and Cleveland Streets.

The adopted *1999 Oregon Highway Plan* (OHP) classifies the state highway system into six categories: Interstate Highways, Statewide Highways, Intermodal Connectors, Regional Highways, and District Highways. In addition to the highway classifications, there are four special purpose designations. These special designations include special land use, freight route, Scenic Byway, and lifeline route designations.

Highway 47 in Carlton is identified as a regional highway. According to the *1999 OHP*, the primary function of a regional highway is to "provide connections and links to regional centers, Statewide or Interstate Highways, or economic or activity centers of regional significance. The management objective is to provide safe and efficient, high-speed, continuous-flow operation in rural areas and moderate to high-speed operations in urban and ubanizing areas. A secondary function is to serve land uses in the vicinity of these highways. The *1999 OHP* has defined a performance measure for Highway 47 as a volume to capacity (v/c) ratio equal to or less than 0.80. This performance measure establishes the minimum standard of acceptable operation. A v/c ratio of 0.80 means that 80 percent of the capacity of the roadway is utilized based on an established planning level capacity and measured traffic volume.

Street Classification

Identification of the roadway functions is the basis for planning roadway improvements and the appropriate standards (right-of-way, roadway width, design speed) that would apply to each roadway facility. The following definitions serve as a general guide in determining city street classifications:

- ***Arterials*** – Intra- and inter-community roadways connecting community centers with major facilities. In general, arterials serve both through traffic and local traffic. Access should be partially controlled with infrequent access to abutting properties.

- ***Collectors*** - Streets connecting residential neighborhoods with smaller community centers and facilities as well as access to the arterial system. Property access is generally a higher priority for collector arterials; through-traffic movements are served as a lower priority.

- ***Local Access Streets*** - Streets within residential neighborhoods connecting housing (also can be commercial, industrial, etc.) with the arterial system. Property access is the main priority; through traffic movement is not encouraged.

Based on the current Carlton Comprehensive Plan, Carlton has the following arterials:

- Main Street
- Pine Street
- Yamhill Street/Highway 47

The following collectors exist within the Carlton urban growth boundary:

- Johnson Street from Yamhill Street to Kutch Street
- Jefferson Street from Yamhill Street to Kutch Street
- Madison Street from Yamhill Street to Kutch Street
- Monroe Street from Scott Street to 5th Street
- Cunningham Street from Grant Street to Main Street
- Scott Street from Main Street to Monroe Street
- Grant Street from Cunningham Street to Pine Street

- 3rd Street from southern terminus to Main Street
- 4th Street from Main Street to Johnson Street
- Park Street from south city limits to Grant Street
- Polk Street from Park Street to 3rd Street

Figure 3-1 shows the roadway functional classification identified in the Carlton Comprehensive Plan.

The state designation of functional classification is different than the city's designations primarily due to the difference between state and local travel function. The ODOT functional classification map shows Highway 47 as a minor arterial from Main Street to the south city limits and Main Street to the north city limits. Highway 47 in the downtown Carlton area between Yamhill Street and Pine Street is classified as an urban collector. To minimize the confusion between state and local functional classification systems, Figure 3-1 defines Highway 47 as "state system" rather than applying a local classification designation to the highway.

The existing grid is fairly well-developed and centers on two major arterials. Highway 47 divides the City east and west. Entering the City from the south, Highway 47 is composed of Pine Street, then Main Street for a short distance to the west, then Yamhill Street leaving the city to the north. Hendricks Road, entering the City from the east, becomes Main Street and divides the City north and south. Several streets are designated collectors – including Grant Street, Park Street, Polk Street, Monroe Street, 3rd Street South, 4th Street North, and others (see Figure 3-1. Roadway Functional Classifications). The existing grid system has many east-west discontinuities due to the presence of the W & P railroad rights-of-way that run north and south typically within one to two blocks of Pine Street and Yamhill Street. There has been no access restriction to the arterial roadways; accesses exist at almost every block interval.

There are three significant local destinations within the Urban Growth Area (UGA). The commercial/business district lies at the center of town providing retail, services, and employment. Access to the district is primarily by Yamhill Street, Main Street, Pine Street, and Monroe Street. The public elementary school is in the center of the southeast quadrant of the City and is accessed by the Polk Street and 3rd Street collectors. One of the City's parks lies to the west of the City near the Yamhill River. Grant Street is used to access that park.

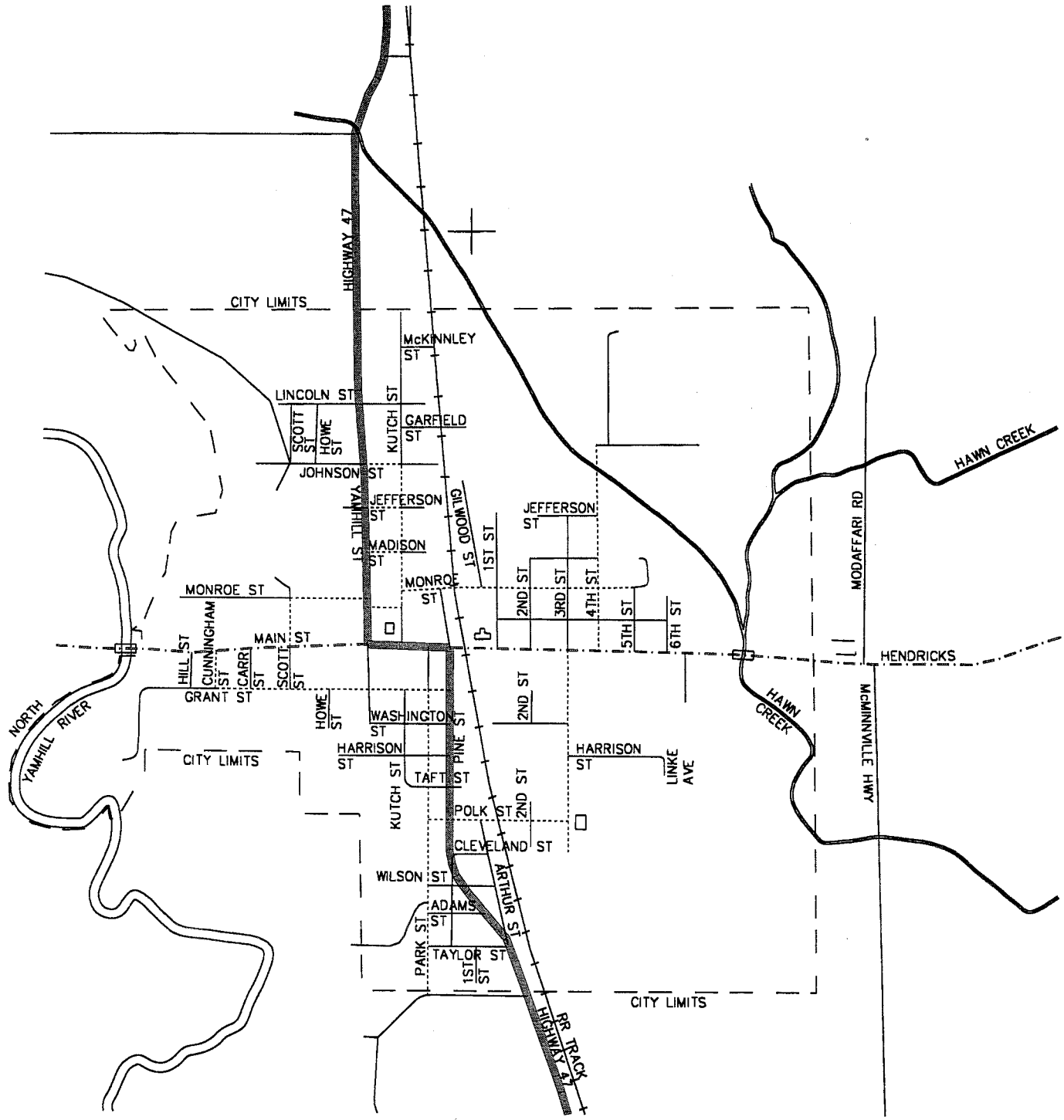
The remainder of the city streets generally serves as local access streets for the residential areas. For reference, the land use and zoning maps have been provided previously in Chapter 1, Introduction.

Bridges

There are no bridges listed in ODOT's bridge inventory for the City of Carlton. However, one bridge within the City does exist. It is located on Main Street and crosses Hawn Creek. This bridge is maintained by Yamhill County and is considered structurally sufficient.

PEDESTRIAN SYSTEM

The relatively small size of Carlton indicates that walking could be employed regularly for short trips to reach a variety of destinations. Typically, a short trip that would be taken by a pedestrian would be about one-half mile. Encouraging pedestrian activities may not only decrease the use of the personal automobile



State System
Arterial Street
Collector Street
Minor Street
City Limits

Figure 3-1
Roadway Functional Classifications

but may also provide benefits for retail businesses. Where people find it safe, convenient, and pleasant to walk, they may linger and take notice of shops overlooked before.

Sidewalks are limited in the City of Carlton. They exist generally in the downtown area along Main Street. Other sidewalk locations exist sporadically in the residential areas – but are typically narrow, in poor condition, and disjointed. The sidewalk locations are shown in Figure 3-2. Figure 3-2 shows both the sidewalk widths and condition. Widths of less than 5 feet or poor condition sidewalks are considered deficient.

BIKEWAY SYSTEM

ODOT categorizes bicycle facilities into the following four major classifications:

- Shared roadway - Bicycles and vehicles share the same roadway area under this classification. The shared roadway facility is best used where there is minimal vehicle traffic to conflict with bicycle traffic.

- Shoulder bikeways - This bicycle facility consists of roadways with paved shoulders to accommodate bicycle traffic.

- Bike lanes - Separate lane adjacent to the vehicle travel lane for the exclusive use of bicyclists are considered bike lanes.

- Bike paths - These bicycle facilities are exclusive bicycle lanes separated from the roadway.

There are no bicycle facilities within the City, and the shoulders along Highway 47 are not adequate to provide bicyclists with a shoulder bikeway.

PUBLIC TRANSPORTATION SERVICES

Carlton Service Population

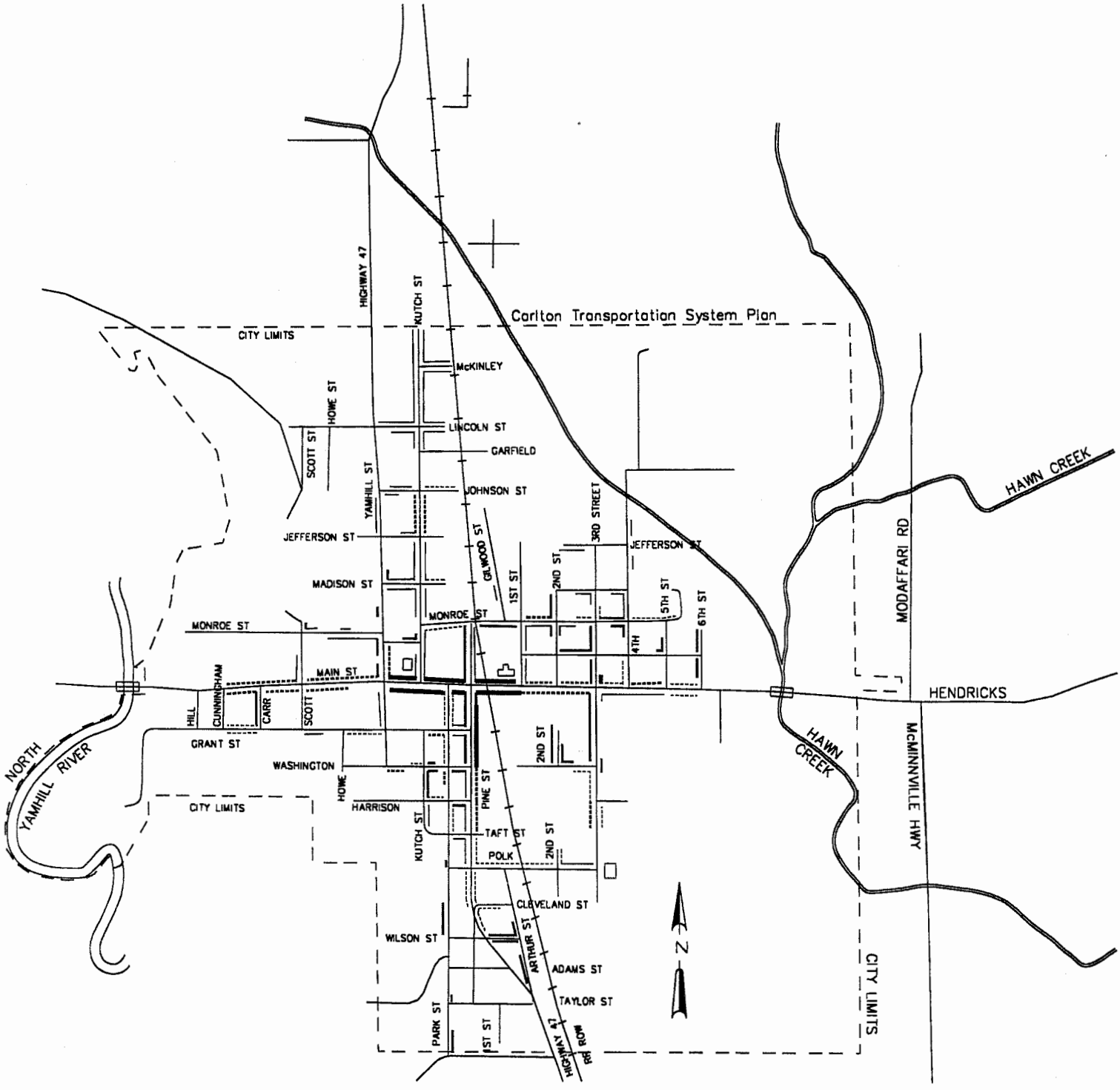
Information in the 1990 Census is used to identify the number of people in Carlton more likely to use, or be more reliant upon, non-auto transportation modes such as sidewalks, bikeways, public transportation, or paratransit services. Public transportation services are generally targeted to serve the needs of two groups:

- People who are transit disadvantaged who do not have, or can not operate, an automobile to obtain medical, educational, social or recreational services and employment; and

- People who presently use a car but would use other transportation alternatives to commute to work.

People living in Carlton characterized as transit disadvantaged in 1990 included:

- 94 people aged 12 to 16 years,



Existing Sidewalk (good condition)
- Width = 8' or Greater
- 5' =< Width < 8'
- Width < 5'

Existing Sidewalk (poor condition)
- Width = 8' or Greater
- 5' =< Width < 8'
- Width < 5'

Figure 3-2
Existing Sidewalk Locations

- 184 people greater than 60 years old, and
- 36 non-institutionalized people with mobility limitations over the ages of 16.
- 61 individuals 18 to 64 with low or moderate incomes who generally may have no personal auto access.

The transit disadvantaged portion of Carlton's population was, in 1990, 375 people, or 30.2% of the total.

Census data showed that in 1990 the workforce in Carlton was 543 people or about 43.7 percent of the population. Driving alone was the most common way to get to work, followed by carpooling. A few individuals walked or bicycled to work while 3 percent worked at home. About 74 percent of the workforce was at their place of employment within 30 minutes of travel, 18 percent had travel times between 30 and 59 minutes, and 7 percent traveled more than one hour.

Inventory of Public Transportation Services and Facilities

One fixed-route transportation service exists, known as YAMCO, that serves Carlton directly. The Yamhill Community Action Agency [YCAP] operates YAMCO and provides service between Carlton, McMinnville, Dayton, Lafayette and Yamhill by single round trip three days per week.

The paratransit service in Carlton is provided by YCAP. YCAP provides dial-a-ride services to all residents with 24-hour advance notice. The service operated Monday through Friday between 10 a.m. and 2 p.m. The system works with a budget which is a combination of Special Transportation Fund money, fair box revenues and a county levy. Fares were $0.85 per trip in 1998.

The Yamhlll County Veterans Transportation Program provides a Portland Shuttle to the Veterans Administration Medical Center for qualified veterans.

There are currently no taxi companies based in Carlton. The closest taxi company is Shamrock Taxi which operates out of the Newberg and McMinnville areas. Shamrock Taxi provides 24-hour pickup and delivery as well as wheelchair transport throughout Yamhill County.

The Yamhill-Carlton School District #1 provides school bus services within the city to the elementary school and to the City of Yamhill to the high school through a contract with a private service provider, Laidlaw Transit Inc.

Passenger rail services are provided by AMTRAK, with Portland Union Station being the closest stop. Shamrock Taxi provides on-call service to the station. The Oregon Rail Passenger Policy and Plan calls for a single-track, electric rail service between McMinnville and Tualatin. The closest point to Carlton on that line would be Lafayette. In the distant future, some consideration has been given to connecting McMinnville with Forest Grove. This line would pass through Carlton.

The closest air passenger service is provided from Portland International Airport [PDX]. Shamrock Taxi provides on-call service to PDX from Carlton. YCAP also provides airport shuttle service on a scheduled four round trips per day. It operates this service seven days per week. The closest pickup point is Lafayette.

Intercity bus service is provided by LINKS, a fixed route service of the YCAP system, from Monday through Friday. Five round trips per day are provided by this service. The closest stop is Lafayette. The service connects McMinnville, Lafayette, Dayton, Dundee, Newberg and Sherwood. It is linked with the Portland Metropolitan area Tri-Met system in Sherwood.

Commercial intercity bus service is by Greyhound, with stops in McMinnville and Lafayette being most accessible to Carlton residents. This is Greyhound's national route #607 which starts in Portland and ends in San Francisco via Coos Bay and Eureka. It provides twice per day service each direction.

Existing Public Transportation Needs

The existing and future public transportation needs were identified by comparing existing facilities and services to ODOT recommendations (ODOT, 1997), regional studies, and input from the public and project technical advisory committee (TAC).

Limited data specific to Carlton is available to identify future public transportation needs. Regional and state data (demographic trends and policy requirements) and projections are used to generally characterize the needs in Carlton.

Demographic trends indicate an increased population, with a higher percentage of elderly (>65 years), living in Oregon in the next 20 years. Oregon's elderly population is expected to double in size.

The Yamhill County TSP concluded that, in cooperation with the cities, it should continue to investigate public transit possibilities, including bus and rail, and if economically feasible, will seek such services as are found to be safe, efficient, and convenient in serving the transportation needs of the residents of the county. It also concluded that for the Carlton/Yamhill area it would maintain current dial-a-ride services and seeks to expand service to a twice daily commuter route to McMinnville more localized dial-a-ride services.

Many of the transportation services described above are targeted to the transportation disadvantaged. The transportation disadvantaged are recognized to be all persons without the ability or capability to use personal conveyance to travel. These include but are not limited to:

- Seniors - Anyone 60 years of age or older.
- Mobility Limited - A person 16 years of age or older who has a temporary or permanent physical, mental or emotional impairment that substantially limits them from going outside their place of residence alone.
- Youth - Anyone between 12 and 16 years of age.
- Resource Limited - individuals in a household with low to moderate incomes who are unable to meet basic human needs due to lack of financial resources and who generally may have no personal auto access

Transportation services for the transportation disadvantaged is a recognized, significant local and regional transportation service inadequacy.

RAIL SERVICE

There is one rail right-of-way, the Union Pacific Railroad, through the City of Carlton. The right-of-way runs parallel to Highway 47 on the east side. No tracks remain in the right-of-way. Local efforts to convert this right-of-way to a pedestrian trail are currently under way. Some regional interest exists in preserving this right-of-way for future light or heavy rail service between McMinnville and Forest Grove.

AIR SERVICE

There are no airports within the City of Carlton planning area. The nearest airport to the City of Carlton is approximately 10 miles to the south, in the City of McMinnville. For regularly scheduled commercial flights, City residents utilize the Portland International Airport.

PIPELINE SERVICE

Although not often considered as transportation facilities, pipelines carry liquids and gases very efficiently. The use of pipelines can greatly reduce the number of trucks and rail cars carrying fluids such as natural gas, oil, and gasoline. There are currently no major regional pipelines through Carlton.

WATER TRANSPORTATION FACILITIES AND ACTIVITIES

There are no navigable waterways within the City of Carlton, and therefore no significant water transportation services available.

CHAPTER 4
CURRENT TRANSPORTATION CONDITIONS

As part of the planning process, the current operating conditions for the transportation system were evaluated.

