DRAFT

SALEM AREA TRANSPORTATION STUDY

YEAR 2000 AREAWIDE TRANSPORTATION PLAN

For The

SALEM-KEIZER URBAN AREA

Summary
and
Identification of Projects

NOTE: This is a draft preliminary review copy. It has not yet been approved or sanctioned by the SATS Coordinating Committee.

December 19, 1984

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CHAPTER 1

INTRODUCTION

1.1 Purpose of This Plan

There are two primary reasons for the preparation and adoption of a Transportation Plan for the Salem-Keizer Urban Area:

1. The federal government requires (23 CFR Part 450) that an urban area prepare a transportation plan as a prerequisite to receiving federal aid for transportation projects.

2. A transportation plan is a planning tool used by the local governmental jurisdictions to plan and schedule transportation improvements in a coordinated fashion.

A transportation plan is generally designed to describe policies, strategies, and facilities which are needed to meet the transportation needs of the area.

1.2 Relationship to Other Plans

This Transportation Plan has been designed to become an implementing measure of the Comprehensive Plans covering the Salem and Keizer Urban Area. It was prepared to be consistent with existing goals and policies of the jurisdictions within the area and with any current plans (i.e., Sector Plans, neighborhood plans, etc.) which have been adopted for any portion of the area.

1.3 Planning Assumptions and Boundaries

In order to be compatible with other planning documents for the area, this Transportation Plan uses the same planning criteria as the Salem Area Comprehensive Plan and the 208 Water Quality Plan. This criteria includes the assumption that the population within the Urban Growth Boundary by the Year 2000 will be 212,600.

While the purpose of the Transportation Plan is to provide for the transportation needs of the urban area, it is necessary to look beyond the Urban Growth Boundary in order to consider all of the factors affecting the urban area's transportation network. Therefore, the Salem Area Transportation Study's (SATS) boundary is larger than the Urban Growth Boundary (UGB). The relationship of the SATS Boundary to the UGB and the cities of Salem and Keizer are illustrated on Figure 1.

1.4 Parts of the Transportation Plan

In the past, the Transportation Plan for the Salem-Keizer Urban Area has taken the form of several different reports and maps of differing dates and there has been some confusion as to what the actual areawide transportation plan consisted of. During the revision of the Transportation Plan, an effort was made to consolidate as many pieces of the Transportation Plan as possible. Therefore, with

1.4 Parts of the Transportation Plan (Continued)

the adoption of this document, the Areawide Transportation Plan for the Salem-Keizer Urban Area consists of this Summary and Identification of Projects, the Technical Appendices, and the Transit Development Program.

The Technical Appendices of this Plan are contained in a separate document and present more information and detail on projects, assumptions, and intent. The Transit Development Program guides transit development for the Salem-Keizer urban area over a five year planning horizon. The "Technical Appendices" and the "Transit Development Program" are summarized in the "Summary and Identification of Projects".

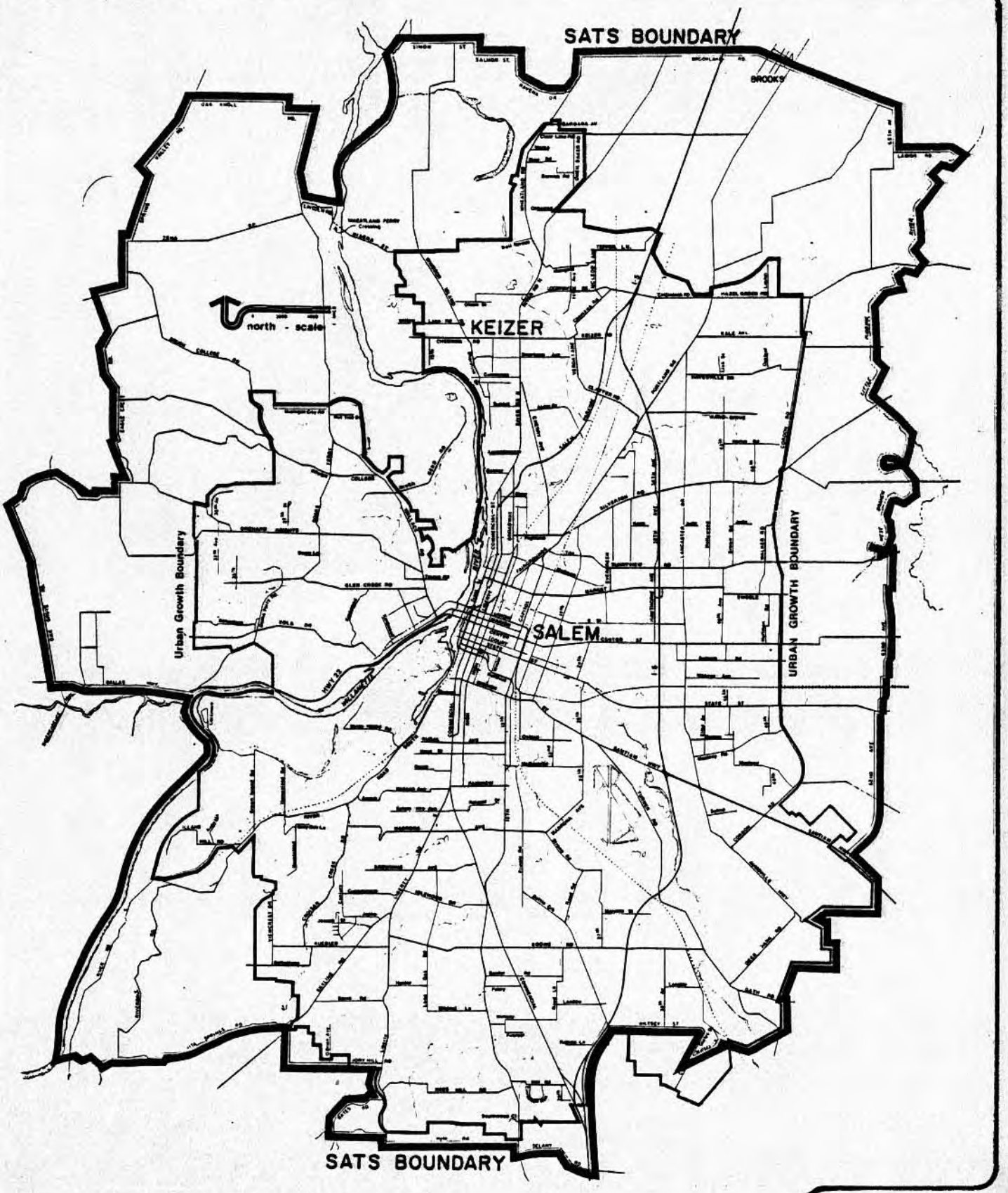


Figure 1

STUDY AREA BOUNDARIES

CHAPTER 2

STREETS AND HIGHWAYS

2.1 Functional Classification

The functional classification system is a tool that is used in developing a feasible street network that will adequately serve a particular area.

Other than the I-5 Freeway, there are four categories of classifications which describe the local street network: Major Arterial, Minor Arterial, Collector, and Local. These functional classifications are discussed in more detail below. The functional classification system for the Salem-Keizer Urban Area is illustrated in Figure 2. While the specific design of streets is controlled to some degree by localized circumstances, Figure 3 illustrates the general type of street cross-sections which may be used for arterials and collectors.

Major Arterials

Major arterials are streets designed specifically for the purpose of moving large volumes of intercity traffic to and from a freeway/expressway system and various arterials. These streets connect the major traffic generators within the City and provide links with important rural routes. This class of street forms an integrated system. It performs a secondary land service function where limited access to abutting land is allowed. Generally, they are multi-lane facilities, but in certain instances may provide only two lanes of travel when built in an undeveloped or underdeveloped part of the Urban Area where there is the potential for long term future growth.

