

BEFORE THE BOARD OF COUNTY COMMISSIONERS

FOR MULTNOMAH COUNTY, OREGON

Adopting the Multnomah CoWlty) RESOLUTION
Pedestrian Master Plan, April 1996) 96-77

WHEREAS, the purpose of this resolution is to adopt the Pedestrian Master Plan, April 1996, as a component of the Multnomah County Master Transportation Plan which supplements the Comprehensive Framework Plan; and

WHEREAS, the Comprehensive Framework Plan, Policy 33A states the County's policy to provide a balanced, safe and efficient transportation system including pedestrian, bicycle, transit and automobile facilities; and

WHEREAS, Policy 33C of the Multnomah County Comprehensive Framework Plan conforms with the Statewide Planning Goals as acknowledged by the State Department of Land Conservation and Development (DLCD) in 1980. A later amendment of Policy 33C in 1983 was also approved by DLCD; and

WHEREAS, the Pedestrian Master Plan, April 1996, fulfills the State requirement (ORS 197.175) to perform planning that interrelates land use and transportation with the natural and human environments and public infrastructure; and

WHEREAS, Oregon Transportation Planning Rule (/PR), which implements Transportation Goal 12, requires the development of pedestrian plans; and

WHEREAS, the Pedestrian Master Plan, April 1996, updates the pedestrian portion of the 1983 Comprehensive Framework Plan; and

WHEREAS, a Countywide Pedestrian Citizen Task Force, comprised of concerned citizens and a Technical Advisory Committee, assisted in developing the Pedestrian Master Plan; and

WHEREAS, Local, regional and State governmental agencies ensured a coordinated countywide pedestrian network; and

WHEREAS, the Pedestrian Master Plan was considered at a public hearing on May 2, 1996 before the Board of County Commissioners where all interested persons were given an opportunity to appear and be heard; now therefore

IT IS HEREBY RESOLVED that the Pedestrian Master Plan, April 1996 is adopted by the Multnomah County Board of Commissioners.

DATED this 2nd day of May, 1996.



**BOARD OF COUNTY COMMISSIONERS
MULTNOMAH COUNTY, OREGON**


Beverly Stein, Chair

REVIEWED:

**LAURENCE KRESSEL, COUNTY COUNSEL
MULTNOMAH COUNTY, OREGON**

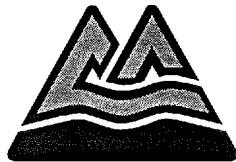
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**Sandra N. Duffy, ChiefASSiStt**



# PEDESTRIAN MASTER PLAN

**April 1996**

**PREPARED BY:**



Multnomah County Oregon  
Department of Environmental Services  
Transportation and Land Use Planning Division

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## **ACKNOWLEDGEMENTS**

Development of the Multnomah County Pedestrian Master Plan was made possible through the efforts of the following people:

### **Board of County Commissioners**

|                 |                         |
|-----------------|-------------------------|
| Beverly Stein,  | Chair of the Board      |
| Dan Saltzman,   | District 1 Commissioner |
| Gary Hansen,    | District 2 Commissioner |
| Tanya Collier,  | District 3 Commissioner |
| Sharron Kelley, | District 4 Commissioner |

### **Citizen Task Force**

Pamela Alegria  
Michael Amen  
Carl Culham  
Chuck Herndon  
Larry Olson

### **Technical Advisory Committee**

|                     |                                      |
|---------------------|--------------------------------------|
| Jerry Anderson,     | Wood Village                         |
| Jan Campbell,       | Metropolitan Human Rights Commission |
| Allison Dobbins,    | Metro                                |
| John Dorst,         | Multnomah County                     |
| Rich Faith,         | Troutdale                            |
| Bill Hoffman,       | Portland                             |
| Elizabeth Humphrey, | Tri-Met                              |
| Evelyn Rayfield,    | ODOT                                 |
| Richard Ross,       | Gresham                              |

### **Department of Environmental Services**

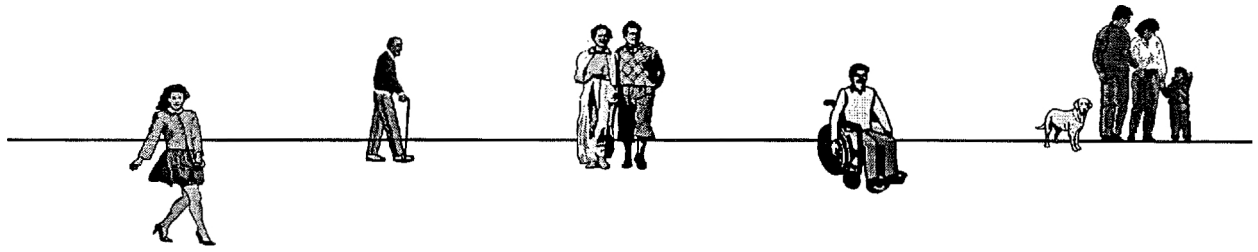
Larry F. Nicholas, P.E., Director

### **Transportation Division**

Kathy Busse, Administrative Services Officer  
W.E. Chuck Henley, County Engineer  
Ed Pickering, Transportation Planning Administrator  
Karen Schilling, Transportation Planning Specialist

### **Technical Support**

John Shigo  
Wayne Kelsey  
Rachael Moffet  
Velda Howell



## **EXECUTIVE SUMMARY**

### **Introduction**

The purpose of the Multnomah County Pedestrian Master Plan is to establish a framework for developing a safe and convenient urban and rural pedestrian system on Multnomah County roads. Benefits of the Plan will be improved pedestrian facilities, greater transit accessibility and an environment more conducive to pedestrians.

