BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF AMENDING ORDINANCE NO. 96-647C AND 97-715B TO REVISE TITLE 6 RECOMMENDATIONS AND REQUIREMENTS FOR REGIONAL ACCESSIBILITY	))))))	ORDINANCE NO 98-721A Introduced by the Council Transportation Committee

WHEREAS, the Metro Council adopted the Urban Growth Management Functional Plan in Ordinance No. 96-647C on November 21, 1996, which included Title 6 on Regional Accessibility; and

WHEREAS, the Metro Council adopted the Regional Framework Plan in Ordinance No. 97-715B on December 11, 1997, which included Chapter 2 on regional transportation that includes policies on street design, street connectivity, non-single occupancy vehicle mode split targets, and motor vehicle level-of-service; and

WHEREAS, consideration of Chapter 2 of the Regional Framework Plan included development and adoption of the Regional Street Design Map, identification of acceptable levels of congestion in and outside mixed use areas, amended street connectivity standards, development and adoption of regional non-single occupancy vehicle mode split targets; and

WHEREAS, The Joint Policy Advisory Committee on Transportation (JPACT) and Metro Policy Advisory Committee (MPAC) have recommended consideration of the Regional Street Design Map classifications, amended local street connectivity standards, amended non-single occupancy vehicle mode split targets, amended motor vehicle congestion standards and amended definitions to assist cities and counties in preparation of transportation plans prior to adoption of the 1998 Regional Transportation Plan; and

WHEREAS, functional plans must remain consistent with Regional Framework Plan policies and be included in the implementation portion of that Plan; and

WHEREAS, the Regional Framework Plan has been transmitted to the Land Conservation and Development Commission for initial compliance acknowledgment consistent with Metro Charter Section 5(2)(c)(3) and ORS 197.274; now, therefore,

THE METRO COUNCIL ORDAINS AS FOLLOWS:

Section 1: The Amendments to Title 6 of the Urban Growth Management Functional Plan attached and incorporated into this Ordinance as Exhibit "A" are hereby adopted as the amended Title 6 and amendments to Title 10 in both Ordinance No. 96-647C and Appendix A of Ordinance No. 97-715B with no change in the effective dates of functional plan requirements.

Section 2: The Amendments to Title 6 and 10 attached in Exhibit "A" shall be transmitted to the Land Conservation and Development Commission to be included in Appendix A of Ordinance No. 97-715B for consideration of acknowledgment of compliance with statewide goals consistent with ORS 197.274(1).

ADOPTED by the Metro Council this 12th day of February 1998.

Jon Kvistad, Presiding Officer

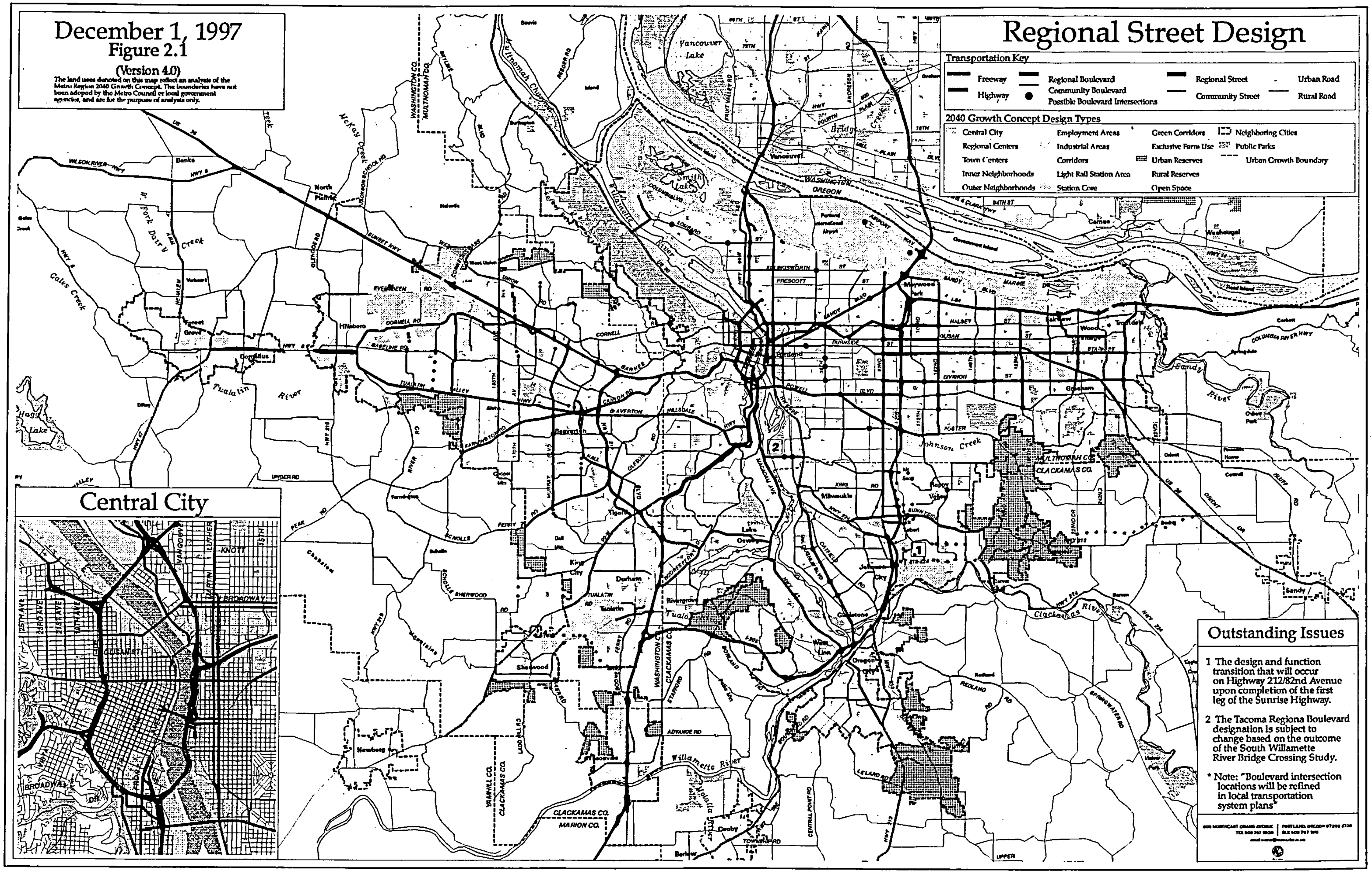
ATTEST:

Recording Secretary

Approved as to Form:

Daniel B. Cooper, General Counsel

I:\DOCS#07.P&D\04-2040I.MPL\03UGMFNC.PLN\AMTIT6.D22


December 1, 1997
Figure 2.1
(Version 4.0)
The land uses denoted on this map reflect an analysis of the Metro Region 2040 Growth Concept. The boundaries have not been adoped by the Metro Council or local government agencies, and are for the purpose of analysis only.
Regional Street Design
Transportation Key
Freeway
Highway
Regional Boulevard
Community Boulevard
Possible Boulevard Intersections
Regional Street
Community Street
Urban Road
Rural Road
2040 Growth Concept Design Types
Central City
Regional Centers
Town Centers
Inner Neighborhoods
Outer Neighborhoods
Employment Areas
Industrial Areas
Corridors
Light Rail Station Area
Station Core
Green Corridors
Exclusive Farm Use
Urban Reserves
Rural Reserves
Open Space
Neighboring Cities
Public Parks
Urban Growth Boundary
Central City
Outstanding Issues
1 The design and function transition that will occur on Highway 212/82nd Avenue upon completion of the first leg of the Sunrise Highway.
2 The Tacoma Regiona Boulevard designation is subject to change based on the outcome of the South Willamette River Bridge Crossing Study.
* Note: "Boulevard intersection locations will be refined in local transportation system plans"

December 1, 1997
Figure 2.1
(Version 4.0)

The land uses denoted on this map reflect an analysis of the Metro Region 2040 Growth Concept. The boundaries have not been adopted by the Metro Council or local government agencies, and are for the purpose of analysis only.

Regional Street Design

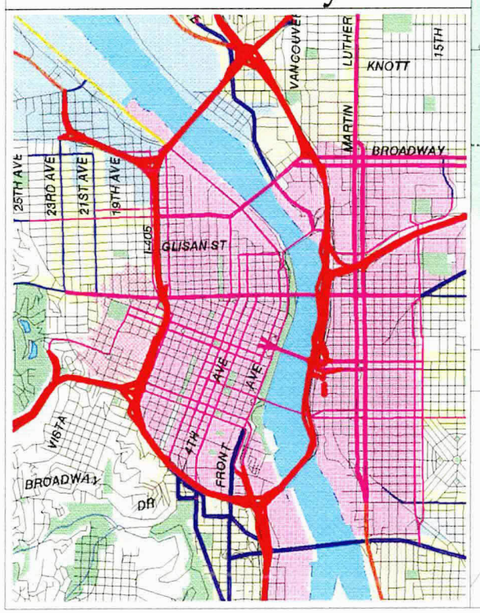
Transportation Key

- Freeway
- Highway
- Regional Boulevard
- Community Boulevard
- Possible Boulevard Intersections
- Regional Street
- Community Street
- Urban Road
- Rural Road

2040 Growth Concept Design Types

- Central City
- Regional Centers
- Town Centers
- Inner Neighborhoods
- Outer Neighborhoods
- Employment Areas
- Industrial Areas
- Corridors
- Light Rail Station Area
- Station Core
- Green Corridors
- Exclusive Farm Use
- Urban Reserves
- Rural Reserves
- Open Space
- Neighboring Cities
- Public Parks
- Urban Growth Boundary

Central City



Outstanding Issues

1 The design and function transition that will occur on Highway 212/82nd Avenue upon completion of the first leg of the Sunrise Highway.

2 The Tacoma Regiona Boulevard designation is subject to change based on the outcome of the South Willamette River Bridge Crossing Study.

* Note: "Boulevard intersection locations will be refined in local transportation system plans"

600 NORTHEAST GRAND AVENUE | PORTLAND, OREGON 97232-2736
TEL 503 797 1900 | FAX 503 797 1911

TITLE 6: REGIONAL ACCESSIBILITY

Section 1. Intent

Implementation of the 2040 Growth Concept requires that the region identify key measures of transportation effectiveness which include all modes of transportation. Developing a full array of these measures will require additional analysis. Focusing development in the concentrated activity centers, including the central city, regional centers, town centers and station communities, requires the use of alternative modes of transportation in order to avoid unacceptable levels of congestion. The continued economic vitality of industrial areas and intermodal facilities is largely dependent on preserving or improving access to these areas and maintaining reasonable levels of freight mobility in the region. Therefore, regional congestion standards and other regional system performance measures shall be tailored to reinforce the specific development needs of the individual 2040 Growth Concept design types.

These regional standards are linked to a series of regional street design concepts that fully integrate transportation and land use needs for each of the 2040 land use design types in the Regional Framework Plan. The designs generally form a continuum; a network of throughways (freeway and highway designs) emphasize auto and freight mobility and connect major activity centers. Slower-speed boulevard designs within concentrated activity centers balance the multi-modal travel demands for each mode of transportation within these areas. Street and road designs complete the continuum, with multi-modal designs that reflect the land uses they serve, but also serving as moderate-speed vehicle connections between activity centers that complement the throughway system. It is intended that the entirety of these Title 6 standards will be supplemented by the 1998 Regional Transportation Plan (RTP).

Section 2. Regional Street Design Guidelines

Regional routes in each of the 2040 Design Types are designated as one of four major classifications on the Regional Street Design Map, attached in Exhibit "A" The four classifications are: Throughways, Boulevards, Streets and Roads. All cities and counties within the Metro region shall consider the following regional street design elements when planning for improvements to these facilities, including those facilities built by ODOT, Tri-Met or the Port of Portland. "Creating Livable Streets: Street Design for 2040" (1997) is a resource for cities, counties, ODOT, Tri-Met and the Port of Portland to use when prioritizing street design elements within a constrained right-of-way.

A. Throughways. Throughways connect the region's major activity centers within the region, including the central city, regional centers, industrial areas and intermodal facilities to one another and to points outside the region. Throughways are traffic oriented with designs that emphasize motor vehicle mobility. Throughways are divided into Freeway and Highways designs.

1. Freeway Design. Freeways are designed to provide high speed travel for longer motor vehicle trips throughout the region. These designs usually

include four to six vehicle lanes, with additional lanes in some situations. They are completely divided, with no left turn lanes. Street connections always occur at separated grades with access controlled by ramps. Cities and counties shall amend their comprehensive plan and implementing ordinances, if necessary, to require consideration of the following Freeway design elements when proceeding with improvements to the right-of-way on regional routes designated on the regional street design map:

a. high vehicle speeds
b. improved pedestrian crossings on overpasses
c. parallel facilities for bicycles
d. motor vehicle lane widths that accommodate freight movement and high-speed travel

2. Highway Design. Highways are designed to provide high speed travel for longer motor vehicle trips throughout the region while accommodating limited public transportation, bicycle and pedestrian travel. Highways are usually divided with a median, but also have left turn lanes where at grade intersections exist. These designs usually include four to six vehicle lanes, with additional lanes in some situations. Cities and counties shall amend their comprehensive plan and implementing ordinances, if necessary, to require consideration of the following Highway design elements when proceeding with improvements to the right-of-way on regional routes designated on the regional street design map:

a. high vehicle speeds
b. few or no driveways
c. improved pedestrian crossings at overpasses and all intersections
d. accommodation of bicycle travel through the use of a striped bikeway
e. sidewalks where appropriate
f. motor vehicle lane widths that accommodate freight movement and high-speed travel

B. Boulevard Designs. Boulevards serve major centers of urban activity, including the Central City, Regional Centers, Station Communities, Town Centers and some Main Streets. Boulevards are designed with special amenities to favor public transportation, bicycle and pedestrian travel and balance the many travel demands of these areas. Boulevards are divided into regional and community scale designs on the Regional Street Design Map. Regional and Community Boulevards combine motor vehicle traffic with public transportation, bicycle and pedestrian travel where dense development is oriented to the street. Regional Boulevard designs usually include four vehicle lanes, with additional lanes or one-way couplets in some situations. Community Boulevard designs may include up to four vehicle lanes and on-street parking. Fewer vehicle lanes may be appropriate in Community Boulevard designs in some situations, particularly when necessary to provide on-street parking. Cities and counties shall amend their comprehensive plan and

implementing ordinances, if necessary, to require consideration of the following Regional and Community Boulevard design elements when proceeding with improvements to the right-of-way on regional routes designated on the regional street design map:

1. low to moderate vehicle speeds on Regional Boulevard and low vehicle speeds on Community Boulevards
2. the use of medians and curb extensions to enhance pedestrian crossings where wide streets make crossing difficult
3. combined driveways
4. on-street parking where possible
5. wide sidewalks with pedestrian amenities such as benches, awnings and special lighting
6. landscape strips, street trees or other design features that create a pedestrian buffer between curb and sidewalk
7. improved pedestrian crossings at all intersections, and mid-block crossings where intersection spacing exceeds 530 feet
8. striped bikeways or shared outside lane
9 motor vehicle lane widths that consider the above improvements

C. Street Designs. Streets serve the region's transit corridors, neighborhoods and some main streets. Streets are designed with special amenities to balance motor vehicle traffic with public transportation, bicycle and pedestrian travel in the 2040 Design Types they serve. Streets are divided into regional and community scale designs on the Regional Street Design Map. Regional Streets are designed to carry motor vehicle traffic while also providing for public transportation, bicycle and pedestrian travel. Regional street designs usually include four vehicle lanes, with additional lanes in some situations. Community Street designs may include up to four vehicle lanes. Fewer vehicle lanes may be appropriate in Community Street designs in some situations, particularly when necessary to provide on-street parking. Cities and counties shall amend their comprehensive plan and implementing ordinances, if necessary, to require consideration of the following Regional Street design elements when proceeding with improvements to the right-of-way on regional routes designated on the regional street design map:

1. moderate vehicle speeds
2. the use of medians and curb extensions to enhance pedestrian crossings where wide streets make crossing difficult or to manage motor vehicle access
3. combined driveways
4. on-street parking when appropriate
5. buffered sidewalks with pedestrian amenities such as special lighting and special crossing amenities tied to major transit stops
6 landscape strips, street trees or other design features that create a pedestrian buffer between curb and sidewalk

7. improved pedestrian crossings at signaled intersections on Regional Streets and improved pedestrian crossings at all intersections on Community Streets
8. striped bikeways or shared outside lane
9. motor vehicle lane widths that consider the above improvements

D. Urban Roads. Urban Roads serve the region's industrial areas, intermodal facilities and employment centers where buildings are less oriented to the street, and primarily emphasize motor vehicle mobility. Urban Roads are designed to carry significant motor vehicle traffic while providing for some public transportation, bicycle and pedestrian travel. These designs usually include four vehicle lanes, with additional lanes in some situations. Cities and counties shall amend their comprehensive plan and implementing ordinances, if necessary, to require consideration of the following Urban Road design elements when proceeding with improvements to the right-of-way on regional routes designated on the regional street design map:

1. moderate vehicle speeds
2. few driveways
3. sidewalks
4. improved pedestrian crossings at major intersections
5. striped bikeways
6. center medians that manage access and control left turn movements
7. motor vehicle lane widths that consider the above improvements

Section 3. Design Standards for Street Connectivity

The design of local street systems, including "local" and "collector" functional classifications, is generally beyond the scope of the Regional Transportation Plan (RTP). However, the aggregate effect of local street design impacts the effectiveness of the regional system when local travel is restricted by a lack of connecting routes, and local trips are forced onto the regional network. Therefore, streets should be designed to keep through trips on arterial streets and provide local trips with alternative routes. The following design and performance options are intended to improve local circulation in a manner that protects the integrity of the regional system.

Cities and counties within the Metro region are hereby required to amend their comprehensive plans and implementing ordinances, if necessary, to comply with or exceed <u>one</u> of the following options in the development review process:

A. **Design Option**. Cities and counties shall ensure that their comprehensive plans, implementing ordinances and administrative codes require demonstration of compliance with the following, consistent with regional street design policies:

1. For new residential and mixed-use development, all contiguous areas of vacant and primarily undeveloped land of five acres or more shall be identified by cities and

counties and the following will be prepared, consistent with regional street design policies:

A map that identifies possible local street connections to adjacent developing areas. The map shall include:

a. full street connections at intervals of no more than 530 feet, except where prevented by topography, barriers such as railroads or freeways, or environmental constraints such as major streams and rivers. Street connections at intervals of no more than 330 feet are recommended in areas planned for the highest density mixed-use development.

b. accessways for pedestrians, bicycles or emergency vehicles on public easements or right-of-way where full street connections are not possible, with spacing between full street or accessway connections of no more than 330 feet, except where prevented by topography, barriers such as railroads or freeways, or environmental constraints such as major streams and rivers.