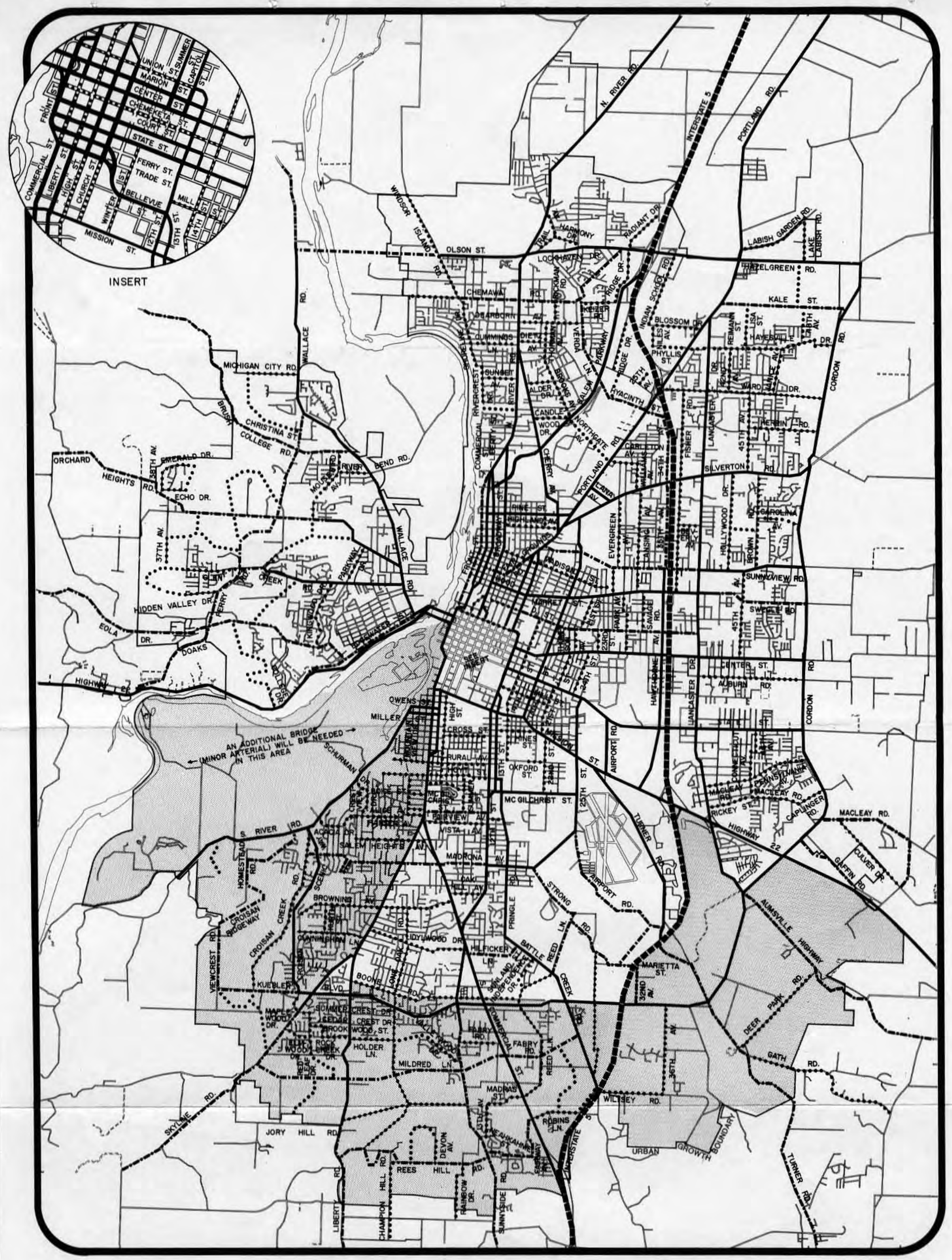
Limited access to major arterial streets is desirable since the primary function of an arterial is to move traffic rather than to provide access to land. A great number of access points (driveways) on an arterial will seriously degrade its ability to carry and move traffic, creating traffic congestion and safety problems. Arterials are high volume/high speed facilities and as a result, the adjacent land uses should be compatible, or steps should be taken to minimize or buffer them from the traffic impacts.

Minor Arterials

Minor arterials are two lane facilities which carry through traffic. However, they place more emphasis on access to adjacent land uses. As a result, lower traffic volumes are accommodated offering less mobility to vehicles on minor arterials. A minor arterial then: 1) serves areas having moderate trip generating capabilities (such as neighborhood shopping centers and certain schools); 2) distributes traffic from neighborhood collector streets to major arterials as well as between major arterials; and, 3) where possible, should not penetrate and divide identifiable neighborhoods.

Collectors

Collector streets are facilities that "move" traffic within a given area, (primarily a residential neighborhood, or low density commercial area) to the arterial street system. These streets supply adjacent properties with the same level of service as a local street, but are usually given a higher priority than



FUNCTIONAL HIGHWAY CLASSIFICATION

INCLUDING EXISTING AND FUTURE ROADWAYS

North Scale 0 1/2 1 Mile

FIGURE 2

Major Arterial

Minor Arterial

Freeway

Collector With Parking

Collector With Bike Lanes

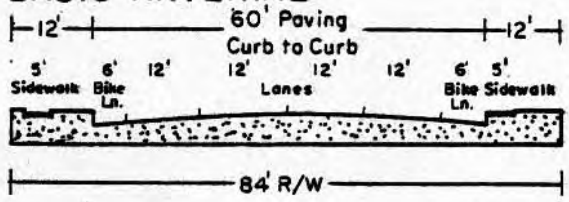
Area which is subject to change due to unadopted Sector Plans and questionable Urban Growth Boundary