The Pedestrian Master Plan contains objectives and policies that will be adopted into the County Comprehensive Framework Plan. Implementation strategies are identified as opportunities to direct County resources toward achievable objectives, and satisfy public needs.

Development of the Pedestrian Master Plan was funded through a Transportation Growth Management grant, a joint program of Oregon Department of Transportation (ODOT) and the Oregon Department of Land Conservation and Development (DLCL). Local governments are required by the State of Oregon (ORS 197.175) to perform planning that interrelates land use and transportation with the natural and human environments and public infrastructure. Multnomah County is fulfilling the State requirement by developing the Pedestrian Master Plan.

The Pedestrian Master Plan of 1995 updates the pedestrian portion of the 1983 Comprehensive Framework Plan and is a component of the Multnomah County Master Transportation Plan. The Plan is scheduled for revision every five years.

A County-wide Pedestrian Citizen Task Force, consisting of a geographic representation of concerned citizens, assisted in preparing the Plan and making recommendations. The Plan is supported by the Pedestrian Citizen Task Force.

Multnomah County also received advice and direction from the Pedestrian Technical Advisory Committee. Participants from the following organizations ensured a coordinated county-wide pedestrian network: Metro, Metropolitan Human Rights Commission, ODOT, Tri-Met, Willamette Pedestrian Coalition, and the Cities of Fairview, Gresham, Troutdale and Wood Village.

The State requires public involvement as part of the planning process. A Transportation Forum (January 28, 1995) and a Public Workshop (June 14, 1995) were advertised and held to receive comments from the public. In addition, the Plan was available for a 45 day review by the public.

Prior to Board adoption, the recommended Pedestrian Master Plan was presented to the East Multnomah County Transportation Committee for their endorsement. The Pedestrian Master Plan was submitted to the Multnomah County Board of Commissioners for public hearing and action on \_\_\_\_\_, 1996. The Board of Commissioners adopted the Pedestrian Master Plan on \_\_\_\_\_, 1996.

## **Vision, Objectives and Strategies**

The Vision for a future pedestrian system in Multnomah County is based on the two major categories of pedestrian needs identified by the public in Multnomah County: more pedestrian facilities and safer walking conditions. The vision statement was developed by consensus of the Citizen Task Force and the Technical Advisory Committee as follows:

*Ensure a walkable environment integrated with other modes of transportation through continuous development and improvement of pedestrian facilities that are safe, attractive, accessible and adaptable to all users.*

Multnomah County has established four pedestrian-related objectives supporting the Statewide Planning Goals, the Regional Transportation Plan and local policies. These objectives address the themes of mobility, accessibility to transit, provision of facilities, and communication in relationship to the vision statement. Policies establish how the Pedestrian Master Plan objectives will be accomplished. Implementation strategies specify actions for implementing the policies and objectives for continued development of the County's pedestrian system.

### **OBJECTIVES**

1. *Improve pedestrian circulation.*
2. *Provide pedestrian facilities that promote transit use.*
3. *Identify pedestrian improvement projects.*
4. *Coordinate planning, programming, and development among citizen groups, government agencies, and transit providers.*

The County's transportation goal can only be attained by implementation of the four objectives simultaneously. Increasing mobility, access to transit, improving facilities and communication will result in a more balanced, safe and efficient transportation system serving Multnomah County.

### **Current Conditions**

Curbs, sidewalks, ramps, crosswalks and road shoulders were inventoried on the County roads. In the urban areas, there are 66 miles of sidewalks on County arterial and collector roads; 166 miles of sidewalks are needed. Of the 166 miles of needed sidewalks, 21 miles have storm drainage and curbs in place and need only sidewalks; 145 miles of roads need to be constructed to urban standards with curbs, drainage and sidewalks.

In the rural area, less than 15 percent (approximately 28 miles) of the arterial and collector roads have paved shoulders. Less than one percent of the roads in the rural area have sidewalks.

The inventory of crosswalk ramps in Multnomah County roads identified 650 existing ramps that need to be reconstructed to meet the Americans with Disabilities Act (ADA) standards.

There are many factors that contribute to pedestrian activity. The proximity of trip origins and destinations, building orientation to pedestrian access, transit service and the existence of safe and convenient pedestrian facilities all influence the level of pedestrian activity. In addition, certain destinations attract relatively high levels of pedestrian activity such as bus stops, light rail stations, schools, parks, libraries, commercial centers and main streets if they are readily accessible to pedestrians.

Inadequate facilities, physical obstructions and environmental conditions discourage people from choosing walk trips. Missing segments of walkways, and the lack of ramps and crosswalks represent barriers to walking. Physical obstructions include facilities in disrepair, encroaching vegetation or appurtenances, such as utility poles and mailboxes, in the sidewalk.

## Standards for Pedestrian Facilities

Multnomah County street design standards require sidewalks on both sides of all urban streets. Standard sidewalk widths are five and six feet, varying between classifications of roadways. The current standard requires sidewalks to be constructed adjacent to the curb, although there are locations throughout the County where a buffer, or planting strip, separates the sidewalk from the curb and traffic. Utilities are required to be placed behind the sidewalk. New intersection ramp construction follows guidelines from the Americans with Disabilities Act (ADA).