2. New residential and mixed-use developments shall include local street plans that:

a. encourage pedestrian and bicycle travel by providing short, direct public right-of-way routes to connect residential uses with nearby existing and planned commercial services, schools, parks and other neighborhood facilities; and

b. include no cul-de-sac streets longer than 200 feet, and no more than 25 dwelling units on a closed-end street system except where topography, barriers such as railroads or freeways, or environmental constraints such as major streams and rivers, prevent street extension; and

c. provide bike and pedestrian connections on public easements or right-of-way when full street connections are not possible, with spacing between connections of no more than 330 feet except where prevented by topography, barriers such as railroads or freeways, or environmental constraints such as major streams and rivers; and

d. consider opportunities to incrementally extend and connect local streets in primarily developed areas; and

e. serve a mix of land uses on contiguous local streets; and

f. support posted speed limits; and

g. consider narrow street design alternatives that feature total right-of-way of no more than 46 feet, including pavement widths of no more than 28 feet, curb-face to curb-face, sidewalk widths of at least 5 feet and landscaped pedestrian buffer strips that include street trees; and

h. limit the use of cul-de-sac designs and closed street systems to situations where topography, pre-existing development or environmental constraints prevent full street extensions.

3. For redevelopment of existing land uses, cities and counties shall develop local approaches for dealing with connectivity.

B. **Performance Option**. For residential and mixed use areas, cities and counties shall amend their comprehensive plans, implementing ordinances and administrative codes, if necessary, to require demonstration of compliance with performance criteria in the following manner. Cities and counties shall develop local street design standards in text or maps or both with street intersection spacing to occur at intervals of no more than 530 feet except where prevented by topography, barriers such as railroads or freeways, or environmental constraints such as major streams and rivers. Street connections at intervals of no more than 330 feet are recommended in areas planned for the highest density mixed-use development. Local street designs for new developments shall satisfy the following additional criteria:

1. Performance Criterion: minimize local traffic on the regional motor vehicle system, by demonstrating that local vehicle trips on a given regional facility do not exceed the 1995 arithmetic median of regional trips for facilities of the same motor vehicle system classification by more than 25 percent.

2. Performance Criterion: everyday local travel needs are served by direct, connected local street systems where: (1) the shortest motor vehicle trip over public streets from a local origin to a collector or greater facility is no more than twice the straight-line distance; and (2) the shortest pedestrian trip on public right-of-way is no more than one and one-half the straight-line distance.

Section 4. Transportation Performance Standards

A process to identify transportation mode split targets, transportation needs and appropriate actions to address those targets and needs is included in this section. The intent is to provide guidance to cities, counties, ODOT, Tri-Met and the Port of Portland when developing a transportation system plan, defining a project, or evaluating the potential transportation impacts of a land use action.

A transportation need is identified when a particular transportation standard or threshold has been exceeded. Standards which may be used in identifying transportation needs include: safety, statewide mobility as identified in the Oregon Transportation Plan, mode splits, motor vehicle congestion analysis, freight mobility or demonstration that lack of access is limiting development of a priority regional land use. Needs are generally identified either through a comprehensive plan amendment review or as result of a system-planning analysis which evaluates forecast travel demand.

Subsequent to the identification of a need, an appropriate transportation strategy or solution is identified through a two-phased multi-modal planning and project development process. The first phase is multi-modal system-level planning. The purpose of system-level planning is to examine a number of transportation alternatives over a large geographic area such as a corridor or sub-area, or through

a local or regional Transportation System Plan (TSP). The purpose of the multi-modal system-level planning step is to 1) consider alternative modes, corridors, and strategies to address identified needs; and 2) determine a recommended set of transportation projects, actions, or strategies and the appropriate modes and corridors to address identified needs in the system-level study area.

The second phase is project-level planning (also referred to as project development). The purpose of project-level planning is to develop project design details and select a project alignment, as necessary, after evaluating engineering and design details and environmental impacts.

The following sub-sections (A-D): (1) require that cities and counties establish regional mode split targets for all 2040 design types that will be used to guide transportation system improvements; (2) establish optional performance standards and deficiency thresholds intended to identify transportation needs through multi-modal system-level planning and (3) establish the process to identify appropriate recommended solutions to address those needs identified through multi-modal system-level planning and project-level planning.

A. Alternative Mode Analysis

1. Person travel represents the largest share of trips for all modes of travel. Improvement in mode split will be used as the key regional measure for assessing transportation system improvements in the Central City, Regional Centers, Town Centers and Station Communities. For other 2040 Growth Concept design types, mode split will be used as an important factor in assessing transportation system improvements. Each jurisdiction shall establish an alternative mode split target (defined as non-Single Occupancy Vehicle person-trips as a percentage of all person-trips for all modes of transportation) for trips into, out of and within all 2040 Growth Concept land use design types within its boundaries one year after adoption of the 1998 Regional Transportation Plan. The alternative mode split target shall be no less than the regional targets for these 2040 Growth Concept land use design types to be established in the 1998 Regional Transportation Plan.

2. Cities and counties shall identify actions which will implement the mode split targets one year after adoption of the 1998 Regional Transportation Plan. These actions should include consideration of the maximum parking ratios adopted as part of Title 2, Section 2: Regional Street Design considerations in this Title; and transit's role in serving the area.

B. Motor Vehicle Congestion Analysis

1. Motor Vehicle Level-Of-Service (LOS) is a measurement of congestion as a share of designed motor vehicle capacity of a road. Table 3. Motor Vehicle Level Of Service Deficiency Thresholds and Operating Standards may be incorporated into

local comprehensive plans and implementing ordinances to replace current methods of determining motor vehicle congestion on regional facilities, if a city or county determines that this change is needed to permit Title 1, Table 1 capacities for the 2040 design types and facilities as follows:

*Table 3. Motor Vehicle Level of Service Deficiency Thresholds and Operating Standards**

Location	Mid-Day One-Hour Peak			A.M./P.M. Two-Hour Peak		
	Preferred Operating Standard	Acceptable Operating Standard	Exceeds Deficiency Threshold	Preferred Operating Standard	Acceptable Operating Standard	Exceeds Deficiency Threshold
Central City, Regional Centers, Town Centers, Main Streets and Station Communities	C	E	F	1st hour E 2nd hour E	1st hour F 2nd hour E	1st hour F 2nd hour F
Corridors, Industrial Areas and Intermodal Facilities, Employment Areas and Inner and Outer Neighborhoods	C	D	E	1st hour E 2nd hour D	1st hour E 2nd hour E	1st hour F 2nd hour E
Regional Highway Corridors	identify and evaluate on a case-by-case basis** to balance regional and local mobility and accessibility objectives			identify and evaluate on a case-by-case basis** to balance regional and local mobility and accessibility objectives		

*Level-of-Service is determined by using either the latest edition of the Highway Capacity Manual (Transportation Research Board) or through volume to capacity ratio equivalencies as follows: LOS C = .8 or better; LOS D = .8 to .9; LOS E = .9 to 1.0; and LOS F = 1.0 to 1.1. A copy of the Level of Service Tables from the Highway Capacity Manual is attached as Exhibit A. Regional Highway Corridors are identified in the map attached as Figure 2.7.

** See Section 4.B.3.

2. **Analysis.** A transportation need is identified in a given location when analysis indicates that congestion has reached the level indicated in the "exceeds deficiency threshold" column of Table 3 and that this level of congestion will negatively impact accessibility, as determined through Section 4.B.4, below. The analysis

should consider a mid-day hour appropriate for the study area and the appropriate two-hour peak-hour condition, either A.M. or P.M. or both to address the problem. Other non-peak hours of the day, such as mid-day on Saturday, should also be considered to determine whether congestion is consistent with the acceptable or preferred operating standards identified in Table 3. The lead agency or jurisdictions will be responsible for determining the appropriate peak and non-peak analysis periods. The lead agency or jurisdictions will be responsible for determining the appropriate peak analysis period.

An appropriate solution to the need is determined through multi-modal system-level planning considerations listed in Section 4.C., below. For regional transportation planning purposes, the recommended solution should be consistent with the acceptable or preferred operating standards identified in Table 3. A city or county may choose a higher level-of-service operating standard where findings of consistency with Section 4.C. have been developed.

3. **Regional Highways.** Exhibit B identifies the Regional Highways specified in Table 3. Each corridor will be evaluated on a case-by-case basis through system-level refinement studies. The studies will identify the performance and operating expectations for each corridor based on their unique operating and geographic characteristics. Appropriate multi-modal solutions to needs identified through these studies will be forwarded for inclusion in the Regional Transportation Plan.

4. **Accessibility.** If a deficiency threshold is exceeded on the regional transportation system as identified in Table 3, cities and counties shall evaluate the impact of the congestion on regional accessibility using the best available quantitative or qualitative methods. If a determination is made by Metro that exceeding the deficiency threshold negatively impacts regional accessibility, cities and counties shall follow the transportation systems analysis and transportation project analysis procedures identified in 4.C. and 4.D. below.

5. **Consistency.** The identified function or the identified capacity of a road may be significantly affected by planning for 2040 Growth Concept design types. Cities and counties shall take actions described in Section 4.C. and 4.D. below, including amendment of their transportation plans and implementing ordinances, if necessary, to preserve the identified function and identified capacity of the road, and to retain consistency between allowed land uses and planning for transportation facilities.

C. **Transportation Systems Analysis**

This section applies to city and county comprehensive plan amendments or to any studies that would recommend or require an amendment to the Regional Transportation Plan to add significant single occupancy vehicle (SOV) capacity to multi-modal arterials and/or highways.

Consistent with Federal Congestion Management System requirements (23 CFR Part 500) and TPR system planning requirements (660-12), the following actions shall be considered through the Regional Transportation Plan when recommendations are made to revise the Regional Transportation Plan and/or local transportation system plans to define the need, mode, corridor and function to address an identified transportation need consistent with Table 3, above, and recommendations are made to add significant SOV capacity:

1) regional transportation demand strategies
2) regional transportation system management strategies, including intelligent Transportation Systems (ITS)
3) High Occupancy Vehicle (HOV) strategies
4) regional transit, bicycle and pedestrian system improvements to improve mode split
5) unintended land use and transportation effects resulting from a proposed SOV project or projects
6) effects of latent demand from other modes, routes or time of day from a proposed SOV project or projects
7) If upon a demonstration that the above considerations do not adequately and cost-effectively address the problem, a significant capacity improvement may be included in the Regional Transportation Plan.

Consistent with Federal Congestion Management System requirements (23 CFR Part 500) and TPR system planning requirements (660-12), the following actions shall be considered when local transportation system plans (TSPs), multi-modal corridor and sub-area studies, mode specific plans or special studies (including land use actions) are developed:

1) transportation demand strategies that further refine or implement a regional strategy identified in the RTP
2) transportation system management strategies, including intelligent Transportation Systems (ITS), that refine or implement a regional strategy identified in the RTP
3) sub-area or local transit, bicycle and pedestrian system improvements to improve mode split
4) the effect of a comprehensive plan change on mode split targets and actions to ensure the overall mode split target for the local TSP is being achieved
5) improvements to parallel arterials, collectors, or local streets, consistent with connectivity standards contained in Section 2 of this Title, as appropriate, to address the transportation need and to keep through trips on arterial streets and provide local trips with alternative routes
6) traffic calming techniques or changes to the motor vehicle functional classification, to maintain appropriate motor vehicle functional classification

7) If upon a demonstration that the above considerations do not adequately and cost-effectively address the problem, a significant capacity improvement may be included in the comprehensive plan.

Upon a demonstration that the above considerations do not adequately and cost-effectively address the problem and where accessibility is significantly hindered, Metro and the affected city or county shall consider:

(1) amendments to the boundaries of a 2040 Growth Concept design type;
(2) amendments or exceptions to land use functional plan requirements; and/or
(3) amendments to the 2040 Growth Concept.

Demonstration of compliance will be included in the required congestion management system compliance report submitted to Metro by cities and counties as part of system-level planning and through findings consistent with the TPR in the case of amendments to applicable plans.

D. Transportation Project Analysis

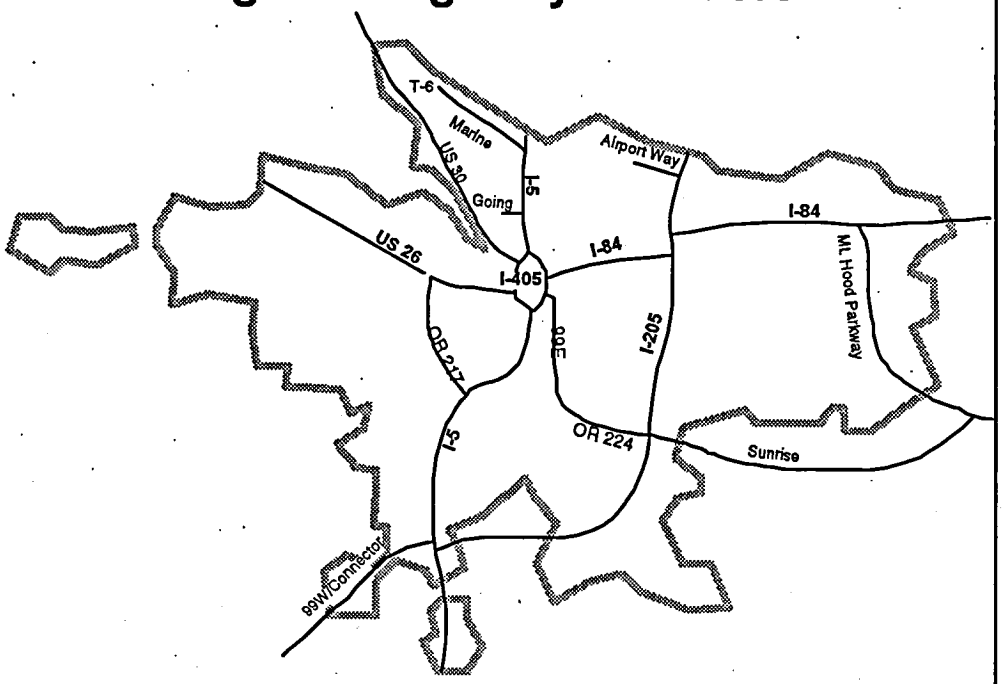
The TPR and Metro's Interim Congestion Management System (CMS) document require that measures to improve operational efficiency be addressed at the project level. Section 2 of this Title requires that street design guidelines be considered as part of the project-level planning process. Therefore, cities, counties, Tri-Met, ODOT, and the Port of Portland shall address the following operational and design considerations during transportation project analysis:

1. Transportation system management (e.g., access management, signal inter-ties, lane channelization, etc.) to address or preserve existing street capacity.
2. Guidelines contained in "Creating Livable Streets: Street Design Guidelines for 2040" (1997) and other similar resources to address regional street design policies.

The project need, mode, corridor, and function do not need to be addressed at the project level. This section (4.D) does not apply to locally funded projects on facilities not designated on the Regional Motor Vehicle System Map or the Regional Street Design Map. Demonstration of compliance will be included in the required Congestion Management System project-level compliance report submitted to Metro as part of project-level planning and development."

Figure 2.7

Regional Highway Corridors



9-12-97

402

Definitions to Be Amended
to Title 10 of the Urban Growth Management Functional Plan

Accessway. Right-of-way or easement designed for public access by bicycles and pedestrians, and may include emergency vehicle passage.

Full Street Connection. Right-of-way designed for public access by motor vehicles, pedestrians and bicycles.

Improved pedestrian crossing. An improved pedestrian crossing is marked and may include signage, signalization, curb extensions and a pedestrian refuge such as a landscaped median.

Local trips. Local vehicle trips are trips that are five miles or shorter in length.

Mixed-Use Development. Mixed-use development includes areas of a mix of at least two of the following land uses and includes multiple tenants or ownerships: residential, retail and office. This definition excludes large, single-use land uses such as colleges, hospitals, and business campuses. Minor incidental land uses that are accessory to the primary land use should not result in a development being designated as "mixed-use development." The size and definition of minor incidental, accessory land uses allowed within large, single-use developments should be determined by cities and counties through their comprehensive plans and implementing ordinances.

Regional vehicle trips. Regional vehicle trips are trips that are greater than five miles in length.

Significant Increase in Single Occupancy Vehicle (SOV) Capacity for Multi-modal Arterials. An increase in SOV capacity created by the construction of additional general purpose lanes totaling ½ lane miles or more in length. General purpose lanes are defined as through travel lanes or multiple turn lanes. This also includes the construction of a new general purpose highway facility on a new location. Lane tapers are not included as part of the general purpose lane. Significant increases in SOV capacity should be assessed for individual facilities rather than for the planning area.

Significant Increase in Single Occupancy Vehicle (SOV) Capacity for Regional Through-Route Freeways. Any increase in SOV capacity created by the construction of additional general purpose lanes other than that resulting from a safety project or a project solely intended to eliminate a bottleneck. An increase in SOV capacity associated with the elimination of a bottleneck is considered significant only if such an increase provides a highway section SOV capacity greater than ten percent over that provided immediately upstream of the bottleneck. An increase in SOV capacity associated with a safety project is considered significant only if the safety deficiency is totally related to traffic congestion. Construction of a new general purpose highway facility on a new location also constitutes a significant increase in SOV capacity. Significant increase in SOV capacity should be assessed for individual facilities rather than for the planning area.

Level-of-Service (LOS) Definitions for Freeways, Arterials and Signalized Intersections

LOS	Freeways (average travel speed assuming 70 mph design speed)	Arterials (average travel speed assuming a typical free flow speed of 40 mph)	Signalized Intersections (stopped delay per vehicle)	Traffic Flow Characteristics
A	Greater than 60 mph Average spacing: 22 car-lengths	Greater than 35 mph	Less than 5 seconds; most vehicles do not stop at all	Virtually free flow; completely unimpeded Volume/capacity ratio less than or equal to .60
B	57 to 60 mph Average spacing: 13 car-lengths	28 to 35 mph	5.1 to 15 seconds; more vehicles stop than for LOS A	Stable flow with slight delays; reasonably unimpeded Volume/capacity ratio .61 to .70
C	54 to 57 mph Average spacing: 9 car-lengths	22 to 28 mph	15.1 to 25 seconds; individual cycle failures may begin to appear	Stable flow with delays; less freedom to maneuver Volume/capacity ratio of .71 to .80
D	46 to 54 mph Average spacing: 6 car-lengths	17 to 22 mph	25.1 to 40 seconds; individual cycle failures are noticeable	High density, but stable flow Volume/capacity ratio of .81 to .90
E	30 to 46 mph Average spacing: 4 car-lengths	13 to 17 mph	40.1 to 60 seconds; individual cycle failures are frequent; poor progression	Operating conditions at or near capacity; unstable flow Volume/capacity ratio of .91 to 1.00
F	Less than 30 mph Average spacing: bumper-to-bumper	Less than 13 mph	Greater than 60 seconds; not acceptable for most drivers	Forced flow, breakdown conditions Volume/capacity ratio of greater than 1.00
>F	Demand exceeds roadway capacity, limiting volume that can be carried and forcing excess demand onto parallel routes and extending the peak period			Demand/capacity ratios of greater than 1.10

Source: *1985 Highway Capacity Manual (A through F descriptions)*
Metro (>F description)

EXHIBIT A to Ordinance No. 98-721A
Amendments to Title 6 of the Urban Growth Management Functional Plan
Approved by the Metro Council Transportation Committee on 1/20/98

TITLE 6: REGIONAL ACCESSIBILITY

Section 1. Intent

Implementation of the 2040 Growth Concept requires that the region identify key measures of transportation effectiveness which include all modes of transportation. Developing a full array of these measures will require additional analysis. Focusing development in the concentrated activity centers, including the central city, regional centers, town centers and station communities, requires the use of alternative modes of transportation in order to avoid unacceptable levels of congestion. The continued economic vitality of industrial areas and intermodal facilities is largely dependent on preserving or improving access to these areas and maintaining reasonable levels of freight mobility in the region. Therefore, regional congestion standards and other regional system performance measures shall be tailored to reinforce the specific development needs of the individual 2040 Growth Concept design types.