TRAFFIC VOLUMES

A.m. and p.m. peak hour turning movement traffic volumes were collected in May 1998 at the following study area intersections:

- Highway 47 (Yamhill Street)/Lincoln Street
- Highway 47 (Yamhill Street)/Monroe Street
- Highway 47 (Yamhill Street)/Main Street
- Main Street (Highway 47)/Park Street
- Main Street (Highway 47)/Pine Street (Highway 47)
- Main Street/3rd Street
- Highway 47 (Pine Street)/Polk Street

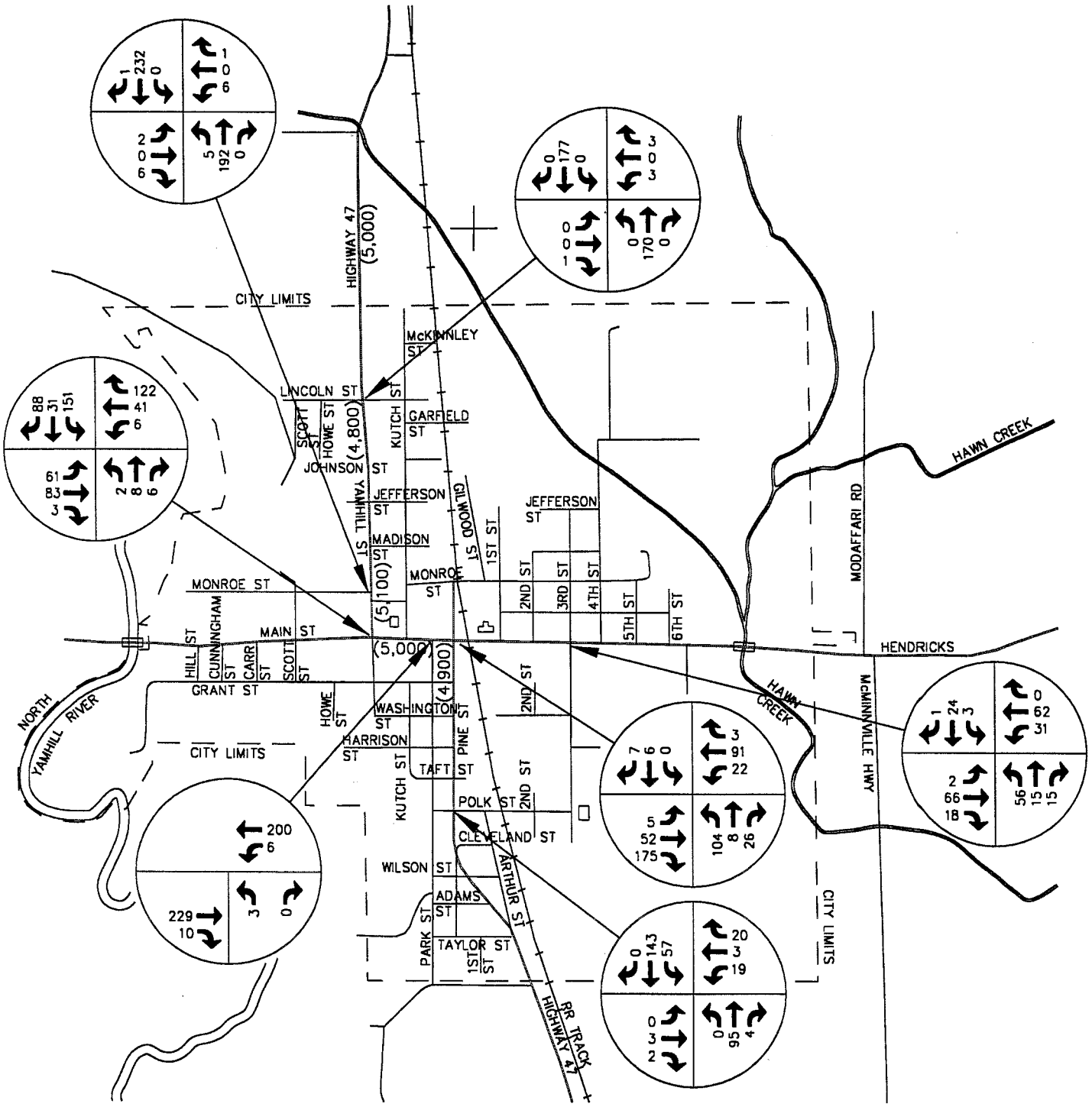
The study intersections generally represent major intersections and intersections adjacent to land uses generating a significant amount of traffic. The a.m. and p.m. peak hour traffic volumes are shown in Figures 4-1 and 4-2, respectively.

The a.m. peak hour traffic counts indicate that the a.m. peak hour begins from about 7:15 to 7:30 a.m. depending on the location. The beginning of the p.m. peak hour begins from about 4:15 to 4:45 p.m.. The a.m. and p.m. peak hour turning movement counts show that the majority of traffic occurs on Highway 47 and Main Street and that the side street traffic is minimal. This is even the case at the Main Street/3rd Street and Highway 47/Polk Street intersections that are affected by school traffic.

Existing average daily traffic volumes were obtained from ODOT's *1997 Traffic Volume Tables* and factored by a 2.0 percent historical growth rate to obtain 1998 daily traffic volumes. These daily traffic volumes are also shown in Figures 4-1 and 4-2. As shown, the average daily traffic volumes on Highway 47 range from 4,800 to 5,300 vehicles per day (vpd) in the Carlton urban growth boundary. This small range in daily traffic volumes along the entire highway alignment through town indicates that a significant amount of traffic through Carlton is generated outside the city limits.

LEVEL OF SERVICE

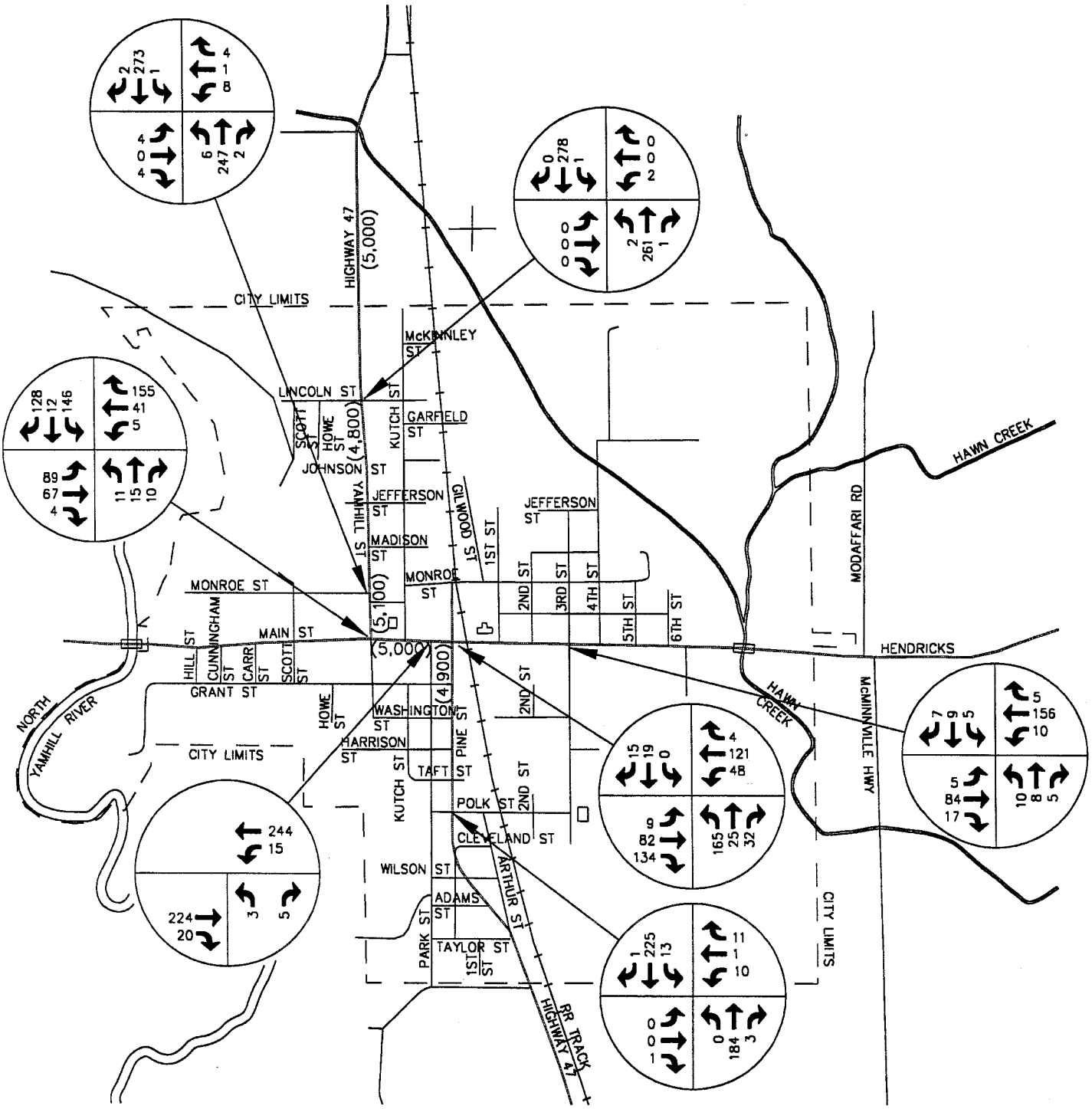
The following section provides a summary of the level of service (LOS) analysis conducted for the Carlton urban growth boundary intersections and roadways. The level of service definition, methodologies used in calculating level of service, and the results of the analysis are summarized below. The purpose of this information is to provide an overview of LOS and to identify its relationship to the transportation goals and policies of the City.



200 ⟶ A.M. Peak Hour Traffic Volume

(3000) Daily Traffic Volume

Figure 4–1
1998 A.M. Peak Hour Traffic Volumes



200 ⟶ P.M. Peak Hour Traffic Volume

(3000) Daily Traffic Volume

Figure 4–2
1998 P.M. Peak Hour Traffic Volumes

Level of Service Definition

Level of Service (LOS) is an estimate of the quality and performance of transportation facility operations in a community. The degree of traffic congestion and delay is rated using the letter "A" for the least amount of congestion to the letter "F" for the highest amount of congestion. The following Level of Service categories provide general descriptions of the different levels of service defined. Along city streets, the community decides what level of traffic congestion is tolerable (i.e. decides whether "C," "D," or some other level). The choice of a particular LOS threshold can vary by planning sub-area, roadway classification, or specific corridor or street.

Along the state highway system (Highway 47), ODOT has defined the level of service standard in the 1999 *Oregon Highway Plan* (OHP). Acceptable level of service is measured based on volume-to-capacity ratio (v/c). The v/c ratio is a measure of the percentage of used capacity on the roadway and ranges from 0.00 which indicated no traffic volumes on the roadway to 1.00 which indicates that the entire capacity of the roadway is being utilized. On Highway 47, the v/c standard is 0.80 as defined in the 1999 *OHP*.

The level of service methodology for unsignalized intersections was based on reserve or unused capacity available for critical turning movements. A theoretical capacity is established for each critical turning movement and is subtracted by the flow rate of that movement to calculate the remaining capacity which is known as the reserve capacity. Level of service values range from LOS A, indicating free-flowing traffic, to LOS F, indicating extreme congestion and long vehicle delays. Table 4-1 summarizes the relationship between level of service and reserve capacity at unsignalized intersections.

TABLE 4-1
LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

Level of Service	Reserve Capacity	Expected Delay
A	400 or more	Little or no delay
B	300 to 399	Short delays
C	200 to 299	Average delays
D	100 to 199	Long delays
E	0 to 99	Very long delays
F	Less than 0	Failure - extreme congestion

Level of service at the roadway mid-blocks was calculated based on correlating the volume-to-capacity ratio (v/c) to the Highway 47 v/c standard of 0.80. The v/c ratio is a measure of the percentage of used capacity on the roadway and ranges from 0.00 (which indicates no traffic volumes on the roadway) to 1.00 (which indicates that the entire capacity of the roadway is being utilized). This methodology is not for design purposes but only for generalized planning purposes to develop an order of magnitude of traffic congestion along existing roadways.

The capacity of the roadway was developed from standard practice planning roadway capacities generally accepted in the transportation planning profession. For a two-lane roadway, the daily roadway capacity ranges from approximately 10,000 to 18,000 vehicles. The actual daily capacity is dependent on the roadway characteristics and can be estimated from peak hour volume data in the 1985 *Highway Capacity Manual,* Transportation Research Board. Smaller cities such as Carlton are likely to have a lower daily roadway capacity. Therefore, a conservative capacity of 14,000 was used for this generalized planning exercise to determine an order of magnitude of congestion along Carlton's roadways. Typically, the 14,000 to 15,000 range is used for lower capacity two-lane arterial roadways in smaller cities or rural areas. Lower daily capacities for two-lane roadways are typically only used for local streets and collectors. Higher two-lane roadway capacities are used in urban areas.

The traffic volumes are from actual daily traffic counts conducted. To derive the v/c ratio, the daily traffic volume is divided by the standard practice planning roadway capacity. A maximum standard v/c ratio of 0.80 has been established by ODOT for Highway 47.

Existing Level of Service

Based on current a.m. peak hour, p.m. peak hour, and daily traffic volumes, level of service was calculated for the study area intersections and roadway mid-blocks. The results of the unsignalized intersection level of service analysis are summarized in Table 4-2. The results of the roadway mid-block level of service are summarized in Table 4-3.

As shown in Table 4-2, all of the study area intersections in both the a.m. and p.m. peak hours operate at LOS A. All of the roadway mid-block sections are also all operating at below the 0.80 v/c standard as shown in Table 4-3. The LOS A at all the study intersections and low v/c ratios at roadway mid-block sections indicate that there are no congestion problems within the City of Carlton.

Although the level of service analysis did not show any congestion problems with Carlton, the public opinion survey conducted for the transportation system plan (TSP) identified that 42 percent of the public felt that heavy traffic congestion exists on Main Street, Yamhill Street, and Pine Street.

TRAFFIC ACCIDENTS & SAFETY

Accident data at the study area intersections and roadway mid-block sections were obtained from ODOT. Data was provided for a three-year period between January 1, 1995 and December 31, 1997. Table 4-4 summarizes the accident data for the roadway mid-block sections. Table 4-5 summarizes the accident data for the study area intersections.

The accident rate for the roadway mid-block sections were reported in both average accidents per year and accidents per million vehicle miles of travel. For comparison purposes, the average state accident rate for non-freeway state facilities was 1.76 accidents per million vehicle miles traveled in 1996 according to the1996 State Highway System Accident Rate Tables, ODOT, 1997. As shown in Table 4-4, all of the roadway mid-block sections have accident rates greater than the state average.

TABLE 4-2
EXISTING INTERSECTION LEVEL OF SERVICE

Signalized Intersection	AM Peak LOS	AM Peak Reserve Capacity	PM Peak LOS	PM Peak Reserve Capacity
Yamhill Street/Lincoln Street				
Northbound Left	A	1342	A	1201
Southbound Left	A	1359	A	1196
Eastbound Approach	A	809	A	443
Westbound Approach	A	753	A	435
Yamhill Street/Monroe Street				
Northbound Left	A	1304	A	1205
Southbound Left	A	1338	A	1238
Eastbound Approach	A	844	A	597
Westbound Approach	A	848	A	520
Yamhill Street/Main Street				
Overall Intersection	A	0.38[1]	A	0.41[1]
Main Street/Park Street				
Northbound Approach	A	534	A	674
Westbound Left	A	1262	A	1241
Main Street/Pine Street				
Overall Intersection	A	0.28[1]	A	0.39[1]
Main Street/3rd Street				
Northbound Approach	A	633	A	737
Southbound Approach	A	754	A	777
Eastbound Left	A	1567	A	1400
Westbound Left	A	1493	A	1482
Pine Street/Polk Street				
Northbound Left	A	1383	A	1347
Southbound Left	A	1553	A	1256
Eastbound Approach	A	540	A	1067
Westbound Approach	A	593	A	820

[1]At all-way stop controlled intersections, level of service is based on the volume-to-capacity (v/c) ratio. The LOS measurements are similar to those of the roadway mid-block section criteria.

TABLE 4-3
EXISTING ARTERIAL ROADWAY LEVEL OF SERVICE SUMMARY

Roadway	Section	AADT	Capacity	V/C Ratio
Highway 47	North City Limits	5,000	14,000	0.36
	North of Johnson Street	4,800	14,000	0.34
	North of Main Street	5,100	14,000	0.36
	East of Yamhill Street	5,000	14,000	0.36
	West of Pine Street	5,300	14,000	0.38
	South of Main Street	4,900	14,000	0.35

TABLE 4-4
ROADWAY SEGMENT ACCIDENT SUMMARY (JANUARY 1994 TO DECEMBER 1996)

Roadway Segment	Average Accidents per Year by Severity			Total (acc/yr)[2]	Total (acc/mvm)[3]
	PDO[1]	Injury	Fatal		
Highway 47					
Monroe St to Main St	0.3	0.0	0.0	0.3	3.57
Kutch St to Park St	0.3	0.0	0.0	0.3	4.28
Park St to Pine St	0.3	0.0	0.0	0.3	4.28
Main Street					
Scott St to Yamhill St	0.3	0.0	0.0	0.3	1.92
5th St to 6th St	0.3	0.0	0.0	0.3	5.17
3rd Street					
Main St to Washington St	0.3	0.0	0.0	0.3	13.11
Grant Street					
Park St to Pine St	0.3	0.0	0.0	0.3	41.10

[1] PDO = property damage only
[2] acc/yr = accidents per year
[3] acc/mvm = accidents per million vehicle miles of travel

TABLE 4-5
INTERSECTION ACCIDENT SUMMARY (JANUARY 1994 TO DECEMBER 1996)

Intersection	Average Accidents per Year by Severity			Total (acc/yr)[2]	Total (acc/mev)[3]
	PDO[1]	Injury	Fatal		
Yamhill St/Lincoln St	0.3	0.0	0.0	0.3	0.12
Yamhill St/Johnson St	0.0	0.3	0.0	0.3	0.12
Yamhill St/Jefferson St	0.3	0.0	0.0	0.3	0.12
Yamhill St/Main St	0.3	1.0	0.0	1.3	0.39
Main St/Cunningham St	0.3	0.0	0.0	0.3	0.16

[1] PDO = property damage only
[2] acc/yr = accidents per year
[3] acc/mev = accidents per million entering vehicles

It should be noted that although these roadway segments have an average accident rate higher than the statewide average, the actual number of accidents occurring on these roadways is small. All of these locations have a rate of 0.3 accident per year. These high accident rates are predominantly a function of very short roadway segment lengths or low traffic volumes which tends to increase the relative importance of even a single accident. Based on the accidents per year, no significant accident problems exist.

As shown in Table 4-5, the intersection accident rates ranged from 0.12 to 0.39 accidents per million entering vehicles. Accident rates in this range are typically considered well below average.

Although no traffic accident problems surfaced from the accident analysis, based on the public opinion survey conducted, truck traffic through town seems to be an issue. Truck traffic through town is considered a problem by 38 percent of the surveyed respondents. Only 19 percent of the surveyed respondents felt that truck traffic was not a problem through town. The remaining surveyed respondents did not respond to the truck traffic question.

Other safety issues were raised by respondents, but were only raised by a few respondents. These issues are referenced in Appendix D.

DEPARTURE TO WORK DISTRIBUTION FROM CENSUS

One way to maximize the use of the existing transportation system is to spread peak traffic demand over several hours instead of a single hour. Statistics from the 1990 Census for Carlton show the spread of departure to work times over a 24-hour period (see Table 4-6). Approximately 25 percent of the total employees depart for work between 7:00 and 8:00 a.m. Another 34 percent depart either the hour before or the hour after the peak.

Assuming an average nine-hour work day, the corresponding afternoon peak can be determined for work trips. Using this methodology, the peak work travel hour would occur between 4:00 and 5:00 p.m. which corresponds with the peak hour of activity measured for traffic volumes. This is consistent with the afternoon peak hours indicated on the p.m. peak hour counts.

Carpooling and telecommuting are briefly discussed in the next section regarding travel mode distribution. These travel modes can effectively reduce the demand on the local and regional transportation system.

TRAVEL MODE DISTRIBUTION

Although the automobile is the primary mode of travel for most residents in Carlton, other modes are used as well. Modal split data is not available for all types of trips; however, the 1990 census data does include statistics for journey-to-work trips as shown in Table 4-7. The census data reflects the predominant use of the automobile.

Most Carlton residents travel to work via private vehicle. In 1990, 66 percent of all trips to work were in an auto, van, or truck. Carpooling accounted for 22 percent of work trips. The remaining 12 percent of work trips were made by walking, bicycling, telecommuting, and other means.

Walking as a means of getting to work was used by 40 people compared to zero people who used public transportation. However, the census does not account for other, non-work uses of transportation, such as shopping or recreation.

TABLE 4-6
DEPARTURE TO WORK DISTRIBUTION

	1990 Census	
Departure Time	**Trips**	**Percent**
12:00 a.m. to 4:59 a.m.	22	4.2
5:00 a.m. to 5:59 a.m.	40	7.6
6:00 a.m. to 6:59 a.m.	104	19.8
7:00 a.m. to 7:59 a.m.	130	24.7
8:00 a.m. to 8:59 a.m.	73	13.9
9:00 a.m. to 9:59 a.m.	26	4.9
10:00 a.m. to 10:59 a.m.	12	2.3
11:00 a.m. to 11:59 a.m.	9	1.7
12:00 p.m. to 3:59 p.m.	64	12.2
4:00 p.m. to 11:59 p.m.	46	8.7
Total	526	100.0

TABLE 4-7
JOURNEY TO WORK TRIPS

	1990 Census	
	Trips	Percent
Car, Truck, or Van:		
Drove alone	360	66.3
Carpooled	121	22.3
Public Transportation	0	0.0
Motorcycle	0	0.0
Bicycle	2	0.4
Walked	40	7.4
Other Means	3	0.5
Worked at Home	17	3.1
Total	543	100.0

EXISTING DEFICIENCIES

Although there are no traffic operations deficiencies based on the level of service and accident analyses, the following transportation deficiencies have been identified within the City of Carlton from the public opinion surveys, public comment at the public open houses, and the technical advisory committee and staff interviews:

- Truck traffic through the downtown area of the City of Carlton creates a negative impact to the community. Trucks have a difficult time negotiating the Yamhill Street/Main Street and Pine Street/Main Street intersections and create safety concerns by encroaching on both the approaches and departures of the intersections. Also, the truck traffic through downtown Carlton creates a negative impact and safety concerns to pedestrians.

- The two three-way stop-controlled intersections at Yamhill Street/Main Street and Pine Street/Main Street cause confusion to some motorists who mistake the intersections as all-way stop controlled. This confusion creates a potential safety problem.

- There are many sidewalk locations that are deficient within the City of Carlton. Many of the sidewalks are in poor physical condition, too narrow, or poorly maintained with overgrown vegetation. Also, the sidewalk system within the City is fragmented and disjointed. It is very difficult to use the sidewalks to safely walk from one area of town to another. The deficient locations are identified in the Non-Motorized element of this TSP.

- There is a perception among some local residents and business owners of Carlton that there is a parking shortage in the downtown area of the City and the post office.

CHAPTER 5
2018 TRAFFIC VOLUME FORECAST

2018 TRAFFIC FORECAST METHODOLOGY

The 2018 traffic projections developed as part of this study are used as the basis for assessing future roadway conditions and likely improvement requirements. These projections have been developed by a two-step process. First, the historical relationship between traffic growth and population growth was developed. Second, this traffic-to-population relationship was applied to the 20-year projected population to obtain the 20-year traffic forecast.

The population growth in the City of Carlton between 1980 and 1997 has been very modest. Based on historical population information obtained from the Mid-Willamette Council of Governments, the City of Carlton's population has increased from 1,302 to 1,500 from 1980 to 1997. This equates to a population growth rate of 0.8 percent. Table 5.1 summarizes this information.

TABLE 5-1
CARLTON HISTORIC POPULATION GROWTH TREND

1980	1997	1980-1997 Percent Change	Annual Growth Rate
1,302	1,500	15.2%	0.8%

Table 5-2 shows the Highway 47 traffic growth rate in the City of Carlton between 1980 and 1997. As shown in Table 5-2, the historic annual traffic growth rates range from 0.8 to 3.3 percent. The higher traffic growth has occurred in the northern area of Carlton. The traffic growth rate in the northern area of Carlton is over twice that of the downtown and southern areas. The weighted average historic annual traffic growth rate is 1.7 percent in the City of Carlton.