While the County provides sidewalks or ensures they are provided by private developers, the maintenance responsibility is shared between the County and property owners of property adjoining sidewalks. Currently, Multnomah County does not proactively identify maintenance problems on pedestrian facilities in urban areas but relies on the public to report maintenance needs.

In rural areas where paved shoulders serve as pedestrian facilities, the County maintains the shoulders as part of its road maintenance responsibility. Problems are also addressed when the County receives comments from the public about a specific location. Paved shoulders rather than sidewalks are the standard in rural areas.

## Pedestrian Capital Improvement Plan

The goals of the Pedestrian Capital Improvement Plan (PCIP) are to: 1) construct missing sidewalk links on urban arterial streets that have curbs and 2) solve existing hazardous pedestrian situations as identified by the public. The 1996-2000 PCIP has identified 20 miles of sidewalk

infill projects for the urban area where curbs and drainage facilities are in place. These projects will cost \$3.3 million to complete. The PCIP is primarily a sidewalk infill program and does not account for substandard roadways, rural roadways or reconstructing ramps to ADA standards.

Approximately \$100,000 per year is allocated from the County's Transportation Fund exclusively for pedestrian projects. Projects are ranked using criteria established in the Pedestrian Master Plan. Pedestrian projects to be completed over the next five years are taken from the Pedestrian CIP. Seven projects have been identified to be completed by 2000, costing \$545,200.

The County allocates \$50,000 per year from Transportation Funds to retrofit curb ramps to ADA standards. While ramps exist at the majority of intersections on County roadways, they were constructed prior to federal standards and therefore need to be reconstructed to meet new standards. Typically, ramps are reconstructed as other construction is completed on a roadway. There are approximately 650 ramps that need to be reconstructed.

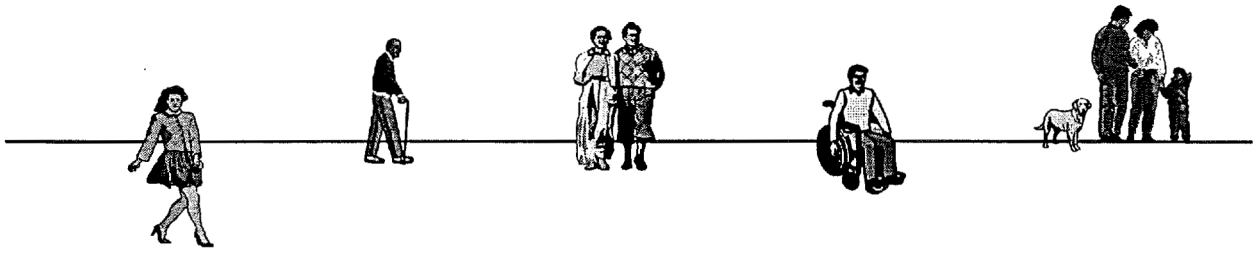
Approximately \$23 million is needed to complete the remaining 145 miles of needed sidewalks. In addition to the PCIP, other funding will be provided through:

- the Roadway CIP in conjunction with roadway construction,
- private sector funds as a condition of development approval,
- Federal transportation dollars through the Transportation Improvement Program (TIP), and
- grants, such as the Congestion Management/Air Quality (CMAQ) funds that have been allocated to specific Willamette River Bridges Accessibility Projects (WRBAP).

An ongoing process to increase pedestrian facilities on rural and rural-type roads occurs when the County performs periodic pavement overlays. If the ROW exists and there are no physical limitations, the County widens the shoulder by extending the width of pavement.

Since the need for pedestrian facilities outweighs foreseeable revenues, it is necessary to develop evaluation criteria to identify a priority for developing the pedestrian network over a period of years. The following criteria are used to evaluate pedestrian projects.

Safety  
Land use  
Transit corridors  
Connectivity of facilities  
Citizens' requests  
Aesthetics  
Functional Classification





## INTRODUCTION

Walking is the most basic form of transportation. Each transit, bicycle and automobile trip begins and ends as a pedestrian trip. Walking may be the only option for many people, especially the young, the elderly and people with low incomes. With increased traffic congestion, the rising cost of fuel, and air quality impacts on our environment, developing a well integrated multi-modal transportation system has become a necessary transportation management approach. A well planned and maintained pedestrian system, as an alternative mode of transportation, is key to the multi-modal transportation system in Multnomah County.

Walking cannot replace all automobile trips, but it can be the mode of choice for a variety of short trips including:

- Work
- School
- Shopping
- Neighborhood visits
- Recreation

Pedestrian trips can also be combined with transit or carpooling for longer trips.

The County transportation system should provide pedestrian facilities that establish a walking environment in cities, regional centers, and suburban and rural communities. A balanced transportation system provides a range of transportation modes including pedestrian, bicycle, transit and automobile facilities that appropriately serve the surrounding land uses. Community liveability must be preserved while providing accessibility and mobility through the transportation system. The pedestrian environment that meets the needs of the public is a vital element of the County transportation system.