These regional standards ~~will be~~are linked to a series of regional street design concepts that fully integrate transportation and land use needs for each of the 2040 land use ~~components~~design types in the Regional Framework Plan. The designs generally form a continuum; a network of throughways (freeway and highway designs) ~~will~~ emphasize auto and freight mobility and connect major activity centers. Slower-speed boulevard designs within concentrated activity centers ~~will~~ balance the multi-modal travel demands for each mode of transportation within these areas. Street and road designs ~~will~~ complete the continuum, with multi-modal designs that reflect the land uses they serve, but also serving as moderate-speed vehicle connections between activity centers that complement the throughway system. ~~While these designs are under development, it is important that improvements in the most concentrated activity centers are designed to lessen the negative effects of motor vehicle traffic on other modes of travel. Therefore, implementation of amenity oriented boulevard treatment that better serves pedestrian, bicycle and transit travel in the central city, regional centers, main streets, town centers, and station communities is a key step in the overall implementation of the Metro 2040 Growth Concept.~~ It is intended that the entirety of these Title 6 standards will be supplemented by the 1998 Regional Transportation Plan (RTP) ~~when the RTP is approved and adopted by the Metro Council~~.

~~Section 2. Boulevard Design~~

~~Regional routes in the central city, regional centers, station communities, main streets and town centers are designated on the Boulevard Design Map. In general, pedestrian and transit oriented design elements are the priority in the central city and regional centers, station communities, main streets and town centers. All cities and counties within the Metro region shall implement or allow others to implement boulevard design elements as improvements are made to these facilities including those facilities built by ODOT or Tri Met. Each jurisdiction shall amend their comprehensive plans and implementing ordinances, if necessary, to require consideration or installation of the following boulevard design elements when proceeding with right of way improvements on regional routes designated on the boulevard design map:~~

~~A. Wide sidewalks with pedestrian amenities such as benches, awnings and special lighting;~~

~~B. Landscape strips, street trees and other design features that create a pedestrian buffer between curb and sidewalk;~~

~~C. Pedestrian crossings at all intersections, and mid-block crossings where intersection spacing is excessive;~~

~~D. The use of medians and curb extensions to enhance pedestrian crossings where wide streets make crossing difficult;~~

~~E. Accommodation of bicycle travel;~~

~~F. On-street parking;~~

~~G. Motor vehicle lane widths that consider the above improvements;~~

~~H. Use of landscaped medians where appropriate to enhance the visual quality of the streetscape.~~

Section 2. Regional Street Design Guidelines

Regional routes in each of the 2040 Design Types are designated as one of four major classifications on the Regional Street Design Map, attached in Exhibit "A" The four classifications are: Throughways, Boulevards, Streets and Roads. All cities and counties within the Metro region shall consider the following regional street design elements when planning for improvements to these facilities, including those facilities built by ODOT, Tri-Met or the Port of Portland. "Creating Livable Streets: Street Design for 2040" (1997) is a resource for cities, counties, ODOT, Tri-Met and the Port of Portland to use when prioritizing street design elements within a constrained right-of-way.

A. Throughways. Throughways connect the region's major activity centers within the region, including the central city, regional centers, industrial areas and intermodal facilities to one another and to points outside the region. Throughways are traffic oriented with designs that emphasize motor vehicle mobility. Throughways are divided into Freeway and Highways designs.

1. Freeway Design. Freeways are designed to provide high speed travel for longer motor vehicle trips throughout the region. These designs usually include four to six vehicle lanes, with additional lanes in some situations. They are completely divided, with no left turn lanes. Street connections always occur at separated grades with access controlled by ramps. Cities and counties shall amend their comprehensive plan and implementing ordinances, if necessary, to require consideration of the following Freeway

design elements when proceeding with improvements to the right-of-way on regional routes designated on the regional street design map:

a. high vehicle speeds
b. improved pedestrian crossings on overpasses
c. parallel facilities for bicycles
d. motor vehicle lane widths that accommodate freight movement and high-speed travel

2. Highway Design. Highways are designed to provide high-speed travel for longer motor vehicle trips throughout the region while accommodating limited public transportation, bicycle and pedestrian travel. Highways are usually divided with a median, but also have left turn lanes where at grade intersections exist. These designs usually include four to six vehicle lanes, with additional lanes in some situations. Cities and counties shall amend their comprehensive plan and implementing ordinances, if necessary, to require consideration of the following Highway design elements when proceeding with improvements to the right-of-way on regional routes designated on the regional street design map:

a. high vehicle speeds
b. few or no driveways
c. improved pedestrian crossings at overpasses and all intersections
d. accommodation of bicycle travel through the use of a striped bikeway
e. sidewalks where appropriate
f. motor vehicle lane widths that accommodate freight movement and high-speed travel

B. Boulevard Designs. Boulevards serve major centers of urban activity, including the Central City, Regional Centers, Station Communities, Town Centers and some Main Streets. Boulevards are designed with special amenities to favor public transportation, bicycle and pedestrian travel and balance the many travel demands of these areas. Boulevards are divided into regional and community scale designs on the Regional Street Design Map. Regional and Community Boulevards combine motor vehicle traffic with public transportation, bicycle and pedestrian travel where dense development is oriented to the street. Regional Boulevard designs usually include four vehicle lanes, with additional lanes or one-way couplets in some situations. Community Boulevard designs may include up to four vehicle lanes and on-street parking. Fewer vehicle lanes may be appropriate in Community Boulevard designs in some situations, particularly when necessary to provide on-street parking. Cities and counties shall amend their comprehensive plan and implementing ordinances, if necessary, to require consideration of the following Regional and Community Boulevard design elements when proceeding with improvements to the right-of-way on regional routes designated on the regional street design map:

1. low to moderate vehicle speeds on Regional Boulevard and low vehicle speeds on Community Boulevards
2. the use of medians and curb extensions to enhance pedestrian crossings where wide streets make crossing difficult
3. combined driveways
4. on-street parking where possible
5. wide sidewalks with pedestrian amenities such as benches, awnings and special lighting
6. landscape strips, street trees or other design features that create a pedestrian buffer between curb and sidewalk
7. improved pedestrian crossings at all intersections, and mid-block crossings where intersection spacing exceeds 530 feet
8. striped bikeways or shared outside lane
9. motor vehicle lane widths that consider the above improvements

C. Street Designs. Streets serve the region's transit corridors, neighborhoods and some main streets. Streets are designed with special amenities to balance motor vehicle traffic with public transportation, bicycle and pedestrian travel in the 2040 Design Types they serve. Streets are divided into regional and community scale designs on the Regional Street Design Map. Regional Streets are designed to carry motor vehicle traffic while also providing for public transportation, bicycle and pedestrian travel. Regional street designs usually include four vehicle lanes, with additional lanes in some situations. Community Street designs may include up to four vehicle lanes. Fewer vehicle lanes may be appropriate in Community Street designs in some situations, particularly when necessary to provide on-street parking. Cities and counties shall amend their comprehensive plan and implementing ordinances, if necessary, to require consideration of the following Regional Street design elements when proceeding with improvements to the right-of-way on regional routes designated on the regional street design map:

1. moderate vehicle speeds
2. the use of medians and curb extensions to enhance pedestrian crossings where wide streets make crossing difficult or to manage motor vehicle access
3. combined driveways
4. on-street parking when appropriate
5. buffered sidewalks with pedestrian amenities such as special lighting and special crossing amenities tied to major transit stops
6. landscape strips, street trees or other design features that create a pedestrian buffer between curb and sidewalk
7. improved pedestrian crossings at signaled intersections on Regional Streets and improved pedestrian crossings at all intersections on Community Streets
8. striped bikeways or shared outside lane
9. motor vehicle lane widths that consider the above improvements

D. Urban Roads. Urban Roads serve the region's industrial areas, intermodal facilities and employment centers where buildings are less oriented to the street, and primarily emphasize motor vehicle mobility. Urban Roads are designed to carry significant motor vehicle traffic while providing for some public transportation, bicycle and pedestrian travel. These designs usually include four vehicle lanes, with additional lanes in some situations. Cities and counties shall amend their comprehensive plan and implementing ordinances, if necessary, to require consideration of the following Urban Road design elements when proceeding with improvements to the right-of-way on regional routes designated on the regional street design map:

1. moderate vehicle speeds
2. few driveways
3. sidewalks
4. improved pedestrian crossings at major intersections
5. striped bikeways
6. center medians that manage access and control left turn movements
7. motor vehicle lane widths that consider the above improvements

Section 3. Design Standards for Street Connectivity

The design of local street systems, including "local" and "collector" functional classifications, is generally beyond the scope of the Regional Transportation Plan (RTP). However, the aggregate effect of local street design impacts the effectiveness of the regional system when local travel is restricted by a lack of connecting routes, and local trips are forced onto the regional network. Therefore, streets should be designed to keep through trips on arterial streets and provide local trips with alternative routes. The following design and performance options are intended to improve local circulation in a manner that protects the integrity of the regional system.

~~Local jurisdictions~~Cities and counties within the Metro region are hereby required to amend their comprehensive plans and implementing ordinances, if necessary, to comply with or exceed one of the following options in the development review process:

A. **Design Option.** Cities and counties shall ensure that their comprehensive plans, implementing ordinances and administrative codes require demonstration of compliance with the following, consistent with regional street design policies:

~~2~~1. New residential and mixed-use developments shall include local street plans that:

a. encourage pedestrian and bicycle travel by providing short, direct public right-of-way routes to connect residential uses with nearby existing and planned commercial services, schools, parks and other neighborhood facilities; and

b. include no cul-de-sac streets longer than 200 feet, and no more than 25 dwelling units on a closed-end street system except where topography,

barriers such as railroads or freeways, or environmental constraints such as major streams and rivers, prevent street extension; and

c. provide bike and pedestrian connections on public easements or right-of-way when full street connections are not possible, with spacing between connections of no more than 330 feet except where prevented by topography, barriers such as railroads or freeways, or environmental constraints such as major streams and rivers, ~~prevent street extension~~; and

d. consider opportunities to incrementally extend and connect local streets in primarily developed areas; and

e. serve a mix of land uses on contiguous local streets; and

f. support posted speed limits; and

g. consider narrow street design alternatives that feature total right-of-way of no more than 46 feet, including pavement widths of no more than 28 feet, curb-face to curb-face, sidewalk widths of at least 5 feet and landscaped pedestrian buffer strips that include street trees; and

h. limit the use of cul-de-sac designs and closed street systems to situations where topography, pre-existing development or environmental constraints prevent full street extensions.

~~1~~2. For new residential and mixed-use development, all contiguous areas of vacant and primarily undeveloped land of five acres or more shall be identified by cities and counties and the following will be prepared, consistent with regional street design policies:

A map that identifies possible local street connections to adjacent developing areas. The map shall include:

a. full street connections at intervals of no more than ~~660~~530 feet, except where prevented by topography, barriers such as railroads or freeways, or environmental constraints such as major streams and rivers. Street connections at intervals of no more than 330 feet are recommended in areas planned for the highest density mixed-use development. ~~with more frequent connections in areas planned for mixed use or dense development~~.

b. accessways for pedestrians, bicycles or emergency vehicles on public easements or right-of-way where full street connections are not possible, with spacing between full street or accessway connections of no more than 330 feet, except where prevented by topography, barriers such as railroads or freeways, or environmental constraints such as major streams and rivers.

3. For redevelopment of existing land uses, cities and counties shall develop local approaches for dealing with connectivity.

B. **Performance Option.** For residential and mixed use areas, cities and counties shall amend their comprehensive plans, implementing ordinances and administrative codes, if necessary, to require demonstration of compliance with performance criteria in the following manner. Cities and counties shall develop local street design standards in text

or maps or both with street intersection spacing to occur at intervals of no moreless than ~~eight street intersections per mile~~530 feet except where prevented by topography, barriers such as railroads or freeways, or environmental constraints such as major streams and rivers~~, prevent street extension~~. Street connections at intervals of no more than 330 feet are recommended in areas planned for the highest density mixed-use development.~~The number of street intersections should be greatest in the highest density 2040 Growth Concept design types~~. Local street designs for new developments shall satisfy the following additional criteria:

1. Performance Criterion: minimize local traffic on the regional motor vehicle system, by demonstrating that local vehicle trips on a given regional facility do not exceed the 1995 arithmetic median of regional trips for facilities of the same motor vehicle system classification by more than 25 percent.

2. Performance Criterion: everyday local travel needs are served by direct, connected local street systems where: (1) the shortest motor vehicle trip over public streets from a local origin to a collector or greater facility is no more than twice the straight-line distance; and (2) the shortest pedestrian trip on public right-of-way is no more than one and one-half the straight-line distance.

Section 4. Transportation Performance Standards

A process to identify transportation mode split targets, transportation needs and appropriate actions to address those targets and needs is included in this section. The intent is to provide guidance to cities, counties, ODOT, Tri-Met and the Port of Portland when developing a transportation system plan, defining a project, or evaluating the potential transportation impacts of a land use action.

A transportation need is identified when a particular transportation standard or threshold has been exceeded. Standards which may be used in identifying transportation needs include: safety, statewide mobility as identified in the Oregon Transportation Plan, mode splits, motor vehicle congestion analysis, freight mobility or demonstration that lack of access is limiting development of a priority regional land use. Needs are generally identified either through a comprehensive plan amendment review or as result of a system-planning analysis which evaluates forecast travel demand.

Subsequent to the identification of a need, an appropriate transportation strategy or solution is identified through a two-phased multi-modal planning and project development process. The first phase is multi-modal system-level planning. The purpose of system-level planning is to examine a number of transportation alternatives over a large geographic area such as a corridor or sub-area, or through a local or regional Transportation System Plan (TSP). The purpose of the multi-modal system-level planning step is to 1) consider alternative modes, corridors, and strategies to address identified needs; and 2) determine a recommended set of

transportation projects, actions, or strategies and the appropriate modes and corridors to address identified needs in the system-level study area.

The second phase is project-level planning (also referred to as project development). The purpose of project-level planning is to develop project design details and select a project alignment, as necessary, after evaluating engineering and design details and environmental impacts.

The following sub-sections (A-D): (1) require that cities and counties establish regional mode split targets for all 2040 design types that will be used to guide transportation system improvements; (2) establish optional performance standards and deficiency thresholds intended to identify transportation needs through multi-modal system-level planning and (3) establish the process to identify appropriate recommended solutions to address those needs identified through multi-modal system-level planning and project-level planning.

A. Alternative Mode Analysis

1. Person travel represents the largest share of trips for all modes of travel. Improvement in m~~M~~ode split will be used as the key regional measure for ~~transportation effectiveness~~ assessing transportation system improvements in the Central City, Regional Centers, Town Centers and Station Communities. For other 2040 Growth Concept design types, mode split will be used as an important factor in assessing transportation system improvements. Each jurisdiction shall establish an alternative mode split target (defined as non-Single Occupancy Vehicle person-trips as a percentage of all person-trips for all modes of transportation) for trips into, out of and within~~each of the central city, regional centers and station communities~~ all 2040 Growth Concept land use design types within its boundaries one year after adoption of the 1998 Regional Transportation Plan. The alternative mode split target shall be no less than the regional targets for these ~~Region~~ 2040 Growth Concept land use ~~components~~design types to be established in the 1998 Regional Transportation Plan.

2. Cities and counties ~~which have Central City, regional centers and station communities~~ shall identify actions which will implement the mode split targets one year after adoption of the 1998 Regional Transportation Plan. These actions should include consideration of the maximum parking ratios adopted as part of Title 2; Section 2: ~~Boulevard~~Regional Street Design considerations in~~of~~ this Title; and transit's role in serving the area.

B. Motor Vehicle Congestion Analysis~~ for Mixed Use Areas~~

1. Motor Vehicle Level-Of-Service (LOS) is a measurement of ~~the use of a road~~congestion as a share of designed motor vehicle capacity of a road. ~~The following table using~~ Table 3. Motor Vehicle Level Of Service Deficiency

Thresholds and Operating Standards may be incorporated into local comprehensive plans and implementing ordinances to replace current methods of determining motor vehicle congestion on regional facilities, if a city or county determines that this change is needed to permit Title 1, Table 1 capacities ~~in the Central City, Regional Centers, Town Centers, Main Streets and Station Communities~~for the 2040 design types and facilities as follows:

~~*General Congestion Performance Standards (using LOS*)*~~*Table 3. Motor Vehicle Level of Service Deficiency Thresholds and Operating Standards**

	~~Preferred~~	~~Acceptable~~	~~Exceeds~~
~~Mid-Day one-hour~~	~~C or better~~	~~D~~	~~E or worse~~
~~Peak two-hour~~	~~E/E or better~~	~~F/E~~	~~F/F or worse~~

Location	Mid-Day One-Hour Peak			A.M./P.M. Two-Hour Peak		
	Preferred Operating Standard	Acceptable Operating Standard	Exceeds Deficiency Threshold	Preferred Operating Standard	Acceptable Operating Standard	Exceeds Deficiency Threshold
Central City, Regional Centers, Town Centers, Main Streets and Station Communities	C	E	F	1st hour E 2nd hour E	1st hour F 2nd hour E	1st hour F 2nd hour F
Corridors, Industrial Areas and Intermodal Facilities, Employment Areas and Inner and Outer Neighborhoods	C	D	E	1st hour E 2nd hour D	1st hour E 2nd hour E	1st hour F 2nd hour E
Regional Highway Corridors	identify and evaluate on a case-by-case basis** to balance regional and local mobility and accessibility objectives			identify and evaluate on a case-by-case basis** to balance regional and local mobility and accessibility objectives		

*Level-of-Service is determined by using either the latest edition of the Highway Capacity Manual (Transportation Research Board) or through volume to capacity ratio equivalencies as follows: LOS C = .8 or better; LOS D = .8 to .9; LOS E = .9 to 1.0; and LOS F = ~~greater than~~ 1.0 to 1.1. A copy of the Level of Service Tables from the Highway Capacity Manual is attached as Exhibit A. Regional Highway Corridors are identified in the map attached as Figure 2.7.