The historic traffic-to-population growth rate ratio from 1980 to 1997 is 2.07. This ratio is extremely high. The ratio seems to be biased by the higher traffic growth from the northern area of the City. By eliminating the traffic growth data from the northern area of the City, the weighted average historic annual traffic growth rate decreases to 1.1 percent as shown in Table 5-3. Applying this traffic growth rate with the historic population growth rate of 0.8 percent yields a more reasonable historic traffic to population growth ratio of 1.32.

The Mid-Willamette Council of Governments has recently developed a 20-year population projection for the City of Carlton for their Comprehensive Plan update. A 2018 population of 2,480, which is equivalent to a 2.5 annual growth rate, was developed and accepted by the City of Carlton and Yamhill County. Prior to the population forecast update by the Mid-Willamette Council of Governments, Yamhill County was projecting a much lower population projection for the City of Carlton. With the recent work by the Mid-Willamette Council of Governments, Yamhill County has agreed to modify their projections for the City of Carlton. Applying the traffic to population growth ratio of 1.32 yields a 3.3 percent annual traffic growth factor to develop the 20-year traffic forecast.

The 2018 A.M. and P.M. peak hour traffic volume forecasts based on the annual traffic growth rate of 3.3 percent are shown in Figures 5-1 and 5.2, respectively.

TABLE 5-2
CARLTON HISTORIC TRAFFIC GROWTH TREND ON HIGHWAY 47

Milepost	Location Description	1980 ADT	1997 ADT	Annual Growth Rate
37.37	North city limits	2,800	4,900	3.3%
37.58	0.01 miles north of Johnson Street	3,100	4,700	2.5%
37.86	0.01 miles north of Main Street	3,150	5,000	2.8%
37.88	0.01 miles east of Main Street	4,000	4,900	1.2%
37.98	0.01 miles west of Pine Street	4,100	5,200	1.4%
38.00	0.01 miles south of Pine Street	3,750	4,800	1.5%
38.19	0.01 miles north of Taft Street	3,500	3,800	0.5%
38.53	South city limits	3,400	3,900	0.8%
			Weighted Average	1.7%

TABLE 5-3
ADJUSTED CARLTON HISTORIC TRAFFIC GROWTH TREND ON HIGHWAY 47

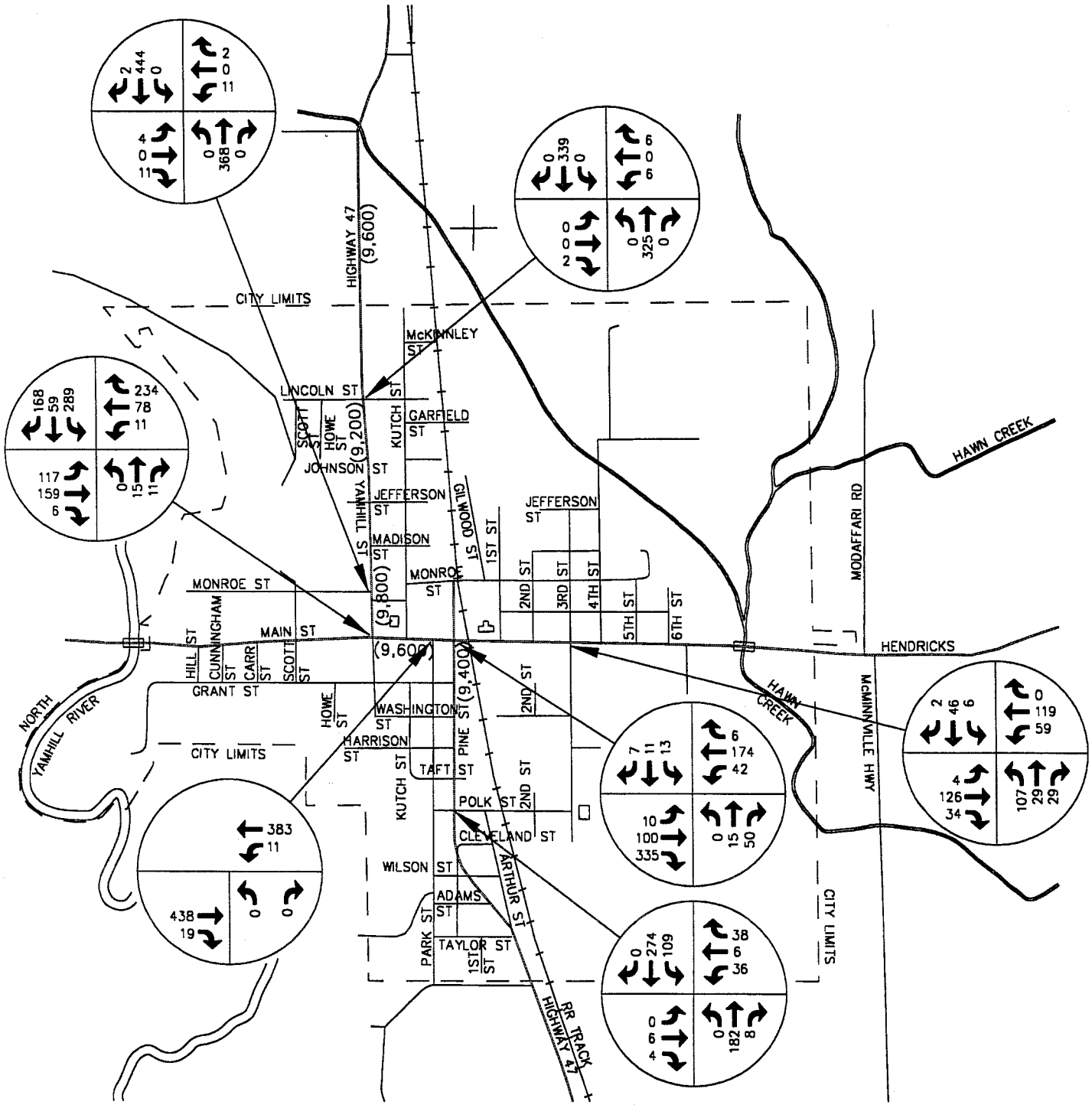
Milepost	Location Description	1980 ADT	1997 ADT	Annual Growth Rate
37.88	0.01 miles east of Main Street	4,000	4,900	1.2%
37.98	0.01 miles west of Pine Street	4,100	5,200	1.4%
38.00	0.01 miles south of Pine Street	3,750	4,800	1.5%
38.19	0.01 miles north of Taft Street	3,500	3,800	0.5%
38.53	South city limits	3,400	3,900	0.8%
			Weighted Average	1.1%

2018 LEVELS OF SERVICE

Level of service analyses were conducted based on the 2018 traffic volumes shown in Figures 5-1 and 5-2. The results of the analysis are summarized in Tables 5-4 and 5-5. All of the study area intersections and roadways are projected to operate at LOS D in the 2018 condition.

The Yamhill Street/Main Street and Main Street/Pine Street intersections are projected to be the most congested intersections in the 2018 condition. Both of these intersections are projected to operate at LOS D in the 2018 P.M. peak hour condition. The LOS D condition is due to significant traffic volumes using the two intersections as they are the two primary intersections in Carlton. Although these intersections are projected to operate at LOS D, LOS D is still considered acceptable in most urban conditions.

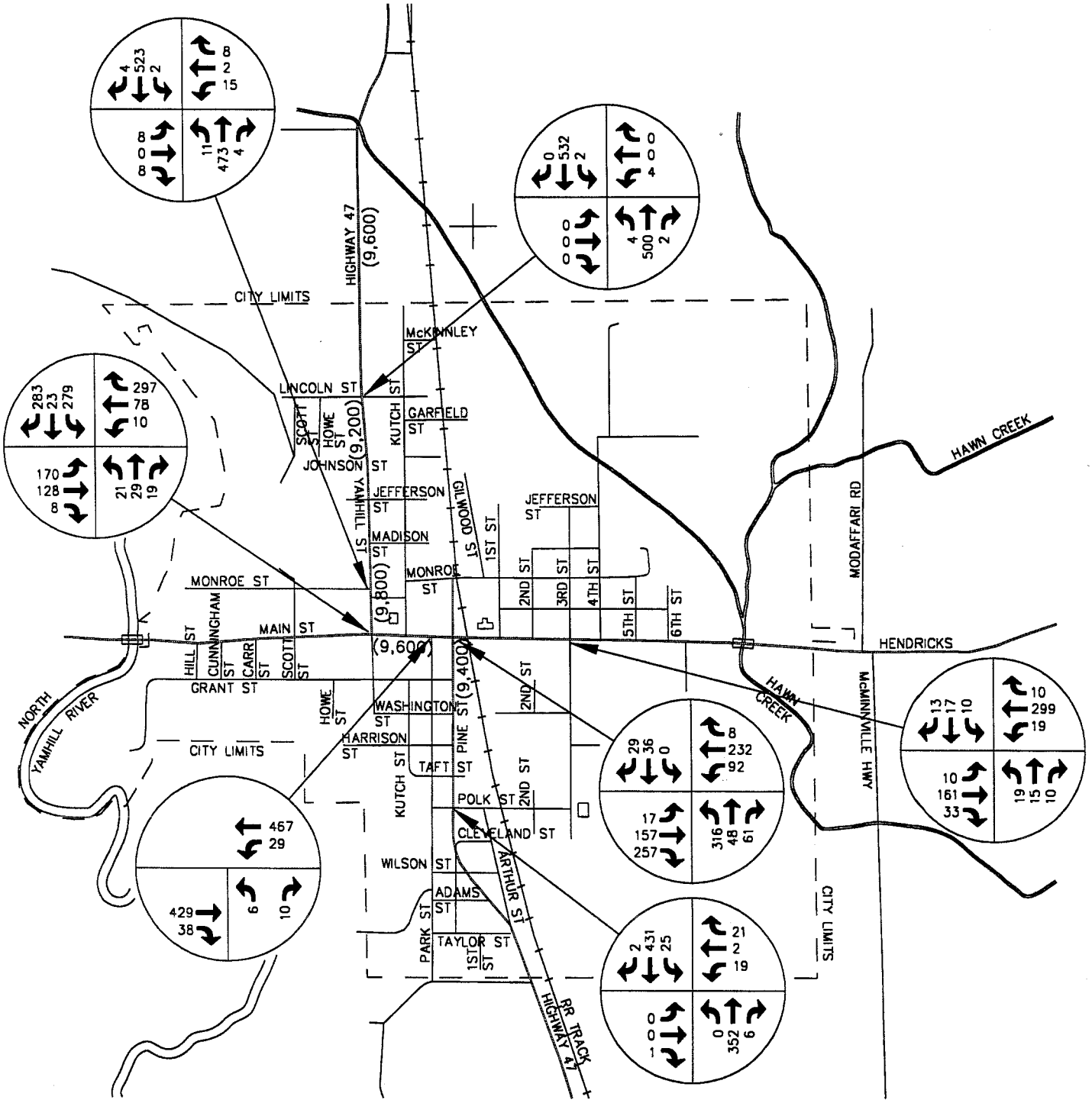
All of the arterial roadways are projected to operate at below the 0.80 v/c standard established by ODOT for Highway 47.



200 ⟶ A.M. Peak Hour Traffic Volume

(3000) Daily Traffic Volume

Figure 5-1
2018 A.M. Peak Hour Traffic Volumes



200 ⟶ P.M. Peak Hour Traffic Volume

(3000) Daily Traffic Volume

Figure 5-2
2018 P.M. Peak Hour Traffic Volumes

TABLE 5-4
2018 INTERSECTION LEVEL OF SERVICE

Unsignalized Intersection	AM Peak		PM Peak	
	LOS	Reserve Capacity	LOS	Reserve Capacity
Yamhill Street/Lincoln Street				
Northbound Left	A	1134	A	869
Southbound Left	A	1079	A	862
Eastbound Approach	A	887	A	673
Westbound Approach	A	490	A	181
Yamhill Street/Monroe Street				
Northbound Left	A	1025	A	882
Southbound Left	A	1066	A	919
Eastbound Approach	A	542	C	274
Westbound Approach	B	322	C	224
Yamhill Street/Main Street				
Overall Intersection	C	0.64[1]	D	0.76[1]
Main Street/Park Street				
Northbound Approach	A	760	B	376
Westbound Left	A	952	A	913
Main Street/Pine Street				
Overall Intersection	A	0.28[1]	D	0.74[1]
Main Street/3rd Street				
Northbound Approach	A	690	A	474
Southbound Approach	A	500	A	507
Eastbound Left	A	1446	A	1171
Westbound Left	A	1387	A	1315
Pine Street/Polk Street				
Northbound Left	A	1178	A	1011
Southbound Left	A	1336	A	1036
Eastbound Approach	A	501	A	791
Westbound Approach	B	316	B	374

[1]At all-way stop controlled intersections, level of service is based on the volume-to-capacity (v/c) ratio. The LOS measurements are similar to those of the roadway mid-block section criteria.

TABLE 5-5
ARTERIAL ROADWAY LEVEL OF SERVICE SUMMARY

Roadway	Section	AADT	Capacity	V/C Ratio
Highway 47	North City Limits	9,600	14,000	0.69
	North of Johnson Street	9,200	14,000	0.66
	North of Main Street	9,800	14,000	0.70
	East of Yamhill Street	9,600	14,000	0.69
	West of Pine Street	10,100	14,000	0.72
	South of Main Street	9,400	14,000	0.67

2018 DEFICIENCIES

Based on the level of service analysis, all of the intersections and roadways analyzed above are projected to operate satisfactorily at LOS D or a v/c ratio of 0.80 or better in the 2018 condition. Although there are no traffic operations deficiencies based on the level of service analysis, as previously identified in the Existing Deficiencies section, the following transportation deficiencies exist within the City of Carlton:

- Truck traffic through the downtown area of the City of Carlton creates a negative impact to the community. Trucks have a difficult time negotiating the Yamhill Street/Main Street and Pine Street/Main Street intersections and create safety concerns by encroaching on both the approaches and departures of the intersections. Also, the truck traffic through downtown Carlton creates a negative impact and safety concerns to pedestrians.

- The two three-way stop controlled intersections at Yamhill Street/Main Street and Pine Street/Main Street cause confusion to some motorists who mistake the intersections as all-way stop controlled. This confusion creates a potential safety problem.

- There are many sidewalk locations that are deficient within the City of Carlton. Many of the sidewalks are in poor physical condition, too narrow, or poorly maintained with overgrown vegetation. Also, the sidewalk system within the City is fragmented and disjointed. It is very difficult to use the sidewalks to safely walk from one area of town to another. The deficient locations are identified in the Non-Motorized element of this TSP.

- There is a perception among some local residents and business owners of Carlton that there is a parking shortage in the downtown area of the City and the post office.

CHAPTER 6
TRANSPORTATION IMPROVEMENT ALTERNATIVES

Transportation improvement alternatives were developed to resolve the existing and future transportation deficiencies identified. The primary focus on the development of improvement alternatives centered at mitigating truck traffic through downtown Carlton. Improvement concepts were also developed to improve the safety at the intersections of Yamhill Street and Main and Pine Street and Main Street.

Sidewalk improvements are discussed in the Pedestrian System Element in the next chapter, Transportation System Plan.

DOWNTOWN TRUCK TRAFFIC IMPROVEMENT OPTIONS

One of Carlton's most significant traffic problems is the truck traffic through the downtown corridor. The downtown corridor, which is primarily defined as Main Street between Yamhill Street and Pine Street, is also part of the Highway 47 alignment. Highway 47 provides both local access and access to regional transportation facilities. Because of the dual nature of Highway 47, a significant amount of truck traffic utilizes Highway 47 through downtown Carlton.

The operational problems from the truck traffic are primarily confined to the following two intersections: Yamhill Street/Main Street and Pine Street/Main Street. Both intersections have inadequate turning radii for trucks. This results in trucks turning at these intersections intruding on opposing traffic lanes. Also, some residents and business owners may find truck traffic an intimidating element of traffic through downtown since the street is narrow and has on-street parking on both sides of the roadway. Alternatives were developed with cost constraints as a significant consideration. Existing roadway and rights-of-way were utilized as much as possible to minimize the financial investment for each alternative.

Three alternatives were developed to mitigate the problems described above. The solutions focused mainly on improving safety and traffic circulation since capacity is not a significant future traffic issue in the City of Carlton. The three alternatives are described below.

No Build Alternative 1

The first alternative is a no-build alternative. This alternative is the baseline alternative from which other alternatives will be compared. The no-build condition describes the result of not doing anything to mitigate the downtown truck traffic. Figure 6-1 shows this alternative.

As previously stated, congestion is not a significant future traffic issue in the City of Carlton. By not doing anything to alleviate the truck impact to the downtown area, the City can expect the same level of truck impacts in the future.

Couplet Alternative 2

Alternative 2 is a one-way couplet concept. This alternative involves creating a one-way couplet system with Yamhill Street between Monroe Street and Main Street, Main Street between Yamhill Street and

Figure 6-1
No-Build Alternative 1

Pine Street, Pine Street between Main Street and Monroe Street, and Monroe Street from Pine Street to Yamhill Street. Portions of Monroe Street will need to be realigned between Pine Street and Yamhill Street. Between Kutch Street and Yamhill Street, Monroe Street is currently offset from the section of Monroe Street east of Kutch Street. This offset section will need to be realigned with the section of Monroe Street east of Kutch Street to provide one continuous roadway section to Yamhill Street. From aerial photography, it appears that sufficient space exists for this new section of Monroe to be constructed. However, right-of-way would have to be obtained on the north side of the Carlton Rose Nurseries and possibly the adjacent railroad right-of-way. Figure 6-2 shows the one-way couplet alternative.

Traffic would circulate in a counter-clockwise manner along the couplet. Yamhill Street between Monroe Street and Main Street would be one-way southbound. Main Street would be one-way eastbound between Yamhill Street and Pine Street. Pine Street between Main Street and Monroe Street would be one-way northbound. Monroe Street would be one-way westbound between Pine Street and Yamhill Street. Kutch Street would remain two-way and provide motorists the opportunity to change direction of travel.

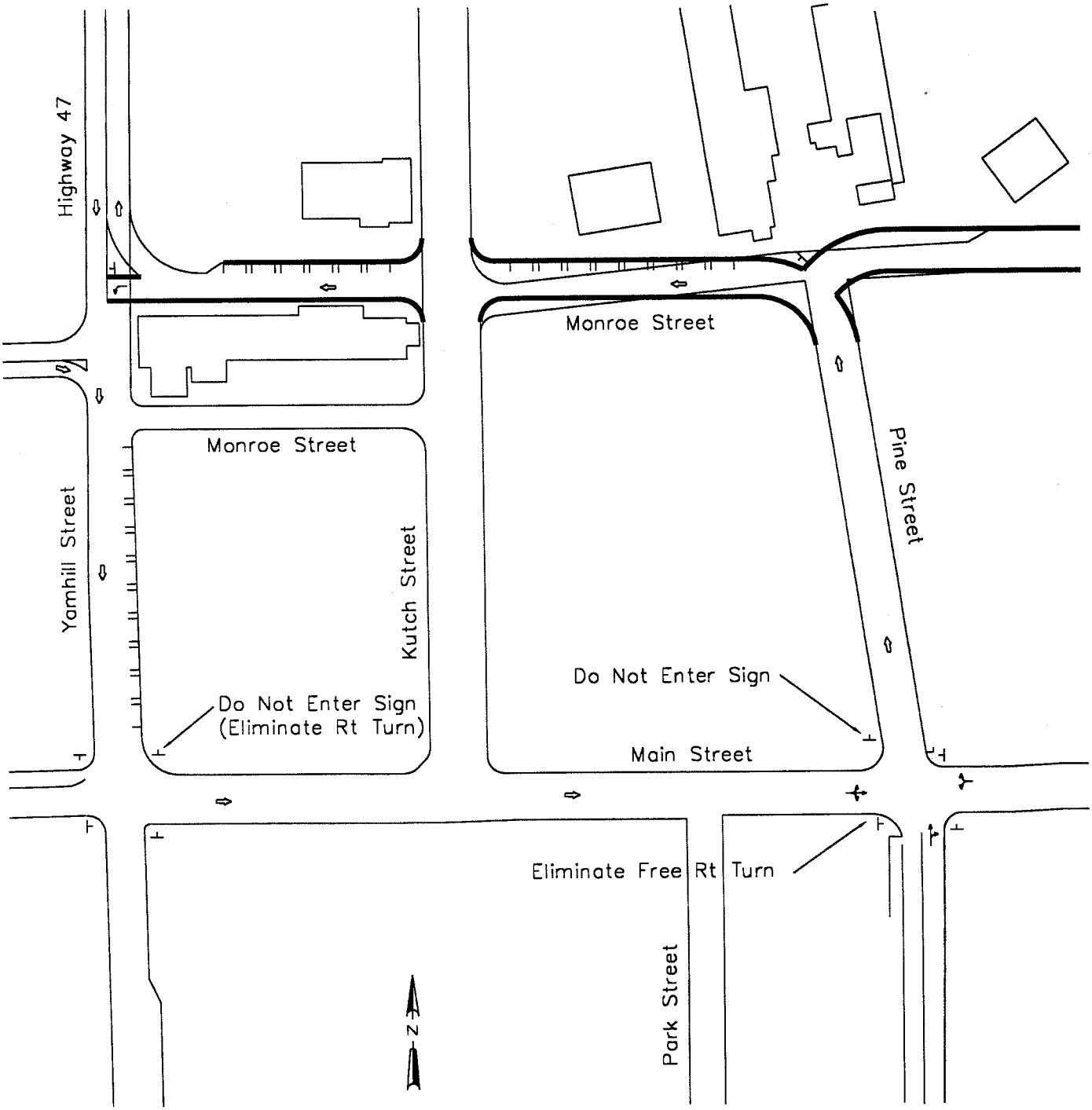
The new alignment of the east leg of Monroe Street would be channelized to allow for a free westbound right turn. The westbound right turn channelization should be designed in such a manner to accommodate large trucks. The westbound left turn would be stop controlled.

The traffic control at the west leg of Monroe Street with Yamhill Street would be channelized to only allow a right turn movement onto Yamhill Street due to the one-way couplet system. This intersection essentially becomes a right-in, right-out intersection with only three turning movements: southbound through, southbound right, and eastbound right. For traffic from the west leg of Monroe Street at Yamhill Street to travel north, motorists would have to take a right turn onto Yamhill Street southbound, take a left at the Yamhill Street/Main Street intersection onto Main Street eastbound, take a left turn onto Kutch Street northbound, take a left onto Monroe Street westbound, and finally take a right turn onto Yamhill Street northbound.