November 1984

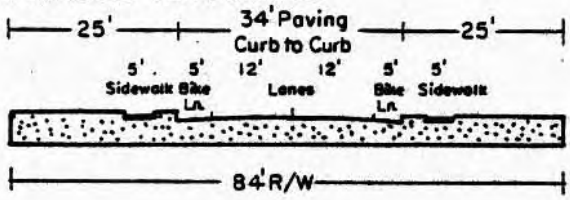
STREET DESIGN GUIDELINES

MAJOR ARTERIAL

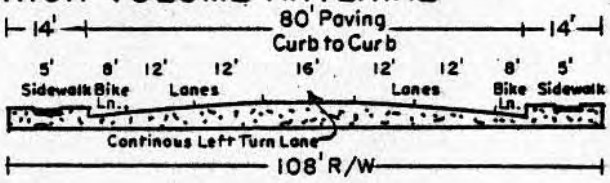
BASIC ARTERIAL



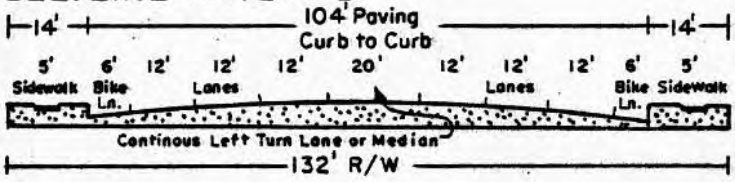
PHASED ARTERIAL



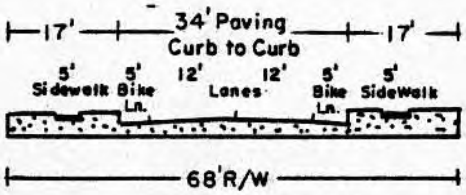
HIGH VOLUME ARTERIAL



BELTLINE ARTERIAL

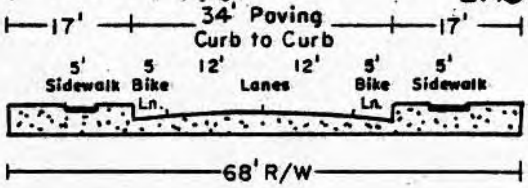


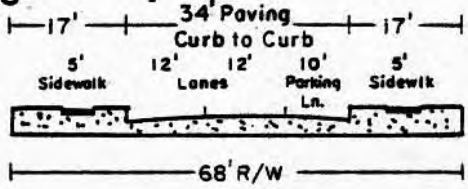
MINOR ARTERIAL



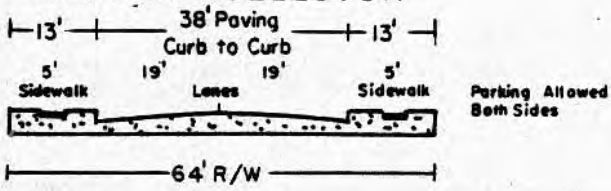
COLLECTOR

BASIC COLLECTORS



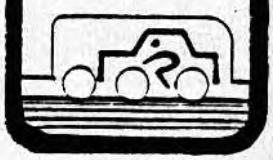


LIMITED COLLECTOR



These are design guidelines--not standards. The purpose of these guidelines is to give an indication of what types of streets fulfill the classification of streets given in Figure 2 in the Summary and Identification of Projects. It is recognized that factors such as terrain and land use make it difficult or undesirable to build all streets exactly as indicated in these cross sections.

Figure 3



2.1 Functional Classification (Continued)

Collectors (Continued)

local streets in any traffic control installation program. Traffic volumes on these streets are somewhat higher than on residential streets, and movement is generally faster.

Local Streets

Local streets are primarily designed to serve residential areas and handle, for the most part, low volumes of traffic at slower speeds. Of all the functional street classifications they provide for the greatest amount of access to adjoining properties.

2.2 Major Projects Needed to Maintain Level-of-Service D

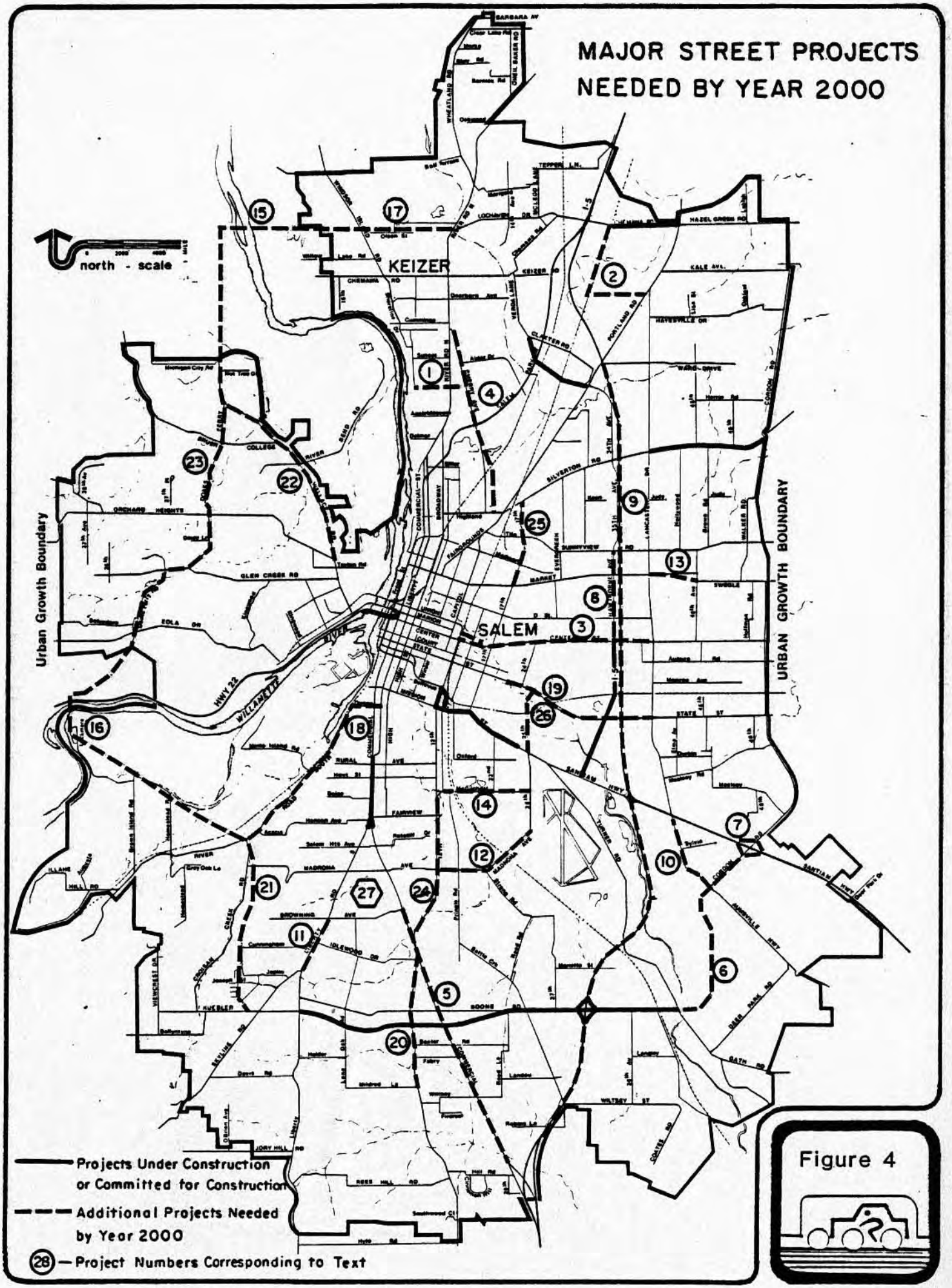
In order to determine which roadway improvement projects would be needed by the year 2000, a computerized traffic model was used to distribute the projected traffic volumes around the urban area. Streets with excessive amounts of congestion were identified and projects to relieve congestion were developed. Some of the projects needed to relieve congestion are already under construction or committed for construction in the near future. It is assumed that these committed projects will be completed and therefore they are not otherwise identified as needed in this transportation plan. The committed projects include:

Hawthorne Avenue (Center Street-Santiam Highway)
Kuebler Boulevard (Skyline-Turner Road)
Kuebler Interchange (at I-5)
South Commercial Street (Superior-Vista)
Silverton Road (Lancaster Drive-Cordon Road)
Chemawa Road (SPRR-Portland Road)
Verda-Hyacinth (Claxter-Portland Road)
Center Street Bridge and Ramps
Mission Street (12th-24th Streets)

The additional projects which are needed to produce a street network that operates at a normally acceptable level of congestion (level-of-service D, defined in Appendix A) are identified in Figure 4 and are described in the following text in a non-prioritized order which corresponds to the project numbers of Figure 4.

1. Bever Drive

   The construction of Bever Drive between Rivercrest and North River Road would allow traffic in the southwest section of Keizer to access Cherry Avenue and consequently the industrial areas of Northeast Salem. It is anticipated that approximately 1,300 vehicles will be utilizing this facility daily.


MAJOR STREET PROJECTS
NEEDED BY YEAR 2000
north - scale
KEIZER
SALEM
Urban Growth Boundary
URBAN GROWTH BOUNDARY
Projects Under Construction or Committed for Construction
Additional Projects Needed by Year 2000
(28) — Project Numbers Corresponding to Text
Figure 4

2.2 Major Projects Needed to Maintain Level-of-Service D (Continued)

2. Blossom/Indian School Roads

Blossom and Indian School Road (2-lane collectors) will provide access to approximately 80 acres of vacant industrial/commercial designated property. It would also provide access to I-5 from two locations - the Hayesville Interchange via Portland Road to the south and the Chemawa Road intersection to the north. Traffic volumes on Indian School Road are anticipated to be approximately 2,800 vehicles per day (vpd) near Chemawa Road and 9,500 vpd on Blossom Drive near Portland Road NE.