** See Section 4.B.3.

2. **Analysis.** A transportation need is identified in a given location when analysis indicates that congestion has reached the level indicated in the "exceeds deficiency threshold" column of Table 3 and that this level of congestion will negatively impact accessibility, as determined through Section 4.B.4, below. The analysis should consider a mid-day hour appropriate for the study area and the appropriate two-hour peak-hour condition, either A.M. or P.M. or both to address the problem. Other non-peak hours of the day, such as mid-day on Saturday, should also be considered to determine whether congestion is consistent with the acceptable or preferred operating standards identified in Table 3. The lead agency or jurisdictions will be responsible for determining the appropriate peak and non-peak analysis periods. The lead agency or jurisdictions will be responsible for determining the appropriate peak analysis period.

An appropriate solution to the need is determined through multi-modal system-level planning considerations listed in Section 4.C., below. For regional transportation planning purposes, the recommended solution should be consistent with the acceptable or preferred operating standards identified in Table 3. A city or county may choose a higher level-of service operating standard where findings of consistency with Section 4.C. have been developed.

3. **Regional Highways.** Exhibit B identifies the Regional Highways specified in Table 3. Each corridor will be evaluated on a case-by-case basis through system-level refinement studies. The studies will identify the performance and operating expectations for each corridor based on their unique operating and geographic characteristics. Appropriate multi-modal solutions to needs identified through these studies will be forwarded for inclusion in the Regional Transportation Plan.

~~4~~2. **Accessibility.** If a ~~congestion standard~~deficiency threshold is exceeded on the regional transportation system as identified in Table ~~3~~4.B.~~1~~, cities and counties shall evaluate the impact of the congestion on regional accessibility using the best available ~~methods (~~quantitative or qualitative~~)~~ methods. If a determination is made by Metro that exceeding the ~~congestion~~deficiency threshold negatively impacts regional accessibility, cities and counties~~local jurisdictions~~ shall follow the ~~congestion management~~transportation systems analysis and transportation project analysis procedures identified in 4.C. and 4.D. below.

53. **Consistency.** The identified function or the identified capacity of a road may be significantly affected by planning for ~~Central City, Regional Centers, Town Centers, Main Streets and Station Communities~~ 2040 Growth Concept design types. Cities and counties shall take actions described in Section 4.C. and 4.D. below, including amendment of their transportation plans and implementing ordinances, if necessary ~~to either change or take actions as described in Section 4.C., below~~, to preserve the identified function and identified capacity of the road, ~~if necessary,~~and to retain consistency between allowed land uses and planning for transportation facilities.

~~C. Congestion Management~~ **[Note: Deleted text is incorporated in new 4.C. and 4.D., below]**

~~For a city or county to amend their comprehensive plan to add a significant capacity expansion to a regional facility, the following actions shall be applied, unless the capacity expansion is included in the Regional Transportation Plan:~~

~~1. To address Level of Service, the following shall be implemented:~~

~~a. Transportation system management techniques~~
~~b. Corridor or site level transportation demand management techniques~~
~~c. Additional motor vehicle capacity to parallel facilities, including the consideration of a grid pattern consistent with connectivity standards contained in Title 6 of this plan~~
~~d. Transit service improvements to increase ridership~~

~~2. To address preservation of motor vehicle function:~~

~~a. Implement traffic calming~~
~~b. Change the motor vehicle function classification~~

~~3. To address or preserve existing street capacity, implement transportation management strategies (e.g. access management, signal interties, lane channelization)~~

C. Transportation Systems Analysis

This section applies to city and county comprehensive plan amendments or to any studies that would recommend or require an amendment to the Regional Transportation Plan to add significant single occupancy vehicle (SOV) capacity to multi-modal arterials and/or highways.

Consistent with Federal Congestion Management System requirements (23 CFR Part 500) and TPR system planning requirements (660-12), the following actions shall be considered through the Regional Transportation Plan when recommendations are made to revise the Regional Transportation Plan and/or local transportation system plans to define the need, mode, corridor and function

to address an identified transportation need consistent with Table 3, above, and recommendations are made to add significant SOV capacity:

1) regional transportation demand strategies
2) regional transportation system management strategies, including intelligent Transportation Systems (ITS)
3) High Occupancy Vehicle (HOV) strategies
4) regional transit, bicycle and pedestrian system improvements to improve mode split
5) unintended land use and transportation effects resulting from a proposed SOV project or projects
6) effects of latent demand from other modes, routes or time of day from a proposed SOV project or projects
7) If upon a demonstration that the above considerations do not adequately and cost-effectively address the problem, a significant capacity improvement may be included in the Regional Transportation Plan.

Consistent with Federal Congestion Management System requirements (23 CFR Part 500) and TPR system planning requirements (660-12), the following actions shall be considered when local transportation system plans (TSPs), multi-modal corridor and sub-area studies, mode specific plans or special studies (including land use actions) are developed:

1) transportation demand strategies that further refine or implement a regional strategy identified in the RTP
2) transportation system management strategies, including intelligent Transportation Systems (ITS), that refine or implement a regional strategy identified in the RTP
3) sub-area or local transit, bicycle and pedestrian system improvements to improve mode split
4) the effect of a comprehensive plan change on mode split targets and actions to ensure the overall mode split target for the local TSP is being achieved
5) improvements to parallel arterials, collectors, or local streets, consistent with connectivity standards contained in Section 2 of this Title, as appropriate, to address the transportation need and to keep through trips on arterial streets and provide local trips with alternative routes
6) traffic calming techniques or changes to the motor vehicle functional classification, to maintain appropriate motor vehicle functional classification
7) If upon a demonstration that the above considerations do not adequately and cost-effectively address the problem, a significant capacity improvement may be included in the comprehensive plan.

~~If~~Upon a demonstration that the above considerations do not adequately and cost-effectively address the problem and where accessibility is significantly hindered, ~~capacity improvements may be included in the comprehensive plan~~ Metro and the affected city or county shall consider:

(1) amendments to the boundaries of a 2040 Growth Concept design type;
(2) amendments or exceptions to land use functional plan requirements; and/or
(3) amendments to the 2040 Growth Concept.

Demonstration of compliance will be included in the required congestion management system compliance report submitted to Metro by cities and counties as part of system-level planning and through findings consistent with the TPR in the case of amendments to applicable plans.

~~D. Motor Vehicle Congestion Analysis Outside of Mixed Use Areas~~

~~Outside of Central City, Regional Centers, Town Centers, Main Streets and Station Communities, and where cities and counties have not elected to use the General Congestion Performance Standards in subsection 4.B of this Title:~~

~~1. The identified function or the identified capacity of a road may be significantly affected by implementation of this functional plan. Cities and counties shall amend their transportation plans and implementing ordinances to change or take actions as described in Section 4.C., below, to preserve the identified function and identified capacity of the facility, if necessary, to retain consistency between allowed land uses and planning for transportation facilities.~~

~~2. The congestion performance standard for designated state highways as identified in the 1990 Oregon Highway Plan shall be the peak and off peak performance criteria in Appendix F of the 1992 Oregon Transportation Plan.~~

~~3. The congestion performance standard for arterials of regional significance identified at Figure 4-2 of Chapter 4 of the 1992 Regional Transportation Plan should be the peak and off peak performance criteria in Chapter 1, Section D of the 1992 Regional Transportation Plan.~~

~~4. Congestion level of service standards are not required for all other roads.~~

~~5. If the congestion performance for a road is exceeded or the identified function or identified capacity is inconsistent with land uses, cities and counties shall apply the congestion management actions identified in 4.C.1-3, above. If these actions do not adequately and cost effectively address the problem, capacity improvements may be included in the comprehensive plan."~~

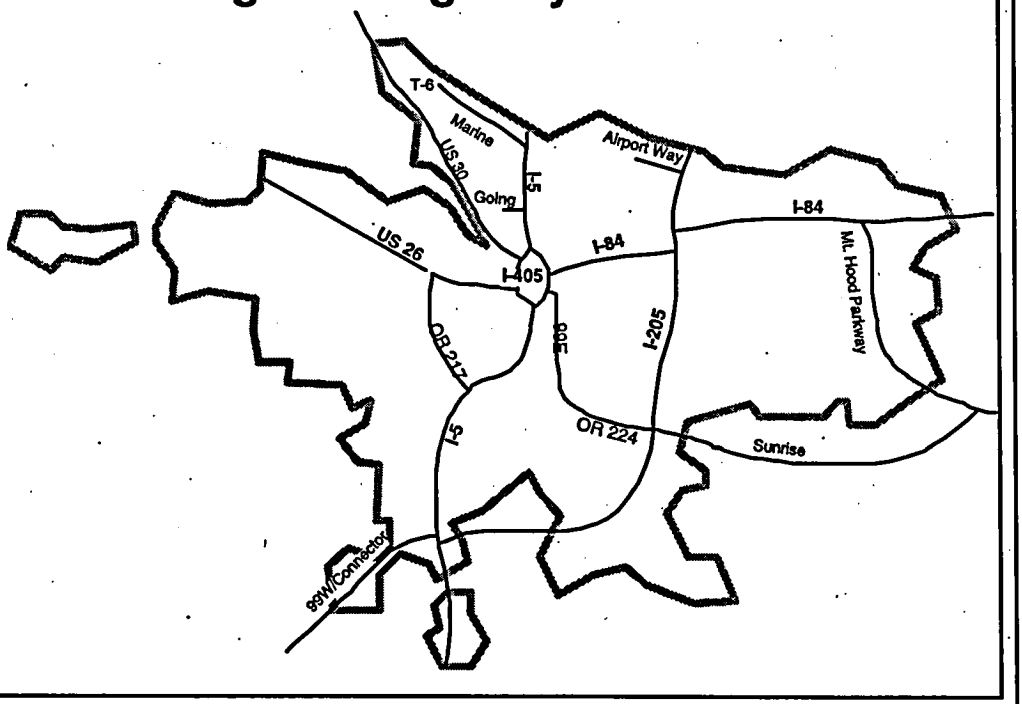
D. Transportation Project Analysis

The TPR and Metro's Interim Congestion Management System (CMS) document require that measures to improve operational efficiency be addressed at the project level. Section 2 of this Title requires that street design guidelines be considered as part of the project-level planning process. Therefore, cities, counties, Tri-Met, ODOT, and the Port of Portland shall address the following operational and design considerations during transportation project analysis:

1. Transportation system management (e.g., access management, signal inter-ties, lane channelization, etc.) to address or preserve existing street capacity.
2. Guidelines contained in "Creating Livable Streets: Street Design Guidelines for 2040" (1997) and other similar resources to address regional street design policies.

The project need, mode, corridor, and function do not need to be addressed at the project level. This section (4.D) does not apply to locally funded projects on facilities not designated on the Regional Motor Vehicle System Map or the Regional Street Design Map. Demonstration of compliance will be included in the required Congestion Management System project-level compliance report submitted to Metro as part of project-level planning and development."

Figure 2.7
Regional Highway Corridors



9-12-97

Definitions to Be Amended
to Title 10 of the Urban Growth Management Functional Plan

Accessway. Right-of-way or easement designed for public access by bicycles and pedestrians, and may include emergency vehicle passage.

Full Street Connection. Right-of-way designed for public access by motor vehicles, pedestrians and bicycles.

Improved pedestrian crossing. An improved pedestrian crossing is marked and may include signage, signalization, curb extensions and a pedestrian refuge such as a landscaped median.

Local trips. Local vehicle trips are trips that are five miles or shorter in length.

Mixed-Use Development. Mixed-use development includes areas of a mix of at least two of the following land uses and includes multiple tenants or ownerships: residential, retail and office. This definition excludes large, single-use land uses such as colleges, hospitals, and business campuses. Minor incidental land uses that are accessory to the primary land use should not result in a development being designated as "mixed-use development." The size and definition of minor incidental, accessory land uses allowed within large, single-use developments should be determined by cities and counties through their comprehensive plans and implementing ordinances.

Regional vehicle trips. Regional vehicle trips are trips that are greater than five miles in length.

Significant Increase in Single Occupancy Vehicle (SOV) Capacity for Multi-modal Arterials. An increase in SOV capacity created by the construction of additional general purpose lanes totaling ½ lane miles or more in length. General purpose lanes are defined as through travel lanes or multiple turn lanes. This also includes the construction of a new general purpose highway facility on a new location. Lane tapers are not included as part of the general purpose lane. Significant increases in SOV capacity should be assessed for individual facilities rather than for the planning area.

Significant Increase in Single Occupancy Vehicle (SOV) Capacity for Regional Through-Route Freeways. Any increase in SOV capacity created by the construction of additional general purpose lanes other than that resulting from a safety project or a project solely intended to eliminate a bottleneck. An increase in SOV capacity associated with the elimination of a bottleneck is considered significant only if such an increase provides a highway section SOV capacity greater than ten percent over that provided immediately upstream of the bottleneck. An increase in SOV capacity associated with a safety project is considered significant only if the safety deficiency is totally related to traffic congestion. Construction of a new general purpose highway facility on a new location also constitutes a significant increase in SOV capacity. Significant increase in SOV capacity should be assessed for individual facilities rather than for the planning area.

Level-of-Service (LOS) Definitions for Freeways, Arterials and Signalized Intersections

LOS	Freeways (average travel speed assuming 70 mph design speed)	Arterials (average travel speed assuming a typical free flow speed of 40 mph)	Signalized Intersections (stopped delay per vehicle)	Traffic Flow Characteristics
A	Greater than 60 mph Average spacing: 22 car-lengths	Greater than 35 mph	Less than 5 seconds; most vehicles do not stop at all	Virtually free flow; completely unimpeded Volume/capacity ratio less than or equal to .60
B	57 to 60 mph Average spacing: 13 car-lengths	28 to 35 mph	5.1 to 15 seconds; more vehicles stop than for LOS A	Stable flow with slight delays; reasonably unimpeded Volume/capacity ratio .61 to .70
C	54 to 57 mph Average spacing: 9 car-lengths	22 to 28 mph	15.1 to 25 seconds; individual cycle failures may begin to appear	Stable flow with delays; less freedom to maneuver Volume/capacity ratio of .71 to .80
D	46 to 54 mph Average spacing: 6 car-lengths	17 to 22 mph	25.1 to 40 seconds; individual cycle failures are noticeable	High density, but stable flow Volume/capacity ratio of .81 to .90
E	30 to 46 mph Average spacing: 4 car-lengths	13 to 17 mph	40.1 to 60 seconds; individual cycle failures are frequent; poor progression	Operating conditions at or near capacity; unstable flow Volume/capacity ratio of .91 to 1.00
F	Less than 30 mph Average spacing: bumper-to-bumper	Less than 13 mph	Greater than 60 seconds; not acceptable for most drivers	Forced flow, breakdown conditions Volume/capacity ratio of greater than 1.00
>F	Demand exceeds roadway capacity, limiting volume that can be carried and forcing excess demand onto parallel routes and extending the peak period			Demand/capacity ratios of greater than 1.10

Source: 1985 Highway Capacity Manual (A through F descriptions)
Metro (>F description)

TRANSPORTATION COMMITTEE REPORT

CONSIDERATION OF ORDINANCE NO. 98-721; FOR THE PURPOSE OF AMENDING ORDINANCE NO. 96-647C AND 97-715B TO REVISE TITLE 6 RECOMMENDATIONS AND REQUIREMENTS FOR REGIONAL ACCESSIBILITY.

Date: January 21, 1998 Presented by: Councilor McLain

Committee Action: At its January 20, 1998 meeting, the Transportation Committee unanimously recommended Council adoption of Ordinance 98-721A. Voting in favor: Councilors Kvistad, McLain and Washington.

Council Issues/Discussion: Andy Cotugno, Transportation Department Director, made the staff presentation, with assistance from Kim White, department staff. This ordinance makes changes to Titles 6 (Regional Accessibility) and 10 (Definitions) of the Urban Growth Management Functional Plan adopted by the Metro Council in November of 1996. These changes are necessary to parallel policies adopted in the Regional Framework Plan, Chapter 2 (Transportation) adopted by the Council in December of 1997. The changes are being recommended by JPACT and MPAC, as work continues to the ultimate completion of the Regional Transportation Plan (RTP) in the spring of 1998. The changes are detailed in the attached staff report dated December 19, 1997.

Mr. Cotugno asked the committee to consider an additional change to Title 10 of the functional plan. This change would further clarify the definition of "mixed use", adding business campuses to a short list of large, single-use land uses to be excluded from the definition. The committee unanimously agreed to this amendment.

During the public hearing section of the meeting, Rex Burkholder, speaking for the Bicycle Transportation Alliance, requested changing language in the street design guidelines on page 4 of Title 6, lines 133 and 163. His change would list striped bikeways as the preferred way to accommodate bicycles with regard to street and boulevard designs, and would not include shared outside lanes as a preferred means. Mr. Cotugno did not support this change, preferring to retain flexibility based on a case-by-case approach.

Councilor McLain moved to amend the main motion to include this amendment, as a matter of child safety. The motion failed 1-2.

The ordinance will also receive consideration at the Growth Management Committee prior to Council consideration.

Amended GROWTH MANAGEMENT COMMITTEE REPORT

Ordinance No. 98-721A, to revise the recommendations and requirements for regional accessibility of Title 6 (Transportation), of the Urban Growth Management Functional Plan.

Action Taken: Recommended for Council approval, by a vote of 2-1, with Councilor Morissette voting against, and Councilors Naito and McCaig voting in favor.

Existing Law: Title 6 of the Urban Growth Management Functional Plan contains implementing recommendations and requirements for transportation planning for cities and counties. The Regional Framework Plan adopts policies relating to transportation planning and accessibility in the region.

Issue Presented: This ordinance brings the Urban Growth Management Functional Plan in line with the policies provided in the Regional Framework Plan and clearly identifies the role that cities and counties will play in implementing the Regional Framework Plan.

Committee Discusssion: Councilor Morissette said that he did not support the transportation section of the Urban Growth Management Functional Plan as adopted by Council because it relies too heavily on alternative modes of transportation. It is his concern that this reliance will inevitably result in higher congestion because the majority of the public prefers automobiles and will not participate in the alternative modes of transportation to the degree anticipated by the Functional Plan. His preference is to create housing near jobs, specifically in Washington County. Councilor Morissette thanked Mr. Cotugno for adding his chart to the functional plan language and requested that the explanation regarding the levels of congestion be placed with the chart rather than in the appendix.

In addition, Councilor McLain mentioned that the Bicycle Transportation Alliance had requested changing the language in the street design guidelines to list striped bikeways as the preferred way to accommodate bicycles for street and boulevard designs. She continues to support this amendment because the language is flexible enough to allow for placement of shared outside lanes where necessary but would establish striped bikeways as the preferred design.

Meg Bushman
02/11/98

GROWTH MANAGEMENT COMMITTEE REPORT

Ordinance No. 98-721A, to revise the recommendations and requirements for regional accessibility of Title 6 (Transportation), of the Urban Growth Management Functional Plan.