The Yamhill Street/Main Street and Pine Street/Main Street intersections would be controlled as all-way stops. The current three-way stop configuration with free right turn movements on the westbound approach at the Yamhill Street/Main Street intersection and on the eastbound approach at the Pine Street/Main Street approach would be eliminated. The rationale for the all-way stops is to eliminate the current confusion among motorists and pedestrians on the expected traffic operations.

The advantage of the one-way couplet alternative is that it facilitates truck movement through the downtown area. Truck traffic from the east and south would use Pine Street and Monroe Street to by-pass the downtown area. Truck traffic from the north and west would still pass through the downtown area using Main Street. However, due to the one-way couplet system, truck traffic would have more space to negotiate turns at the Yamhill Street/Main Street and Pine Street/Main Street intersections.

The disadvantage of Alternative 2 is that it significantly changes the existing traffic circulation in Carlton. It will take residents some time to adjust to the changes.



Existing

Future

Figure 6-2
Couplet Alternative 2

By-Pass Alternative 3

Alternative 3 utilizes the same Monroe Street/Pine Street alignment as Alternative 2. The difference between the two alternatives is that in Alternative 3, Monroe Street between Yamhill Street and Pine Street, and Pine Street between Monroe Street and Main Street would be two-way rather than one-way. Also, a wider pavement upgrade would be required along Pine Street and Monroe Street to accommodate two-way traffic rather than one-way traffic. This alignment would be utilized as a truck by-pass and require all trucks to utilize this route. The only truck traffic that would remain on Main Street would be traffic originating from Main Street and destined to the other side of Main Street. It would be difficult for this truck traffic to utilize the by-pass because of the excessive amount of turning required. Figure 6-3 shows By-Pass Alternative 3.

Traffic control at the Yamhill Street/Main Street and Pine Street/Main Street intersections would be modified to all-way stops under Alternative 3. This change in traffic control would reduce the confusion caused by the current three-way stop control. Also, the current three-way stop configuration with free right-turn movements on the westbound approach at the Yamhill Street/Main Street intersection and on the eastbound approach at the Pine Street/Main Street approach would be eliminated. The rationale for the all-way stops is to eliminate the current confusion among motorists and pedestrians on the expected traffic operations.

Alternative 3 eliminates almost all the truck traffic through downtown Carlton and maintains the existing local traffic circulation patterns. The cost of implementation would be higher for Alternative 3 due to the wider pavement requirements for Pine Street and Monroe Street.

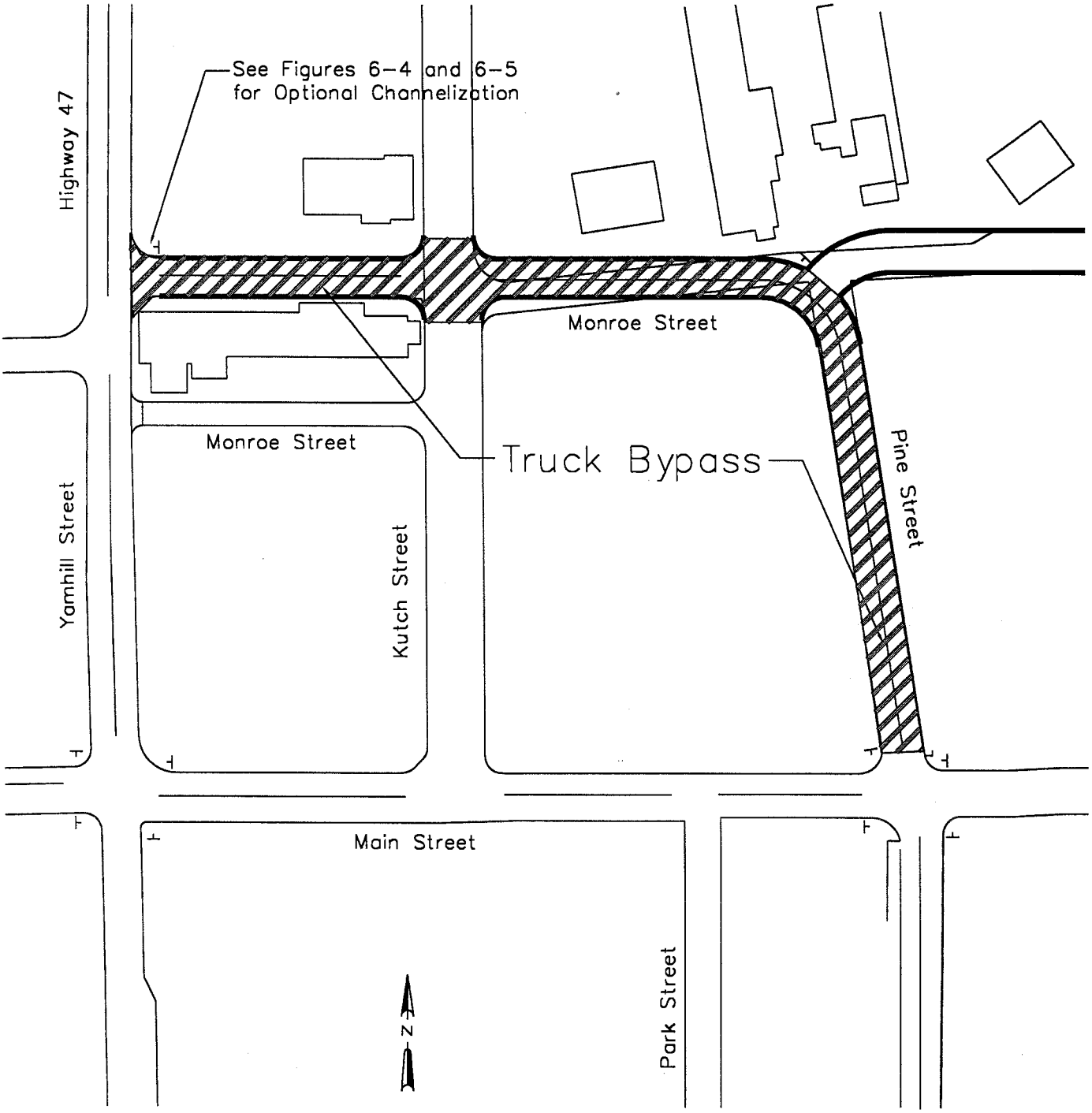
Two intersection options were developed for the Yamhill Street/Monroe Street intersection under Truck Traffic Alternative 3. The first Yamhill Street/Monroe Street intersection improvement concept (Option 1) is shown in Figure 6-4. This concept creates a continuous curve between the north leg of Yamhill Street and the east leg of the newly aligned Monroe Street. The south leg of Yamhill Street would be realigned to "T" into the Yamhill Street/Monroe Street curve at a right angle. This configuration would give the travel right-of-way to the north leg of Yamhill and east leg of Monroe Street approaches. The traffic on the south leg of Yamhill Street would be stop controlled.

The second intersection option developed for Truck Alternative 3 at the Yamhill Street/Monroe Street intersection is shown in Figure 6-5. This concept would have the newly aligned east leg of Monroe Street "T" in Yamhill Street at a right angle. The east leg of Monroe Street would be channelized with both right and left turn lanes. Yamhill Street traffic would maintain the right-of-way and Monroe Street traffic would be stop controlled.

As shown in Figure 6-5, the Yamhill Street/Monroe Street intersection Option 2 would have to be developed with an awkward geometric to overcome sight distance problems and create adequate truck turning radii. Therefore, the Yamhill Street/Monroe Street intersection shown as Option 1 is preferred.

Right-of-Way Acquisition for Alternatives 2 and 3

Alternatives 2 and 3 would require right-of-way acquisition from the Carlton Rose Nurseries lot and adjacent railroad right-of-way. Since both the Oregon Department of Transportation (ODOT) and City of Carlton are not in a position to buy the needed right-of-way in the near future, it is the study recommendation not to restrict the property owner from future use or sale of this parcel. Should funding be



Existing
Future

Figure 6-3
By-Pass Alternative 3

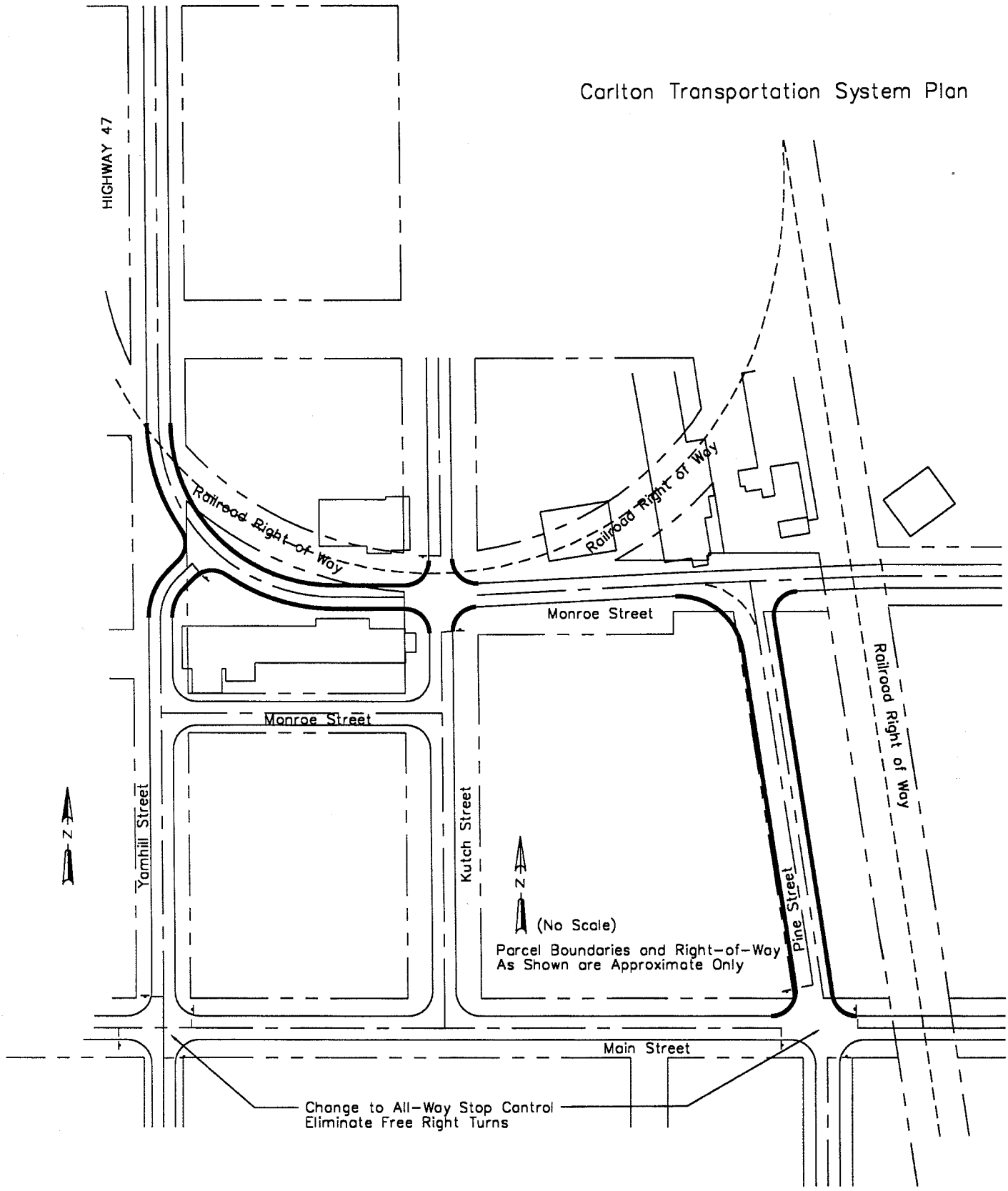


Figure 6-4

Yamhill/Monroe Intersection Channelization (Option 1)

Existing

Future

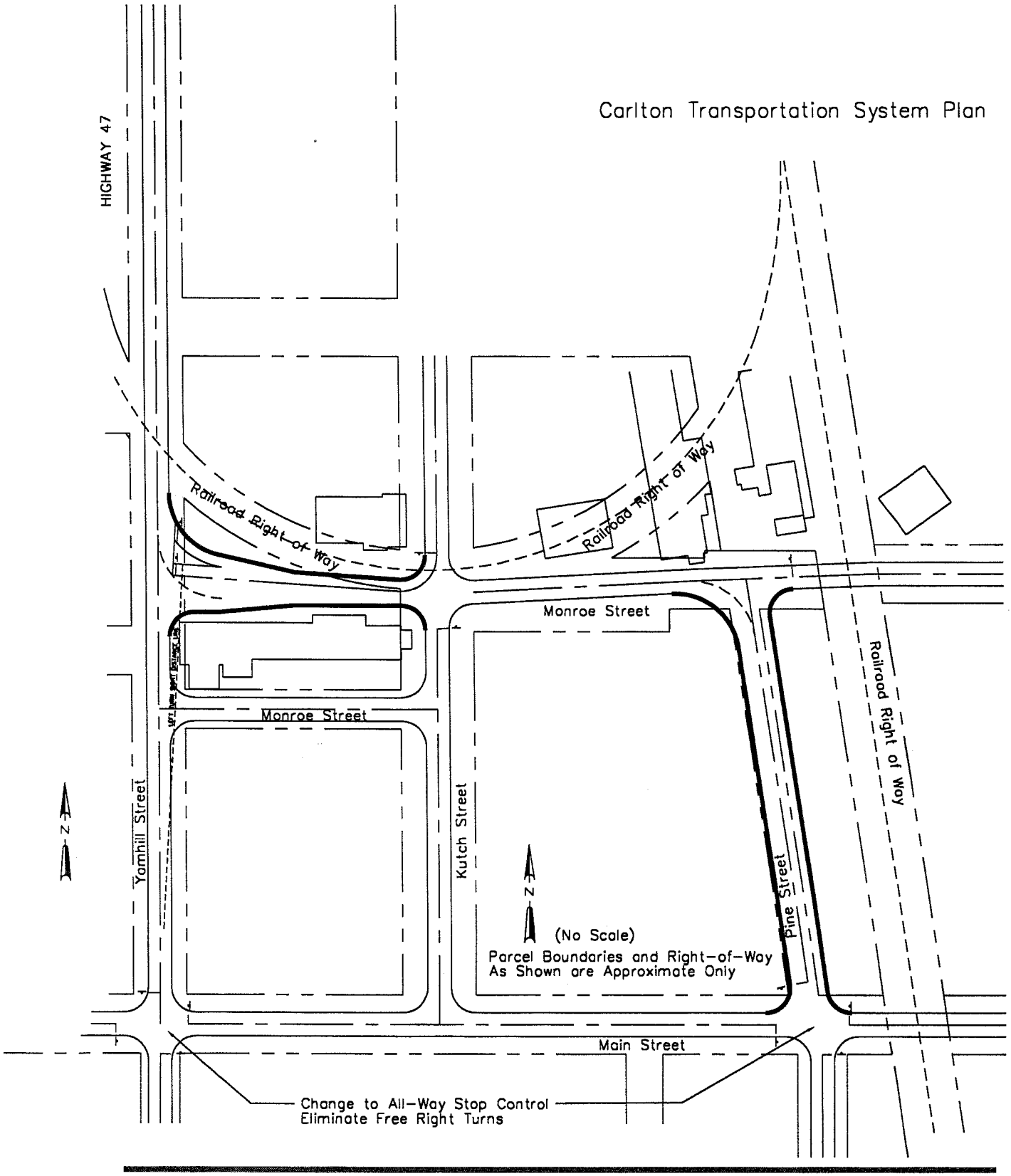


Figure 6-5
Yamhill/Monroe Intersection Channelization (Option 2)

secured at a later date and the parcel still be available for sale to implement the truck traffic improvements, then ODOT and/or the City of Carlton should secure the property at that time. If the property is improved upon prior to ODOT and/or the City of Carlton securing the property, then the truck traffic improvement will be evaluated when future funding for the project becomes more imminent.

EVALUATION OF TRUCK IMPROVEMENT OPTIONS

The three truck traffic improvement options were evaluated against each other by the following criteria:

- Cost – an assessment of the financial cost of each alternative
- Reduction of truck traffic through downtown
- Pedestrian safety in downtown – improvement in pedestrian travel condition
- Circulation impacts – measure of travel pattern changes and ease of travel from one destination to another within the city
- Noise impacts – measure of reduction in noise due to decrease in truck volumes in downtown

As shown in Table 6-1, By-Pass Alternative 3 is the most advantageous improvement option to reduce truck impacts and improve pedestrian safety through the downtown corridor. Alternative 3 was also the preferred alternative from public input and the project Technical and Citizen Advisory Committees.

TABLE 6-1
TRUCK TRAFFIC IMPROVEMENT OPTIONS EVALUATION

Evaluation Criteria	Alt 1	Alt 2	Alt 3
Cost	$0	$245,000	$270,000
Reduction of Truck Traffic Through Downtown	No reduction in truck traffic	Reduce truck traffic by almost half	Reduce almost all truck traffic
Pedestrian Safety in Downtown	No improvement	Moderate improvement	Significant improvement
Circulation Impacts	None	Significant Changes	None
Noise Impacts	No improvement	Moderate improvement	Significant improvement

YAMHILL STREET/MAIN STREET AND PINE STREET/MAIN STREET INTERSECTION IMPROVEMENTS

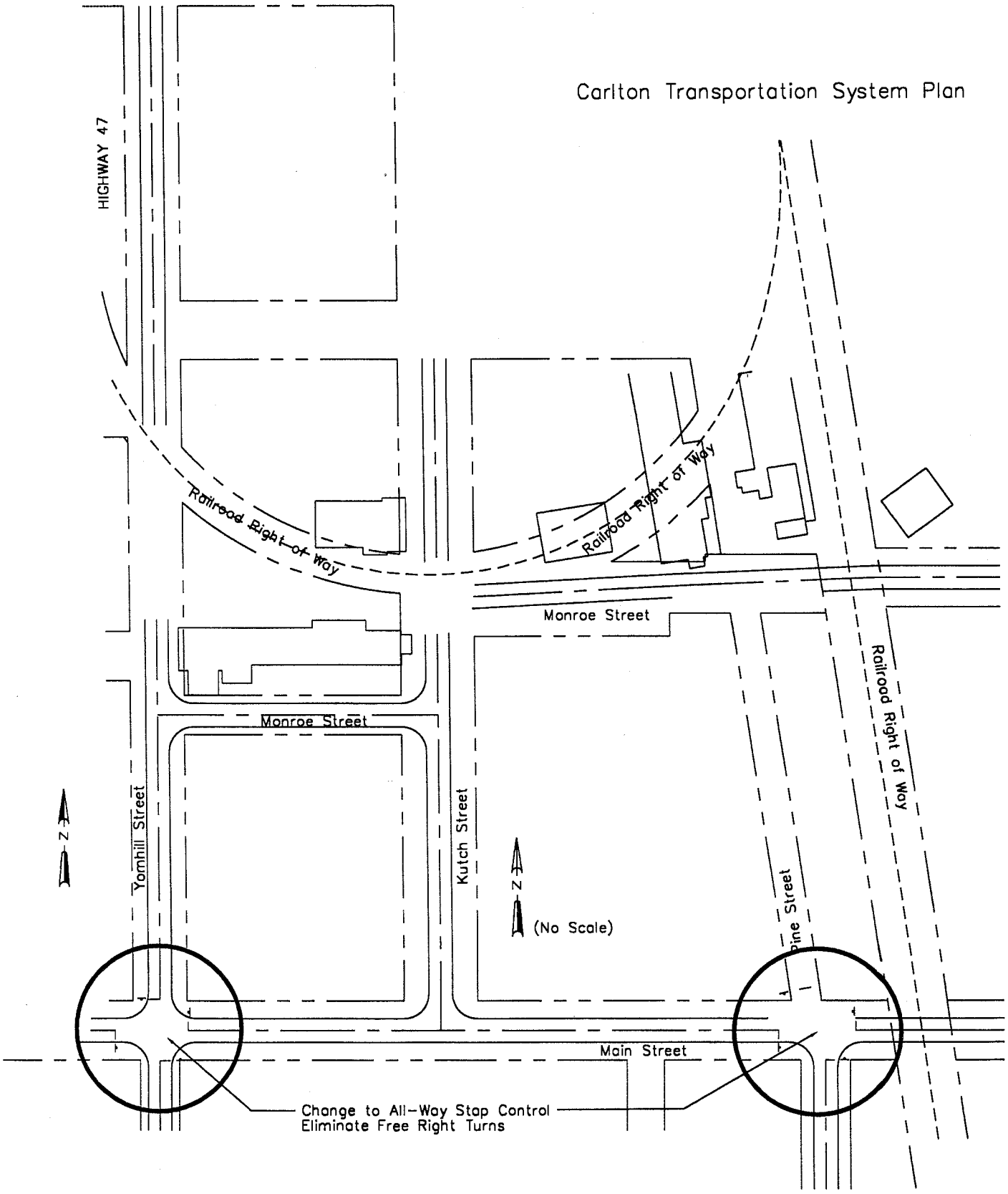
Regardless of the truck traffic alternative implemented, short-term improvements are needed at the Yamhill Street/Main Street and Pine Street/Main Street intersections to improve safety and traffic operations. Currently, both intersections are controlled by a three-way stop. At the Yamhill Street/Main Street intersection, the southbound traffic on the north leg has the right-of-way and does not stop. The westbound right turn at this intersection is not required to stop and has a free right-turn movement. At the Pine Street/Main Street intersection, the northbound approach on the south leg has the right-of-way and does not stop. The eastbound right-turn movement at this intersection is not required to stop and has a free right-turn movement. This eastbound free right-turn movement is confusing to pedestrians and conflicts with motorists backing out of the bank located on the southwest corner of the intersection.

To minimize driver confusion, improve pedestrian safety, and eliminate traffic conflicts, both the Yamhill Street/Main Street and Pine Street/Main Street intersections should be re-signed as all-way stop-controlled. The free right-turn movements should also be eliminated and required to stop as well.

The cost of re-signing the two intersections is minimal and should cost less than $500. With the change in signage to all-way stops, the flashing beacons should be modified to an all-red flashing operation. Figure 6-6 depicts the described intersection improvements.

In addition to the traffic control changes, the Yamhill Street/Main Street intersection needs to be improved to better accommodate truck turning movements from the west to the north and from the south to the west. To improve the turning radii for these movements, right-of-way is needed at the northwest quadrant of the intersection. The existing building is infringing on the space to make this improvement and would have to be purchased to implement the improvement. Figure 6-7 shows a conceptual sketch of this improvement.

The cost of implementing this improvement would be $115,000. This cost includes an estimate to purchase the building on the northwest quadrant.