3. Center Street/Marion Street Extension

Center Street, between 12th Street and Lancaster Drive is an existing two-lane facility that currently (1981) handles anywhere from low of 15,600 vpd (east of 14th Street) to a high of 22,300 vpd (west of 23rd Street). Projected volumes along this corridor are expected to range from 17,500 to 29,100 vpd. This corridor will continue to provide a vital central link between the Downtown/Capitol Mall Area and the commercial areas along Lancaster Drive and the residential development of East Salem. While this is a major route to the Downtown/Capitol Mall area, Center Street traverses an established residential area which has long expressed concern over road widening projects in this area. Therefore, while the traffic model shows that in order to operate at level-of-service D, Center Street should be widened to four travel lanes and a continuous left turn lane (between Statesman Street and Lancaster Drive) and that Marion Street should be extended to intersect Center Street, at approximately Statesman Street, the specifics of this project should be studied in great detail during the project development phase in order to minimize neighborhood disruption while reducing traffic congestion.

4. Cherry-Brooks Avenue Extension

This combination of existing and new alignment will provide an alternative route to North River Road for Salem-Keizer Urban Area residents coming from and going to the south-southeast section of Keizer. The south end of the Cherry-Brooks Avenue Extension will be aligned to form the western leg of the Silverton Road-Portland Road-Fairgrounds Avenue intersection. This will allow residential/commercial traffic from South/Southeast Keizer and the commercial traffic from North/Northeast Salem (west of I-5) to access Silverton Road, 17th Street, 34th/Hawthorne Avenue, Market Street, and Lancaster Drive which in turn will allow access to the developing industrial areas along the Mission Street/Santiam Highway Corridor. Furthermore, it is anticipated that this improvement will alleviate traffic infiltration in the Highland Neighborhood area specifically along Cherry Avenue between Pine Street and Highland Avenue. Traffic volumes from a low of 7,800 vpd (on Cherry Avenue near North River Road) to a high of 19,200 (at the Salem Parkway intersection) are expected by the year 2000. It is proposed to widen Cherry Avenue to four lanes from Manbrin Drive to Johnson Street and to build a 4-lane road on a new alignment in the vicinity of Brooks Street from Johnson Street to North Portland Road.

2.2 Major Projects Needed to Maintain Level-of-Service D (Continued)

5. South Commercial Street

As South Salem continues to develop, South Commercial Street will play an important role. This facility is currently handling between 6,300 vpd (near the I-5 Interchange) and 17,300 vpd (near Browning Avenue) and by the year 2000 it is anticipated that traffic volumes will increase between 27 to 117 percent. Furthermore, it is anticipated that a continuous left turn lane will be needed to allow vehicular traffic to access existing and future commercial and residential areas. It is proposed to widen Commercial Street to a 5-lane major arterial between Browning Avenue and I-5.

6 & 7. Cordon Road Extension and Interchange with the Santiam Highway

The Cordon Road extension and its interchange with the Santiam Highway (Highway 22) is part of a series of streets/roads and Interchanges that will form a beltline around the Salem-Keizer Urban Area which will facilitate the movement of traffic and provide access to regional industrial and commercial centers. It is designed to link Cordon Road, which currently terminates at the Aumsville Highway, with Kuebler Boulevard at the Kuebler Boulevard/I-5 Interchange. It is anticipated that this new beltline will carry between 5,000 and 13,800 vpd. Initial construction would consist of two lanes.

8. Hawthorne Avenue

It is anticipated that Hawthorne Avenue will carry between 7,500 (near the Santiam Highway) and 20,000 (near Market Street) vehicles per day by the year 2000. It is proposed to widen the existing two-lane facility between Sunnyview Road and Center Street to four-lanes with left turn pockets at critical intersections.

9. Interstate 5

Interstate 5 should be widened to six lanes between the Commercial Street Interchange and the Hayesville Interchange. Projected traffic volumes are between 34,000 and 56,800 vpd.

10. Lancaster Drive

Lancaster Drive between the Santiam Highway and Cordon Road is expected to handle between 8,500 and 12,700 vpd and should be widened to four lanes with left turn pockets. This link will provide access to and from the commercial development along Lancaster Drive to the proposed regional Beltline.

11. Liberty Road

With the traffic volumes expected to be in the vicinity of 11,800 to 18,500 vpd by the year 2000, it is anticipated that this street will need, at a minimum, four travel lanes between Browning Avenue and Skyline Road, with left turn lanes at locations where access is needed to accommodate commercial and/or residential (primarily multi-family) property generating relatively high traffic volumes.

2.2 Major Projects Needed to Maintain Level-of-Service D (Continued)

12. Madrona Avenue

The improvement of Madrona Avenue to handle four lanes with left turn pockets between 12th and 25th Streets will provide an important link between 12th Street and the developing industrial areas of the Fairview area (300± acres) adjacent to the Salem Airport. It is anticipated that traffic volumes will range from 14,700 vpd to 20,800 vpd by the year 2000.

13. Market Street

Traffic volumes on Market Street between Lancaster Drive and Cordon Road are expected to be between 5,100 vpd (near Cordon Road) to 9,500 vpd (near Lancaster Drive). Market Street should be widened to five lanes for a distance of about 500 feet east of Lancaster Drive and realigned with Swegle Road at 45th Street.

14. McGilchrist Street

This particular street with current traffic volumes between 7,800 and 9,500 vpd, serves a predominantly developed area. However, with the addition of the 300± acres of the Fairview Industrial Site and the development of the vacant parcels of land within the area, it is anticipated that traffic volumes will range between 10,200 and 14,900 vpd. Such traffic volumes would require four travel lanes with a continuous left turn lane between 13th and 25th Streets.

15 & 16. Willamette River Bridges

The Salem Traffic Forecast Model indicates that traffic volumes on the Marion-Center Street Bridges will be at, or exceed, capacity by the year 2000. As a result, it is recommended that two new bridge structures be considered that would cross the Willamette River; one to the north and one to the south of the existing bridges.

The northern location would extend from Olson Street in Keizer (Marion County) and connect to Wallace Road in Polk County. The southern location would create a link from Doaks Ferry Road that would extend to South River Road somewhere between the area around Croisan Scenic Way and Mission Street. It is recommended that bridge locations and designs be studied in more detail.

17. Olson Street

Olson Street between Windsor Island Road and North River Road, is part of the Salem Beltline that would provide a circle route around and link the residential, commercial, and industrial areas of Salem and Keizer near the UGB. Projected traffic volumes using the two lane facility are anticipated to be in the range of 8,200 vpd by the year 2000 providing that a North River Bridge crossing of the Willamette River is constructed. If the North River Bridge is not constructed, traffic volumes on Olson Street are anticipated to be about 2,500 vpd.

2.2 Major Projects Needed to Maintain Level-of-Service D (Continued)

18. South River Road/Owens Street

South River Road should be widened out to four lanes from the Croisan Corridor to the South Liberty and Commercial Street Couplet. This presents a problem on South River Road just north of Minto Island Road and on Owens Street, since adequate right-of-way does not exist due primarily to the topography of the area. Due to the established residential neighborhood adjacent to Owens Street and the already high traffic volumes on the Liberty/Commercial Couplet, a detailed study should be conducted to consider alternatives such as the extension of South River Road to the Front Street Bypass.

19. State Street

Current traffic volumes on State Street between 23rd Street and Lancaster Drive range from 14,300 vpd (east of Airport Road) to 16,600 vpd (east of 25th Street). It is anticipated that these volumes will increase to 23,500 and 26,700 vpd respectively. Five lanes should be provided between 23rd Street and Lancaster Drive.