Action Taken: Recommended for Council approval, by a vote of 3-0.

Existing Law: Title 6 of the Urban Growth Management Functional Plan contains implementing recommendations and requirements for transportation planning for cities and counties. The Regional Framework Plan adopts policies relating to transportation planning and accessibility in the region.

Issue Presented: This ordinance brings the Urban Growth Management Functional Plan in line with the policies provided in the Regional Framework Plan and clearly identifies the role that cities and counties will play in implementing the Regional Framework Plan.

Budget Impact: None.

Committee Discusssion: The Committee raised no concerns.

Meg Bushman
02/04/98

STAFF REPORT

CONSIDERATION OF ORDINANCE NO. 98-721, FOR THE PURPOSE OF AMENDING ORDINANCE NO. 96-647C and 97-715B TO REVISE TITLE 6 RECOMMENDATIONS AND REQUIREMENTS FOR REGIONAL ACCESSIBILITY

Date: December 19, 1997 Presented by: Andrew Cotugno

Proposed Action: Ordinance No. 98-721 amends Title 6 of the Urban Growth Management Functional Plan to implement policies adopted in Chapter 2 (Transportation) of the Regional Framework Plan. This ordinance would be effective immediately upon cities and counties.

Factual Background and Analysis: The Regional Framework Plan was adopted by Ordinance No. 97-715B by the Metro Council on December 11, 1997. Chapter 2 (Transportation) of the Regional Framework Plan reflects transportation policies that will be implemented through the 1998 Regional Transportation Plan (a Metro functional plan) once the current Regional Transportation Plan update is complete. In the interim, the Joint Policy Advisory Committee on Transportation (JPACT) and the Metro Policy Advisory Committee (MPAC) recommend amending Title 6 of the Urban Growth Management Functional Plan to clearly identify the role that cities and counties will play in implementing transportation policies reflected in Chapter 2 (Transportation) of the Regional Framework Plan.

In September 1997, as part of the Regional Framework Plan process, staff identified possible amendments to Title 6 to implement transportation policies included in Chapter 2 (Transportation) of the Regional Framework Plan. Attachment A to this staff report presents a summary of issues and public agency comments identified to date related to those proposed amendments. For each comment, included is a discussion of the issue and a JPACT recommendation. The comments have been organized into "Discussion Items" and "Consent Items." The "Discussion Items" reflect issues that JPACT discussed prior to approval. The "Consent Items" reflect issues approved by JPACT by general consent. The "Consent Items" have been divided into four sections:

- Section 2., Regional Street Design Guidelines
- Section 3., Design Standards for Street Connectivity
- Section 4.A., Alternative Mode Analysis
- Section 4.B., Motor Vehicle Congestion Analysis

Exhibit A to Ordinance No. 98-721 reflects amendments to Title 6 as approved by JPACT and MPAC in Attachment A to this staff report. The document is presented in engrossed format (strike and underline). Specifically, proposed amendments in Exhibit A include:

1) Revision of Section 2 , starting at line 53, to add other street design guidelines
   - requires consideration of regional street design elements when planning for improvements to facilities designated on the Regional Street Design Map (not just within centers)

2) Revision of Section 3, lines 226 and 245 to change street intersection spacing requirement (from 8-20 to 10-16 street intersections per mile)
   - requires street intersection spacing at intervals of no more than 530 feet

3) Revision to Section 4.A., lines 303-322, related to alternative mode split targets
   - requires cities and counties to establish alternative mode split targets for each 2040 Design Type within its boundaries (not just within the mixed-use centers) and identify actions to implement those targets. Regional targets for each 2040 design type will be established in the 1998 RTP. Cities and counties will have one year after adoption of the 1998 RTP to establish their targets.
   - provides for achievement of these targets to be the key measure in assessing transportation system improvements in mixed-use centers and corridors and a key measure elsewhere in the region

4) Revision of Section 4.B. to include new Level-of-Service (LOS) Deficiency Threshold table (line 335) for all 2040 Design Types and regional facilities designated as "Regional Highway Corridors" (not just within centers).
   - use of the table is optional

Except where specifically exempted, these amendments must be addressed by all cities and counties within the Metro boundary consistent with Title 8, Compliance Procedures, of the Urban Growth Management Functional Plan.

BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF AMENDING ORDINANCE NO. 96-647C AND 97-715B TO REVISE TITLE 6 RECOMMENDATIONS AND REQUIREMENTS FOR REGIONAL ACCESSIBILITY	))))))	ORDINANCE NO 98-721 Introduced by the Council Transportation Committee

WHEREAS, the Metro Council adopted the Urban Growth Management Functional Plan in Ordinance No. 96-647C on November 21, 1996, which included Title 6 on Regional Accessibility; and

WHEREAS, the Metro Council adopted the Regional Framework Plan in Ordinance No. 97-715B on December 11, 1997, which included Chapter 2 on regional transportation that includes policies on street design, street connectivity, non-single occupancy vehicle mode split targets, and motor vehicle level-of-service; and

WHEREAS, consideration of Chapter 2 of the Regional Framework Plan included development and adoption of the Regional Street Design Map, identification of acceptable levels of congestion in and outside mixed use areas, amended street connectivity standards, development and adoption of regional non-single occupancy vehicle mode split targets; and

WHEREAS, The Joint Policy Advisory Committee on Transportation (JPACT) and Metro Policy Advisory Committee (MPAC) have recommended consideration of the Regional Street Design Map classifications, amended local street connectivity standards, amended non-single occupancy vehicle mode split targets, amended motor vehicle congestion standards and amended definitions to assist cities and counties in preparation of transportation plans prior to adoption of the 1998 Regional Transportation Plan; and

WHEREAS, functional plans must remain consistent with Regional Framework Plan policies and be included in the implementation portion of that Plan; and

WHEREAS, the Regional Framework Plan has been transmitted to the Land Conservation and Development Commission for initial compliance acknowledgment consistent with Metro Charter Section 5(2)(c)(3) and ORS 197.274; now, therefore,

THE METRO COUNCIL ORDAINS AS FOLLOWS:

Section 1: The Amendments to Title 6 of the Urban Growth Management Functional Plan attached and incorporated into this Ordinance as Exhibit "A" are hereby adopted as the amended Title 6 and amendments to Title 10 in both Ordinance No. 96-647C and Appendix A of Ordinance No. 97-715B with no change in the effective dates of functional plan requirements.

Section 2: The Amendments to Title 6 and 10 attached in Exhibit "A" shall be transmitted to the Land Conservation and Development Commission to be included in Appendix A of Ordinance No. 97-715B for consideration of acknowledgment of compliance with statewide goals consistent with ORS 197.274(1).

ADOPTED by the Metro Council this _____ day of _____

_____
Presiding Officer

ATTEST:

_____
Recording Secretary

Approved as to Form:

_____
Daniel B. Cooper, General Counsel

I:\DOCS#07.P&D\04-2040I.MPL\03UGMFNC.PLN\AMTIT6.D22

DISCUSSION ITEMS

1) Modify Section 2 to either have a stronger requirement to follow regional street design guidelines when planning for improvements to regional facilities or to link consideration of regional street design guidelines to regional funding approval through Transportation Improvement Program (TIP) criteria. Transportation funding should be given to those jurisdictions who are actively and aggressively implementing the 2040 Growth Concept. (Charlie Hales, City of Portland)

   JPACT Recommendation: JPACT recommends using financial incentives through TIP criteria to leverage consideration of regional street design guidelines rather than implementing them as requirements. Further consideration should be given to what detailed funding criteria should be used to developed the TIP and financially constrained RTP. Therefore, no change to Section 2 is recommended, related to this comment.

2) Modify Section 2 to require regional street design elements when planning for improvements to facilities designated on the Regional Street Design Map. Therefore:
   - amend lines 56-58 to read, "All cities and counties within the Metro region shall ~~consider~~ provide the following regional street design elements when planning for improvements to these facilities, including those facilities built by ODOT, ~~or~~ Tri-Met or the Port of Portland."
   - amend lines 71-73 to read, "Cities and counties shall amend their comprehensive plan and implementing ordinances, if necessary, to require ~~consideration of~~ ..."
   - amend lines 101-102 to read, "Cities and counties shall amend their comprehensive plan and implementing ordinances, if necessary, to require ~~consideration of~~ ..."
   - amend lines 127-128 to read, "Cities and counties shall amend their comprehensive plan and implementing ordinances, if necessary, to require ~~consideration of~~ ..."
   - amend lines 170-172 to read, "Cities and counties shall amend their comprehensive plan and implementing ordinances, if necessary, to require ~~consideration of~~ ..."

   (Rex Burkholder, Bicycle Transportation Alliance)

   JPACT Recommendation: Disagree. See previous comment.

3) Amend the first sentence, lines 249-251 to clarify that mode split will be the key regional measure for personal travel in region, separate from measuring regional freight and safety objectives. (Council Transportation Planning Committee, 10/21/97)

   JPACT Recommendation: Agree. JPACT recommends amending lines 249-251 to read:

"1. Person travel represents the largest share of trips for all modes of transportation. Improvement in ~~M~~mode split will be used as the key regional measure ~~for~~ in assessing transportation system improvements ~~effectiveness~~ in the Central City, Regional Centers, Town Centers and Station Communities. For other 2040 Growth Concept design types, mode split will be used as an important factor in assessing transportation system improvements."

JPACT considered a more general approach whereby mode split would be used as "a" key regional measure for assessing transportation system improvements in all 2040 Growth Concept design types. However, JPACT felt this approach did not adequately distinguish between the higher density, mixed-use centers and all other areas in the region.

The above recommendation was approved by JPACT (9 - 4). This change maintains the original intent of this section as defined by MPAC to emphasize mode split to the high-density, mixed-use areas, while also maintaining the new requirement for mode split targets for all areas of the region. In addition, this change reflects an emphasis on the areas where achieving mode split targets is most important, the highest density, mixed-use centers, but not to the exclusion of other factors ,such as freight and safety, or needed improvements, such as roads.

In addition, JPACT recommends amending line 269 of Attachment "A" to this memo to read:

"A transportation need is identified when a particular transportation standard or threshold has been exceeded. Standards which may be used in identifying transportation needs include: safety, statewide mobility as identified in the Oregon Transportation Plan, mode split targets, motor vehicle congestion analysis, freight mobility or demonstration that lack of access is limiting development of a priority regional land use. Needs are generally identified through a comprehensive plan amendment review or as a result of a system-planning analysis which evaluates forecast travel demand."

This section describes how level-of-service standards are used to define a system deficiency or need and what system analysis could be used to define how to develop solutions to address that need. This change would clarify that there are a number of measures that can be used to identify and define transportation needs, not just level-of-service and including whether mode split targets are being achieved.

4) Amend the first sentence, line 249, to read "1. Mode split will be used as ~~the~~ a key regional measure for transportation effectiveness in all 2040 Growth Concept land use design types. (Ted Spence, JPACT)

JPACT Recommendation: Disagree. See previous recommendation.

5) "Design Standards for Street Connectivity" should not apply to industrial areas. (Dave Lohman, Port of Portland)

JPACT Recommendation: Agree. As written, lines 193-246 apply only to new residential and mixed-use development.

6) Clarify lines 193-246 to ensure that the connectivity standards also apply to commercial and employment areas. (Charlie Hales, City of Portland)

JPACT Recommendation: The current text provides, "For new residential and mixed-use development, all contiguous areas of vacant and primarily undeveloped land of five acres or more shall be identified by cities and counties and the following will be prepared, consistent with regional street design policies: A map that identifies possible local street connections to adjacent developing areas..." and "New residential and mixed-use developments shall include local street plans..."

JPACT recommends amending the "Definitions" section of the Urban Growth Management Functional Plan to include the following definition:

Mixed-Use Development. Mixed-use development includes areas of a mix of at least two of the following land uses and includes multiple tenants or ownerships: residential, retail, office. This definition excludes large, single-use land uses such as colleges and hospitals. Minor incidental land uses that are accessory to the primary land use should not result in a development being designated as "mixed-use development." The size and definition of minor, incidental accessory land uses allowed within large, single-use developments should be determined by cities and counties through their comprehensive plans and implementing ordinances.

7) Clarify applicability of the connectivity requirements to redevelopment, as currently written in Title 6. (JPACT)

JPACT Recommendation: The local street connectivity requirements apply only to "new residential and mixed-use development," as currently written in Title 6. The current text provides,

> "1. For new residential and mixed-use development, all contiguous areas of vacant and primarily undeveloped land of five acres or more shall be identified by cities and counties and the following will be prepared, consistent with regional street design policies: A map that identifies possible local street connections to adjacent developing areas...
> 2. New residential and mixed-use developments shall include local street plans..."

JPACT recommends not changing the language, and, therefore, the applicability of these requirements to redevelopment would be determined by cities and counties through their comprehensive plans and implementing ordinances. However, JPACT recommends adding the following language to clarify this issue:

"3. For redevelopment of existing land uses, cities and counties shall develop local approaches for dealing with connectivity."

Comments Related to Title 6, Sections 4.A., Alternative Mode Analysis and 4.B., Motor Vehicle Congestion Analysis

9) Amend Section 4 to include an introduction that reflects the intent of the section. (Joint TPAC/MTAC work session, 10/10/97)

10) Add clarifying text to explain what is meant by "identify and evaluate on a case-by-case basis" as referred to in the Motor Vehicle Level of Service Deficiency Threshold Table on line 276. (Brent Curtis, Washington County)

11) Clarify distinction between system level planning and project level planning in terms of what actions a local jurisdiction must consider. (Joint TPAC/MTAC work session, 10/10/97 and TPAC, 10/31/97)

12) Clarify references to the 1995 and 1998 Regional Transportation Plans (lines 349-350) so that it does not imply "grandfathering" of the 1995 Federal RTP projects. (Steve Dotterrer, City of Portland)

13) The following modifying statement should be added in reference to the Motor Vehicle Level of Service Deficiency Threshold table on line 276: "Jurisdictions may adopt higher levels of service in transportation system plans for local traffic mitigation and the application of traffic impact fees." (Richard Ross, City of Gresham)

14) Allow cities and counties the option of choosing either the A.M. or P.M. peak condition for analysis purposes when using Table 3. Current information and models may not be adequate to analyze A.M. conditions in some areas of the region. (City of Portland, 10/30/97)

15) The project need, mode, corridor, and function should not have to be revisited as part of Section 4.D. (Washington County, 10/28/97)

JPACT Recommendation: JPACT recommends the following amendments to Section 4 to address comments 9-15.

> A process to identify transportation mode split targets, transportation needs and appropriate actions to address those targets and needs is included in this section. The intent is to provide guidance to cities, counties, ODOT, Tri-Met and the Port of Portland when developing a transportation system plan, defining a project, or evaluating the potential transportation impacts of a land use action.
>
> A transportation need is identified when a particular transportation standard or threshold has been exceeded. Needs are generally identified either through a comprehensive plan amendment review or as result of a system-planning analysis which evaluates forecast travel demand.

Subsequent to the identification of a need, an appropriate transportation strategy or solution is identified through a two-phased multi-modal planning and project development process. The first phase is multi-modal system-level planning. The purpose of system-level planning is to examine a number of transportation alternatives over a large geographic area such as a corridor or sub-area, or through a local or regional Transportation System Plan (TSP). The purpose of the multi-modal system-level planning step is to 1) consider alternative modes, corridors, and strategies to address identified needs; and 2) determine a recommended set of transportation projects, actions, or strategies and the appropriate modes and corridors to address identified needs in the system-level study area.

The second phase is project-level planning (also referred to as project development). The purpose of project-level planning is to develop project design details and select a project alignment, as necessary, after evaluating engineering and design details and environmental impacts.

The following sub-sections (A-D): (1) require that cities and counties establish regional mode split targets for all 2040 design types that will be used to guide transportation system improvements; (2) establish optional performance standards and deficiency thresholds intended to identify transportation needs through multi-modal system-level planning and (3) establish the process to identify appropriate recommended solutions to address those needs identified through multi-modal system-level planning and project-level planning.

2) Amend lines 274-276 to read,

~~*General Congestion Performance Standards (using LOS*)*~~ *Table 3.* ~~*General Congestion Performance Standards (using LOS*)*~~*Motor Vehicle Level of Service Deficiency Thresholds and Operating Standards**

	~~Preferred~~	~~Acceptable~~	~~Exceeds~~
~~Mid-Day one~~	~~C or better~~	~~DD~~	~~E or worse~~
~~Peak two-hour~~	~~E/E or better~~	~~F/EF/E~~	~~F/F or worse~~

Location	Mid-Day One-Hour Peak			A.M./P.M. Two-Hour Peak		
	Preferred Operating Standard	Acceptable Operating Standard	Exceeds Deficiency Threshold	Preferred Operating Standard	Acceptable Operating Standard	Exceeds Deficiency Threshold
Central City, Regional Centers, Town Centers, Main Streets and Station Communities	C	E	F	1st hour E 2nd hour E	1st hour F 2nd hour E	1st hour F 2nd hour F
Corridors, Industrial Areas and Intermodal Facilities, Employment Areas and Inner and Outer Neighborhoods	C	D	E	1st hour E 2nd hour D	1st hour E 2nd hour E	1st hour F 2nd hour E
Regional Highway Corridors	identify and evaluate on a case-by-case basis** to balance regional and local mobility and accessibility objectives			identify and evaluate on a case-by-case basis** to balance regional and local mobility and accessibility objectives		

*Level-of-Service is determined by using either the latest edition of the Highway Capacity Manual (Transportation Research Board) or through volume to capacity ratio equivalencies as follows: LOS C = .8 or better; LOS D = .8 to .9; LOS E = .9 to 1.0; and LOS F = ~~greater than~~ 1.0 to 1.1. A copy of the Level of Service Tables from the Highway Capacity Manual is attached as Exhibit A. Regional Highway Corridors are identified in the map attached as Figure 2.7.

**See Section 4.B.3.

3) Amend lines 284-299 to further clarify the intended use of Table 3, as follows:

2. **Analysis.** A transportation need is identified in a given location when analysis indicates that congestion has reached the level indicated in the "exceeds deficiency threshold" column of Table 3 and that this level of congestion will negatively impact accessibility, as determined through Section 4.B.4, below. The analysis should consider a mid-day hour appropriate for the study area and the appropriate two-hour peak-hour condition, either A.M. or P.M. or both to address the problem. Other non-peak hours of the day, such as mid-day on Saturday, should also be considered to determine whether congestion is consistent with the acceptable or preferred operating standards identified in

Table 3. The lead agency or jurisdictions will be responsible for determining the appropriate peak and non-peak analysis periods.

An appropriate solution to the need is determined through multi-modal system-level planning considerations listed in Section 4.C., below. For regional transportation planning purposes, the recommended solution should be consistent with the acceptable or preferred operating standards identified in Table 3. A city or county may choose a higher level-of service operating standard where findings of consistency with Section 4.C. have been developed.