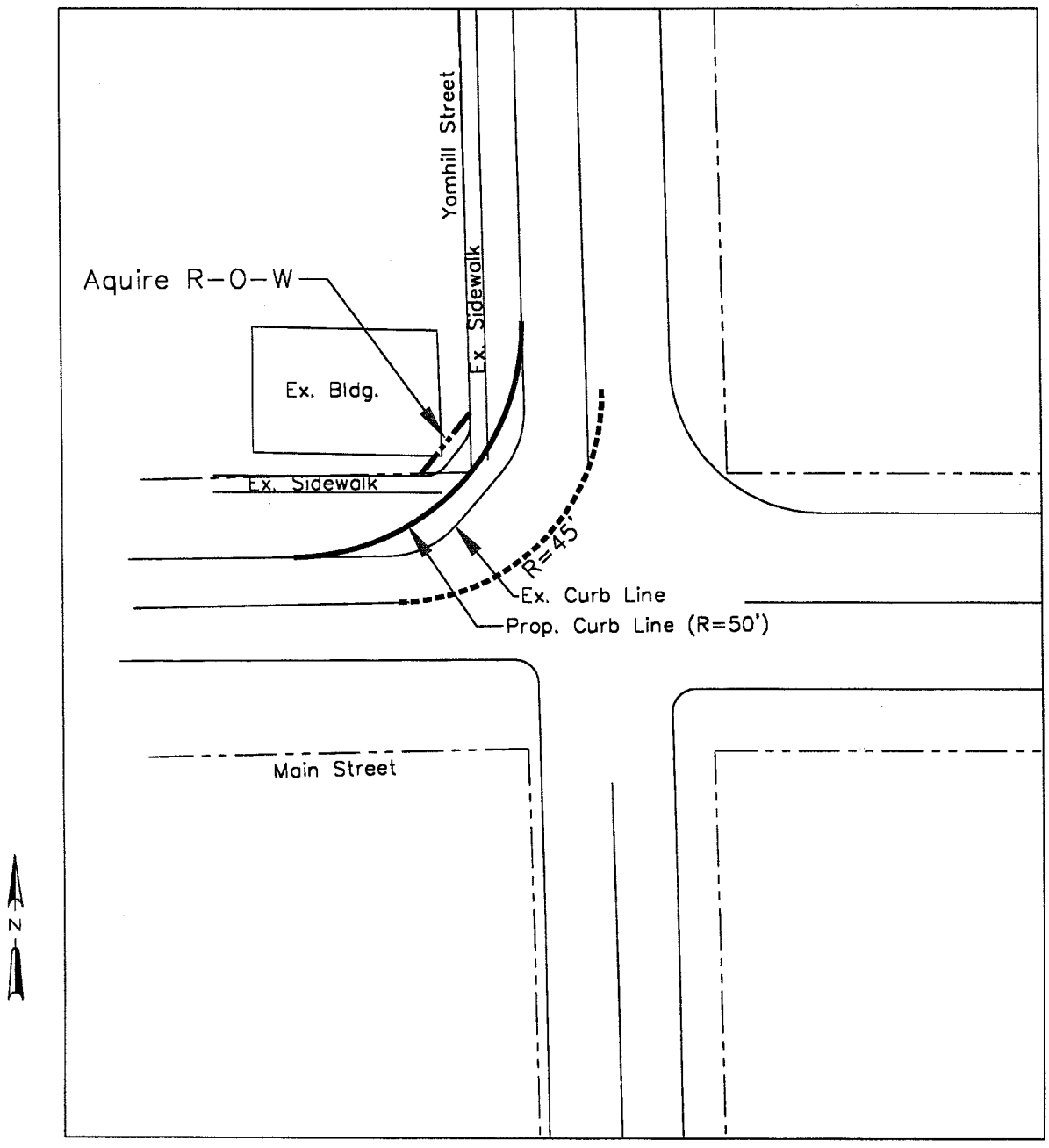


Porcel Boundaries and Right-of-Way
As Shown are Approximate Only

Existing

Future

Figure 6-6
Yamhill/Main and Yamhill/Pine
Intersection Control Improvements



(No Scale)

Parcel Boundaries and Right-of-Way
As Shown are Approximate Only

Existing
Future

Figure 6-7
Yamhill/Main Street Intersection Improvement

CHAPTER 7
TRANSPORTATION SYSTEM PLAN

STREET PLAN

Transportation System Plan (TSP) Requirements

OAR 660-12-020 Elements of Transportation System Plans

(2) (b) A road plan for a system of arterials and collectors and standards for the layout of local streets and other important non-collector street connections. Functional classifications of roads in regional and local TSPs shall be consistent with functional adjacent jurisdictions. The standards for the layout of local streets shall provide for safe and convenient bike and pedestrian circulation necessary to carry out OAR 660-12-045(3)(b). New connections to arterials and state highways shall be consistent with designated access management categories. The intent of this requirement is to provide guidance on the spacing of future extensions and connections along existing and future streets which are needed to provide reasonably direct routes for bicycle and pedestrian travel. The standards for the layout of local streets shall address:

(A) Extensions of existing streets;
(B) Connections to existing or planned streets, including arterials and collectors; and
(C) Connections to neighborhood destinations.

Functional Classification

The functional classification of the City of Carlton roadways have been previously discussed in Chapter 3, Transportation System Inventory. This discussion occurs on pages 3-2 and 3-3. Figure 3.1 of that section depicts the roadway functional classification including the state system.

Street Design Standards

The City of Carlton's street standards are defined by the Standard Specifications and Details, Resolution 1997-10-13-1; City of Carlton Subdivision Ordinance No. 549, and Ordinance No. 418. Its street standard for all streets is a 36-foot pavement section with curb, gutter, and sidewalks and a right-of-way of 60 feet. The standard sidewalk width is 5 feet.

Generally, Carlton's development activity is almost exclusively residential. Therefore, the one street standard for all roadways has been sufficient in the past. However, this standard does not meet the Transportation Planning Rule. To comply with the Transportation Planning Rule (TPR), several standards have been developed and are summarized in Table 7-1. These standards replace the current standard.

Table 7-1
Street Standards

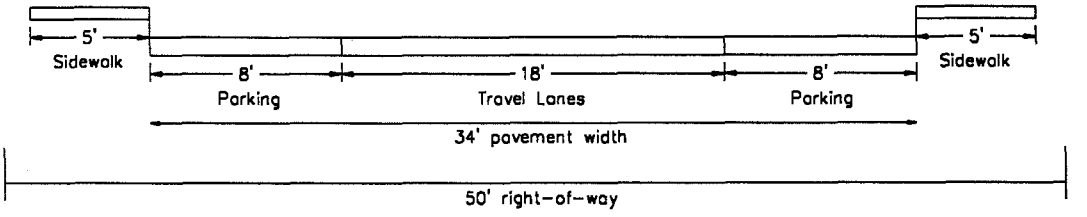
Classification	Pavement Width (ft)	Sidewalk Width (ft)	Bikeway Width (ft)	Parking	ROW (ft)	Design Speed (MPH)
Local Residential[5]	26	5 one side	None	1 side	40	15-25
	34	5	None	2 sides	50	15-25
Collector[4,5]	40	6	None[1]	2 sides	55	25-35
	50	6	5[1]	2 sides	65	25-35
Arterial[4,5]	44	6-8[3]	[2]	2 sides	60	20-35
Downtown Commercial[4,5]	44	8	[2]	2 sides	60	20
Alleys	12-16	None	None	None	20-24	10

[1] Bike lanes will not be required on collector streets if the ADT does not exceed 3,000.
[2] If right-of-way is not available, a shared travel lane of 15 feet will be provided for in place of the bike lanes.
[3] Six-foot sidewalks in non-commercial areas and 8-foot sidewalks in commercial areas.
[4] For collectors, arterials, and downtown commercial streets, the cross-sections listed above will be considered as guidelines and are not standards. This is due to the fact that many of Carlton's streets have sub-standard existing rights-of-way which may prohibit the implementation of the cross-sections recommended above. Each collector, arterial, and downtown commercial street cross-section will be worked out on a case by case basis by the planning commission and city council.
[5] Planter strips should be considered as rights-of-way allow.

There are two local residential street standards. The first standard is a 26-foot wide local street with a 5-foot sidewalk and on-street parking on one side of the roadway. This is the City of Carlton's skinny street standard. The skinny street standard is only to be applied as a conditional use where on-street parking will be minimal where there is land use only on one side of the street. For a developer to implement this standard, a study has to be conducted proving that on-street parking will not be an issue along the street in question. The right-of-way requirement is 40 feet. Planting strips will be encouraged where rights-of-way exist. Figure 7-1 depicts the local residential street cross-section.

The second local residential street standard is for a 34-foot roadway. This is the standard local street cross-section. The additional 8-foot width is to accommodate parking on both sides of the roadway. Sidewalks of 5 feet are required on both sides of the roadway. The right-of-way requirement is 50 feet. Planting strips will be encouraged where rights-of-way exist. Figure 7-1 depicts the local residential street cross-section.

The cross-sections for the collectors, arterials, and downtown commercial streets are only guidelines because most of the rights-of-ways within the City of Carlton are very narrow. As new construction for collectors, arterials, and downtown commercial streets occurs or these existing streets get rebuilt, the planning commission and city council will have to determine the cross-section of each street on a case by case basis. Table 7-1 recommends cross-sections as a beginning point for discussion.



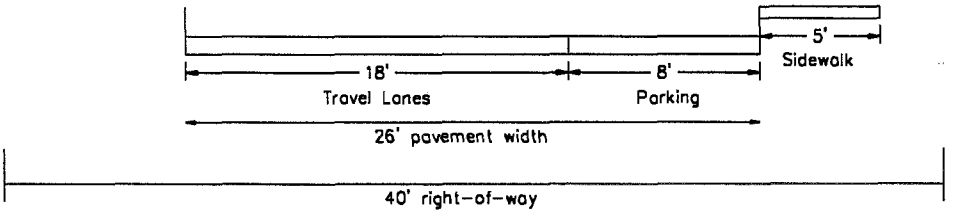


Figure 7-1
Local Street Standard Cross-Section

Local Street Network

The purpose of the Local Street Network Plan is to identify future right-of-way that the City of Carlton will need in order to have and maintain, as much as possible, a balanced street network in accordance with the Oregon Transportation Rule. The plan designates:

1) where existing collector/arterials will be extended or new ones will be added;
2) where new local access streets and/or pedestrian ways will be located to provide better connection between existing streets (grid infill); and
3) where new local access streets will be located to provide adequate connection to significant local destinations for both automobiles and pedestrians.

Locations for the right-of-way and improvements are designated based on review of the existing street grid, existing parcel boundary locations, physical constraints (such as steep slopes and floodways that might preclude economical road construction) and access management guidelines for access onto major arterials.

Planned Street Locations

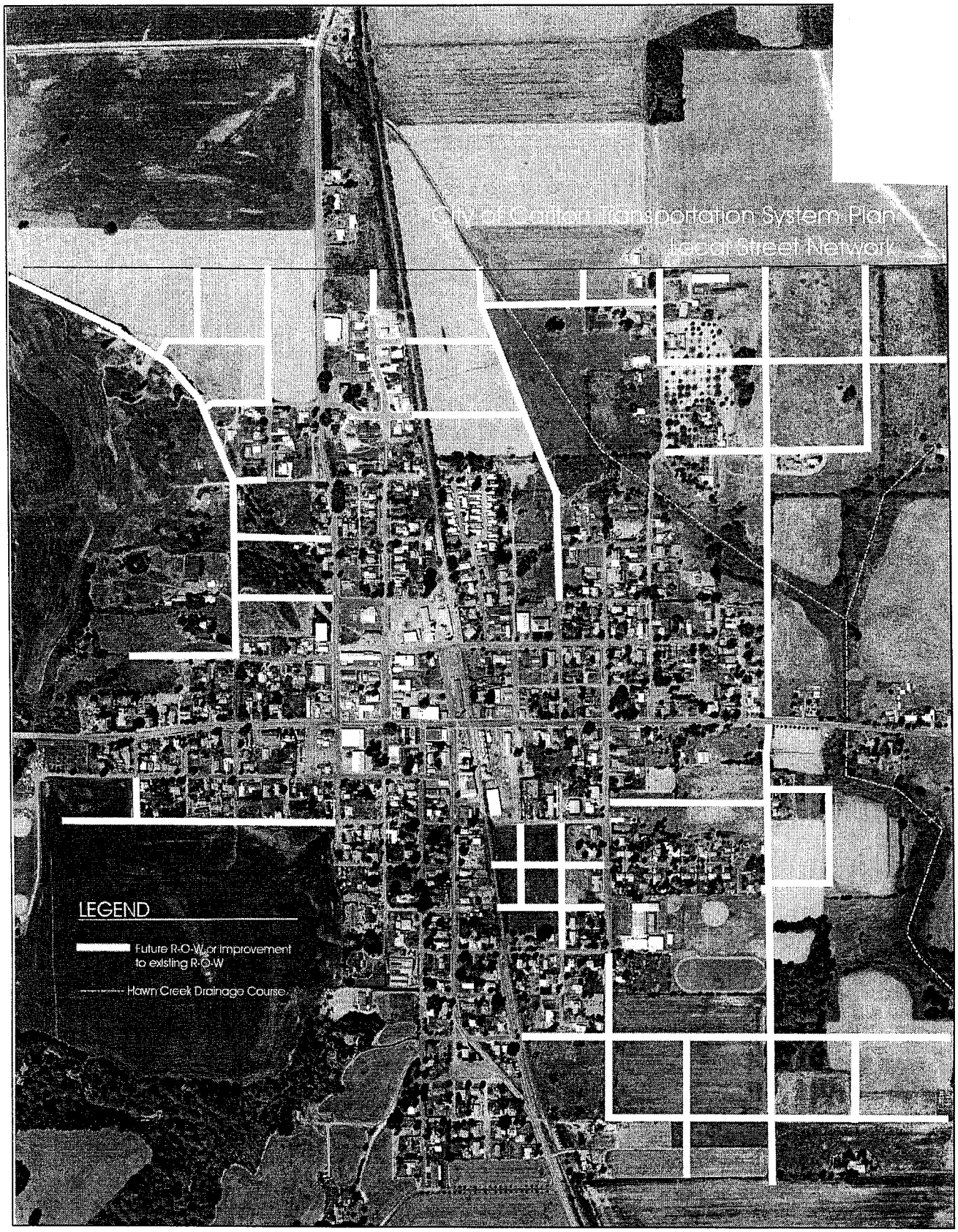
A conceptual map showing future extensions of the local street network has been developed (see Figure 7-2). Proposed rights-of-way for the City have been placed along current parcel boundaries as much as possible to facilitate dedication as development occurs. Existing parcels have been traversed (where necessary) in a configuration that should be conducive to future development (almost always at 90-degree angles). The network grids have been laid out in sizes ranging from 350 to 600 feet. The grid sizes vary to accommodate existing structures and property line locations. In some cases the extensions of have been offset to avoid existing development. Roadway layout within the grids has not been designated. The average lot size for future residential developments is likely to be much smaller than in the past. To access all lots within proposed developments, it is likely that an access road(s) will be needed within the proposed grids. Layout of internal roads should remain flexible and be performed by local developers to suit market and site constraints. However, suitable pedestrian access ways to all sides of the grid are required to the maximum extent possible.

The local street network plan is shown in Figure 7-2.

Northeast Quadrant

The northeast quadrant is the area that lies east of the railway and north of Main Street. The area is zoned "Residential" except for one block located at the intersection of Main Street and the railway that is

Local Street Network



(No Scale)

Parcel Boundaries and Right-of-Way As Shown are Approximate Only

Figure 7-2
Local Street Network Plan

zoned "Commercial". Connection to and expansion of the existing grid system is constrained by two major physical features: the railway, and the Hawn Creek drainage course. Planned railroad crossings include McKinley Street and Lincoln Street. Both McKinley and Lincoln Streets will be extended east to 2nd Street. Second Street will be extended north to the urban growth boundary to the north. One new access onto Main Street is planned to align with a future 7th Street intersection. This new street will extend all the way north to the UGA boundary. One arm of Hawn Creek flows diagonally across this quadrant from northwest to southeast. Another arm and the main creek itself flow along the east side of the area. Crossings of Hawn Creek have been limited to the McKinley Street and the North 7th Street extensions. Between 2nd Street and 4th Street, an east-west local street is planned north of the Staser property along an existing easement. Development of this area of the City will not result in a perfectly uniform grid system because of the physical limitations. However, travel distances to the school, the business district, and the arterials (which are primarily north-south routes) will not be affected by the limitation. Second Street, 4th Street, and 6/7th Street will provide the important links needed for travelers to reach their destinations.

Southeast Quadrant

The southeast quadrant is the area that lies east of the railway and south of Main Street. The area is zoned "Residential" except for the existing public elementary school, and an area zoned "Commercial" at the intersection of Main Street and the railway. Similar to the northeast quadrant, connection to and expansion of the existing grid system is constrained by the railway and, to a lesser extent, Hawn Creek. Wilson Street will be extended east to the UGA boundary. Seventh Street will be extended south to the UGA boundary providing additional access to the school property from the north and the newly developed properties east of the school. Another important link will be provided by the offset extension of Washington from 3rd Street to 7th Street. New roads over Hawn Creek will be avoided so that a uniform grid throughout this quadrant will not be provided. However, travel distances and connectivity will not be affected by this limitation. Wilson Street, 3rd Street, and 7th Street will provide the most important links needed.

Southwest Quadrant

The southwest quadrant is the area that lies west of the railway and south of Main Street. The area contains a portion of the "Commercially" zoned City core that lies between Main Street and Grant from Howe to Pine and between Pine and the railway from Main Street to Polk. The remainder is zoned "Residential" except for the Recreation area to the extreme west. Most of the area within this quadrant is already developed and in a grid pattern. Expansion of the existing system is limited by the close proximity of the UGA boundary, and steep slopes to the west. The only extensions in this quadrant will be the extension of Washington Street west to Hill Street, and the Hill Street link from Washington to Grant. Extension of Yamhill Street southerly is not possible due to the presence of steep slopes. However, connectivity in that area is adequate.

Northwest Quadrant

The northwest quadrant is the area that lies west of the railway and north of Main Street. The area is a mixture of "Residential", "Industrial", and "Commercial" zoning and contains the largest portion of the "Commercially" zoned properties in the City. Most of the area within this quadrant is already developed

and is in a grid pattern. Monroe Street, Madison, and Jefferson will be extended west as far as practical. Extension of Scott Street north to Johnson and then continuing along the abandoned railway bed to the northwest will be the most prominent improvement to the road system in this part of the City.

Access Management

Access management is the process in which access to land development is balanced with preserving traffic flow on the transportation system. A hierarchy of standards should be developed depending on the functional classification of roadway. Along arterials, the standard should be more strict allowing less access to preserve the traffic flow capacity of the roadway. In contrast, the local streets would have less strict access spacing standards with a priority given to land development access. Collector streets would have a standard somewhere in- between the arterial and local street standards.

The City of Carlton does not have an arterial except for Highway 47. Along Highway 47, the 1999 *OHP* defines the access spacing standard at 350 feet within the urban business area (Main Street between Yamhill Street and Pine Street) and 600 feet in the remaining sections of Highway 47.

The remaining streets within Carlton are either collectors or local streets. The collector streets primarily serve residential areas and serve as neighborhood collectors rather than full collectors. Therefore the collectors have only a slightly more restrictive standard than the local streets. The access spacing standard for collectors is 75 feet.

The access spacing standard for local streets is 50 feet between driveways. Table 7-2 summarizes all the access spacing standards for each roadway classification.

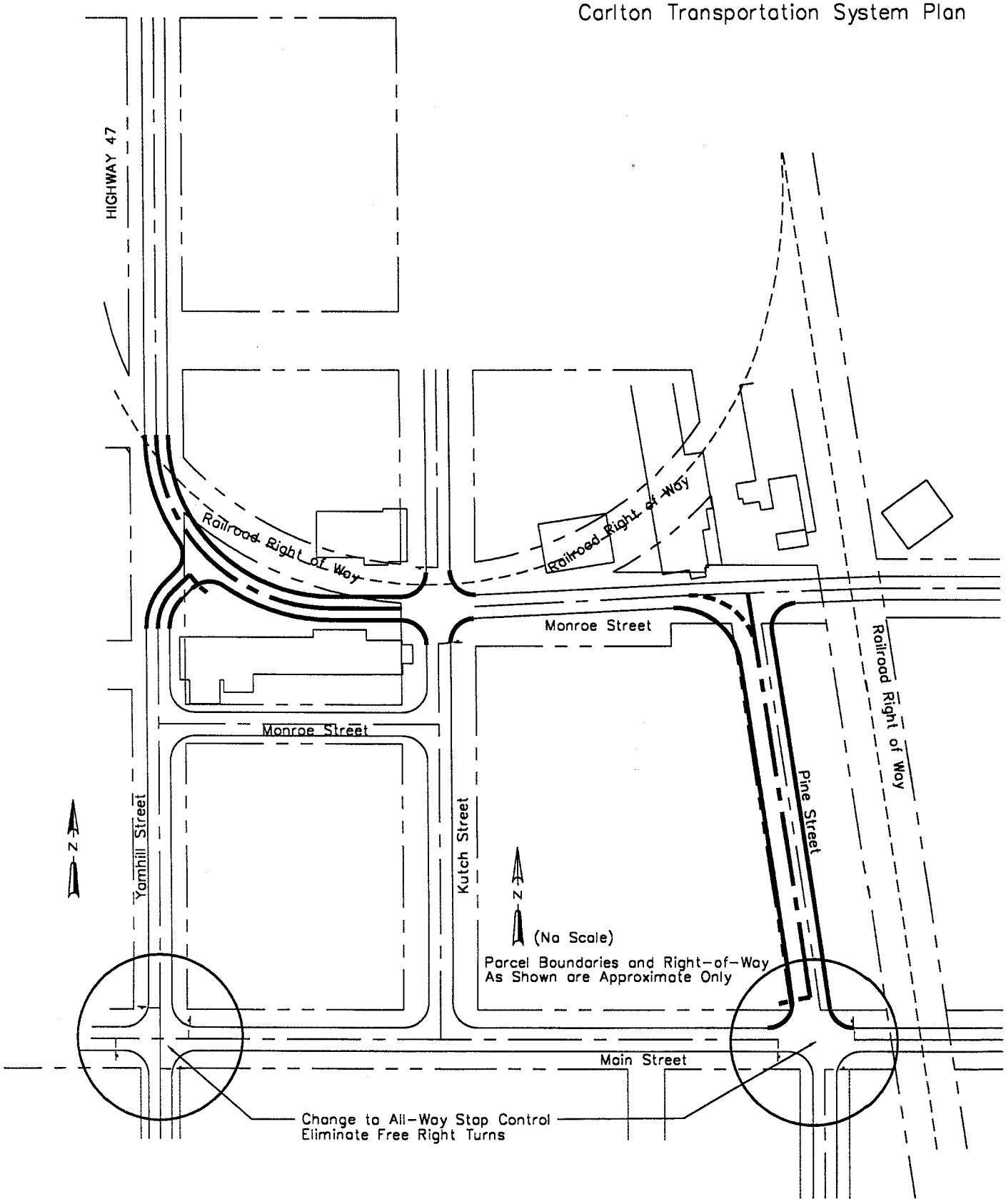
Table 7-2
Access Spacing Standard

Functional Classification/Roadway	Posted Speed Range	Minimum Spacing between Driveways and/or Streets
Highway 47		
Yamhill Street to Pine Street	20 mph	350 feet
North City Limits to Yamhill Street	30 mph	600 feet
South City Limits to Main Street	20-30 mph	450-600 feet
Collector	20-25 mph	75 feet
Local	20-25 mph	50 feet[1]

[1] An exception to this spacing standard will be in cases of shared access points.