20. Sunnyside Road

The section of Sunnyside Road between Kuebler Boulevard and Commercial Avenue South will be handling approximately 12,700 vpd by the year 2000. Two travel lanes with a continuous left turn lane will adequately handle anticipated traffic.

The remaining section of Sunnyside Road between Kuebler Boulevard and Mildred Lane, however, would require four lanes with left turn lanes at critical locations such as the approach to Kuebler Boulevard from the south. Year 2000 traffic projections are expected to range from 8,200 to 16,500 vpd.

21. Southwest Salem (Croisan) Corridor

A major four lane arterial is needed in the vicinity of Croisan Scenic Way connecting Kuebler Boulevard with South River Road, in order to provide adequate access for traffic moving from Kuebler Boulevard to the north/northwest. This arterial would, in part, alleviate some of the anticipated traffic congestion along Commercial Street primarily between Superior Street and Vista Avenue and handle the projected 7,000 to 13,900 vpd.

22. Wallace Road

With anticipated residential development in West Salem by the year 2000, traffic volumes of 6,800 to 21,800 vpd are expected on Wallace Road between Orchard Heights Road, where it now becomes a two lane facility and where the North River Crossing would tie into Wallace Road. A minimum of four travel lanes with left turn pockets at selected locations would be required.

2.2 Major Projects Needed to Maintain Level-of-Service D (Continued

23. West Salem (Doaks Ferry Road) Corridor

With the construction of the north and south river crossings, it is apparent that the existing Doaks Ferry Road (West Salem corridor) would not be able to handle the projected traffic volumes of 7,500 to 11,100 vpd on its current alignment. It is conceivable that a new arterial would have to be constructed somewhere west of the existing alignment of Doaks Ferry Road if not on the existing alignment. Particular attention should be given to aligning Doaks Ferry Road in the vicinity of Glen Creek Road.

24. 12th Street

Traffic volumes, by the year 2000, on 12th Street between Cannon and South Commercial Streets are expected to range from 17,700 to 23,300 vpd. This level would be unacceptable for the existing two lane facility. A four lane facility with left turn lanes at South Commercial Street, Madrona Avenue, and Vista Avenue would be needed.

25. 17th Street

Currently, there is a segment of 17th Street between Madison Street and Silverton Road that is two lanes. If the Brooks Avenue extension is constructed and Cherry Avenue is widened to four lanes and aligned with the Silverton Road-Portland Road-Fairgrounds Avenue intersection, this segment of 17th Street could be handling traffic volumes in excess by 18,000 vpd, thereby requiring four lanes with left turn lanes at critical locations.

26. 25th Street

It is anticipated that traffic volumes on 25th Street north of Mission will range from 12,900 to 16,200 vpd by the year 2000. Therefore, four travel lanes with a continuous left turn lane will be needed on 25th Street between State and Mission Streets to make this facility function properly.

27. South Salem East-West Corridor(s)

East-west traffic circulation in South Salem has been a long-standing problem and a hotly contested issue. Previous transportation plans have identified solutions to this problem, but their implementation has been blocked by neighborhood opposition. The lack of adequate east-west circulation continues to be a problem and results in undesirably large volumes of traffic infiltrating residential neighborhoods. In order to find an acceptable solution to this problem, an east-west corridor study was instituted.

The Project Advisory Committee (PAC) for the East-West Corridor Study made preliminary recommendations regarding a specific project to develop a street system facilitating the movement of east-west traffic in and through the Croisan, South Salem, Sunnyslope, Faye-Wright, Liberty-Boone,

2.2 Major Projects Needed to Maintain Level-of-Service D (Continued)

South Central Association of Neighbors (SCAN) and Morningside Neighborhood areas. Specifically, these recommendations are for a system to be studied further in an Environmental Impact Statement. Their recommendations for the developed residential area included three two lane minor arterials within the following corridors:

Northern Corridor: Salem Heights to Ratcliff Drive to Vista Street to Peace Street to 22nd Street.

Central Corridor: Madrona Avenue between Croisan Creek Road and 25th Street.

Southern Corridor: Idylwood Drive to Hilficker Lane to Pringle Road to a new connector to Strong Road.

Having three minor facilities rather than one major multi-lane arterial was preferred by the PAC. Their intent was to disperse traffic throughout the area over three corridors rather than concentrate it on one. It was found that this concept functioned better and had less impacts than a single street concept.

These project alignments are preliminary and subject to change. They do not preclude alternative routes from being studied during the development of the East-West Corridor Project EIS currently scheduled for completion in the Fall of 1986. The alternative routes which could still be considered include, but are not limited to: Fairview Avenue with a realignment to Alice Street at Commercial Street and a Peace Street connector; Vista Avenue between Commercial Street and Pringle Road (possibly with a Peace Street connector); and Browning Avenue between Cloudview Drive and Commercial Street with a new section (extension) between Commercial Street and Madrona Avenue east of Strong Road. A "no-build" alternative was considered as not being viable by the PAC.

This Transportation Plan does not specify the exact east-west corridors which need to be constructed, rather it points out the need for such facilities and leaves the location specifics of the corridors to the results of more specific studies. It is hoped that these studies will result in a project which can be supported by the affected neighborhoods.

2.3 Major Projects Expected to be Constructed by Year 2000

The major roadway projects described above are those projects needed to provide a roadway network which operates at level-of-service D in the year 2000. It is not realistic to expect that the Salem-Keizer Urban Area can afford to construct all of these projects by the year 2000. Therefore, the list of needed projects was evaluated with respect to safety, traffic volumes, and funding sources in order to identify those projects most likely to be at least partially implemented by the year 2000. The list of those major roadway projects most

2.3 Major Projects Expected to be Constructed by Year 2000 (Continued)

likely to be implemented include those projects which are currently in the Environmental Impact Statement process, those projects funded by non-locally controlled sources, and the ten most important projects identified by the SATS Coordinating Committee.

For planning purposes, it should be assumed that at least critical portions of the following major roadway projects will be implemented by the year 2000:

Center Street NE (12th-Lancaster)
12th Street SE (S. Commercial-Cannon)
Liberty Road (Browning-Skyline)
Cherry Avenue NE (Manbrin-N. Portland Road)
State Street (23rd-Lancaster)
Hawthorne Avenue (Sunnyview-Center)
Lancaster Drive SE (Hwy. 22-Cordon Rd.)
McGilchrist Avenue SE (12th-25th)
Olson Street N. (Windsor Island Rd.-N. River Rd.)
Market Street NE (Lancaster-45th)
Interstate 5 (N. Portland Rd.-S. Commercial St.)
Cordon Road Extension (Turner Rd.-Highway 22)
Cordon Road Interchange (At Highway 22)
Wallace Road NW (Orchard Heights-Olson Street Extension)

This should in no way be interpreted that the other major roadway projects are not wanted or needed, only that the likelihood of them being completed by the year 2000 is extremely remote. Indeed, if a funding source should appear which is ideally suited to one of these other projects, it should be pursued and that project implemented. It is also entirely possible that one or more of these projects listed above may not be implemented by the year 2000, but since they all have a high priority and community support, they should, for planning purposes, be assumed to be completed by the year 2000.

2.4 Transportation System Management Projects

In general, Transportation System Management (TSM) projects are smaller projects (compared with the major roadway projects) consisting of traffic engineering and operational improvements to an existing roadway which are designed to reduce congestion and facilitate the flow of traffic. TSM projects can also include pedestrian, bicycle, transit, and carpool projects, but those items are treated as separate topics in this plan.

Some of the Major Roadway Projects may be postponed for awhile through the use of smaller Transportation System Management projects. These should be carefully considered in order to get the most value out of the limited transportation funds available.

A non-prioritized listing of the TSM projects is given in Table 1. A more complete description of each TSM project is given in the Technical Appendices. This listing of TSM projects should not preclude the consideration of and implementation of other similar types of projects with demonstrated benefit on the area's transportation system.