Within this context, and with increased public awareness of the benefits of walking, Multnomah County has taken an active role in funding and constructing new pedestrian facilities. Oregon Revised Statutes (ORS 366.514, Appendix A) mandate that a minimum of one percent of the County's annual share of State Highway Trust Fund dollars shall be spent toward the planning, design, construction, and maintenance of pedestrian and bike facilities within County road rights-of-way. Additional County funds are contributed as roads are constructed or reconstructed to urban standards. In addition, the County has an annual budget for retrofitting sidewalks and curb ramps to ADA standards. Over \$150,000 is spent each year by Multnomah County on pedestrian facilities in the urban area. Pedestrian facilities are developed according to State of Oregon standards, American Association of State Highway and Transportation Officials (AASHTO) guidelines and Americans with Disabilities Act (ADA) standards.

The aims of the Pedestrian Master Plan are to encourage walking as a viable mode of transportation by increasing awareness about pedestrians and their rights, and to establish the framework to systematically improve and maintain pedestrian facilities in Multnomah County.

Pedestrians are regulated in the Oregon Vehicle Code similar to bicycles and motor vehicles and are legitimate users of public road rights-of-way. Pedestrians have equal access to Multnomah County roads and State highways except where specifically prohibited, such as urban freeways. Multiple uses of public rights-of-way can lead to conflicts between users. Conflicts increase when users are not aware of, and sensitive to the rules concerning other user-groups. Other conflicts occur when pedestrian facilities are incomplete and pedestrians are forced to use the right-of-way of others. Both issues are addressed in the Pedestrian Master Plan.

## **Purpose of the Pedestrian Master Plan**

The purpose of the Pedestrian Master Plan is to establish a framework for developing a safe and convenient urban and rural pedestrian system on Multnomah County roads. Benefits of the Plan are improved pedestrian facilities, greater transit accessibility and an environment more conducive to pedestrians. The Plan consists of an inventory of existing pedestrian facilities and locations that are likely to attract pedestrians. Deficiencies in the system, identified through the inventory, are evaluated for eventual improvement.

The Pedestrian Master Plan contains objectives and policies that will be adopted into the County Comprehensive Framework Plan. Implementation strategies are identified as opportunities to direct County resources toward achievable objectives, and to satisfy public needs.

As part of the Pedestrian Master Plan, a Pedestrian Capital Improvement Program (PCIP) will be developed. The PCIP will facilitate implementation of the Plan by developing criteria for prioritizing pedestrian projects and identifying funding sources for long-term implementation.

The Pedestrian Master Plan coordinates continued development of a safe and efficient road and pedestrian system. A pedestrian-friendly County transportation system will improve the walking environment and enhance community liveability. Several education and information opportunities are identified that promote compatibility between pedestrians and motor vehicles.

## **Policy Framework**

The Comprehensive Framework Plan was substantially revised in 1983 to comply with Oregon Statewide Planning Goals. In response to the Statewide Planning Goals, Multnomah County adopted Policy 33C: Bikeways/Pedestrian System (Appendix B) as part of the Comprehensive Framework Plan. Policy 33C specifies the need to integrate various modes of transportation and to supply people and commerce with alternative transportation facilities in creating a balanced transportation system. However, the adopted policy focuses primarily on the integration and implementation of a County Bicycle Program, with little attention paid to the County Pedestrian Program. Subsequent to adopting the Pedestrian Master Plan, Policy 33C will be amended to reflect the adopted Pedestrian Plan.

Part of the requirement of the Oregon Transportation Planning Rule (TPR), which implements Transportation Goal 12, is the development of pedestrian plans. This requirement, with the increased awareness and need to accommodate pedestrians as a mode of travel, and the need to amend and strengthen Policy 33C regarding pedestrians have led to the development of the Pedestrian Master Plan. The Pedestrian Master Plan establishes the foundation for a pedestrian transportation system that serves residents and visitors in urban and rural areas, and connects homes to schools, work, shopping and transit destinations.

Pedestrian Master Plan policies focus on achieving the County's goal of a balanced, safe and efficient transportation system. A balanced transportation system provides a choice for people to use automobiles, bicycles, transit or walking. A safe transportation system is necessary for each mode of travel. An efficient transportation system reduces travel time for every mode.

In the past, development of pedestrian facilities within the County has been inconsistent, resulting in missing segments and causing public concern. Current policy is to construct or improve pedestrian facilities when road construction or improvements occur. The Pedestrian Element of the Capital Improvement Program is another means to implement the Pedestrian Master Plan. Potential pedestrian capital improvement projects are evaluated periodically as to their relative value to the community based upon criteria of need.

### **Geographic Coverage**

The jurisdiction of the Pedestrian Master Plan encompasses Multnomah County roads, bridges and walkways only (Figure 1). Excluded from the pedestrian planning process are roads and walkways belonging to cities or the State of Oregon, private roads, and any other land not owned by the County. Multnomah County is responsible for roads in the following areas:

East Urban: Within the Cities of Gresham, Fairview, Wood Village, and Troutdale, Multnomah County is responsible for arterial roadways; responsibility for collector roadways may be city or county.

West Urban:

Southwest: Unincorporated Dunthorpe

Westside: Unincorporated Sylvan

Willamette River Bridges and ramps: Broadway, Burnside, Morrison, Hawthorne and Sellwood


Rural East: Orient, Corbett, Springdale, Pleasant Valley and the Columbia River Gorge National Scenic Area

Rural West: Tualatin Hills and Sauvie Island, and Sauvie Island Bridge

The Oregon Department of Transportation (ODOT) is responsible for pedestrian facilities on state roadways in Multnomah County: I-84, I-5, I-205, I-405, US 26, and US 30 and the Historic Columbia River Highway. There are no pedestrian facilities on interstates except the separated bike/pedestrian paths on I-205 and I-84.