3. **Regional Highways.** Exhibit B identifies the Regional Highways specified in Table 3. Each corridor will be evaluated on a case-by-case basis through system-level refinement studies. The studies will identify the performance and operating expectations for each corridor based on their unique operating and geographic characteristics. Appropriate multi-modal solutions to needs identified through these studies will be forwarded for inclusion in the Regional Transportation Plan.

4.~~2.~~ **Accessibility.** If a ~~congestion standard~~deficiency threshold is exceeded as identified in ~~4.B.1.~~Table 3, cities and counties shall evaluate the impact of the congestion on regional accessibility using the best available ~~(~~quantitative or qualitative~~)~~ methods. If a determination is made by Metro that exceeding the ~~congestion~~ deficiency threshold negatively impacts regional accessibility, ~~local jurisdictions~~ cities and counties shall follow the ~~congestion management~~ transportation systems analysis and transportation project analysis procedures identified in 4.C. and 4.D. below.

5.~~3.~~**Consistency.** The identified function or the identified capacity of a road may be significantly affected by planning for ~~Central City, Regional Centers, Town Centers, Main Streets and Station Communities~~ 2040 Growth Concept design types. Cities and counties shall take actions described in Section 4.C. and 4.D. below, including amendment of their transportation plans and implementing ordinances, if necessary ~~to either change or take actions as described in Section 4.C., below,~~ to preserve the identified function and identified capacity of the road~~, if necessary~~ and to retain consistency between allowed land uses and planning for transportation facilities.

C. **Transportation Systems Analysis**

This section applies to city and county comprehensive plan amendments or to any studies that would recommend or require an amendment to the Regional Transportation Plan to add significant single occupancy vehicle (SOV) capacity to multi-modal arterials and/or highways.

Consistent with Federal Congestion Management System requirements (23 CFR Part 500) and TPR system planning requirements (660-12), the following actions shall be considered through the Regional Transportation Plan when recommendations are made to revise the Regional Transportation Plan and/or local transportation system plans to define the need, mode, corridor and

function to address an identified transportation need consistent with Table 3, above, and recommendations are made to add significant SOV capacity:

1) regional transportation demand strategies
2) regional transportation system management strategies, including intelligent Transportation Systems (ITS)
3) High Occupancy Vehicle (HOV) strategies
4) regional transit, bicycle and pedestrian system improvements to improve mode split
5) unintended land use and transportation effects resulting from a proposed SOV project or projects
6) effects of latent demand from other modes, routes or time of day from a proposed SOV project or projects
7) If upon a demonstration that the above considerations do not adequately and cost-effectively address the problem, a significant capacity improvement may be included in the Regional Transportation Plan.

Consistent with Federal Congestion Management System requirements (23 CFR Part 500) and TPR system planning requirements (660-12), the following actions shall be considered when local transportation system plans (TSPs), multi-modal corridor and sub-area studies, mode specific plans or special studies (including land use actions) are developed:

1) transportation demand strategies that further refine or implement a regional strategy identified in the RTP
2) transportation system management strategies, including intelligent Transportation Systems (ITS), that refine or implement a regional strategy identified in the RTP
3) sub-area or local transit, bicycle and pedestrian system improvements to improve mode split
4) the effect of a comprehensive plan change on mode split targets and actions to ensure the overall mode split target for the local TSP is being achieved
5) improvements to parallel arterials, collectors, or local streets, consistent with connectivity standards contained in Section 2 of this Title, as appropriate, to address the transportation need and to keep through trips on arterial streets and provide local trips with alternative routes
6) traffic calming techniques or changes to the motor vehicle functional classification, to maintain appropriate motor vehicle functional classification
7) If upon a demonstration that the above considerations do not adequately and cost-effectively address the problem, a significant capacity improvement may be included in the comprehensive plan.

~~If~~ Upon a demonstration that the above considerations do not adequately and cost-effectively address the problem and where accessibility is significantly

hindered, ~~capacity improvements may be included in the comprehensive plan~~ Metro and the affected city or county shall consider:

(1) amendments to the boundaries of a 2040 Growth Concept design type;
(2) amendments or exceptions to land use functional plan requirements; and/or
(3) amendments to the 2040 Growth Concept.

Demonstration of compliance will be included in the required congestion management system compliance report submitted to Metro by cities and counties as part of system-level planning and through findings consistent with the TPR in the case of amendments to applicable plans.

D. Transportation Project Analysis

The TPR and Metro's Interim Congestion Management System (CMS) document require that measures to improve operational efficiency be addressed at the project level. Section 2 of this Title requires that street design guidelines be considered as part of the project-level planning process. Therefore, cities, counties, Tri-Met, ODOT, and the Port of Portland shall address the following operational and design considerations during transportation project analysis:

1. Transportation system management (e.g., access management, signal inter-ties, lane channelization, etc.) to address or preserve existing street capacity.
2. Guidelines contained in "Creating Livable Streets: Street Design Guidelines for 2040" (1997) and other similar resources to address regional street design policies.

The project need, mode, corridor, and function do not need to be addressed at the project level. This section (4.D) does not apply to locally funded projects on facilities not designated on the Regional Motor Vehicle System Map or the Regional Street Design Map. Demonstration of compliance will be included in the required Congestion Management System project-level compliance report submitted to Metro as part of project-level planning and development."

Comments Related to Title 6, Section 2, Regional Street Design Guidelines

16) Clarify line 57 to define what constitutes consideration of the regional street design elements. (Dave Lohman, Port of Portland)

JPACT Recommendation: Cities and counties will be required to demonstrate through findings how they have considered the regional street designs elements.

17) Adopt the priorities listed in the "Creating Livable Streets: Street Design for 2040" (1997) as part of each street design description in Title 6. Therefore, amend Section 2.B. to add the following language:

Regional Boulevards: The design of a regional boulevard shall be based on the following priorities:
Higher Priorities
a. pedestrian sidewalks with transit access
b. bicycle lanes
c. number of travel lanes
Lower Priorities
a. width of travel lanes
b. on-street parking
c. median for landscaping

Community Boulevards: The design of a community boulevard shall be based on the following priorities:
Higher Priorities
a. pedestrian sidewalks with transit access
b. bicycle lanes
c. on-street parking
d. median for landscaping
Lower Priorities
a. number of travel lanes
b. width of travel lanes

Regional Streets: The design of a regional street shall be based on the following priorities:
Higher Priorities
a. number of travel lanes
b. pedestrian sidewalks with transit access and buffer strip
c. medians
d. bicycle lanes
e. width of travel lanes
Lower Priorities
a. on-street parking

Community Streets: The design of a community street shall be based on the following priorities:
Higher Priorities

a. pedestrian sidewalks with transit access
b. bicycle lanes
c. on-street parking

Lower Priorities

a. median for landscaping
b. number of travel lanes
c. width of travel lanes

(Rex Burkholder, Bicycle Transportation Alliance)

JPACT Recommendation: Disagree. "Creating Livable Streets: Street Design for 2040" (1997) addresses these tradeoff issues and is a resource for cities and counties to use when prioritizing street design elements within a constrained right-of-way.

18) Amend lines 56-58 to read, "All cities and counties within the Metro region shall consider the following regional street design elements when planning for improvements to these facilities, including those facilities built by ODOT, ~~or~~ Tri-Met or the Port of Portland." (G.B. Arrington, Tri-Met)

JPACT Recommendation: Agree. Amend as requested.

19) In all street design types, the inclusion of an option of a wide outside lane as a "bicycle facility" is inappropriate and contrary to AASHTO guidelines and ODOT standards. Therefore, amend lines 89 and 119 to read, "8. Striped bikeways ~~or shared outside lane~~." (Rex Burkholder, Bicycle Transportation Alliance)

JPACT Recommendation: Disagree. Bicycle lanes are the preferred bikeway choice. However, wide outside lanes are acceptable where any of the following conditions exist:

- it is not possible to eliminate or reduce lane widths;
- topographical constraints exist;
- additional pavement would disrupt the natural environment or character of the natural environment;
- parking is essential to serve adjacent land uses or improve the character of the pedestrian environment;
- densely developed areas with low motor vehicle speeds.

20) Amend line 56 to read, "Throughways, Boulevards, Streets and Roads ~~and Throughways~~." (Mike McKillip, City of Tualatin)

JPACT Recommendation: Agree. Amend as requested. In addition, recommend organizing Section 2 to reflect this order of street design elements.

21) Clarify lines 77, 106 and 132 to better define what is meant by "low" and "moderate" motor vehicle speeds. (Mike McKillip, City of Tualatin)

JPACT Recommendation: JPACT specifically intended to use relative definitions of motor vehicle speed. JPACT recommends leaving that determination to cities and counties through their transportation system plans, consistent with the street design guidelines identified in Title 6, Section 2.

22) In reference to lines 87, 116, 135, 160, better define what is meant by "improved pedestrian crossings." (Mike McKillip, City of Tualatin)

JPACT Recommendation: JPACT recommends adding a definition to the Urban Growth Management Functional Plan that reads, "Improved pedestrian crossing. An improved pedestrian crossing is marked and may include signage, signalization, curb extensions and a pedestrian refuge such as a landscaped median."

23) Clarify line 88 to better define what is the threshold for "excessive intersection spacing." (Mike McKillip, City of Tualatin)

JPACT Recommendation: JPACT recommends revising line 88 to read, "where intersection spacing exceeds 530 feet ~~is excessive~~."

24) Add reference to regional street design handbook to Section 2 introduction. (Joint TPAC/MTAC work session, 10/10/97)

JPACT Recommendation: Agree. Revise lines 56-58 to read, "All cities and counties within the Metro region shall consider the following regional street design elements when planning for improvements to these facilities, including those facilities built by ODOT, ~~or~~ Tri-Met or the Port of Portland. "Creating Livable Streets: Street Design for 2040" (1997) is a resource for cities, counties, ODOT, Tri-Met and the Port of Portland to use when prioritizing street design elements within a constrained right-of-way.

25) Amend line 74 to read, "with ~~right-of-way~~ improvements within the right-of-way on regional routes..." (Washington County, 10/28/97)

JPACT Recommendation: Agree. Amend as requested.

26) Amend lines 82 and 111 to read, " on-street parking where ~~possible~~practicable."

JPACT Recommendation: Disagree. No change is recommended.

27) Amend line 116 to not require improved pedestrian crossings at all intersections on Community Streets. (Washington County, 10/28/97)

JPACT Recommendation: Disagree. No change is recommended.

Comments Related to Title 6, Section 3, Design Standards for Street Connectivity

28) Revise the introduction to Section 3 to reflect that the connectivity standards are intended to apply to the most dense 2040 areas and new residential areas, not, for example, throughways that travel through 2040 Design Types. (Joint TPAC/MTAC work session, 10/10/97)

JPACT Recommendation: Agree. Revise lines 188-189 to read, "Therefore, streets should be designed to keep through trips on arterial streets and provide local trips with alternative routes. Tthe following design and performance options are intended to improve local circulation in a manner that protects the integrity of the regional system."

JPACT also recommends revising Section 3.A., lines 193-227 to read,

"A. Design Option. Cities and counties shall ensure that their comprehensive plans, implementing ordinances and administrative codes require demonstration of compliance with the following, consistent with regional street design policies:

~~1.~~2. New residential and mixed-use developments shall include local street plans that...

c. provide bike and pedestrian connections on public easements or right-of-way when full street connections are not possible, with spacing between connections of no more than 330 feet except where prevented by topography, barriers such as railroads or freeways, or environmental constraints such as major streams and rivers~~, prevent street extension~~; and...

~~2~~1. For new residential and mixed-use development, all contiguous areas of vacant and primarily undeveloped land of five acres or more shall be identified by cities and counties and the following will be prepared, consistent with regional street design policies:

A map that identifies possible local street connections to the adjacent developing areas. The map shall include:

a. full street connections at intervals of no more than ~~660~~530 feet, except where prevented by topography, barriers such as railroads or freeways, or environmental constraints such as major streams and rivers. Street connections at intervals of no more than 330 feet are recommended in areas planned for the highest density mixed-use development. ~~with more frequent connections in areas planned for mixed use or dense development;~~
b. accessways for pedestrians, bicycles or emergency vehicles on public easements or right-of-way where full street connections are not possible, with spacing between full street or accessway connections of no more than 330 feet, except where prevented by topography, barriers such as railroads or freeways, or environmental constraints such as major streams and rivers."

JPACT also recommends adding the following definitions to Chapter 2 of the Regional Framework Plan and the Urban Growth Management Functional Plan:

Full Street Connection. Right-of-way designed for public access by motor vehicles, pedestrians and bicycles.

Accessway. Right-of-way or easement designed for public access by bicycles and pedestrians, and may include emergency vehicle passage.

Finally, JPACT recommends revising lines 231-236 to read, "Cities and counties shall develop local street design standards in text or maps or both with street intersection spacing to occur at intervals of no ~~less~~ more than ~~eight street intersections per mile~~ 530 feet except where prevented by topography, barriers such as railroads or freeways, or environmental constraints such as major streams and rivers. ~~,prevent street extension.~~ Street connections at intervals of no more than 330 feet are recommended in areas planned for the highest density mixed-use development. ~~The number of street connections should be the greatest in the highest density 2040 Growth Concept design types.~~"

29) In reference to line 239, define "local vehicle trips." (Mike McKillip, City of Tualatin)

JPACT Recommendation: Local vehicle trips are trips that are five miles or shorter in length. In contrast, regional vehicle trips, are trips that are greater than five miles in length. Therefore, recommend adding two definitions to the Urban Growth Management Functional Plan that read:

"Local trips. Local vehicle trips are trips that are five miles or shorter in length."

"Regional vehicle trips. Regional vehicle trips are trips that are greater than five miles in length."

30) Amend lines 236-246 to read, "Local street designs for new developments shall satisfy the following additional criteria...2. Performance Criterion: everyday local travel needs are served by direct, connected local street systems where: (1) the shortest motor vehicle trip over public streets from a local origin to a collector or greater facility is no more than twice the straight-line distance; ~~and~~ (2) the shortest pedestrian trip on public right-of-way is no more than one and one-half the straight-line distance; and (3) any trip less than ½-mile is not subject to (1) and (2) above. (Mike McKillip, City of Tualatin)

JPACT Recommendation: JPACT recommends further discussion on this issue.

31) In reference to lines 278-283, the Oregon Highway Plan states that the LOS is determined by the volume/capacity method. Until this is changes, ODOT intends to use that method for the determination of LOS on state facilities. While other methods have significant merit, there is as yet no universal agreement on application. (Leo Huff, ODOT)

JPACT Recommendation: Disagree. As more suitable measures to define level-of-service are developed by the transportation industry, these measures should be available for use, as appropriate.

32) Amend the second sentence, lines 251-255 to read, "Each jurisdiction shall establish an alternative mode split target (as a percentage of all person-trips for all modes of transportation) for...trips into, out of and within all 2040 Growth Concept land use design types within its boundaries." (Mike McKillip, City of Tualatin)

JPACT Recommendation: Agree. Amend as requested.

33) Amend proposed language to delete repetitive reference to the level of service table on line 276. (Mike McKillip, City of Tualatin)

JPACT Recommendation: Agree. Amend as follows, "...~~The following table~~ Table 3. ~~using~~Motor Vehicle Level Of Service Deficiency Thresholds and Operating Standards may be incorporated into ~~local~~ city and county comprehensive plans and implementing ordinances to replace current methods of determining motor vehicle congestion on regional facilities, if a city or county determines that this change is needed to permit Title 1, Table 1 capacities ~~in the Central City, Regional Centers, Town Centers, Main Streets and Station Communities~~for the 2040 design types and facilities as follows..."

34) Amend proposed language in lines 249-263 to recognize that mode split targets for intermodal and industrial areas should not look at total trips because for these uses, a high percentage of the trips are truck trips which cannot choose an alternative mode. The mode split targets need to be clear that they are directed at employees or passenger trips. (Dave Lohman, Port of Portland)

JPACT Recommendation: Agree. Mode split targets have been developed that exclude commercial traffic. Table 3 of Chapter 2 (Transportation) of the Regional Framework Plan identifies those targets, as shown below:

Table 3. Regional Non-SOV Mode Split Targets
Needed To Achieve State Transportation Planning Rule 10% VMT/Capita Reduction Requirement
(for trips to and within each 2040 Design Type)

2040 Design Type	Non-SOV* Mode Split Target
Central City	60-70%
Regional Centers, Town Centers, Main Streets, Station Communities and Corridors	45-55%
Industrial Areas and Intermodal Facilities, Employment Areas and Inner and Outer Neighborhoods	40-45%

*Non-SOV includes shared ride, bike, walk and transit.

35) Section 4.B. should reflect a better level of service standard for access to terminals because freight mobility is the backbone of the region's economy. Recommend

separating intermodal facilities out from others in the second category and modifying the AM/PM two hour peak to D for the first hour under the preferred column and to D for the second hour under the acceptable column. (Dave Lohman, Port of Portland)

JPACT Recommendation: The Regional Highways Corridors map, Figure 2.7 in Exhibit A of Title 6 identifies roads that access terminals on Swan Island, Marine Drive and Airport Way. Title 6 calls for identification and evaluation of level of service thresholds for "Regional Highway Corridors" on a case-by-case basis to allow for a better level of service on roadways that access those areas. Therefore, no change is recommended.

36) In reference to lines 284-291, clarify what happens if exceeding a deficiency threshold does not negatively impact regional accessibility, but does impact local accessibility. (Mike McKillip, City of Tualatin)

JPACT Recommendation: The proposed language in lines 284-291 applies only to the regional transportation system not the local transportation system. Therefore, JPACT recommends revising lines 284-285 to read, "If a deficiency threshold is exceeded <u>on the regional transportation system</u> as identified in Table ~~3.B.1.~~,..."

37) Clarify line 345 to define "significant capacity expansion" and "regional facility." (Mike McKillip, City of Tualatin and Joint TPAC/MTAC work session, 10/10/97)

JPACT Recommendation: JPACT recommends adding the following definitions to the Urban Growth Management Functional Plan for "significant capacity expansion" that reflect the definition used in the Portland Interim Congestion Management System (CMS) Document (1996).

> **Significant Increase in Single Occupancy Vehicle (SOV) Capacity for Multi-modal Arterials.** An increase in SOV capacity created by the construction of additional general purpose lanes totaling ½ lane miles or more in length. General purpose lanes are defined as through travel lanes or multiple turn lanes. This also includes the construction of a new general purpose highway facility on a new location. Lane tapers are not included as part of the general purpose lane. Significant increases in SOV capacity should be assessed for individual facilities rather than for the planning area.
>
> **Significant Increase in Single Occupancy Vehicle (SOV) Capacity for Regional Through-Route Freeways.** Any increase in SOV capacity created by the construction of additional general purpose lanes other than that resulting from a safety project or a project solely intended to eliminate a bottleneck. An increase in SOV capacity associated with the elimination of a bottleneck is considered significant only if such an increase provides a highway section SOV capacity greater than ten percent over that provided immediately upstream of the bottleneck. An increase in SOV capacity associated with a safety project is considered significant only if the safety deficiency is totally related to traffic congestion. Construction of a new general purpose highway facility on a new location also constitutes a significant increase in SOV capacity. Significant increase in SOV capacity should be assessed for individual facilities rather than for the planning area.