2.4 Transportation System Management Projects (Continued)

TABLE 1

TRANSPORTATION SYSTEM MANAGEMENT PROJECT LIST

1. Hawthorne Avenue at Center Street Intersection
2. Architectural Barriers Central Business District (CBD)
3. Traffic Signal Installation Market Street at 17th Street
4. Traffic Signal Installation Hoyt Street at 13th Street and at 12th Street
5. Park-and-Ride Facilities
6. Market Street - left turn lanes at Broadway Street
7. Pringle/Battle Creek Roads - left turn lanes at critical intersections
8. Eola Drive - widen to three lanes between Kingwood and Edgewood
9. Traffic Signal Revision - Pine Street at Cherry Avenue
10. Right turn lane installation Pine Street at Portland Road
11. Traffic Signal Installation Mission Street at Winter Street
12. Traffic Signal Installation Wallace Road at Glen Creek Road
13. Curb Radius Reconstruction Liberty Street at Mission Street SE
14. Left turn lanes on 12th at Madrona Avenue
15. Left turn lane on Liberty Road at Skyline Road
16. Lancaster Drive Interconnect Wolverine to Center Street
17. Traffic Signal Installation Rural Avenue at 12th Street
18. Traffic Signal Revisions Hines Street at 12th Street
19. Left turn lanes on Silverton Road at 34th Street
20. Traffic Signal Installation Liberty Road at Cunningham Lane
21. Traffic Signal Installation "D" Street at Hawthorne
22. Pedestrian Traffic Signal Installation Center Street near 24th
23. Central Business District Traffic Signal Interconnect
24. Central Business District Traffic Signals and New Signal Controllers
25. Left Turn Lane on Mission Street at Liberty Street
26. Installation of Traffic Signals at Various Locations Throughout the Salem Urban Area.
27. Alley Improvement Penney's North of Chemeketa Street West of Liberty Street
28. Chemeketa Street Crosswalk - near Chemeketa Parkade
29. Downtown Alley Improvements
30. 17th Street Signals and Intersection Improvements
31. Right Turn Lane on Madrona Avenue at Strong Road
32. Left Turn Lane on South River Road at Schurman Drive
33. Left Turn Lane on Wallace Road at Brush College Road
34. Relocate Traffic Signal South Commercial Street at 12th Street
35. Relocate Traffic Signal South Commercial Street to Lansford Drive
36. Liberty Road Interconnect and Traffic Signal Controllers Vista Avenue to Skyline Road
37. Traffic Signal Installation Liberty Road at Idylwood Drive
38. Realign Doris Avenue at 12th Street

CHAPTER 3

ALTERNATIVE MODES

The term "alternative modes" refers to the use of other methods of transportation rather than driving alone in your car. Alternative Modes include: bicycles, walking, buses, carpools, etc. The extensive use of any or all of these alternative modes particularly during the peak commuting hours, would reduce the level of congestion without major road construction. Other non-construction methods of reducing traffic congestion such as "staggered work hours" or "flex-time" are also encouraged by this transportation plan.

Commuters who use alternative modes for their home to work trips account for a significant portion of all commuters. The 1980 Census reveals that 31% of all commuting workers in the Salem Urban Area either carpool, bicycle, walk, or ride the bus.

3.1 Transit

The Salem Area Mass Transit District has contracted with CRS, Inc. to research and prepare a Transit Development Plan for the District. Research was conducted in the Spring of 1984, and a draft plan completed and presented to the District. The working draft is currently being reviewed by staff and a final draft is expected to go to public review in January 1985. A public hearing will be held at that time, and a final TDP issued based upon input from the District and the review process.

With the knowledge that the contents of the working draft are subject to revision and corrections as needed, the following information may be summarized from the document.

Current Transit System - the study notes that the current system is well matched to the physical configuration of the area, and provides a reasonable level of service to the population. The pulse system of operation, from the central transfer point at the Cherriot Station, was noted as an effective means of dealing with the radial street pattern and 30 minute to 60 minute headways of the routes. Areal coverage of the 18 routes was considered to be good, and rate of ridership growth and level of patronage very good. Utilization of the park and ride system was noted as low, and question raised as to the appropriateness of such a service in the relatively small service area. Profiles of ridership show the overall transit system to be used primarily for work and personal business trips, with good utilization by students and seniors.

Transit Goals - the District goals and objectives were reviewed, and it was noted that their large number needed to be reduced to a manageable number of quantifiable standards. A set of standards are recommended which measure performance in the areas of finance, maintenance, operations, and route effectiveness.

A route-by-route analysis of growth on each transit route is developed in the plan. It is noted that ridership capacity exists in the current system, and some growth in population and employment can be absorbed by the current system.

3.1 Transit (Continued)

A particular need in the present transit operation was identified as a lack of service between Keizer and East Salem. It was also pointed out that current peak-hour use of the system could be improved, while mid-day ridership is very strong. As for future need, high growth in several areas suggest a need for system improvements.

Proposed Service Improvements - to the routes themselves, short, mid, and long-term suggestions are made for using longer buses on routes 2,3,5,6, and 10; elimination of Four Corners and South Commercial park-and-rides; investigate a downtown/mall shuttle; extend service to employment growth areas near Blossom Drive and Salem Airport; and extensions to routes 6,8, and 14 to serve large population growth areas. Lengthening of routes can be achieved by straightening current routes. No additional buses (other than replacement of all pre-1980 buses) are deemed necessary by 1989, and an increase of 10 vehicles is anticipated by year 2000. No late evening or Sunday service is proposed in the plan, and it is pointed out that such service would have substantial negative impact on the financial condition of the District.

Proposed Capital Improvements - A new maintenance facility is presented as the highest priority capital need. It is noted that the current facility is totally inadequate. Need for a permanent downtown transit terminal is also mentioned, to replace the existing temporary facility at Court and High Streets. In the interim, the plan calls for some physical improvements to the Cherriot Station. Bus shelters throughout the service area have also been identified as a capital priority, and the existing program and funding identified for implementation over the next two years.

District Fares and Financial Element - the plan proposes that fare revenue be assessed on an annual basis, and modified as needed to remain equitable and achieve a 20% expense recovery ratio from the farebox. Small, frequent increases in fares are proposed, rather than infrequent increases of a larger size.

A ten-year forecast of revenues and expenses suggests that the District can operate present level-of-service within anticipated resources, and can move forward on a scheduled basis with capital improvements previously mentioned. This may be achieved within small annual adjustments to fare and property tax levies. Several contingencies within the financial picture are noted in the plan, including tax limitation measures, potential development of a tax base, and the possible reduction or elimination of federal funding support.

These comments summarize the contents of the working draft TDP for the Salem Transit District. It must be emphasized that the draft does not represent the formal policies of the District and is not, at this stage, an approved document of the District. Any of the content is subject to change as new information is brought to light. The working copy will be updated by January 1985 and disseminated for public review and discussion. Opportunity for input from local agencies and jurisdictions will be available at that time.

3.2 Bicycles

Bicycling in Salem -- as a means of transportation to work, school or play -- has been steadily increasing. Riding a bicycle is inexpensive (human power), efficient, non-polluting, conserves on fuel, and (in sufficient numbers) could help reduce the traffic congestion in the Salem Central Business District (CBD), the Capitol Mall Area, and along major arterials. Since downtown parking spaces for employees are scarce, the use of the bicycle as a commuting vehicle is a realistic and viable alternative.

Bicycling as a form of transportation in Salem is very feasible, most of the urban area is within 5 miles or 30 minutes of the downtown area. The 1981 Needs Assessment Survey conducted by the Mid Willamette Valley Council of Governments indicated that within the Salem Urban Growth Boundary approximately 3% of the workers ride bicycles to work. The 1980 Census indicated that even during the rainy season there was one bicycle commuter for every 3½ bus commuters.