Truck Route Plan

The truck route plan is Alternative 3, the truck by-pass improvement concept. This alternative creates a truck route along Pine Street from Main Street to Monroe Street and Monroe Street from Pine Street to Yamhill Street. Figure 7-3 shows the future truck route plan.



Existing
Future

Figure 7-3
Truck Route Plan

PUBLIC TRANSPORTATION PLAN

Transportation Planning Rule (TPR) Requirements

OAR 660-12-020 Elements of Transportation System Plans

(2) (c) A public transportation plan which:

(A) Describes public transportation services for the transportation disadvantaged and identifies service inadequacies.
(B) Describes intercity bus and passenger rail service and identifies the location of terminals.
(C) For areas within an urban growth boundary which have public transit service, identifies existing and planned transit trunk routes, exclusive transit ways, terminals and major transfer stations, major transit stops, and park-and-ride stations. Designation of stop or station locations may allow for minor adjustments in the location of stops to provide for efficient transit or traffic operation or to provide convenient pedestrian access to adjacent or nearby uses.
(D) For areas within an urban area containing a population of greater than 25,000 persons, not currently served by transit, evaluates the feasibility of developing a public transit system at build out. Where a transit system is determined to be feasible, the plan shall meet the requirements of subsection 2(c)(C) of this section.

This section of the TSP references the requirement for public transportation plan in the *Transportation Planning Rule,* describes types of services and facilities, reviews recommended service and facilities (ODOT, 1997), identifies Carlton public transportation users, and completes an inventory of these facilities in Carlton.

Types of Public Transportation and Recommended Services

As used in this section, public transportation includes the following services and facilities:

- Intra- and inter-city fixed route systems: fixed-route scheduled bus, rail, light rail, and park-and-ride express services.
- Paratransit services which primarily serve the disabled, elderly, or other transportation disadvantaged individuals.
- Rideshare/ Demand Management program: carpool, vanpool, bus pool matching services; preferential parking programs; and reduced parking fees.
- Other: taxi services, privately owned inter-city bus lines or shuttle services.

The best mix of services in any community or planning area will depend on the needs of the service population, spatial distribution of the service population, economic factors, and the existing transportation system and policies.

The Oregon Public Transportation Plan (ODOT, 1997) described a preferred state of public transportation in 2015 to respond to state and federal goals, which established targets for service types

and frequencies relevant to the City of Carlton. The plan identifies minimum levels of public transportation services which provide a range of services intended to keep pace with Oregon's changing and increasing public transportation needs. Minimum level of service recommendations were given by types of services, size of community, and distance from other major intermodal centers (only Portland in Oregon) or urban central cities. For planning purposes, communities are divided into large urban areas, small communities of 25,000 or more, small communities of 2,500 to 25,000, communities of 2,500 or more within 20 miles of an urban central city, and rural (<2,500) communities (ODOT, 1997). The population of Carlton was 1,243 in 1990, estimated to be 1,525 in 1998, and projected to be 2,480 in 2020; so during the 20-year planning horizon, Carlton will remain a rural community. The closest urban central city is Portland that is 28 miles to the northeast.

The goal for the following services will be established for rural communities under 2,500 population and over 20 miles from an urban central city:

- Public transportation to general public based on locally established service and funding priorities.
- Accessible ride to anyone requesting services.
- Coordinated, centralized scheduling system.
- Provide phone access to the scheduling system at least 40 hours weekly between Monday and Friday.
- Respond to service request within 24 hours, not necessarily provide a ride within 24 hours.

PEDESTRIAN AND BICYCLE SYSTEM PLAN

TPR Requirements

OAR 660-12-020 Elements of Transportation System Plans

(2) (d) A bicycle and pedestrian plan for a network of bicycle and pedestrian routes throughout the planning area. The network and list of facility improvements shall be consistent with the requirements of ORS 366.514.

OAS 660-12-045 Implementation of the Transportation System Plan

(6) In developing a bicycle and pedestrian circulation plan as required by 660-12-020(2)(d), local governments shall identify improvements to facilitate bicycle and pedestrian trips to meet local travel needs in developed areas. Appropriate improvements should provide for more direct, convenient and safer bicycle or pedestrian travel within and between residential areas and neighborhood activity centers (i.e. schools, shopping, transit stops). Specific measures include, for example, constructing walkways between cul-de-sacs and adjacent roads, providing walkways between buildings, and providing direct access between adjacent uses.

The City of Carlton Pedestrian Pla`n was developed to enhance the pedestrian system to encourage more residents to walk when making short trips within the city and to improve school children safety for those children walking to school. For a functional pedestrian system, connectivity between activity centers such as the downtown, city hall, school, and residential areas is important. The pedestrian plan strives to connect these activity centers and provide safe facilities for its users.

Because of the limited size of Carlton, it does not have the resources to retrofit every city street with sidewalks. Instead, local connectivity between activity centers and major north-south and east-west walking routes were used to develop the pedestrian plan. Figure 7-4 shows the pedestrian sidewalk plan.

The sidewalk improvements are prioritized as high, medium, and low priorities. The high priority projects are envisioned to be constructed within 5 years. The medium priority projects would be targeted to be constructed between 5 and 10 years. The low priority projects are targeted to be constructed between 10 and 20 years.

Yamhill County has three bikeway projects in the City of Carlton vicinity. These projects would add six-foot wide shoulders along the following facilities:

- Hendricks Road from Carlton city limits to Abbey Road
- Meadow Lake Road from Carlton city limits to Shelton Road
- Highway 47 from Washington County line to State Highway 99W

Due to narrow right-of-way issues along city streets, the bicycle plan is limited to shared roadway and shoulders. Yamhill County plans to widen the shoulder along Hendricks Road to the Carlton city limits and Meadow Lake Road from Shelton Road to the Carlton city limits as part of their bicycle plan. For consistency, after Yamhill County constructs the shoulders along these roadways, the City of Carlton bicycle plan will designate Main Street from the east city limits to the west city limits as a bicycle shared roadway. Appropriate signage will be installed at that time.

The bicycle plan also designates Highway 47 as a bikeway. ODOT should widen Highway 47 with 6-foot shoulders. Figure 7-5 shows the bicycle plan.

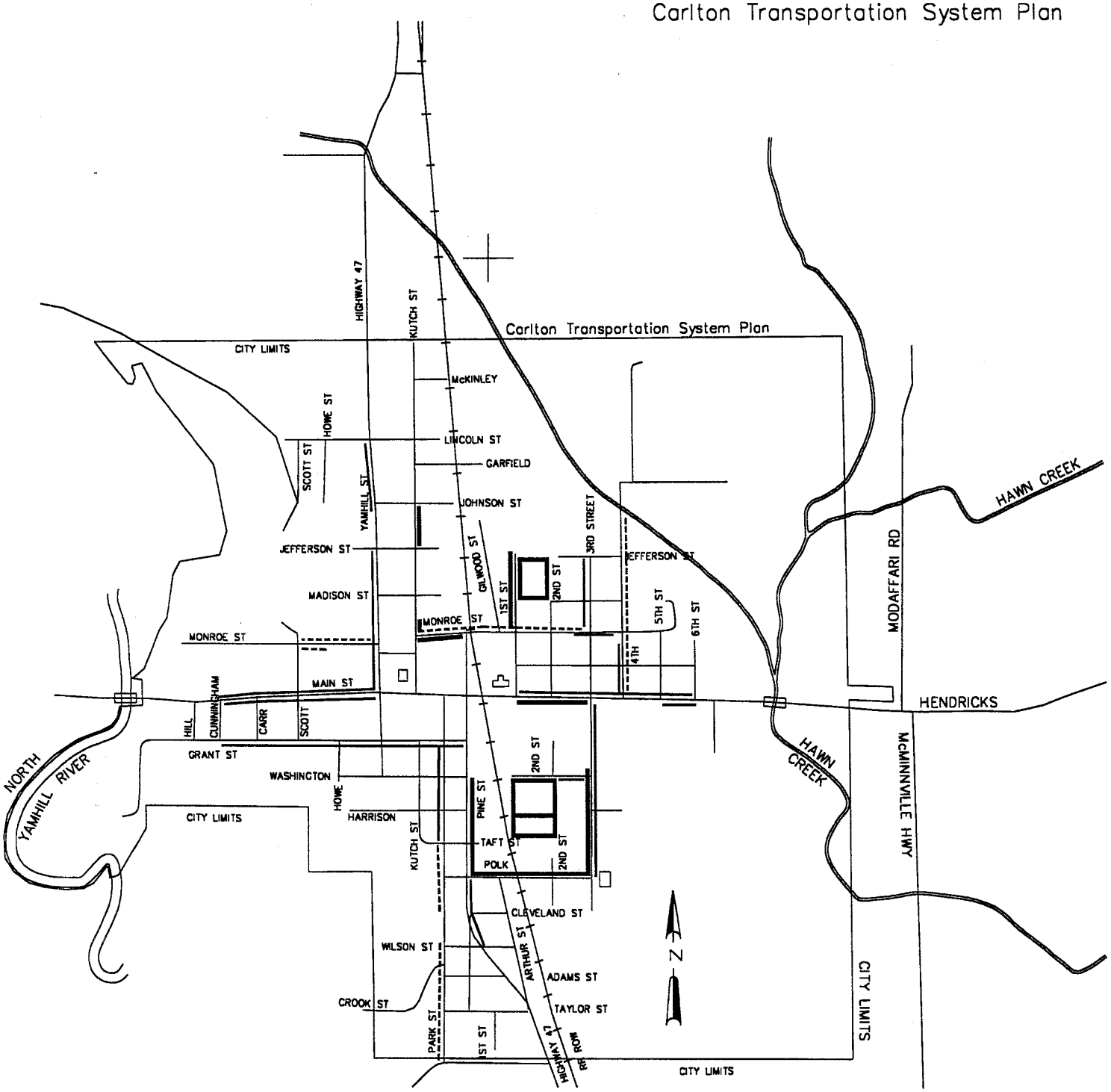
To support the bikeways within the City of Carlton, the bicycle plan calls for the addition of bicycle parking at the Wennerberg Park. Wennerberg Park fronts the south side of Main Street within the downtown core of Carlton. The park is a logical place to accommodate bicycle parking which would support park activities as well as downtown businesses. At the time the shoulder widening of Highway 47 occurs, bicycle parking should be placed at Wennerberg Park. Bike racks accommodating 6 to 12 bicycles should be installed at the north end of the park.

AIR, RAIL, WATER AND PIPELINE PLAN

TPR Requirements

OAR 660-12-020 Elements of Transportation System Plans

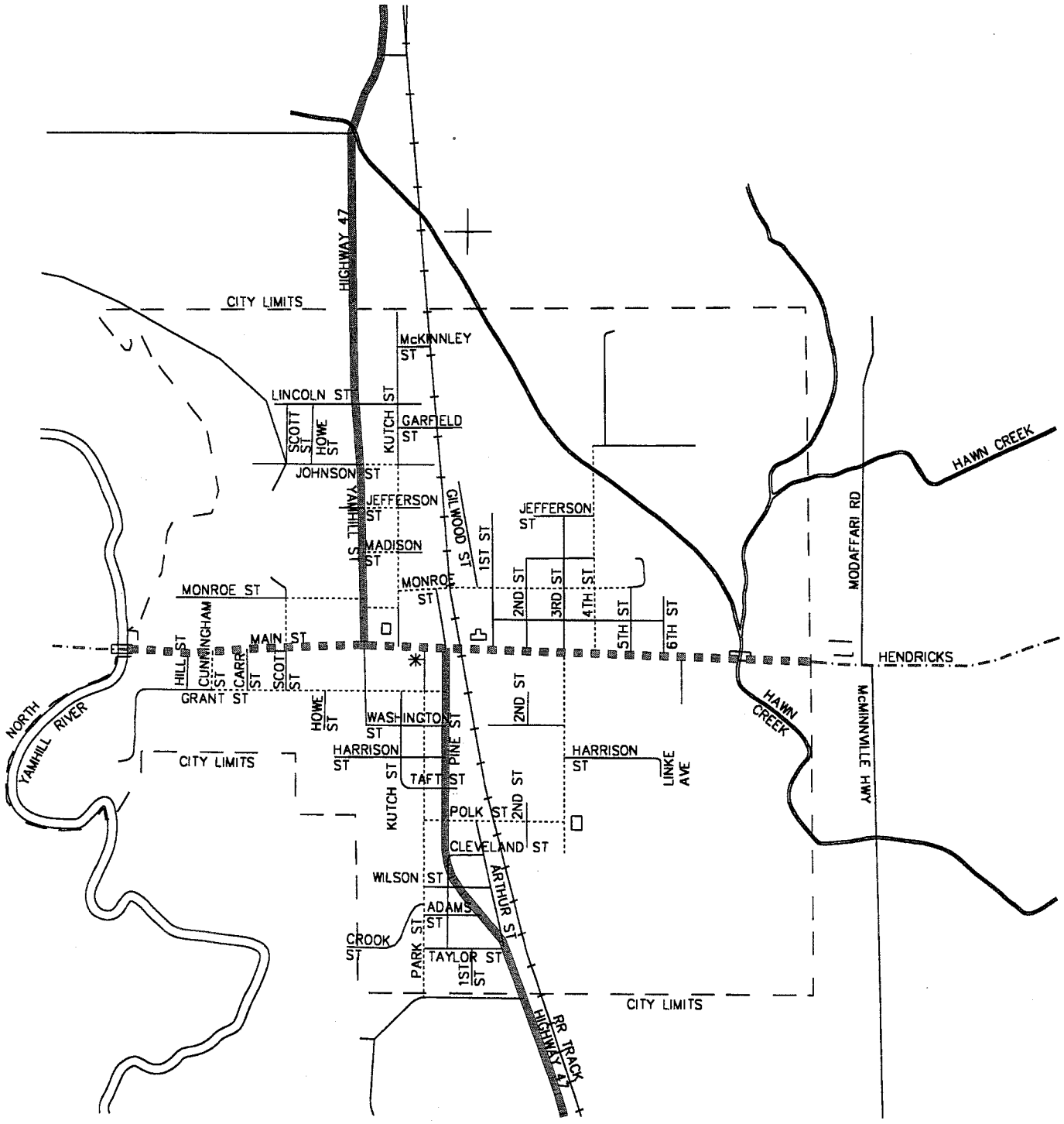
> (2) (e) An air, rail, water and pipeline transportation plan which identifies where public use airports, mainline and branchline railroads and railroad facilities, port facilities, and major regional pipelines and terminals are located or planned within the planning area. For airports,



Legend for Sidewalk Improvements

- High Priority
- Medium Priority
- Low Priority

Figure 7-4
Pedestrian Plan



Bikeway – 6 foot shoulder

Shared Roadway

* Bicycle Parking – 6 to 12 spaces

Figure 7–5
Bicycle Plan

the planning are shall include all areas within airport imaginary surfaces and other areas covered by state or federal regulations.

Air Service

There are no public use airports within the planning area of the City of Carlton.

Rail Service

There are no operating rail services with the planning area of the City of Carlton. There are local efforts to convert the railroad right-of-way within Carlton to a pedestrian trail. There is also some regional interest in preserving the railroad right-of-way for future light or heavy rail service between McMinnville and Forest Grove.

Water Transportation Service

There are no water transportation services within the planning area of the City of Carlton.

Pipeline Service

There are no major regional pipelines within the planning area of the City of Carlton.

TRANSPORTATION SYSTEM AND DEMAND MANAGEMENT ELEMENT

TPR Requirements

OAR 660-12-020 Elements of Transportation System Plans

(2) (f) For areas within an urban area containing a population greater than 25,000 persons a plan for Transportation system management and demand management.

(g) A parking plan in MPO areas as provided in 660-12-045(5)(c).

The intent of the transportation demand management (TDM) element is to reduce the peak travel demand from the home-to-work and return trips. TDM measures help reduce the need for new or wider roadways. Techniques of TDM that could be implemented in Carlton include alternative work schedules, ridesharing, pedestrian/bicycle facilities, and telecommuting. These TDM measures are described below and should be encouraged.

Alternative Work Schedules

Alternative work schedules that allow employees to commute during off-peak hours should be encouraged with larger employers. Since Carlton is relatively small with no major employer, this may only be implemented in a limited manner. This measure could also be implemented with large employers outside of Carlton employing Carlton residents.

Ridesharing

Ridesharing programs work better with larger employers. These employers can establish carpool and vanpool programs with a ride-matching service. Larger employers can encourage ridesharing by subsidizing ridesharing, establishing preferential parking and drop-off sites, and through other promotional incentives. Unfortunately, Carlton does not currently have large employers likely to implement such a program. However, at such a time a large employer does locate within Carlton, ridesharing should be encouraged as a TDM measure.

Pedestrian Facilities

The pedestrian plan is expected to encourage more walking within the City of Carlton.

Telecommuting

Telecommuting is an effective measure in reducing travel demand. Certain industries are more conducive to telecommuting than others. For example, fairly independent workers in industries with little coordination with others are better candidates for telecommuting than industries that rely on working together. Also, the success of telecommuting is highly dependent on each individual's work ethic.

CHAPTER 8
FINANCING PLAN

TRANSPORTATION IMPROVEMENT REVENUE NEEDS

As part of the requirement of the Transportation Planning Rule (TPR) for TSPs, a financing plan for the recommended improvements was developed. The total cost of transportation projects proposed under this TSP is as follows:

• Truck Traffic Alternative 3	$400,000
• Yamhill & Pine Street at Main signage improvements	$500
• Yamhill Street/Main Street intersection improvement	$115,000
• Sidewalk Improvements	
- High Priority	$260,000
- Medium Priority	$430,000
- Low Priority	$180,000
Total	$1,385,500

The remainder of this chapter is provides an overview of the City of Carlton's revenue outlook in relation to transportation and alternative funding and financing sources to implement the proposed transportation projects identified in the TSP.

TRANSPORTATION REVENUE OUTLOOK

Currently, the City of Carlton does not have a capital improvement program for transportation. Its maintenance budget for streets is minimal and no revenue is available for streets. Carlton's most pressing need is to upgrade its water supply system and all available city funds are being utilized to make those necessary improvements. This makes Carlton completely dependent on outside sources of funding for transportation projects. Likely sources are the Oregon Department of Transportation (ODOT) and Yamhill County. However, these agencies have so many competing demands that funding opportunities may be limited.

REVENUE SOURCES AND FINANCING OPTIONS

Several possible funding sources exist to implement the recommended transportation improvements. The following pages describe the funding sources that may be available.

Local Sources

The following options are available on the local level to raise funds for transportation improvements:

Local Option Gasoline Tax

Revenues raised from a local option gasoline tax could be used by the City to fund recommended transportation improvements. However, with limited sales of gasoline within the city limits, this source is not likely to generate any significant revenue for Carlton. Also, with the potential discrepancy between gasoline sold in Carlton and neighboring jurisdictions may encourage motorists to seek less expensive options outside of Carlton.

Property Taxes

Local property taxes can be used to fund transportation system improvements. A specific allocation of property taxes to transportation improvements could be identified or set at a fixed and predictable level to provide a longer-term stable and predictable source of revenue. This would be important in implementing larger, longer-term projects with a high capital cost. Voter approval is necessary for the use of property taxes to fund roadway improvements and the uncertainty of this approval affects the attractiveness of this revenue choice. Another major disadvantage of using property taxes to support transportation improvements includes the inequity of this tax when compared with the users of the system (a user tax such as the tax on gasoline is more equitable in that persons who drive and use the street system pay for it rather than persons who own property). Additionally, the use of property taxes to fund transportation improvements would be restricted by the limitations of Measure 5.

Debt Funding

The City could issue municipal bonds to finance improvements. This approach would spread the cost of improvements over the life of the bonds and lower the annual expenses during construction years. If revenue bonds are issued, voter approval might not be necessary, but an identified revenue source (i.e., property taxes) would need to be identified to satisfy the bond underwriter. General obligation bonds would require voter approval. Both bonding approaches would be limited by the restrictions of Measure 5 and the bonding capacity of the local agencies.

System Development Charges

Oregon law enables communities to fund growth-related transportation improvements by imposing system development charges. These charges apply to newly developed property and can be used to recover the costs of past or future roadway improvement projects necessitated by growth. They may not be used to fund transportation improvements to serve existing residents. Therefore, while it is relatively easy to estimate the system development charges which would be needed to build improvements associated with growth, these charges will not be sufficient to meet all of the infrastructure needs identified in this plan.

System development charges (SDCs) are considered by many to be an equitable method of funding as they provide for many of the improvements needed because of growth in the community. On the other hand, growth in non-local traffic or traffic attributable to existing residents may also fuel the need for improvements which the system development charges are used to fund. Revenue from SDCs is generally not stable or predictable over time as it is received only when development occurs. During times of economic downturn, this revenue source may taper off entirely. This makes it difficult to rely on this source of funds for larger, multi-phased or multi-year projects.

It is generally advisable to use SDCs to finance those transportation improvements that are tied to local growth needs and, if the anticipated growth does not occur when expected or at all, both the improvement costs and the development charge revenue will not be needed.