(FIGURE 1)

MULTNOMAH COUNTY  
ROADWAY JURISDICTION



MULTNOMAH COUNTY  
DEPT. OF ENVIRONMENTAL SERVICES  
TRANSPORTATION DIVISION  
1620 S.E. 190th Ave. PORTLAND, ORE.

LEGEND

-->,eo-

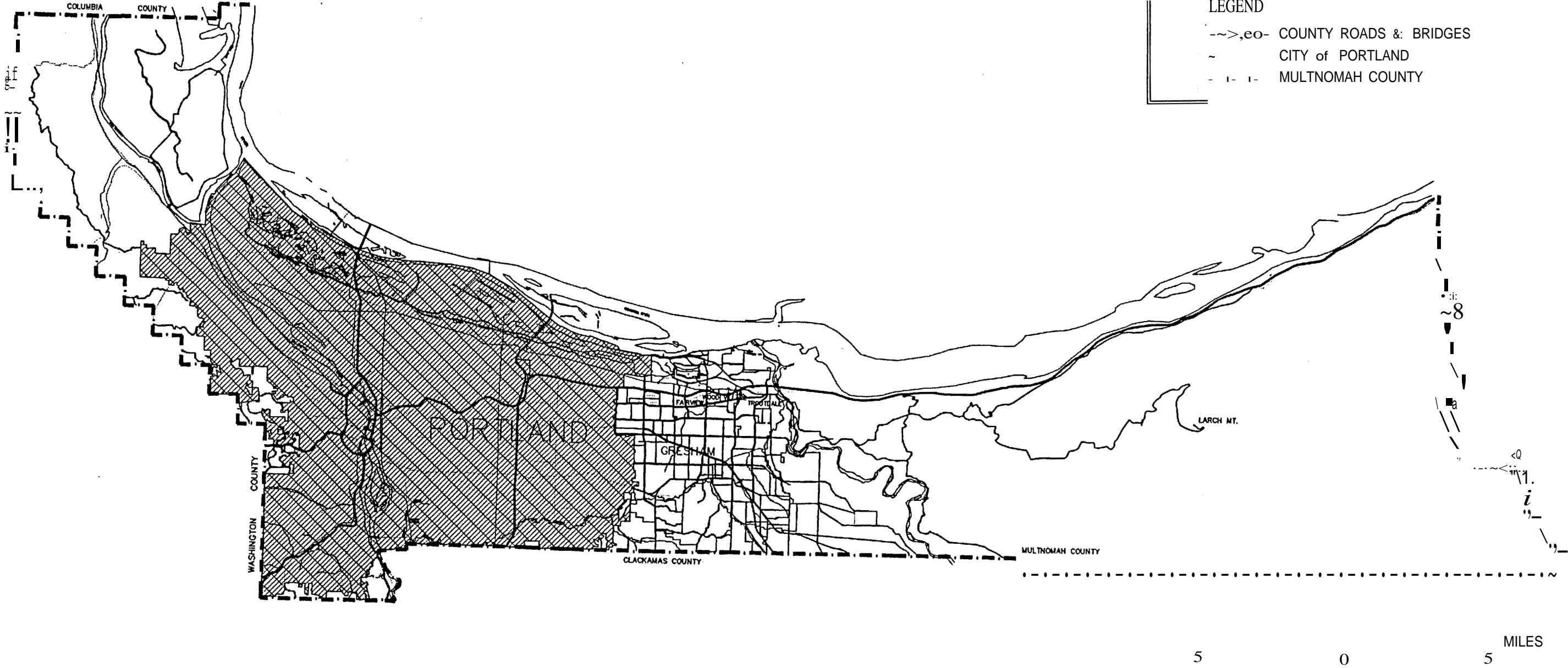
COUNTY ROADS & BRIDGES

~

CITY of PORTLAND

- - - -

MULTNOMAH COUNTY



## Amending the Plan

The Pedestrian Master Plan may require amendments as changes occur in Multnomah County. Changing demographics result in a need to adapt the transportation system. Amendments will also be needed if substantial changes occur in the County such as new roads, economic developments, or significant government policy changes. These changes will be reflected in future Pedestrian Master Plan revisions. The Plan is scheduled for revision every five years. Revisions to the Pedestrian Capital Improvement Program are scheduled for every two years.

## Planning Process

The Pedestrian Master Plan of 1995 updates the pedestrian portion of the 1983 Comprehensive Framework Plan and is a component of the Multnomah County Master Transportation Plan. Local governments are required by the State of Oregon (ORS 197.175) to perform planning that interrelates land use and transportation with the natural and human environments and public infrastructure. Multnomah County is fulfilling the State requirement by developing the Pedestrian Master Plan.

A County-wide Pedestrian Citizen Task Force, consisting of a geographic representation of concerned citizens, assisted in preparing the Plan and making recommendations. The primary purposes of the Task Force were to represent pedestrians' interests and needs, and to build consensus on identifying needed capital improvement projects. These citizens, in their advisory role, added vital community insights to the planning process. Objectives, policies, strategies and routes were reviewed and revised, leading to a recommended Pedestrian Master Plan. The recommended Plan is supported by the Pedestrian Citizen Task Force.