The growing use of bicycles is placing a demand on the transportation system for more bicycle facilities. Automobile traffic volumes have increased on streets throughout the urban area, causing not only automotive congestion, but in many cases crowding out the bicyclist and even the pedestrian. Many potential bicyclists are deterred from riding just by the thought of sharing travel lanes with fast moving cars and trucks.

Improved safety of bicycling and providing a useable and efficient bikeway system for the area are the primary concerns of the bicycle element of this plan. Safety can be improved by educating both the bicyclist and the motor vehicle driver, and through the provision of bicycle lanes and paths.

The provision of bicycle lanes has now been incorporated into the design of new arterials in the Salem Urban Area. Therefore, a network of bike lanes will be constructed in the developing portions of the Salem Urban Area, as development occurs. Much of the developed portion of the Salem Urban Area is still without safe, functional bicycle routes. Provision of bicycle facilities in the developed areas has been difficult because of the prohibitive cost of widening roadways and the impracticality of displacing land uses for bikeway construction. The alternatives, removal or revision of on-street parking has also met with strong resistance, particularly in Salem's Central Business District.

In addition to those bicycle facilities which would be provided as part of other projects, there are additional bicycle lanes needed on the existing street network. These additional bicycle facilities are required to provide a skeletal system of interconnecting bicycle routes in the urban area. Some of these projects would require little or no constructing while others would be more involved. In general, the routes which have been recommended were selected considering their construction impacts.

The location of bikeways identified in this plan are based on current information regarding roadway projects and land use. These locations should be used as a guide for the implementation of the bikeway system called for in the Comprehensive Plan. If during detailed planning stages of a project, it

3.2 Bicycles (Continued)

is decided that an alternative route is practical, convenient, useable, links with other parts of the bikeway system, and is desirable, then an alternative route may be implemented. - If a roadway which is identified in this plan as having bicycle lanes on it, is constructed without bicycle lanes because an alternate bicycle route was determined to be desirable, then the alternative bicycle route shall be implemented in conjunction with the originally identified roadway project, or earlier.

The Functional Classification map (Figure 2) shows the location of arterials, which if built to current standards, would include bicycle lanes, and those collectors which should include bicycle lanes. The Functional Classification map is not proposing to actually place bike lanes on all of these streets by the year 2000, only identifying those streets which need to provide for bike lanes if they are improved for any reason.

Figure 5 identifies the existing bicycle lanes and paths, those that would be provided by the construction of the major roadway projects identified in this plan, and those additional bicycle facilities which are needed to provide a skeletal bicycle network.

3.3 Pedestrians

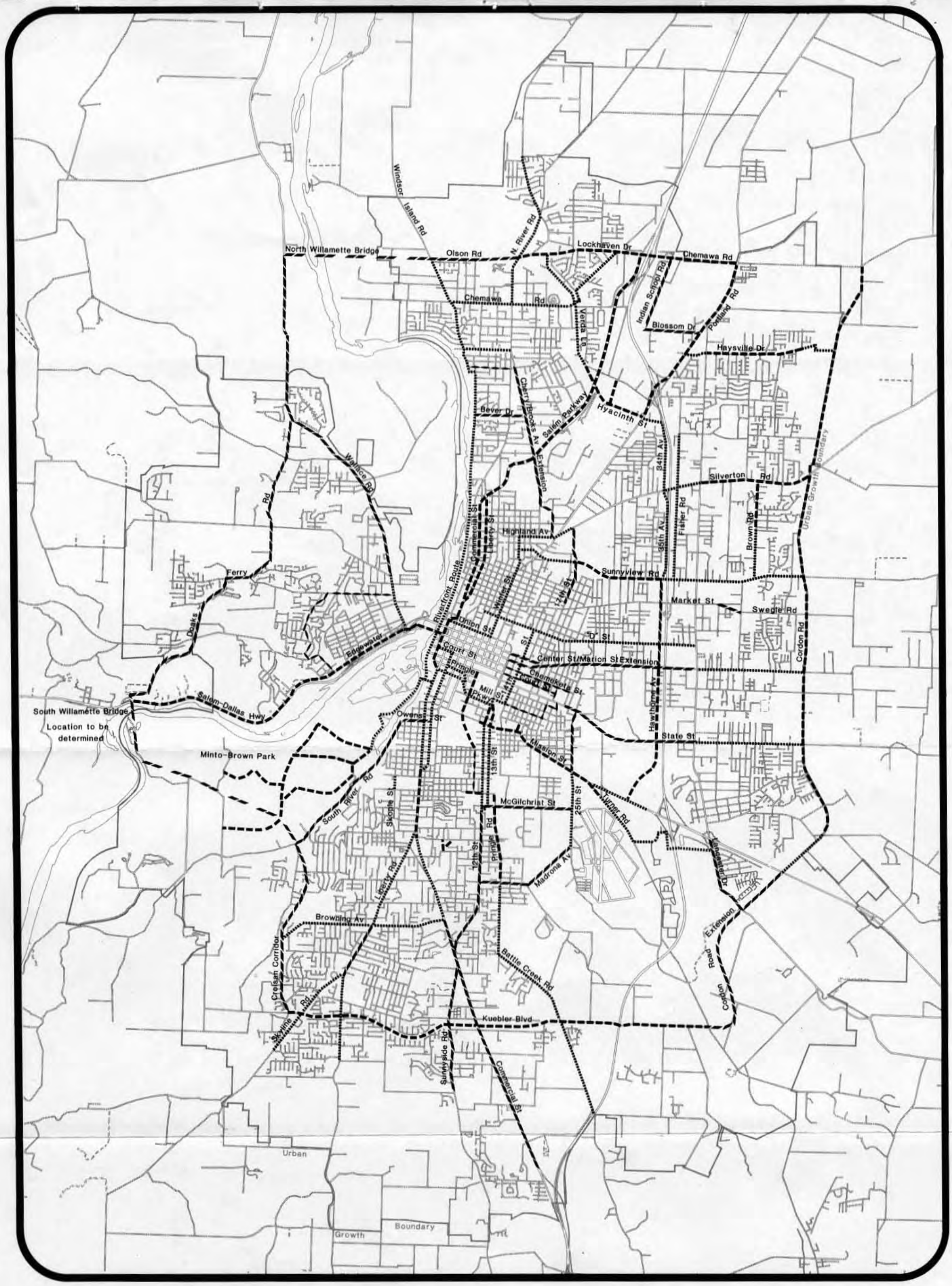
In the Salem Urban Area, pedestrian planning must concentrate on retrofitting developed areas with adequate pedestrian facilities. Many areas have narrow streets with no provision for pedestrians or hazardous crossings. Standards for new construction require provision for pedestrians.

Short trips, usually 10 minutes or less in duration, dominate the type of trips made by pedestrians. Walking is competitive with other transportation modes at distances up to one-half a mile.

The 1980 Census shows walking as a mode of transportation for home to work travel amounts to 6.1 percent within the Salem urban core and 4.9 percent within the entire UGB. The proximity of employment centers and residences within the urban core accounts for the difference between the core and entire UGB percentages.

The City of Salem has developed an extensive list of identified areas where construction or improvement to sidewalks is needed. These areas were identified with input from neighborhood groups, citizen complaints and School District 24J. Areas of need were determined by evaluation of potentially hazardous situations for pedestrians. Hazardous situations are cuased by limited sight areas, narrow shoulders, inadequate pedestrian facilities on streets with large traffic volumes or excessive vehicle speed, lack of sidewalks along improved roadways or pedestrian walkways which are not defined, paved or marked.

The City of Salem, through its Citizen Advisory Traffic Commission (CATC) prioritizes the sidewalk improvement list based upon need and level of hazard.