38) Clarify line 369 to define how cities and counties "shall consider" the "Creating Livable Streets: Street Design Guidelines for 2040" during transportation project development. (Mike McKillip, City of Tualatin)

JPACT Recommendation: Cities and counties will be required to demonstrate through findings how they have considered the regional street designs elements.

39) Amend line 276, last row to read, "identify and evaluate on a case-by-case basis to balance regional and local mobility and accessibility objectives." (Joint TPAC/MTAC work session, 10/10/97)

JPACT Recommendation: Agree. Amend as requested.

40) Amend Regional Highways Corridors map, Figure 2.7 in Exhibit A of Title 6 to add the following: Highway 99 to I-5, the Sunrise Corridor, US 26 entering the eastern UGB, US 30 entering NE Portland and the Mt. Hood Parkway. (Joint TPAC/MTAC work session, 10/10/97)

JPACT Recommendation: Agree. Amend as requested.

41) In reference to lines 284-291 related to evaluating the impact of congestion on regional accessibility, where as quantitative methods are well known, qualitative methods for measuring accessibility are not. If Metro is going to make the determination of accessibility deficiencies, then ODOT recommends that the criteria, both qualitative and quantitative be reviewed and adopted by TPAC. (Leo Huff, ODOT)

JPACT Recommendation: Agree. The Regional Transportation Plan will define the locations that exceed the motor vehicle level-of-service threshold criteria and affect regional accessibility. TPAC will review this determination as part of the Regional Transportation Plan update.

42) In reference to Section 4, Metro should provide guidance materials to local governments for Title 6, Section 4 implementation and applicability. (City of Portland, 10/30/97)

JPACT Recommendation: Agree. Staff will develop materials to assist cities and counties with understanding and applying Title 6, Section 4 requirements.

43) Provide clarification for lines 238-246 as to how this analysis is to be completed. For example, such criteria as the "1995 arithmetic median of regional trips" and "the shortest trip from a local origin to a collector" would benefit from some clarification, possibly through an appendix to Title 6. (Washington County, 10/28/97)

JPACT Recommendation: Agree. See above comment.

44) Consistent with TPR requirements for transportation system planning, the deadline for cities and counties to submit mode split targets and implementing actions should be one year after Metro adopts the Regional Transportation Plan. (City of Portland, 10/30/97)

JPACT Recommendation: Agree. Amend line 251 to add, "Each jurisdiction shall establish an alternative mode split target...for all 2040 Growth Concept land use design types within its boundaries one year after adoption of the 1998 Regional Transportation Plan." In addition, amend line 312 to add, "Cities and counties...shall identify actions which will implement mode split targets one year after adoption of the 1998 Regional Transportation Plan."

45) Mid-day thresholds and standards as listed in Table 3 should remain optional. Cities and counties cannot currently analyze mid-day conditions. (City of Portland, 10/30/97)

JPACT Recommendation: Disagree. Table 3 is optional until adoption of the 1998 Regional Transportation Plan. The issue of mid-day modeling will be considered as part of the RTP update this winter. At that time, staff will work with cities and counties to develop acceptable methods for mid-day analysis. In addition, traffic counts rather than forecasts are an available method to evaluate mid-day conditions.

46) Section 4.D. should not apply to locally funded projects off the Regional Motor Vehicle System Map or the Regional Street Design Map. (City of Portland, 10/30/97)

JPACT Recommendation: Agree. Recommended revisions to Section 4.D. include the following statement, "This section (4.D) does not apply to locally funded projects on facilities not designated on the Regional Motor Vehicle System Map or the Regional Street Design Map."

Other Comments Related to Title 6

47) Amend the third sentence in Section 1, lines 5-6 to read, "Focusing development in the concentrated activity centers, including the central city, regional centers, town centers and station communities, requires the use of alternative modes of transportation in order to avoid unacceptable levels of congestion." (Mike McKillip, City of Tualatin)

JPACT Recommendation: Agree. Amend as requested.

EXHIBIT A to Ordinance No. 98-721
Amendments to Title 6 of the Urban Growth Management Functional Plan
Approved by JPACT on 12/11/97

TITLE 6: REGIONAL ACCESSIBILITY

Section 1. Intent

Implementation of the 2040 Growth Concept requires that the region identify key measures of transportation effectiveness which include all modes of transportation. Developing a full array of these measures will require additional analysis. Focusing development in the concentrated activity centers, including the central city, regional centers, town centers and station communities, requires the use of alternative modes of transportation in order to avoid unacceptable levels of congestion. The continued economic vitality of industrial areas and intermodal facilities is largely dependent on preserving or improving access to these areas and maintaining reasonable levels of freight mobility in the region. Therefore, regional congestion standards and other regional system performance measures shall be tailored to reinforce the specific development needs of the individual 2040 Growth Concept design types.

These regional standards ~~will be~~are linked to a series of regional street design concepts that fully integrate transportation and land use needs for each of the 2040 land use ~~components~~design types in the Regional Framework Plan. The designs generally form a continuum; a network of throughways (freeway and highway designs) ~~will~~ emphasize auto and freight mobility and connect major activity centers. Slower-speed boulevard designs within concentrated activity centers ~~will~~ balance the multi-modal travel demands for each mode of transportation within these areas. Street and road designs ~~will~~ complete the continuum, with multi-modal designs that reflect the land uses they serve, but also serving as moderate-speed vehicle connections between activity centers that complement the throughway system. ~~While these designs are under development, it is important that improvements in the most concentrated activity centers are designed to lessen the negative effects of motor vehicle traffic on other modes of travel. Therefore, implementation of amenity oriented boulevard treatment that better serves pedestrian, bicycle and transit travel in the central city, regional centers, main streets, town centers, and station communities is a key step in the overall implementation of the Metro 2040 Growth Concept.~~ It is intended that the entirety of these Title 6 standards will be supplemented by the 1998 Regional Transportation Plan (RTP) ~~when the RTP is approved and adopted by the Metro Council~~.

~~Section 2. Boulevard Design~~

~~Regional routes in the central city, regional centers, station communities, main streets and town centers are designated on the Boulevard Design Map. In general, pedestrian and transit oriented design elements are the priority in the central city and regional centers, station communities, main streets and town centers. All cities and counties within the Metro region shall implement or allow others to implement boulevard design elements as improvements are made to these facilities including those facilities built by ODOT or Tri Met. Each jurisdiction shall amend their comprehensive plans and implementing ordinances, if necessary, to require consideration or installation of the following boulevard design elements when proceeding with right of way improvements on regional routes designated on the boulevard design map:~~

~~A. Wide sidewalks with pedestrian amenities such as benches, awnings and special lighting;~~

~~B. Landscape strips, street trees and other design features that create a pedestrian buffer between curb and sidewalk;~~

~~C. Pedestrian crossings at all intersections, and mid-block crossings where intersection spacing is excessive;~~

~~D. The use of medians and curb extensions to enhance pedestrian crossings where wide streets make crossing difficult;~~

~~E. Accommodation of bicycle travel;~~

~~F. On street parking;~~

~~G. Motor vehicle lane widths that consider the above improvements;~~

~~H. Use of landscaped medians where appropriate to enhance the visual quality of the streetscape.~~

Section 2. Regional Street Design Guidelines

Regional routes in each of the 2040 Design Types are designated as one of four major classifications on the Regional Street Design Map, attached in Exhibit "A" The four classifications are: Throughways, Boulevards, Streets and Roads. All cities and counties within the Metro region shall consider the following regional street design elements when planning for improvements to these facilities, including those facilities built by ODOT, Tri-Met or the Port of Portland. "Creating Livable Streets: Street Design for 2040" (1997) is a resource for cities, counties, ODOT, Tri-Met and the Port of Portland to use when prioritizing street design elements within a constrained right-of-way.

A. Throughways. Throughways connect the region's major activity centers within the region, including the central city, regional centers, industrial areas and intermodal facilities to one another and to points outside the region. Throughways are traffic oriented with designs that emphasize motor vehicle mobility. Throughways are divided into Freeway and Highways designs.

1. Freeway Design. Freeways are designed to provide high speed travel for longer motor vehicle trips throughout the region. These designs usually include four to six vehicle lanes, with additional lanes in some situations. They are completely divided, with no left turn lanes. Street connections always occur at separated grades with access controlled by ramps. Cities and counties shall amend their comprehensive plan and implementing ordinances, if necessary, to require consideration of the following Freeway

design elements when proceeding with improvements to the right-of-way on regional routes designated on the regional street design map:

a. high vehicle speeds
b. improved pedestrian crossings on overpasses
c. parallel facilities for bicycles
d. motor vehicle lane widths that accommodate freight movement and high-speed travel

2. Highway Design. Highways are designed to provide high speed travel for longer motor vehicle trips throughout the region while accommodating limited public transportation, bicycle and pedestrian travel. Highways are usually divided with a median, but also have left turn lanes where at grade intersections exist. These designs usually include four to six vehicle lanes, with additional lanes in some situations. Cities and counties shall amend their comprehensive plan and implementing ordinances, if necessary, to require consideration of the Highway design elements when proceeding with improvements to the right-of-way on regional routes designated on the regional street design map:

a. high vehicle speeds
b. few or no driveways
c. improved pedestrian crossings at overpasses and all intersections
d. accommodation of bicycle travel through the use of a striped bikeway
e. sidewalks where appropriate
f. motor vehicle lane widths that accommodate freight movement and high-speed travel

B. Boulevard Designs. Boulevards serve major centers of urban activity, including the Central City, Regional Centers, Station Communities, Town Centers and some Main Streets. Boulevards are designed with special amenities to favor public transportation, bicycle and pedestrian travel and balance the many travel demands of these areas. Boulevards are divided into regional and community scale designs on the Regional Street Design Map. Regional and Community Boulevards combine motor vehicle traffic with public transportation, bicycle and pedestrian travel where dense development is oriented to the street. Regional Boulevard designs usually include four vehicle lanes, with additional lanes or one-way couplets in some situations. Community Boulevard designs may include up to four vehicle lanes and on-street parking. Fewer vehicle lanes may be appropriate in Community Boulevard designs in some situations, particularly when necessary to provide on-street parking. Cities and counties shall amend their comprehensive plan and implementing ordinances, if necessary, to require consideration of the following Regional and Community Boulevard design elements when proceeding with improvements to the right-of-way on regional routes designated on the regional street design map:

1. low to moderate vehicle speeds on Regional Boulevard and low vehicle speeds on Community Boulevards
2. the use of medians and curb extensions to enhance pedestrian crossings where wide streets make crossing difficult
3. combined driveways
4. on-street parking where possible
5. wide sidewalks with pedestrian amenities such as benches, awnings and special lighting
6. landscape strips, street trees or other design features that create a pedestrian buffer between curb and sidewalk
7. improved pedestrian crossings at all intersections, and mid-block crossings where intersection spacing exceeds 530 feet
8. striped bikeways or shared outside lane
9 motor vehicle lane widths that consider the above improvements

C. Street Designs. Streets serve the region's transit corridors, neighborhoods and some main streets. Streets are designed with special amenities to balance motor vehicle traffic with public transportation, bicycle and pedestrian travel in the 2040 Design Types they serve. Streets are divided into regional and community scale designs on the Regional Street Design Map. Regional Streets are designed to carry motor vehicle traffic while also providing for public transportation, bicycle and pedestrian travel. Regional street designs usually include four vehicle lanes, with additional lanes in some situations. Community Street designs may include up to four vehicle lanes. Fewer vehicle lanes may be appropriate in Community Street designs in some situations, particularly when necessary to provide on-street parking. Cities and counties shall amend their comprehensive plan and implementing ordinances, if necessary, to require consideration of the following Regional Street design elements when proceeding with improvements to the right-of-way on regional routes designated on the regional street design map:

1. moderate vehicle speeds
2. the use of medians and curb extensions to enhance pedestrian crossings where wide streets make crossing difficult or to manage motor vehicle access
3. combined driveways
4. on-street parking when appropriate
5. buffered sidewalks with pedestrian amenities such as special lighting and special crossing amenities tied to major transit stops
6 landscape strips, street trees or other design features that create a pedestrian buffer between curb and sidewalk
7. improved pedestrian crossings at signaled intersections on Regional Streets and improved pedestrian crossings at all intersections on Community Streets
8. striped bikeways or shared outside lane
9. motor vehicle lane widths that consider the above improvements

D. Urban Roads. Urban Roads serve the region's industrial areas, intermodal facilities and employment centers where buildings are less oriented to the street, and primarily emphasize motor vehicle mobility. Urban Roads are designed to carry significant motor vehicle traffic while providing for some public transportation, bicycle and pedestrian travel. These designs usually include four vehicle lanes, with additional lanes in some situations. Cities and counties shall amend their comprehensive plan and implementing ordinances, if necessary, to require consideration of the following Urban Road design elements when proceeding with improvements to the right-of-way on regional routes designated on the regional street design map:

1. moderate vehicle speeds
2. few driveways
3. sidewalks
4. improved pedestrian crossings at major intersections
5. striped bikeways
6. center medians that manage access and control left turn movements
7. motor vehicle lane widths that consider the above improvements

Section 3. Design Standards for Street Connectivity

The design of local street systems, including "local" and "collector" functional classifications, is generally beyond the scope of the Regional Transportation Plan (RTP). However, the aggregate effect of local street design impacts the effectiveness of the regional system when local travel is restricted by a lack of connecting routes, and local trips are forced onto the regional network. Therefore, streets should be designed to keep through trips on arterial streets and provide local trips with alternative routes. Tthe following design and performance options are intended to improve local circulation in a manner that protects the integrity of the regional system.

~~Local jurisdictions~~Cities and counties within the Metro region are hereby required to amend their comprehensive plans and implementing ordinances, if necessary, to comply with or exceed one of the following options in the development review process:

A. **Design Option.** Cities and counties shall ensure that their comprehensive plans, implementing ordinances and administrative codes require demonstration of compliance with the following, consistent with regional street design policies:

2~~1~~. New residential and mixed-use developments shall include local street plans that:

a. encourage pedestrian and bicycle travel by providing short, direct public right-of-way routes to connect residential uses with nearby existing and planned commercial services, schools, parks and other neighborhood facilities; and

b. include no cul-de-sac streets longer than 200 feet, and no more than 25 dwelling units on a closed-end street system except where topography,

barriers such as railroads or freeways, or environmental constraints such as major streams and rivers, prevent street extension; and

c. provide bike and pedestrian connections on public easements or right-of-way when full street connections are not possible, with spacing between connections of no more than 330 feet except where prevented by topography, barriers such as railroads or freeways, or environmental constraints such as major streams and rivers, ~~prevent street extension~~; and

d. consider opportunities to incrementally extend and connect local streets in primarily developed areas; and

e. serve a mix of land uses on contiguous local streets; and

f. support posted speed limits; and

g. consider narrow street design alternatives that feature total right-of-way of no more than 46 feet, including pavement widths of no more than 28 feet, curb-face to curb-face, sidewalk widths of at least 5 feet and landscaped pedestrian buffer strips that include street trees; and

h. limit the use of cul-de-sac designs and closed street systems to situations where topography, pre-existing development or environmental constraints prevent full street extensions.

~~1~~2. For new residential and mixed-use development, all contiguous areas of vacant and primarily undeveloped land of five acres or more shall be identified by cities and counties and the following will be prepared, consistent with regional street design policies:

A map that identifies possible local street connections to adjacent developing areas. The map shall include:

a. full street connections at intervals of no more than ~~660~~530 feet, except where prevented by topography, barriers such as railroads or freeways, or environmental constraints such as major streams and rivers. Street connections at intervals of no more than 330 feet are recommended in areas planned for the highest density mixed-use development. ~~with more frequent connections in areas planned for mixed use or dense development~~.

b. accessways for pedestrians, bicycles or emergency vehicles on public easements or right-of-way where full street connections are not possible, with spacing between full street or accessway connections of no more than 330 feet, except where prevented by topography, barriers such as railroads or freeways, or environmental constraints such as major streams and rivers.

3. For redevelopment of existing land uses, cities and counties shall develop local approaches for dealing with connectivity.

B. **Performance Option**. For residential and mixed use areas, cities and counties shall amend their comprehensive plans, implementing ordinances and administrative codes, if necessary, to require demonstration of compliance with performance criteria in the following manner. Cities and counties shall develop local street design standards in text

or maps or both with street intersection spacing to occur at intervals of no more~~less~~ than ~~eight street intersections per mile~~530 feet except where prevented by topography, barriers such as railroads or freeways, or environmental constraints such as major streams and rivers~~, prevent street extension~~. Street connections at intervals of no more than 330 feet are recommended in areas planned for the highest density mixed-use development.~~The number of street intersections should be greatest in the highest density 2040 Growth Concept design types~~. Local street designs for new developments shall satisfy the following additional criteria:

1. Performance Criterion: minimize local traffic on the regional motor vehicle system, by demonstrating that local vehicle trips on a given regional facility do not exceed the 1995 arithmetic median of regional trips for facilities of the same motor vehicle system classification by more than 25 percent.

2. Performance Criterion: everyday local travel needs are served by direct, connected local street systems where: (1) the shortest motor vehicle trip over public streets from a local origin to a collector or greater facility is no more than twice the straight-line distance; and (2) the shortest pedestrian trip on public right-of-way is no more than one and one-half the straight-line distance.

Section 4. Transportation Performance Standards

A process to identify transportation mode split targets, transportation needs and appropriate actions to address those targets and needs is included in this section. The intent is to provide guidance to cities, counties, ODOT, Tri-Met and the Port of Portland when developing a transportation system plan, defining a project, or evaluating the potential transportation impacts of a land use action.

A transportation need is identified when a particular transportation standard or threshold has been exceeded. Standards which may be used in identifying transportation needs include: safety, statewide mobility as identified in the Oregon Transportation Plan, mode splits, motor vehicle congestion analysis, freight mobility or demonstration that lack of access is limiting development of a priority regional land use. Needs are generally identified either through a comprehensive plan amendment review or as result of a system-planning analysis which evaluates forecast travel demand.

Subsequent to the identification of a need, an appropriate transportation strategy or solution is identified through a two-phased multi-modal planning and project development process. The first phase is multi-modal system-level planning. The purpose of system-level planning is to examine a number of transportation alternatives over a large geographic area such as a corridor or sub-area, or through a local or regional Transportation System Plan (TSP). The purpose of the multi-modal system-level planning step is to 1) consider alternative modes, corridors, and strategies to address identified needs; and 2) determine a recommended set of

transportation projects, actions, or strategies and the appropriate modes and corridors to address identified needs in the system-level study area.