Multnomah County also received advice and direction from the Pedestrian Technical Advisory Committee. Participants from the following organizations ensured a coordinated county-wide pedestrian network: Metro, Metropolitan Human Rights Commission, ODOT, Tri-Met, Willamette Pedestrian Coalition, and the Cities of Fairview, Gresham, Troutdale and Wood Village. Participation of staff from local and regional agencies was especially important since many agencies were also in the development phase of their respective pedestrian plans.

The State requires public involvement as part of the planning process. A Transportation Forum (January 28, 1995) and a Public Workshop (June 14, 1995) were advertised and held to receive comments from the public. The Pedestrian Plan was available for a 45 day review by the public. A public hearing was also held by the Multnomah County Board of Commissioners prior to Plan adoption.

Prior to Board adoption, the recommended Pedestrian Master Plan was presented to the East Multnomah County Transportation Committee for their endorsement. The Pedestrian Master Plan was submitted to the Multnomah County Board of Commissioners for public hearing and action on . The Board of Commissioners adopted the Pedestrian Master Plan on



## **VISION, OBJECTIVES AND STRATEGIES**

Many of America's cities face environmental, traffic, health, growth and safety problems associated with increased auto dependency. Alternative ways to meet transportation needs must be found without further sacrificing quality of life. Promoting walking can be among the most cost-effective and energy efficient ways to meet those needs.

### **Vision Statement**

The Vision for a future pedestrian system in Multnomah County is based on the two major categories of pedestrian needs identified by the public in Multnomah County: more pedestrian facilities and safer walking conditions. The vision statement was developed by consensus of the Citizen Task Force and the Technical Advisory Committee as follows:

*Ensure a walkable environment integrated with other modes of transportation through continuous development and improvement of pedestrian facilities that are safe, attractive, accessible and adaptable to all users.*

The Vision Statement addresses the question: "What kind of future do we want to build, and what kind of pedestrian system will contribute to that future within Multnomah County?" In developing the vision statement, several assumptions were made:

- 1) Urban growth will impact the existing transportation system;
- 2) A multi-modal transportation system will support transportation management goals;
- 3) An improved pedestrian system provides greater incentive for transit use;
- 4) Existing facilities will be maintained while adding new facilities in coordination with urban growth;
- 5) Pedestrian facilities will meet applicable design, construction, and maintenance standards; and
- 6) Rural land uses will be served with roads that accommodate the needs of pedestrians, as well as motor vehicles.

Based on the vision statement and the objectives, supporting policies and implementation strategies were developed for the Pedestrian Master Plan. Attainment of the vision occurs through systematic completion of the objectives, policies and implementation strategies (Tables 1-4).

### **Transportation Goal and Objectives**

Multnomah County's transportation goal in the Comprehensive Framework Plan is "to provide and encourage a balanced, safe and efficient transportation system." Policy 33 addresses automobiles, bicycles, pedestrians and transit as modes in a balanced transportation system. This goal is consistent with Statewide Planning Goal 12: Transportation.



Multnomah County has established four pedestrian-related objectives supporting the Statewide Planning Goals, the Regional Transportation Plan and local policies. These objectives address the themes of mobility, accessibility to transit, provision of facilities, and communication in relationship to the vision statement.

### **OBJECTIVES**

1. *Improve pedestrian circulation.*
2. *Provide pedestrian facilities that promote transit use.*
3. *Identify pedestrian improvement projects.*
4. *Coordinate planning, programming, and development among citizen groups, government agencies, and transit providers.*

### **Policies and Implementation Strategies**

The policies in the Pedestrian Master Plan are consistent with the policies in the Bicycle and Pedestrian Plan element of the Oregon Transportation Plan, the Pedestrian Element of the Regional Transportation Plan (RTP), and Policy 33C: Bikeways/Pedestrian Systems of the Multnomah County Comprehensive Framework Plan. Policies in the Pedestrian Master Plan establish how the Pedestrian Master Plan objectives will be accomplished. Implementation strategies specify actions for implementing the policies and objectives for continued development of the County's pedestrian system.

Policies for Objective 1 focus on factors that influence mobility. Mobility, or the potential to travel, is influenced by the existence and condition of pedestrian facilities, standards for facilities, aesthetics, maintenance and safety issues. Implementation strategies address direct and safe connections, developing new standards for pedestrian facilities, educating the responsible parties about maintenance practices and minimizing barriers to walking.

Improving pedestrian facilities can increase transit use. Policies supporting Objective 2 address how pedestrian facilities and land use can promote transit use. Ensuring that transit corridors have continuous pedestrian facilities from residential and commercial areas to transit service promotes transit use.

Policies for Objective 3 specify how pedestrian projects will be identified for inclusion in Multnomah County's transportation system. Development of projects, funding issues and prioritization of projects are addressed. Funding is allocated to pedestrian facility projects through the Pedestrian Element of the Capital Improvement Program. Strategies include how projects can be identified, prioritized and funded.

Public involvement is an important component of developing transportation plans. Policies supporting Objective 4 define ways to increase the exchange of information between Multnomah County and the public. Public involvement policies also address information exchange between government agencies, user education, enforcement, sidewalk maintenance and public participation in the planning process. The strategies establish a public participation process specifically for pedestrian issues, education, enforcement, and coordination.

The County's transportation goal can only be attained by implementation of the four objectives simultaneously. Increasing mobility, access to transit, improving facilities and communication will result in a balanced, safe and efficient transportation system serving Multnomah County.