BICYCLE ROUTES

- Bicycle lanes to be developed as part of a major street improvement
- Committed or existing bicycle lanes or paths
- Proposed as part of a skelatal bicycle system
- Existing bike routes on streets

North Scale 0 1/2 1 Mile

FIGURE 5

November 1984

3.3 Pedestrians (Continued)

School District 24J surveys walkways which students utilize to and from schools for potential hazardous situations caused by inadequate or lack of sidewalks. Children are bussed to school to avoid those areas identified as hazardous.

This Transportation Plan does not attempt to identify all of the areas needing pedestrian facilities--there are too many of them. Each jurisdiction monitors the local situation and provides improvements as available funding allows.

When planning pedestrian facilities within existing developed areas, each situation should be individually evaluated. In some cases, paved wide shoulders used by pedestrians and bicycles may be more desirable than curbs and sidewalks. The main concern is that the public right-of-way safely accommodate pedestrians and bicycles as well as motor vehicles.

3.4 Rideshare (Alternative Modes) Program

Carpooling (including vanpools) is the most popular form of alternative modes in the Salem-Keizer Urban Area. The 1980 Census revealed that 19% of Salem area workers carpooled.

The Rideshare Program originated in 1975 to alleviate the parking demand in the Central Business District (CBD)/Capitol Mall area by providing an alternative method of commuting to and from work. By the end of 1977, the Alternative Modes Program consisted of a carpool matching service; preferential parking and reduced parking fees for carpools; park-and-ride facilities with bus service; the Cherriot Commuter Bus Club (a "no charge" transit service for CBD/Capitol Mall area commuters); the use of flex-hours; and a referral service for vanpools.

An average of 35-45 potential carpool applications are processed each month. During the period beginning January 1, 1983 and ending February 29, 1984, 692 applications were processed. As of March 1, 1984, because of the monthly purging methods used to keep the list current, there were 472 names on the list forming approximately 120 carpools.

The carpool program serves an area within a radius of approximately 100 miles of Salem which includes Portland and Eugene. The average commuting distance is approximately 45 miles one-way. Individuals participating in the program save approximately $1,170 annually in fuel costs alone.

The community has and continues to benefit from the carpool program. The carpool matching program alone has resulted in the reduction of approximately 1.9 million vehicle miles traveled annually (7,200 vehicle miles daily) over State, County, and Salem Urban Area roads and streets. This reduction in vehicle miles traveled effects road/street maintenance; conserves fuel, reduces traffic congestion and air pollution; and reduces the demand for parking.

3.4 Rideshare (Alternative Modes) Program (Continued)

This Transportation Plan calls for the continuation of an efficient, cost-effective carpool matching service with the specific goal of increasing the number of carpool commuters to 25% in 1990 and 30% in the year 2000.

3.5 Downtown/Capitol Mall Parking

The Salem Area Comprehensive Plan states:

> "The Central Business District shall be maintained and developed as the regional retail and employment center for the Salem Urban Area and regional shopping and service facilities outside the Central Business District should be prohibited."

In order to carry out the intent of this policy, a balance must be maintained between providing adequate parking for shopping and business purposes and, at the same time, provide incentives for commuters to use alternative modes. Without adequate customer/business oriented parking, economic activity will be discouraged in the Central Business District (CBD), which will be contrary to the philosophy embodied in the Central Salem Development Plan and the policies of the Downtown Parking and Downtown Development Boards.

On the other hand, if the needs of customer and employee parking are exceeded, the primary incentive for using alternative modes would be removed. The CBD would then experience an increase in traffic congestion and street/parking structure maintenance, as well as experience a decrease in air quality. This too would discourage economic activity within the CBD/Capitol Mall area.

There are approximately 20,850 "on" and "off" street parking spaces located within the Downtown/Capitol Mall area (Census Tracts No. 1 and 2) as of January, 1984. Approximately 35 percent of these parking spaces are reserved for employees, 25 percent for customers, and 40 percent a combination of employee/customer parking (first come-first serve).

Salem must either meet the demand for approximately 5,500 new spaces in the CBD and Capitol Mall by the year 2000 or reduce that demand through alternative modes. The practical approach will be to give priority to shopper parking, providing spaces as demand dictates and financing allows.

At the same time, an aggressive program to move commuters into alternative modes must continue. This means expanding or at least continuing the Alternative Modes (Rideshare) Program through to the year 2000.

Both of these approaches must be ongoing and provide service as responsively as possible in order to avoid unmet demand, increased traffic congestion, and a decrease in the overall attractiveness of the CBD/Capitol Mall Area.

CHAPTER 4

IMPLEMENTATION

Construction of new projects or improvements of existing facilities is primarily paid for through bond issues or federal aid. The other funding sources, such as gas tax or general fund, are used for basic maintenance. The major present source of federal aid to the SATS Area (transfer funds) will shortly be exhausted, leaving an extremely limited amount of federal aid monies which can be spent on improving the majority of the urban network.

In March, 1983 the City of Salem produced a report on alternative funding sources to supplement Salem's General Fund. Funding sources discussed were all generated by levying additional taxes on income, sales, vehicle fuels, payroll or utilities. Any of these sources could be used for road improvements or road maintenance. While these new sources of revenue have been discussed, there are no immediate plans to implement any of them.

Without additional sources or levels of funding, very few of the projects needed to maintain a level of service D can be built. Other than the widening of Interstate 5 (which will use Federal Aid Interstate funds) and Wallace Road NW (which will use Federal Aid Primary funds) the major roadway projects listed are generally in competition for the same funds as each other and the pedestrian, bicycle, and rideshare projects. Only transit projects have a sufficiently large source of funds dedicated to transit that they do not have to compete with the other transportation projects.

Without new sources of transportation revenue, it would not be practical to anticipate more than approximately $1 million per year will be available for the construction of the projects identified as needed in this plan (excepting transit projects, I-5 widening, and Wallace Road). The top ten most important major roadway projects alone are estimated to cost $47 million (this does not include the implementation of the South Salem East-West Corridor Study which would cost $18 million to implement the PAC recommendation). Obviously, the currently anticipated sources of continuing funding will not meet the transportation needs of the area.

Alternative sources of funding will need to be implemented in order to solve existing transportation problems as well as prevent additional future problems.

APPENDIX A

LEVELS OF SERVICE FOR SIGNALIZED INTERSECTIONS

LEVEL OF SERVICE	TYPE OF TRAFFIC FLOW	COMMENTS	MANEUVERABILITY
A	Free Flow	Traffic flows freely without delay.	Drivers can maneuver easily and nearly all drivers find freedom of operation.
B	Stable Flow	Traffic still flows smoothly with few delays. The number of vehicles waiting through one signal cycle is increased.	Some drivers feel somewhat restricted within groups of vehicles.
C (Desired Urban Design Level)	Stable Flow	Traffic generally flows smoothly but occasionally vehicles may be delayed through one signal cycle.	Back ups may develop behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so.
D (Considered acceptable Urban Design Level)	Approaching Unstable Flow	Traffic delays may be more than one signal cycle during peak hours but excessive back ups do not occur. This condition is usually considered acceptable during peak hours.	Maneuverability is limited during short periods due to temporary back-ups.
E (Capacity is at the division between E & F)	Unstable Flow	Delay may be great--up to several signal cycles. Usually, considered unsatisfactory. Short periods of this level may be tolerated during peak hours in lieu of the cost and community disruption of providing a higher level of service.	There are typically long queues of vehicles waiting upstream of the intersection
F	Forced	Excessive delay causes reduced capacity. Always considered unsatisfactory. May be tolerated in recreational areas where occurrence is rare.	Traffic is jammed up and back ups from other locations may restrict or prevent movement of vehicles at the intersection under this consideration.