Local Improvement Districts

Local improvement districts, known as LIDs, could be formed to finance public transportation improvements. LIDs may be formed by either the city or property owners. Their use and benefit are usually restricted to a specific area. The cost of a project with an LID in place is distributed to each property owner according to the benefit that property receives. With transportation improvements, that benefit may be measured by trips generated by each property. Or, in the example of a sidewalk improvement, the cost could be equitably divided by lineal feet of sidewalk along property frontages. The cost distributed becomes an assessment or lien against the property. It can be paid in cash or through assessment financing.

Non-Local Funding Sources

State Gasoline Tax

Gas tax revenues received from the state are used by all counties and cities to fund road construction and maintenance. The revenue share to cities is divided through an allocation formula related to population. The state gas tax received by Carlton will not sufficiently fund the improvements identified in the TSP and may not even cover maintenance needs.

Grants and Loans

Most grant and loan programs available through the state are related to economic development and not specifically for construction of new streets. Programs such as the Oregon Special Public Works Fund provides grant and load assistance for construction of public infrastructure that support commercial and industrial development that results in permanent job creation or retention. Another grant program is the Immediate Opportunity Fund (IOP). Again, this grant is tied to local and regional economic development efforts.

ODOT Funding Options

The State of Oregon provides funding for all highway-related transportation projects through the Statewide Transportation Improvement Program (STIP) administered by ODOT. The STIP outlines the schedule for ODOT projects throughout the state. Projects within the STIP are identified for a four-year funding cycle. In developing this funding program, ODOT must verify that the identified projects comply with the OHP, ODOT modal plans, corridor plans, local comprehensive plans, and TEA-21 planning requirements. The STIP must fulfill TEA-21 planning requirements. Specific transportation projects are prioritized based on a review of the TEA-21 planning requirements and the different state plans. ODOT consults with local jurisdictions before highway related projects are added to the STIP. The Carlton Highway 47 truck by-pass improvement project will be considered for insertion to the STIP.

ODOT has the option of making some highway improvements as part of their ongoing maintenance program. Projects such as new sidewalks along Highway 47 may be possible through ODOT's maintenance program.

APPENDIX A

REVIEW OF EXISTING PLANS, POLICIES, AND STANDARDS

REVIEW OF EXISTING PLANS, POLICIES, AND STANDARDS

The City of Carlton does not have an existing transportation system plan. Transportation findings, goals, policies, and standards are incorporated sporadically in the City's Planning Atlas, Comprehensive Plan, and Public Works Standards and Specifications (Ordinance Number 557). Transportation related issues contained in these documents are summarized below.

City of Carlton Planning Atlas (May 1979)

The following statements summarize the transportation findings of the City of Carlton Planning Atlas, May 1979:

1. Travel in Carlton is primarily by automobile and the greatest community transportation need in the community is for the maintenance and improvement of the City's street network.

2. There are very few accidents in the City of Carlton each year. The community averages about 10 accidents per year with the majority of accidents occurring at the intersections of Main and Pine and West Grant and Pine. Visibility problems at these intersections created by adjacent parking lots are the main cause of accidents.

3. The most serious traffic problem in the City is related to large trucks traveling through Highway 47. Due to small turning radii at the intersections of Yamhill and Main and Pine and Main, trucks have difficulty navigating through these intersections. The possibility of creating a truck by-pass has been discussed with ODOT. Due to limited funding available from the State of Oregon, it is not likely that the City of Carlton would be able to get this project funded.

4. Narrow streets combined with too much on-street parking are causing traffic problems. However, a lack of available off-site street sites prevent the elimination of on-street parking.

5. Major areas of traffic congestion are the bank, post office, and Madsen Grainery areas.

6. City streets are classified as either arterial, collector, or minor streets. Only Highway 47 and Main Street are classified as arterials. Collector streets include Johnson Street, Jefferson Street, Madison Street, Monroe Street, 3rd Street, 4th Street, Polk Street, Park Street, Grant Street, and Cunningham Street.

7. The Southern Pacific Railroad tracks run through the center of Carlton in a north-south direction. This railway is currently functioning for freight service only and is expected to continue. The rail line is in adequate condition.

8. There are no airport facilities in the City of Carlton planning area. The nearest airport to the City of Carlton is approximately 10 miles south in the City of McMinnville. For regularly scheduled commercial flights, City residents generally utilize the Portland International Airport.

9. Yamco Transit is the only form of mass transit available to the City of Carlton. Due to lack of ridership on the Carlton route, service is expected to cease by early 1979.

10. Pedestrian and bicycle facilities are limited in the City of Carlton. This is likely a deterrent to walking and bicycling at the present time. Since the distance between Carlton's commercial and residential district is relatively short, non-motorized traffic is expected to increase should safe and convenient walking and bicycling pathways be provided.

City of Carlton Comprehensive Plan (June 11, 1979)

The City of Carlton's Comprehensive Plan was reviewed to identify existing goals and policies that are related to transportation and would affect the development of the transportation system plan. The discussion below of existing transportation goals and policies is categorized by major sections of the Comprehensive Plan.

Citizen Involvement

The Comprehensive Plan goals and policies create a framework for public involvement in all phases of the planning process. The Carlton Planning Commission serves as the committee for citizen involvement and establishes the Citizen Advisory Committees. In the case of the current transportation system plan project, the Planning Commission will serve as the Citizen Advisory Committee. The following goals and policies should be followed throughout the development of Carlton's Transportation System Plan.

Goal – Citizen Involvement

1. To maintain a Citizen Involvement Program that ensures the opportunity for citizens to be involved in all phases of the planning process.

Policies – Citizen Involvement

1. The City shall employ a variety of methods of informing citizens and obtaining their opinions and attitudes on matters relating to the planning process.

2. The City shall continue to involve citizens in all phases of the planning process and shall encourage the continued involvement of the Citizen Advisory Committee.

Agricultural Lands

Approximately 43 percent of the City's land area is devoted to agricultural uses. The Comprehensive Plan calls for the preservation of the economic livelihood of the farmer by preserving prime agricultural land for farming. Conversion from agricultural use to urban use shall only be done when adequate public facilities and services are available to the areas proposed for development.

The agricultural lands policy of having adequate facilities before urban development may have an impact on the local street network and street classification plans. Future arterials, collectors, and local streets may be

required to be in place prior to the development of agricultural lands. The exact procedure for the development of future roadways through agricultural lands will be developed with the local street network and street classification plans.

Open Spaces, Scenic and Historic Areas, and Natural Resources

Open Spaces Policy 2 states that the construction of bicycle and pedestrian paths through open space areas should be considered. As the non-motorized plan of the transportation system plan is developed, the construction of bicycle and pedestrian pathways in open space areas will be explored.

There are three buildings within the City that are listed in the Statewide Inventory of Historic Sites and Buildings. These buildings are the Frederick Bunn House, the Charles E. Ladd House and the Log Cabin Tavern. Policy 4 of the Open Spaces, Scenic and Historic Areas, and Natural Resources section of the Comprehensive Plan states:

> "The City's designated historic sites shall be protected, promoted, and enhanced as important community resources"

This policy will be considered with any transportation improvement proposals that are adjacent to the City's historic buildings.

Air Resources

Although the City of Carlton exceeds the air quality standards set by D.E.Q., the City does see a need to maintain present air quality. In recognition that increased automobile traffic will increase auto related air pollution, the City encourages alternative forms of transportation to reduce automobile emission pollution.

Natural Hazards

The following natural hazards policies apply to roadways:

Policy – Flood Plains

2. To minimize damage to public facilities and utilities such as water, electric, telephone and sewer lines, and streets and bridges located in areas of specific flood hazard.

Policy – Soil Hazards

6. The City shall ensure that public facilities and services be protected from soil hazard at the time of initial construction, including sewer and water lines.

Policy – Steep Slopes

1. The City shall make sure that proper grading and engineering procedures are followed when building on steep slopes to avoid soil erosion, roadway and structure collapse and mass movement of underlying geologic structure.

These policies will be considered as transportation alternatives are developed.

Recreation

The development of bicycle and pedestrian pathways should be examined according to Recreation Policy 4. With the development of the non-motorized plan, both recreational and commuting uses of newly proposed bicycle and pedestrian pathways will be addressed.

Public Facilities and Services

Street construction and maintenance are not budgeted through City funds. Instead, repairs are funded through state tax fund allotment. There is a need to identify other funding sources, so that street construction and maintenance will keep pace with Carlton's growth trends.

The following public facilities and services goals and policies relate to transportation facilities:

Goal – Public Facilities and Services

1. To develop a timely, orderly, and efficient arrangement of public facilities and services to serve as a framework for future development.

Policies – Public Facilities and Services

1. Public facilities and services plans shall coordinate the type, location, and delivery of public facilities and services in a manner that best supports the existing and proposed land use of Carlton.

5. Developable areas which are most easily served by public facilities and services shall be identified and promoted as priority development areas.

6. Carlton shall examine, identify, and promote energy efficient and cost effective methods to provide and maintain public facilities and services. These include, but are not limited to street, curb, sidewalk construction and provision of adequate drainage measures, both man-made and natural, to accommodate storm runoff.

7. Transportation planning shall funnel major traffic flows away from residential neighborhoods.

8. The City, as the need arises, shall investigate and promote the use of funds in addition to state monies for the construction and maintenance of City streets and sidewalks.

9. A public facility and service should not be provided in a developable area unless there is provision for the coordinated development of all facilities and services applicable to the kind of development intended.

Transportation

The transportation findings are summarized above in the City of Carlton Planning Atlas section. The findings in the Planning Atlas formed the framework for the transportation goals and policies listed below.

Goals – Transportation

1. To provide a safe, convenient, aesthetic, and economic transportation system through a variety of transportation means.

2. To provide good local access and circulation.

3. To move traffic quickly and safely.

4. To preserve the aesthetic quality and character of the community.

5. To ensure pedestrian, bicycle, and overall safety along Highway 47.

6. To ensure good layout and design for both on-street and off-street parking.

Policies – General Transportation

1. Transportation facilities shall be sited, designed, and constructed so as to minimize visual and environmental impacts on the natural and social features of the area and meet accepted engineering design standards.

2. Transportation improvements shall be used to guide urban development and shall be designed to serve anticipated future needs.

3. While automobiles will continue as the primary means of transportation, Carlton shall encourage the development of a variety of alternative modes, including bicycle and pedestrian pathways.

4. The City of Carlton recognized that its Comprehensive Plan implementing ordinances must be amended to provide more certainty regarding the permissibility of street, road, and highway maintenance and improvements and to coordinate the local planning review of highway projects with the Oregon Action Plan for Transportation. The City will consider appropriate amendments as soon as possible after the Oregon Department of Transportation.

Policies – Automobile

5. Hazardous and inferior road sections and intersections shall be identified and recommendations shall be made for improvement through a systematic capital improvement program.

6. Automobile routes between residential areas and major activity centers shall be examined and recommendations shall be made for an improvement program.

7. A widening and rerouting of State Highway 47 to bypass the commercial core area shall remain a high priority item in the future development of Carlton's transportation network.

Policies – Bicycle & Pedestrian

8. Carlton shall develop a bikeway plan and route which will coordinate with Yamhill County's Bikeway Plan and the State Designated Bicycle Route along Highway 47.

9. Bikeway design standards shall be those recommended by the Oregon Department of Transportation.

10. Walking and hiking shall be encouraged wherever possible, especially along major routes between residential areas and major activity centers.

11. Pedestrian and bicycle traffic shall be separated wherever possible, particularly between residential areas and major activity centers.

12. The City shall coordinate with and encourage the Oregon State Department of Transportation in development of designated bicycle routes.

Policies – Public Transit

13. Carlton shall encourage the continued operation of existing services for the handicapped and senior citizens.

Policies – Railroad

14. The renewal of rail transportation routes shall be encouraged.

Policies – Transportation Disabled

15. The City shall encourage transportation improvements and actions which address the special needs of the low income, the handicapped, and senior citizens consistent with the needs of Carlton's citizens.

City of Carlton Zoning Code

Section 10.2 of the Zoning Code specifies the minimum street right-of-way. For through streets, the minimum right-of way is 60 feet. For a cul-de-sac, the minimum right-of-way is a 50 foot radius.

Section 10.15 and 10.16 of the Zoning Code establishes a requirement and standard for clear-vision areas at intersections. The following clear-vision areas have been established in the Zoning Code:

1) In a Residential Zone the minimum distance shall be 30 feet, or, at intersections including an alley, 10 feet.

2) In all other zones where yards are required, the minimum distance shall be 15 feet; or, at intersections including an alley, 10 feet except that when the angle of intersection between streets, other than an alley, is less than 30 degrees, the distance shall be 25 feet.

Section 13 of the Zoning Code establishes off-street parking requirements and loading zone requirements. Joint use parking conditions are included in this section.

City of Carlton Ordinance Number 557 (standard specifications for construction, September 1992)

The following street standards have been established in Ordinance Number 557:

- A standard 20 foot radius to the face of curbs shall be used at all street intersections in new subdivisions and land partitions.

- Street right-of-way and curb-to-curb widths shall conform to the requirements of Ordinance 418. Standard Detail III-16 shows a typical street standard with a curb-to-curb width of 36 feet.

- Standard details for driveways and alley approaches are shown in Standard Detail III-23. A minimum driveway spacing of 20 feet between driveways is established in this drawing. Various driveway width requirements are set according to property frontage length.

APPENDIX B

NEWSLETTERS/QUESTIONNAIRES

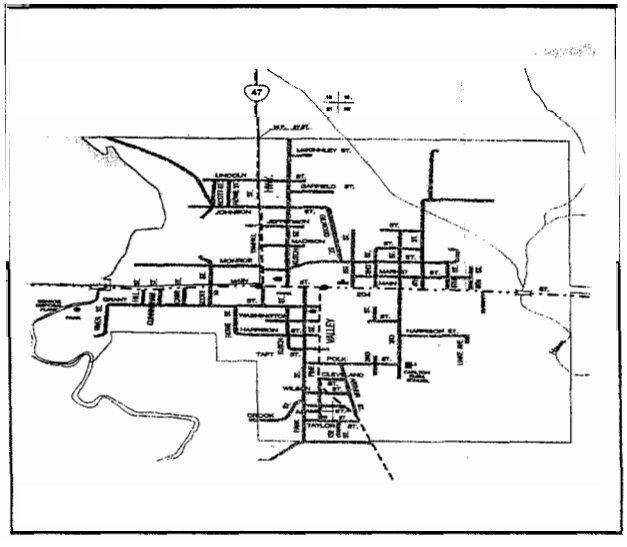
CITY OF CARLTON
TRANSPORTATION SYSTEM PLAN

City of Carlton, Yamhill County, ODOT Region 2, Mid-Willamette COG

TSP Newsletter Volume 1b - August 1998

What is a Transportation System Plan?

A multi-jurisdictional team of the City of Carlton, Yamhill County, Oregon Department of Transportation, and Mid-Willamette Council of Governments have begun a project to develop a 20-year plan to address the current and future transportation needs of the City of Carlton. A consultant, H. Lee & Associates, has been selected to work with this multi-jurisdictional team to conduct the study. The study will take approximately a year and will include several public open houses to update the community on the study progress and to solicit input.



Why Conduct a Study?

The development of the transportation system plan is necessary to plan for future growth. Without a plan, the City of Carlton would grow in a haphazard manner and may not grow in a way that reflects the community's values and character. A completed plan will guide the City of Carlton to adequately plan its transportation needs of the future. Also, this plan responds to state laws and regulations requiring local jurisdictions to consider transportation planning and public improvement funding in their decision-making process. The City is required to integrate this transportation system plan into its adopted comprehensive land use plans and zoning ordinances.

How should I get Involved?

Your input is very important in developing Carlton's transportation system plan. Public input is a key component of developing this plan. During the course of this project, the public will be encouraged to participate in the planning and decision-making process. You will be invited to a number of public open houses and will be kept informed through a series of project newsletters. For more information, please contact David Carl, City of Carlton Administrator, at 852-7575.

Key Tranpsortation Issues

We need your help in defining the key transportation issues in your community. Please help us by filling out the questionnaire on the back of this newsletter and return it to City Hall, Carlton Community Outreach Center or send it to:

H. Lee & Associates
P.O. Box 56267
Portland, OR 97238

Also, if you have any other issues regarding transportation, please mention them in the general comment section.

CITY OF CARLTON
TRANSPORTATION SYSTEM PLAN

City of Carlton, Yamhill County, ODOT Region 2

TSP Newsletter Volume 2 - October 1998

Existing Conditions

We have completed our existing conditions assessment of the City of Carlton. A draft copy of the report is available for public review at City Hall. Please contact David Carl with the City of Carlton at 852-7575 if you are interested in obtaining and reviewing this information.

The existing conditions report inventories and evaluates the transportation facilities in the City of Carlton. Information such as accident location, roadway traffic counts, and levels of service at primary City intersections are included in the existing conditions report.

What's the Next Step?

The next step in the transportation system planning process is to identify transportation system deficiencies and develop alternatives to improve those deficiencies. The deficiencies needing improvements may include congested areas, safety hazards, public transportation services such as dial-a-ride, pedestrian and bicycle facilities, and truck impacts to downtown.

Future Transportation Improvements

We will be discussing the transportation deficiencies within the City of Carlton and alternatives to improve those deficiencies in the upcoming Public Open House on Wednesday, October 21, 1998 from 7:00 to 9:00 P.M.

Displays listing identified transportation deficiencies and their possible solutions will be available for review at the Public Open House. We would like for you to come by the Public Open House with comments on our deficiencies list and where you feel additional deficiencies exist. We are also interested in your ideas to improve those deficiencies as well as your input to the conceptual improvement alternatives that we have developed.

A Special Invitation

We Want to meet YOU and Discuss YOUR Ideas

Come to the Open House on October 21, 1998 to discuss alternatives to improve traffic conditions and safety in the City of Carlton.

Public Open House
Wednesday, October 21, 1998
7:00 to 9:00 P.M.
City Hall (Council Chambers)

One of the topics of the October Public Open House will be discussion on a one-way couplet alternative with Monroe Street, Pine Street, Yamhill Street, and Main Street. We will be talking about the advantages and disadvantages of this improvement concept. It is very important that you come to the Open House and let us know your concerns. With any potential improvement project, your comments are most effective as input in a planning process such as this TSP process.

CITY OF CARLTON
TRANSPORTATION SYSTEM PLAN

City of Carlton, Yamhill County, ODOT Region 2, Mid-Willamette COG

TSP Newsletter Volume 3 - May 1999

Transportation Improvement Alternatives

In developing the draft transportation system plan for Carlton, transportation improvements were developed in the following areas: alternatives to reduce truck impacts in the downtown area, future local street network designating new roadways to accommodate future growth, and a sidewalk improvement plan.

Three alternatives to solve the truck traffic problem through downtown Carlton were developed. These solutions focused mainly on improving safety and traffic circulation since capacity is not a significant future traffic issue in the City of Carlton. The three alternatives are described below.

Truck Alternative 1

The first alternative is a no build alternative. The no build condition describes the result of not doing anything to mitigate the downtown truck traffic. By not doing anything to alleviate the truck impact to the downtown area, the City can expect the same level of truck impacts in the future.

Truck Alternative 2

Alternative 2 is a one-way couplet concept. This alternative involves creating a one-way couplet system with Yamhill Street between Monroe Street and Main Street, Main Street between Yamhill Street and Pine Street, Pine Street between Main Street and Monroe Street, and Monroe Street from Pine Street to Yamhill Street. This one-way couplet system is depicted in Figure 2.

The advantage of the one-way couplet alternative is that it facilitates truck movement through the downtown area. Truck traffic from the east and south would use Pine Street and Monroe Street to by-pass the downtown area. Truck traffic from the north and west would still pass through the downtown area using Main Street. However, due to the one-way couplet system, truck traffic would have more space to negotiate turns at the Yamhill Street/Main Street and Pine Street/Main Street intersections.

The disadvantage of Alternative 2 is that it significantly changes the existing traffic circulation in Carlton. It would take residents some time to adjust to the changes.

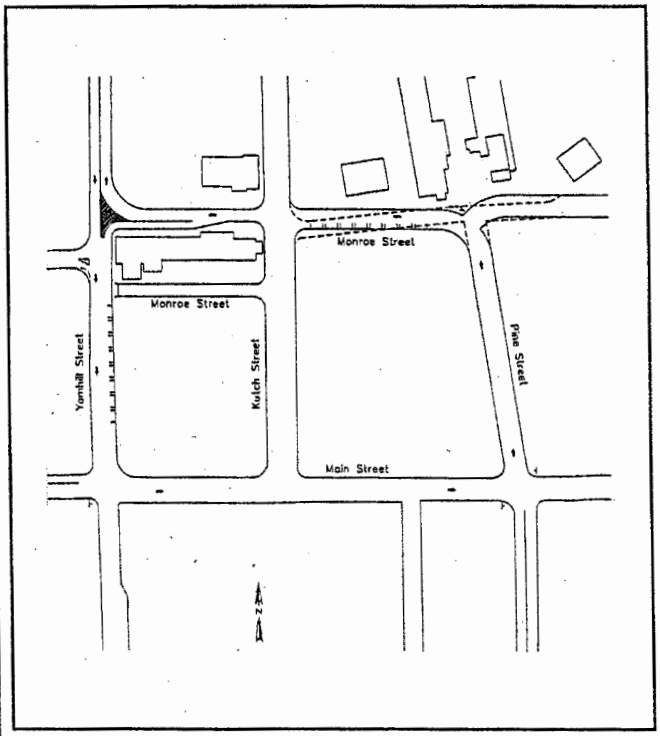
A Special Invitation

We Want to Meet YOU and Discuss YOUR Ideas

Come to our final Open House on May 24th to discuss the draft Transportation System Plan. We are in the final stages of the study and are looking for final comments from the public.

Public Open House
Monday, May 24, 1999
8:00 to 9:00 P.M.
City Hall (Council Chambers)

Figure 1. One-Way Couplet Alternative



Truck Alternative 3

Alternative 3 utilizes the same Monroe Street/ Pine Street alignment as Alternative 2. The difference between the two alternatives is that in Alternative 3, Monroe Street between Yamhill Street and Pine Street and Pine Street between Monroe Street and Main Street would be two-way rather that one-way. This alignment would be utilized as a truck by-pass and require all trucks to utilize this route. The only truck traffic that would remain on Main Street would be traffic originating from Main Street and destined to the other side of Main Street. It would be difficult for this truck traffic to utilize the by-pass because of the excessive amount of turning required. Figure 2 shows Alternative 3.

Preferred Truck Alternative

Based on input from the public open house in October 1998 and input from the planning commission, Truck Alternative 3 was preferred. If you have concerns about the preferred truck alternative, you should fill out the enclosed comment card and submit it to David Carl at the Carlton City Hall.