**Table 1**

**OBJECTIVE 1: Improve Pedestrian Circulation**

| <b>POLICIES</b>                                                                                                                                                                                                                            | <b>IMPLEMENTATION STRATEGIES</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>NETWORKS</b>   A. Improve urban and rural pedestrian mobility in Multnomah County, outside of the City of Portland.</p> <p>B. Ensure that pedestrian facilities are an integral component of the County's transportation system.</p> | <p>A. Develop pedestrian facilities in a safe, continuous and convenient pedestrian network.</p> <p>B. Develop pedestrian networks consistent with the County's Functional Classification of Trafficways, linking communities to transit, employment, schools, residential and commercial land-use activities.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <p><b>STANDARDS</b>   A. Design and construct pedestrian facilities and plan pedestrian networks according to applicable standards.</p>                                                                                                    | <p>A. Adopt by reference and implement Oregon Department of Transportation pedestrian standards, the American Association of State Highway and Transportation Officials (AASHTO) guidelines, and the Americans With Disabilities Act (ADA) accessibility standards regarding design, construction, and maintenance of pedestrian facilities.</p> <p>B. Develop design standards that eliminate or mitigate conflicts and hazards in the pedestrian network.</p> <p>C. Strive to remove appurtenances (i.e. mailboxes, fire hydrants, traffic control devices and utility poles) from pedestrian facilities to provide obstruction-free travelways.</p> <p>D. Provide uniform marking, signing and traffic control measures of pedestrian facilities according to the Manual of Uniform Traffic Control Devices.</p> |
| <p><b>AESTHETICS</b>   A. Integrate visual attractiveness into the overall design and development of pedestrian facilities and networks to encourage walking as a viable, alternative mode of transportation.</p>                          | <p>A. Develop and implement landscape and design principles (i.e., planting strips, textured surfaces and placement of street furniture) to enhance pedestrian facilities.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

|             |                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------|------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MAINTENANCE | A. Promote management practices that ensure a well-maintained and safe pedestrian environment. | A. Educate property owners about maintenance responsibilities of pedestrian facilities and overgrown vegetation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|             |                                                                                                | <p>B. Encourage property owners to voluntarily comply with maintenance guidelines.</p> <p>C. Provide adjacent landowners the opportunity to coordinate pedestrian facility maintenance with County road maintenance by providing landowners with County maintenance schedules.</p> <p>D. Assume a pro-active role in maintaining County pedestrian ways using Transportation Division resources.</p>                                                                                                                                                                                          |
| SAFETY      | A. Provide safe pedestrian facilities.                                                         | A. Provide safety measures on pedestrian facilities (e.g. lighting, alternative surfaces, or handrails) as necessary to ensure safe walking conditions.                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|             | B. Minimize or mitigate safety hazards in the pedestrian network that discourage walking.      | <p>B. Respond in a timely manner to reports by the public of potentially unsafe conditions on County pedestrian facilities.</p> <p>C. Identify opportunities to mitigate barriers to pedestrian access. Mitigation could include applying traffic calming techniques, connecting streets, implementing special facility treatments such as islands, and using signal strategies that accommodate pedestrians at intersections.</p> <p>D. Implement traffic management solutions to minimize pedestrian hazards and conflicts between pedestrians and other users of County rights-of-way.</p> |

**Table 2**

**OBJECTIVE 2: Provide Pedestrian Facilities That Promote Transit Use**

|                   | <b>POLICIES</b>                                                                                                                         | <b>IMPLEMENTATION STRATEGIES</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>FACILITIES</i> | A. Develop convenient and continuous walkways to and from transit corridors.                                                            | A. Identify pedestrian facilities for development that will improve access to transit corridors and stations including upgrading existing facilities and completing missing segments on arterials and collectors.                                                                                                                                                                                                                                                                                                                     |
| <i>LAND USE</i>   | A. Develop pedestrian networks that are consistent with existing land uses and regional, county and local comprehensive land use plans. | <p>A. Provide safe and direct pedestrian access to and from employment and shopping centers, schools, residential neighborhoods and Regional and Town Centers.</p> <p>B. Provide crosswalks at or near bus and LRT stations that improve access to transit and adjacent land uses.</p> <p>C. Identify opportunities to use off-road, multi-use paths to connect land uses.</p> <p>D. Improve paved shoulders to County standards on rural County roadways to accommodate pedestrians outside the travel lanes, where practicable.</p> |