The second phase is project-level planning (also referred to as project development). The purpose of project-level planning is to develop project design details and select a project alignment, as necessary, after evaluating engineering and design details and environmental impacts.

The following sub-sections (A-D): (1) require that cities and counties establish regional mode split targets for all 2040 design types that will be used to guide transportation system improvements; (2) establish optional performance standards and deficiency thresholds intended to identify transportation needs through multi-modal system-level planning and (3) establish the process to identify appropriate recommended solutions to address those needs identified through multi-modal system-level planning and project-level planning.

A. Alternative Mode Analysis

1. Person travel represents the largest share of trips for all modes of travel. Improvement in m~~M~~ode split will be used as the key regional measure for ~~transportation effectiveness~~ in assessing transportation system improvements in the Central City, Regional Centers, Town Centers and Station Communities. For other 2040 Growth Concept design types, mode split will be used as an important factor in assessing transportation system improvements. Each jurisdiction shall establish an alternative mode split target (defined as non-Single Occupancy Vehicle person-trips as a percentage of all person-trips for all modes of transportation) for trips into, out of and within~~each of the central city, regional centers and station communities~~ all 2040 Growth Concept land use design types within its boundaries one year after adoption of the 1998 Regional Transportation Plan. The alternative mode split target shall be no less than the regional targets for these ~~Region~~ 2040 Growth Concept land use ~~components~~design types to be established in the 1998 Regional Transportation Plan.

2. Cities and counties ~~which have Central City, regional centers and station communities~~ shall identify actions which will implement the mode split targets one year after adoption of the 1998 Regional Transportation Plan. These actions should include consideration of the maximum parking ratios adopted as part of Title 2; Section 2: ~~Boulevard~~Regional Street Design considerations in~~of~~ this Title; and transit's role in serving the area.

B. Motor Vehicle Congestion Analysis~~ for Mixed Use Areas~~

1. Motor Vehicle Level-Of-Service (LOS) is a measurement of ~~the use of a road~~congestion as a share of designed motor vehicle capacity of a road. ~~The following table using~~ Table 3. Motor Vehicle Level Of Service Deficiency

Thresholds and Operating Standards may be incorporated into local comprehensive plans and implementing ordinances to replace current methods of determining motor vehicle congestion on regional facilities, if a city or county determines that this change is needed to permit Title 1, Table 1 capacities ~~in the Central City, Regional Centers, Town Centers, Main Streets and Station Communities~~for the 2040 design types and facilities as follows:

~~*General Congestion Performance Standards (using LOS*)*~~*Table 3. Motor Vehicle Level of Service Deficiency Thresholds and Operating Standards**

	~~Preferred~~	~~Acceptable~~	~~Exceeds~~
~~Mid-Day one-hour~~	~~C or better~~	~~D~~	~~E or worse~~
~~Peak two-hour~~	~~E/E or better~~	~~F/E~~	~~F/F or worse~~

Location	Mid-Day One-Hour Peak			A.M./P.M. Two-Hour Peak		
	Preferred Operating Standard	Acceptable Operating Standard	Exceeds Deficiency Threshold	Preferred Operating Standard	Acceptable Operating Standard	Exceeds Deficiency Threshold
Central City, Regional Centers, Town Centers, Main Streets and Station Communities	C	E	F	1st hour E 2nd hour E	1st hour F 2nd hour E	1st hour F 2nd hour F
Corridors, Industrial Areas and Intermodal Facilities, Employment Areas and Inner and Outer Neighborhoods	C	D	E	1st hour E 2nd hour D	1st hour E 2nd hour E	1st hour F 2nd hour E
Regional Highway Corridors	identify and evaluate on a case-by-case basis** to balance regional and local mobility and accessibility objectives			identify and evaluate on a case-by-case basis** to balance regional and local mobility and accessibility objectives		

*Level-of-Service is determined by using either the latest edition of the Highway Capacity Manual (Transportation Research Board) or through volume to capacity ratio equivalencies as follows: LOS C = .8 or better; LOS D = .8 to .9; LOS E = .9 to 1.0; and LOS F = ~~greater than~~ 1.0 to 1.1. A copy of the Level of Service Tables from the Highway Capacity Manual is attached as Exhibit A. Regional Highway Corridors are identified in the map attached as Figure 2.7.

** See Section 4.B.3.

2. **Analysis.** A transportation need is identified in a given location when analysis indicates that congestion has reached the level indicated in the "exceeds deficiency threshold" column of Table 3 and that this level of congestion will negatively impact accessibility, as determined through Section 4.B.4, below. The analysis should consider a mid-day hour appropriate for the study area and the appropriate two-hour peak-hour condition, either A.M. or P.M. or both to address the problem. Other non-peak hours of the day, such as mid-day on Saturday, should also be considered to determine whether congestion is consistent with the acceptable or preferred operating standards identified in Table 3. The lead agency or jurisdictions will be responsible for determining the appropriate peak and non-peak analysis periods. The lead agency or jurisdictions will be responsible for determining the appropriate peak analysis period.

An appropriate solution to the need is determined through multi-modal system-level planning considerations listed in Section 4.C., below. For regional transportation planning purposes, the recommended solution should be consistent with the acceptable or preferred operating standards identified in Table 3. A city or county may choose a higher level-of service operating standard where findings of consistency with Section 4.C. have been developed.

3. **Regional Highways.** Exhibit B identifies the Regional Highways specified in Table 3. Each corridor will be evaluated on a case-by-case basis through system-level refinement studies. The studies will identify the performance and operating expectations for each corridor based on their unique operating and geographic characteristics. Appropriate multi-modal solutions to needs identified through these studies will be forwarded for inclusion in the Regional Transportation Plan.

~~4~~2. **Accessibility.** If a ~~congestion standard~~deficiency threshold is exceeded on the regional transportation system as identified in Table 3~~4.B.1~~, cities and counties shall evaluate the impact of the congestion on regional accessibility using the best available ~~methods (~~quantitative or qualitative~~)~~ methods. If a determination is made by Metro that exceeding the ~~congestion~~deficiency threshold negatively impacts regional accessibility, cities and counties~~local jurisdictions~~ shall follow the ~~congestion management~~transportation systems analysis and transportation project analysis procedures identified in 4.C. and 4.D. below.

5~~3~~. **Consistency.** The identified function or the identified capacity of a road may be significantly affected by planning for ~~Central City, Regional Centers, Town Centers, Main Streets and Station Communities~~ 2040 Growth Concept design types. Cities and counties shall take actions described in Section 4.C. and 4.D. below, including amendment of their transportation plans and implementing ordinances, if necessary ~~to either change or take actions as described in Section 4.C., below~~, to preserve the identified function and identified capacity of the road, ~~if necessary,~~and to retain consistency between allowed land uses and planning for transportation facilities.

~~C. Congestion Management~~ **[Note: Deleted text is incorporated in new 4.C. and 4.D., below]**

~~For a city or county to amend their comprehensive plan to add a significant capacity expansion to a regional facility, the following actions shall be applied, unless the capacity expansion is included in the Regional Transportation Plan:~~

~~1. To address Level of Service, the following shall be implemented:~~

~~a. Transportation system management techniques~~
~~b. Corridor or site level transportation demand management techniques~~
~~c. Additional motor vehicle capacity to parallel facilities, including the consideration of a grid pattern consistent with connectivity standards contained in Title 6 of this plan~~
~~d. Transit service improvements to increase ridership~~

~~2. To address preservation of motor vehicle function:~~

~~a. Implement traffic calming~~
~~b. Change the motor vehicle function classification~~

~~3. To address or preserve existing street capacity, implement transportation management strategies (e.g. access management, signal interties, lane channelization)~~

C. **Transportation Systems Analysis**

This section applies to city and county comprehensive plan amendments or to any studies that would recommend or require an amendment to the Regional Transportation Plan to add significant single occupancy vehicle (SOV) capacity to multi-modal arterials and/or highways.

Consistent with Federal Congestion Management System requirements (23 CFR Part 500) and TPR system planning requirements (660-12), the following actions shall be considered through the Regional Transportation Plan when recommendations are made to revise the Regional Transportation Plan and/or

local transportation system plans to define the need, mode, corridor and function to address an identified transportation need consistent with Table 3, above, and recommendations are made to add significant SOV capacity:

1) regional transportation demand strategies
2) regional transportation system management strategies, including intelligent Transportation Systems (ITS)
3) High Occupancy Vehicle (HOV) strategies
4) regional transit, bicycle and pedestrian system improvements to improve mode split
5) unintended land use and transportation effects resulting from a proposed SOV project or projects
6) effects of latent demand from other modes, routes or time of day from a proposed SOV project or projects
7) If upon a demonstration that the above considerations do not adequately and cost-effectively address the problem, a significant capacity improvement may be included in the Regional Transportation Plan.

Consistent with Federal Congestion Management System requirements (23 CFR Part 500) and TPR system planning requirements (660-12), the following actions shall be considered when local transportation system plans (TSPs), multi-modal corridor and sub-area studies, mode specific plans or special studies (including land use actions) are developed:

1) transportation demand strategies that further refine or implement a regional strategy identified in the RTP
2) transportation system management strategies, including intelligent Transportation Systems (ITS), that refine or implement a regional strategy identified in the RTP
3) sub-area or local transit, bicycle and pedestrian system improvements to improve mode split
4) the effect of a comprehensive plan change on mode split targets and actions to ensure the overall mode split target for the local TSP is being achieved
5) improvements to parallel arterials, collectors, or local streets, consistent with connectivity standards contained in Section 2 of this Title, as appropriate, to address the transportation need and to keep through trips on arterial streets and provide local trips with alternative routes
6) traffic calming techniques or changes to the motor vehicle functional classification, to maintain appropriate motor vehicle functional classification

7) If upon a demonstration that the above considerations do not adequately and cost-effectively address the problem, a significant capacity improvement may be included in the comprehensive plan.

~~If~~Upon a demonstration that the above considerations do not adequately and cost-effectively address the problem and where accessibility is significantly hindered, ~~capacity improvements may be included in the comprehensive plan~~ Metro and the affected city or county shall consider:

(1) amendments to the boundaries of a 2040 Growth Concept design type;
(2) amendments or exceptions to land use functional plan requirements; and/or
(3) amendments to the 2040 Growth Concept.

Demonstration of compliance will be included in the required congestion management system compliance report submitted to Metro by cities and counties as part of system-level planning and through findings consistent with the TPR in the case of amendments to applicable plans.

~~**D. Motor Vehicle Congestion Analysis Outside of Mixed Use Areas**~~

~~Outside of Central City, Regional Centers, Town Centers, Main Streets and Station Communities, and where cities and counties have not elected to use the General Congestion Performance Standards in subsection 4.B of this Title:~~

~~1. The identified function or the identified capacity of a road may be significantly affected by implementation of this functional plan. Cities and counties shall amend their transportation plans and implementing ordinances to change or take actions as described in Section 4.C., below, to preserve the identified function and identified capacity of the facility, if necessary, to retain consistency between allowed land uses and planning for transportation facilities.~~

~~2. The congestion performance standard for designated state highways as identified in the 1990 Oregon Highway Plan shall be the peak and off-peak performance criteria in Appendix F of the 1992 Oregon Transportation Plan.~~

~~3. The congestion performance standard for arterials of regional significance identified at Figure 4-2 of Chapter 4 of the 1992 Regional Transportation Plan should be the peak and off-peak performance criteria in Chapter 1, Section D of the 1992 Regional Transportation Plan.~~

~~4. Congestion level of service standards are not required for all other roads.~~

~~5. If the congestion performance for a road is exceeded or the identified function or identified capacity is inconsistent with land uses, cities and counties shall apply the congestion management actions identified in 4.C.1-3, above. If these actions do not adequately and cost effectively address the problem, capacity improvements may be included in the comprehensive plan."~~

D. Transportation Project Analysis

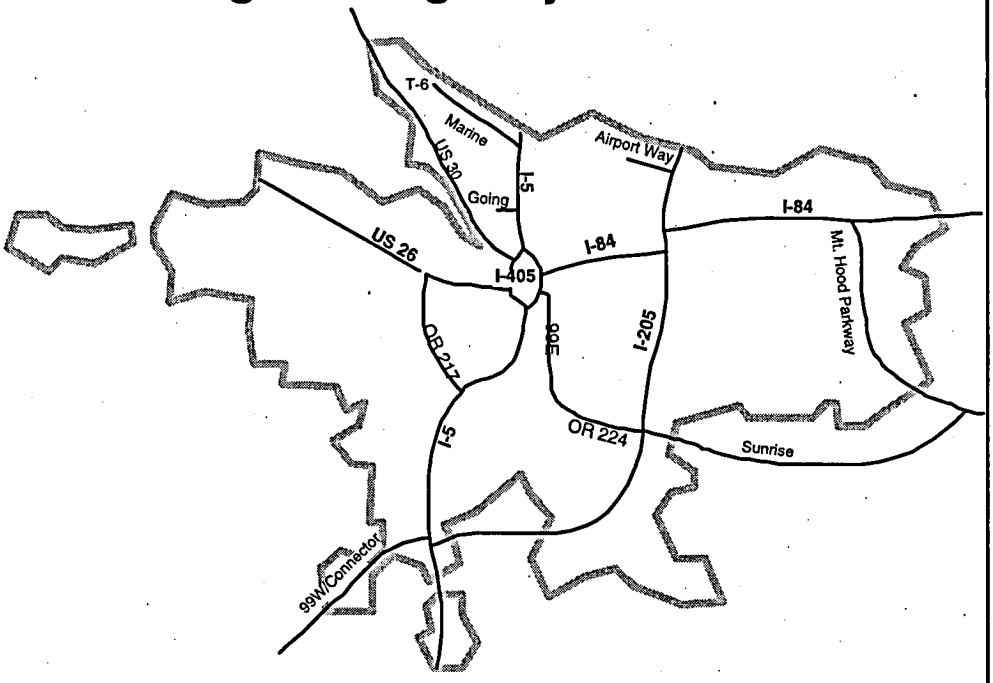
The TPR and Metro's Interim Congestion Management System (CMS) document require that measures to improve operational efficiency be addressed at the project level. Section 2 of this Title requires that street design guidelines be considered as part of the project-level planning process. Therefore, cities, counties, Tri-Met, ODOT, and the Port of Portland shall address the following operational and design considerations during transportation project analysis:

1. Transportation system management (e.g., access management, signal inter-ties, lane channelization, etc.) to address or preserve existing street capacity.
2. Guidelines contained in "Creating Livable Streets: Street Design Guidelines for 2040" (1997) and other similar resources to address regional street design policies.

The project need, mode, corridor, and function do not need to be addressed at the project level. This section (4.D) does not apply to locally funded projects on facilities not designated on the Regional Motor Vehicle System Map or the Regional Street Design Map. Demonstration of compliance will be included in the required Congestion Management System project-level compliance report submitted to Metro as part of project-level planning and development."

Figure 2.7

Regional Highway Corridors



9-12-97

531

Definitions to Be Amended to Title 10 of the Urban Growth Management Functional Plan

Accessway. Right-of-way or easement designed for public access by bicycles and pedestrians, and may include emergency vehicle passage.

Full Street Connection. Right-of-way designed for public access by motor vehicles, pedestrians and bicycles.

Improved pedestrian crossing. An improved pedestrian crossing is marked and may include signage, signalization, curb extensions and a pedestrian refuge such as a landscaped median.

Local trips. Local vehicle trips are trips that are five miles or shorter in length.

Mixed-Use Development. Mixed-use development includes areas of a mix of at least two of the following land uses and includes multiple tenants or ownerships: residential, retail and office. This definition excludes large, single-use land uses such as colleges and hospitals. Minor incidental land uses that are accessory to the primary land use should not result in a development being designated as "mixed-use development." The size and definition of minor incidental, accessory land uses allowed within large, single-use developments should be determined by cities and counties through their comprehensive plans and implementing ordinances.

Regional vehicle trips. Regional vehicle trips are trips that are greater than five miles in length.

Significant Increase in Single Occupancy Vehicle (SOV) Capacity for Multi-modal Arterials. An increase in SOV capacity created by the construction of additional general purpose lanes totaling ½ lane miles or more in length. General purpose lanes are defined as through travel lanes or multiple turn lanes. This also includes the construction of a new general purpose highway facility on a new location. Lane tapers are not included as part of the general purpose lane. Significant increases in SOV capacity should be assessed for individual facilities rather than for the planning area.

Significant Increase in Single Occupancy Vehicle (SOV) Capacity for Regional Through-Route Freeways. Any increase in SOV capacity created by the construction of additional general purpose lanes other than that resulting from a safety project or a project solely intended to eliminate a bottleneck. An increase in SOV capacity associated with the elimination of a bottleneck is considered significant only if such an increase provides a highway section SOV capacity greater than ten percent over that provided immediately upstream of the bottleneck. An increase in SOV capacity associated with a safety project is considered significant only if the safety deficiency is totally related to traffic congestion. Construction of a new general purpose highway facility on a new location also constitutes a

significant increase in SOV capacity. Significant increase in SOV capacity should be assessed for individual facilities rather than for the planning area.

Level-of-Service (LOS) Definitions for Freeways, Arterials and Signalized Intersections

LOS	Freeways (average travel speed assuming 70 mph design speed)	Arterials (average travel speed assuming a typical free flow speed of 40 mph)	Signalized Intersections (stopped delay per vehicle)	Traffic Flow Characteristics
A	Greater than 60 mph Average spacing: 22 car-lengths	Greater than 35 mph	Less than 5 seconds; most vehicles do not stop at all	Virtually free flow; completely unimpeded Volume/capacity ratio less than or equal to .60
B	57 to 60 mph Average spacing: 13 car-lengths	28 to 35 mph	5.1 to 15 seconds; more vehicles stop than for LOS A	Stable flow with slight delays; reasonably unimpeded Volume/capacity ratio .61 to .70
C	54 to 57 mph Average spacing: 9 car-lengths	22 to 28 mph	15.1 to 25 seconds; individual cycle failures may begin to appear	Stable flow with delays; less freedom to maneuver Volume/capacity ratio of .71 to .80
D	46 to 54 mph Average spacing: 6 car-lengths	17 to 22 mph	25.1 to 40 seconds; individual cycle failures are noticeable	High density, but stable flow Volume/capacity ratio of .81 to .90
E	30 to 46 mph Average spacing: 4 car-lengths	13 to 17 mph	40.1 to 60 seconds; individual cycle failures are frequent; poor progression	Operating conditions at or near capacity; unstable flow Volume/capacity ratio of .91 to 1.00
F	Less than 30 mph Average spacing: bumper-to-bumper	Less than 13 mph	Greater than 60 seconds; not acceptable for most drivers	Forced flow, breakdown conditions Volume/capacity ratio of greater than 1.00
>F	Demand exceeds roadway capacity, limiting volume that can be carried and forcing excess demand onto parallel routes and extending the peak period			Demand/capacity ratios of greater than 1.10

Source: 1985 Highway Capacity Manual (A through F descriptions)
Metro (>F description)