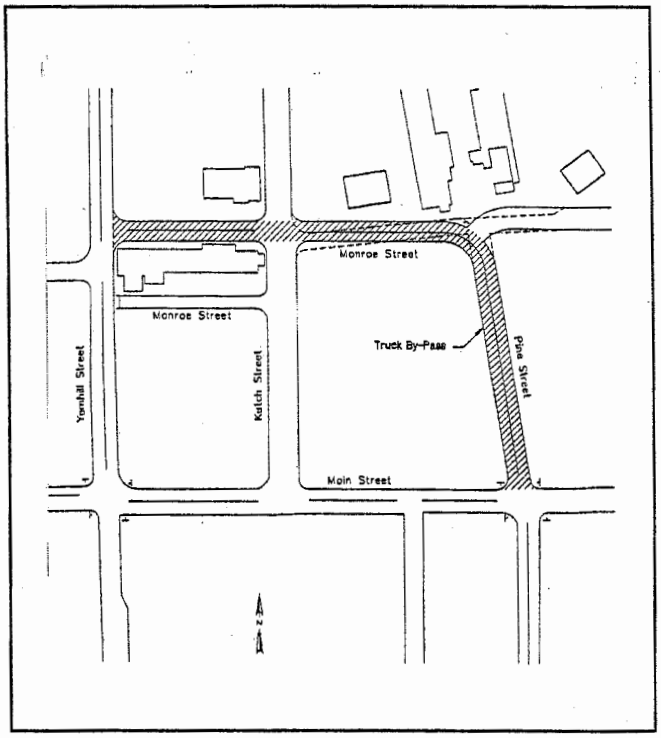
Future Local Street Network Plan

The purpose of the Local Street Network Plan is to identify future right-of-way that the City of Carlton will need in order to have and maintain, as much as possible, a balanced street network in accordance with the Oregon Transportation Planning Rule. The plan designates:

1) where existing collector/arterials will be extended or new ones will be added;

2) where new local access streets and/or pedestrian ways will be located to provide better connection between existing streets (grid infill); and

Figure 2. Truck By-Pass Alternative



APPENDIX C

STREET INVENTORY

APPENDIX C
1998 STREET INVENTORY
City of Carlton Transportation System Plan

Street Segment	Jurisdiction	Classification	Speed Limit (mph)	ROW Width (feet)	Street Width (feet)	# of Travel Lanes	Curbs	On-Street Parking	Sidewalk	Bikeway	Pavement Condition
1st Street											
northern terminus to Monroe St	City	local	25	40	13	1	no	no	no	no	gravel
Monroe St to Main St	City	local	25	40	21	2	no	no	east side	no	fair
Taylor St to Southern terminus	City	local	25	50	36	2	both	both	no	no	good
2nd Street											
Madison St to Monroe St	City	local	25	40	20	2	no	no	no	no	poor-fair
Monroe St to Main St	City	local	25	40	21	2	int - both	west side	int - both	no	poor
Northern terminus to Washington St	City	local	25	50	32	2	both	both	both	no	good
Northern terminus to Polk St	City	local	25	50	12	1	no	east side	east side	no	gravel
Polk St to southern terminus	City	local	25	50	20	2	no	no	no	no	good
3rd Street											
Jefferson St to Madison St	City	local	25	50	16-18	2	no	west side	no	no	fair
Madison St to Monroe St	City	local	25	50	25-30	2	int - west side	both	both	no	poor
Monroe St to Main St	City	local	25	50	20	2	no	both	west side	no	fair
Main St to Washington St	City	local	25	40-50	21	2	no	west side	west side	no	fair
Washington St to Harrison St	City	local	20	50	21	2	no	west side	both/int - east side	no	fair
Harrison St to Polk St	City	local	20	50	21-24	2	int - east side	no	int both	no	poor-fair
Polk St to southern terminus	City	local	25	50	15-16	1/2	no	no	no	no	gravel
4th Street											
Northern terminus to Jefferson St	City	collector	25	30-36	12-16	1/2	no	no	int - west side	no	poor
Jefferson St to Madison St	City	collector	25	36-40	19-24	2	int - east side	no	no	no	good
Madison St to Monroe St	City	collector	25	60	20	2	no	east side	west side	no	good
Monroe St to Main St	City	collector	25	60	19	2	no	both	both	no	poor-good
5th Street											
Monroe St to Main St	City	local	25	40-50	11-15	1/2	no	no	int-west side	no	gravel
6th Street											
Northern terminus to Main St	City	local	25	50	19	2	no	both	no	no	fair

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City of Carlton Transportation System Plan

Street Segment	Jurisdiction	Classification	Speed Limit (mph)	ROW Width (feet)	Street Width (feet)	# of Travel Lanes	Curbs	On-Street Parking	Sidewalk	Bikeway	Pavement Condition
Adams Street											
Park St to Pine St	City	local	25	40	30	2	south side	south side	no	no	poor-fair
Pine St to Highway 47	City	local	25	40	13	2	no	no	no	no	poor-fair
Arthur Street											
Polk St to Cleveland St	City	local	25	40							
Cleveland St to Wilson St	City	local	25	40	17-19	2	no	no	no	no	poor-good
Wilson St to Highway 47	City	local	25	40	17-19	2	no	no	no	no	poor-good
Carr Street											
Main St to Cunningham St	City	local	25	50	20	2	no	both	west side	no	poor-fair
Cleveland Street											
Pine St to Arthur St	City	local	25	50	22	2	no	both	south side	no	good
Cunningham Street											
Main St to Grant St	City	collector	25	50	20	2	no	both	no	no	fair
Gilwood Street											
Monroe Street to Northern terminus	City	local	20	30	28	2	both	both	int - west side	no	fair
Grant Street											
Park Entrance to Cunningham St	City	local	5	50	20	2	no	no	no	no	good
Cunningham St to Carr St	City	collector	25	50	19-20	2	no	both	both	no	good
Carr St to Scott St	City	collector	25	50	20-21	2	no	south side	no	no	good
Scott St to Howe St	City	collector	25	40	20	2	no	no	south side	no	good
Howe St to Yamhill St	City	collector	25	40	22	2	no	both	south side	no	fair
Yamhill St to Kutch St	City	collector	15	40	39	2	no	both	no	no	poor-fair
Kutch St to Park St	City	collector	15	40	20-36	2	no	north side	south side	no	poor-fair
Park St to Pine St	City	collector	25	40	32	2	north side	north side	south side	no	fair

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1998 STREET INVENTORY
City of Carlton Transportation System Plan

Street Segment	Jurisdiction	Classification	Speed Limit (mph)	ROW Width (feet)	Street Width (feet)	# of Travel Lanes	Curbs	On-Street Parking	Sidewalk	Bikeway	Pavement Condition
Harrison Street											
Western terminus to Kutch St	City	local	25	50	15-16	2	no	no	no	no	poor
Kutch St to Park St	City	local	25	50	18-19	2	no	no	north side	no	fair
Park St to Pine St	City	local	25	50	15-16	1/2	no	no	south side	no	poor
3rd St to Eastern terminus	City	local	25	50	25-26	2	no	both	no	no	fair
Highway 47											
Pine St to Wilson St	ODOT	arterial		50	22/29	2	no	no	no	no	fair
Wilson St to Adams St	ODOT	arterial		50	22/29	2	no	no	no	no	fair
Adams St to Taylor St	ODOT	arterial		50	22/29	2	no	no	no	no	fair
Taylor St to South City Limits	ODOT	arterial		50	22/29	2	no	no	no .	no	fair
Howe Street											
Grant St to Southern terminus	City	local	25	50	15-19	1/2	no	west side	no	no	gravel
Lincoln Street to Southern terminus	City	local	25	60	20	2	no	west side	no	no	poor-fair
Jefferson Street											
Yamhill St to Kutch St	City	collector	25	60	20	2	no	both	int - north side	no	fair
Kutch St to eastern terminus	City	local	25	60	20-21	2	no	both	no	no	fair
western terminus to 3rd St	City	local	25	30-40	12-15	1/2	no	no	int - south side	no	gravel
3rd St to 4th St	City	local	25	30	18	2	no	south side	no	no	fair
Johnson Street											
Yamhill St to Kutch St	City	collector	25	60	21	2	no	both	int - both	no	fair
Kutch St to eastern terminus	City	local	25	60	19	2	no	both	north side	no	poor-fair
Kutch Street											
Nothern terminus to McKinnley St	City	local	25	50	36	2	both	both	both	no	good
McKinnley St to Lincoln Street	City	local	25	50	36	2	both	both	both	no	good
Lincoln Street to Johnson St	City	local	25	25-60	22-36	2	both	both	int - both	no	good
Johnson St to Jefferson St	City	collector	25	75	22	2	no	both	both	no	fair
Jefferson St to Madison St	City	collector	25	75	21	2	no	both	both	no	fair

APPENDIX C
1998 STREET INVENTORY
City of Carlton Transportation System Plan

Street Segment	Jurisdiction	Classification	Speed Limit (mph)	ROW Width (feet)	Street Width (feet)	# of Travel Lanes	Curbs	On-Street Parking	Sidewalk	Bikeway	Pavement Condition
Madison St to Monroe St	City	collector	25	75	30	2	west side	east side	west side	no	fair
Monroe St to Main St	City	local	25	75	52	2	both	both	both/int - west side	no	poor-fair
Grant St to Washington St	City	local	25	50	20	2	no	no	no	no	poor-fair
Washington St to Harrison St	City	local	25	50	20	2	no	no	no	no	poor-fair
Harrison St to Taft St	City	local	25	50	21	2	no	no	east side	no	good
Lincoln Street											
Western terminus to Howe St	City	local	25	60	11-26	1/2	no	no	no	no	gravel
Howe St to Yamhill St	City	local	25	60	14-15	1	no	no	no	no	gravel
Yamhill St to Kutch St	City	local	25	50	36	2	both	both	both	no	good
Kutch St to eastern terminus	City	local	25	50	36	2	both	both	both	no	good
Madison Street											
Yamhill St to Kutch St	City	collector	25	60							
Kutch St to eastern terminus	City	local	25	60	30	2	no	west side	north side	no	gravel
2nd St to 3rd St	City	local	25	40	15-20	2	int - south side	both	int - south side	no	poor-fair
3rd St to 4th St	City	local	25	40	13	1	no	north side	north side	no	gravel
4th St to Eastern terminus	City	local	25	10-14	22	2	no	north side	no	no	fair
Main Street											
Western City Limits to Cunningham St	City	arterial	45	84-92	21	2	no	no	no	no	fair-good
Cunningham St to Carr St	City	arterial	25	60-90	24-32	2	no	both	both	bo	fair-good
Carr St to Scott St	City	arterial	25	52-60	24-32	2	no	south side	both	no	fair-good
Scott St to Yamhill St	City	arterial	25	60	24-32	2	no	south side	both	no	fair-good
Yamhill St to Kutch St	ODOT	arterial	20	60	40	2	both	both	both	no	fair-good
Kutch St to Park St	ODOT	arterial	20	60	40	2	both	both	both	no	good
Park St to Pine St	ODOT	arterial	20	60	40	2	both	both	both	no	good
Pine St to 1st St	City	arterial	25	60	40	2	both	both	both	no	fair-good
1st St to 2nd St	City	arterial	25	60	22	2	no	both	both	no	fair
2nd St to 3rd St	City	arterial	25	60	22	2	no	both	both	no	fair
3rd St to 4th St	City	arterial	25	60	23	2	no	both	both	no	fair
4th St to 5th St	City	arterial	25	60	22	2	no	north side	north side	no	poor-fair

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1998 STREET INVENTORY
City of Carlton Transportation System Plan

Street Segment	Jurisdiction	Classification	Speed Limit (mph)	ROW Width (feet)	Street Width (feet)	# of Travel Lanes	Curbs	On-Street Parking	Sidewalk	Bikeway	Pavement Condition
5th St to 6th St	City	arterial	25	60	22	2	no	north side	north side	no	poor-fair
6th St to Eastern City Limits	City	arterial	35	60	21	2	no	no	no	no	fair-good
McKinnley Street											
Kutch St to eastern terminus	City	local	25	50	36	2	both	both	both	no	good
Monroe Street											
western terminus to Scott St	City	local	25	50	15-17	2	no	no	no	no	poor-fair
Scott St to Yamhill St	City	collector	25	50	20-28	2	no	both	int - both	no	fair-good
Yamhill St to Kutch St	City	collector	25	40	25	2	no	no	no	no	poor-fair
Kutch St to Pine St	City	collector	25	50-75	20	2	no	both	south side	no	poor
Pine St to Gilwood St	City	collector	25	60	22-28	2	both	south side	south side	no	fair
Gilwood St to 1st St	City	collector	25	60	37	2	both	both	south side	no	fair
1st St to 2nd St	City	collector	25	60	20-21	2	no	both	both	no	poor-fair
2nd St to 3rd St	City	collector	25	60	22	2	no	int - both	both/north - int	no	poor-fair
3rd St to 4th St	City	collector	25	60	24	2	no	both	both/south - int	no	fair
4th St to 5th St	City	collector	25	60	19-20	2	no	both	north side	no	poor-fair
5th St to Eastern terminus	City	local	25	60	19-20	2	no	both	north side	no	poor-fair
Park Street											
Main St to Grant St	City	local	25	16-36	28	2	east side	west side	both	no	fair
Grant St to Washington St	City	collector	25	40	21	2	no	west side	west side	no	poor-fair
Washington St to Harrison St	City	collector	25	50	20	2	no	west side	west side	no	fair
Harrison St to Taft St	City	collector	25	50	14-19	2	no	no	east side	no	fair
Taft St to Polk St	City	collector	25	50	19	2	no	no	int - west side	no	good
Polk St to Wilson St	City	collector	25	50	15-19	2	no	no	no	no	fair-good
Wilson St to Adams St	City	collector	25	50	15-19	2	no	no	no	no	fair-good
Adams St to Taylor St	City	collector	25	50	15-19	2	no	no	no	no	fair-good
Taylor St to South City Limits	City	collector	25	40	27	2	int -east side	east side	int - east side	no	fair-good
Pine Street											
Monroe St to Main St	City	local	25	30	42	2	int - east side	both	both	no	fair

APPENDIX C
1998 STREET INVENTORY
City of Carlton Transportation System Plan

Street Segment	Jurisdiction	Classification	Speed Limit (mph)	ROW Width (feet)	Street Width (feet)	# of Travel Lanes	Curbs	On-Street Parking	Sidewalk	Bikeway	Pavement Condition
Main St to Grant St	City	arterial	20	50	34	2	west side	both	both	no	fair
Grant St to Washington St	City	arterial	20	50	30	2	west side	no	both	no	fair
Washington St to Harrison St	City	arterial	30	50	23	2	no	no	both	no	poor-fair
Harrison St to Taft St	City	arterial	30	50	23	2	no	no	both	no	poor-fair
Taft St to Polk St	City	arterial	30/20	50	22-23	2	no	no	both	no	poor-fair
Polk St to Cleveland St	City	arterial	30/20	50	22-23	2	no	no	both	no	poor-fair
Cleveland St to Highway 47	City	arterial	30	50	22-23	2	no	no	int - east side	no	poor-fair
Highway 47 to Wilson St	City	local	25	50	17	2	no	no	no	no	poor-fair
Wilson St to Adams St	City	local	25	50	17	2	no	no	no	no	poor-fair
Adams St to Taylor St	City	local	25	50	17	2	no	no	no	no	poor-fair
Polk Street											
Park St to Pine St	City	collector	25	50	20	2	no	no	no	no	good
Pine St to Arthur St	City	collector	25	50	20	2	no	no	north side	no	poor-fair
Arthur St to 2nd St	City	collector	25	50	20	2	no	no	north side	no	poor-fair
2nd St to 3rd St	City	collector	20	50	20	2	no	no	north side	no	poor-fair
Scott Street											
Monroe St to Main St	City	collector	25	50	16-19	2	no	int - west side	int - west side	no	fair
Main St to Grant St	City	local	25	50	22	2	no	both	no	no	fair
Taft Street											
Kutch St to Park Street	City	local	25	50	20	2	no	no	no	no	fair
Park St to Pine St	City	local	25	50	16	2	no	no	south side	no	fair
Taylor Street											
Park St to Pine St	City	local	25	20	11-12	1	no	no	no	no	poor
Pine St to 1st St	City	local	25	20	12	1	no	no	no	no	good
1st St to Highway 47	City	local	25	30	12	1	no	no	no	no	good
Washington Street											
Yamhill St to Kutch St	City	local	25	50	20-23	2	no	north side	int - both	no	poor-fair

APPENDIX C
1998 STREET INVENTORY
City of Carlton Transportation System Plan

Street Segment	Jurisdiction	Classification	Speed Limit (mph)	ROW Width (feet)	Street Width (feet)	# of Travel Lanes	Curbs	On-Street Parking	Sidewalk	Bikeway	Pavement Condition
Kutch St to Park St	City	local	25	50	19	2	no	both	south side	no	poor-fair
Park St to Pine St	City	local	25	50	19	2	no	no	no	no	poor
Western terminus to 2nd St	City	local	25	50	21	2	no	no	int - both	no	gravel
2nd Street to 3rd St	City	local	25	50	21	2	no	no	int - both	no	gravel
Wilson Street											
Park St to Pine St	City	local	25	50	17	2	no	no	no	no	poor-fair
Pine St to Highway 47	City	local	25	50	22	2	no	no	no	no	poor-fair
Highway 47 to Arthur St	City	local	25	50	28	2	both	both	both	no	good
Yamhill Street											
North City Limits to Lincoln St	ODOT	arterial	30	40-60	23/30	2	no	no	no	no	fair-good
Lincoln St to Johnson St	ODOT	arterial	30	40-74	23/30-32	2	no	no	no	no	fair
Johnson St to Jefferson St	ODOT	arterial	30	60-90	23/35	2	west side	west side	west side	no	poor-fair
Jefferson St to Madison St	ODOT	arterial	30	55	22/28-37	2	no	no	int - east side	no	poor-fair
Madison St to Monroe Street	ODOT	arterial	30	55	23/33	2	int - west side	no	int - west side	no	poor-fair
Monroe St to Main Street	ODOT	arterial	30	55	38	2	int - both	west side	int - both	no	poor-fair
Main Street to Grant Street	City	local	25	28-40	28-29/38	2	no	both	int - west side	no	poor-fair
Grant Street to Washington St	City	local	25	50	22	2	no	both	no	no	fair

APPENDIX D

QUESTIONNAIRE RESULTS

TSP Questionnaire Results

1. What type of concerns do you have about Carlton's current roadway system and the impact by future growth? What locations have traffic problems?

	Comment Description	Responses
1	Heavy Traffic/Congestion on Main	13
2	Heavy Traffic/Congestion on Yamhill and Pine	9
3	Too many trucks	5
4	Speeding on Pine and other arterials	4
5	Too many dead-end roads	3
6	Poor road surface conditions	3
7	Lanes are too narrow	3
8	Need collector/arterial on east side (3rd St)	2
9	- *no response* -	2
10	There is a lack of planning	2
11	no follow through with planning	1
12	Bicycle and pedestrian safety	1
13	no sidewalks	1
14	poor drainage	1
15	too noisy	1
16	poor signage	1
17	Speeding on Monroe to bypass Main	1

2. What type of transit services are needed to serve Carlton?
For example, do you see a need for public transportation to provide service to medical facilities, shopping centers, or school children for after school events?

	Comment Description	Responses
1	- *no response* -	8
2	No/None Needed	6
3	Needed for Elderly and Handicapped	6
4	Need a local bus route (Yamhill-Carlton-McMinnville)	4
5	Needed for medical, shopping, and social events	3
6	Need Yamhill-Carlton shuttle for after school activities	2
7	Need more regular and longer service hours	2
8	Need daily regional route (Port-PDX-Salem etc.)	2
9	Need a small shuttle bus	1

3. How do you percieve parking in the downtown commercial area?

	Comment Description	Responses
1	Parking is not adequate	13
2	Parking is adequate	12
3	Should encourage use of Public lot on N. Pine	3
4	Needs better striping	2
5	Not bad but could be better	2
6	Tenants along Main should park behind bldgs	2
7	There is a lack of businesses	2
8	Anticipate future problems	1
9	- *no response* -	1

4. Is truck traffic through town a concern? If so, what is your idea to solve the problem?

	Comment Description	Responses
1	Yes, truck traffic is a concern	18
2	No, truck traffic is not a concern	9
3	Trucks should bypass the town	6
4	Reroute trucks through N. Pine (away from Main)	5
5	- *no response* -	3
6	Speeding is a concern	1
7	Noise is a concern	1
8	Install a signal at Pine/Main	1
9	Wider streets would be more safe	1
10	Maintain crosswalks to increase pedestrian safety	1
11	Use one-way grid configuration downtown	1

5. Do you feel that you can easily travel between destinations within the City by driving?, by walking?, by bicycling?

	Comment Description	Responses
1	Yes	9
2	- *no response* -	7
3	Crossing Main is unsafe	1
4	Bicycle paths are needed	1
5	Travel is unsafe during AM/PM rush hours	1
6	Walking and Bicycling are unsafe	1

6. Do you feel safe walking or bicycling in your neighborhood?

	Comment Description	Responses
1	Yes	24
2	speeding is a problem	2
3	No	2
4	Need shoulder/sidewalks	2
5	Bicycling is unsafe	1
6	- *no response* -	1

7. **Would you place a high priority on installing sidewalks in your neighborhood?**

	Comment Description	Responses
1	No	18
2	Yes	11
3	Repair existing sidewalks	2

8. **If you could improve 3 things about Carlton's transportation system, what would they be?**

	Comment Description	Responses
1	Truck re-routing or bypass	13
2	Better signage	9
3	*- no response -*	6
4	Street/sidewalk upgrade, repair, and maintenance	5
5	Lower the speed limit and enforce	5
6	Better through-street system	4
7	Small bus/transit system	4
8	More business district parking	2
9	Better storm drainage system	2
10	More bike paths	2
11	Require offstreet parking for new developments	1
12	Better lighting	1
13	Alleviate 3rd St congestion	1
14	Widen roads	1
15	More RR crossings	1
16	Signal at Main/Pine	1

Other Comments/Concerns:

Webb Division has no parking
Main St is deadly to pedestrians
Cost of improvements is a concern
There should be a consensus on improvement decisions
Need a better through-system
Need better signage
Growth opponents will block transit improvements
Get trucks off of Main Street
Widen streets and add sidewalks, then MAINTAIN them
Leave Carlton rural