**Table 3**

**OBJECTIVE 3: Identify Pedestrian Improvement Projects**

|                                      | <b>POLICIES</b>                                                                                                                                                                                                                                | <b>IMPLEMENTATION STRATEGIES</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>DEVELOPMENT</b>                   | <p>A. Develop and maintain an inventory of the County's pedestrian system.</p> <p>B. Provide appropriate pedestrian facilities to accommodate the needs of pedestrians.</p>                                                                    | <p>A. Maintain the pedestrian system inventory and develop pedestrian facilities as part of scheduled road improvements, stand-alone projects, maintenance overlay projects, or private development.</p> <p>B. Identify opportunities to develop walkways outside public road rights-of-way. Potential facilities that improve accessibility may include: utility corridors, greenways, railroad right-of-way, unused road right-of-way, public and private land developments, and joint projects.</p> <p>C. Coordinate development of pedestrian facilities as roads and bridges are developed, reconstructed, or upgraded, including opportunities to mitigate barriers.</p> |
| <b>FUNDING</b>                       | <p>A. Program and budget pedestrian improvement funds, based on criteria and priority of need, in the Pedestrian Capital Improvement Program.</p> <p>B. Seek supplemental funds and resources from a variety of potential revenue sources.</p> | <p>A. Schedule capital expenditures based on projected County transportation revenues.</p> <p>B. Secure additional pedestrian revenues and contributions including, but not limited to: other governmental organizations; private donations and contributions of materials or services; joint public/private projects; and grants.</p> <p>C. Revise and update the Pedestrian Capital Improvement Plan and Program every two years.</p>                                                                                                                                                                                                                                        |
| <b>CRITERIA AND PRIORITY OF NEED</b> | <p>A. Place high priority on preserving and developing the Multnomah County pedestrian system.</p>                                                                                                                                             | <p>A. Establish criteria to prioritize pedestrian projects. Criteria should include the completion of missing facilities; the potential to increase modal share and safety; attainment of regional, County and local land use objectives; and a measure of cost effectiveness.</p> <p>B. Select pedestrian projects on the basis that they achieve maximum benefit for the funds invested.</p>                                                                                                                                                                                                                                                                                 |

Table 4

**OBJECTIVE 4: Coordinate Planning, Programming and Development Among Citizen Groups, Government Agencies and Transit System Providers**

|                             | <b>POLICIES</b>                                                                                                                                                                                                                                                                                                                                             | <b>IMPLEMENTATION STRATEGIES</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>INFORMATION EXCHANGE</i> | A. Identify opportunities to resolve pedestrian concerns and address needs.                                                                                                                                                                                                                                                                                 | <p>A. Coordinate pedestrian projects by participating in state, regional, and local pedestrian planning and project development.</p> <p>B. Initiate an ongoing process to review and comment on pedestrian-related planning documents at the state, regional, and local levels.</p> <p>C. Coordinate with the private sector through the land development permit and right-of-way permit processes.</p> <p>D. Participate in joint projects with public agencies and the private sector.</p>                                                                                                                                                                                                       |
| <i>EDUCATION</i>            | A. Increase public awareness of pedestrian opportunities, benefits, rules of the road, and maintenance responsibilities.                                                                                                                                                                                                                                    | <p>A. Identify opportunities to participate with other organizations in providing pedestrian safety education and training programs including: Multnomah County Sheriffs Office, other police agencies, courts, schools, Education Service Districts (ESD), service organizations, walking clubs, private enterprise, and County community service agencies and contractors.</p> <p>B. Prepare and distribute a County pedestrian information brochure for the public that includes project status reports.</p> <p>C. Identify and secure supplemental sources of revenue to fund pedestrian safety education programs.</p>                                                                        |
| <i>ENFORCEMENT</i>          | <p>A. Encourage the appropriate police agencies to be more active in enforcing vehicle and pedestrian laws to reduce the occurrence of pedestrian/motor vehicle conflicts.</p> <p>B. Encourage a cooperative public and private relationship to providing and maintaining walkways; enforce sidewalk maintenance by adjacent landowners when necessary.</p> | <p>A. Encourage the State to alert motorists of pedestrian rights by including pedestrian-related questions on the Oregon driver's license test examination.</p> <p>B. Educate law enforcement officers about the need to enforce pedestrian-related laws.</p> <p>C. Work with the Multnomah County Sheriffs Office and other police agencies to educate officers of the need to enforce motorists' and pedestrians' compliance with pedestrian-related laws.</p> <p>D. Enforce landowners to repair adjacent sidewalks and curbs along the road (ORS 368.910); payment and reimbursement procedures (ORS 368.915) will be implemented if the County must make repairs on behalf of the owner.</p> |

|                                   |                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>PUBLIC<br/>PART/Cf PA TION</i> | <p>A. Utilize public involvement process to disseminate information and provide opportunities for input and feedback to revisions of pedestrian plans, policies and programs.</p> <p>B . Establish a public participation process that provides the public with opportunities to express their needs and concerns.</p> | <p>A Establish a Pedestrian Citizen Advisory Committee to assist Multnomah County in identifying and resolving specific pedestrian issues, problems and opportunities, including evaluation of projects for the PCIP.</p> <p>B. Seek public input in the biennial development and revision of the PCIP.</p> <p>C. Develop and provide mail-in comment cards or a telephone line to call in pedestrian problems and needs.</p> |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|





## CURRENT CONDITIONS

The Pedestrian Master Plan addresses the needs for pedestrian facilities on Multnomah County roads, bridges and walkways within the Urban Growth Boundary and outside the City of Portland. Multnomah County operates approximately 350 miles of public roads throughout the County; 116 centerline miles of urban roads and 236 centerline miles of rural roads. There are 21 bridges that are the property of Multnomah County; five span the Willamette River in Portland.

Pedestrian facilities include, but are not limited to, sidewalks, crosswalks, traffic control features, lighting, off-street paths, curb cuts or ramps, and paved and unpaved road shoulders. Adequate pedestrian facilities in appropriate locations will provide a complete pedestrian system. Missing sidewalks and crosswalks, substandard ramps or narrow shoulders that hamper pedestrians from making safe, convenient and direct trips to their destinations are defined as deficiencies in the pedestrian system.

### Facilities Inventory

Curbs, sidewalks, ramps, crosswalks and road shoulders were inventoried on County roads. The inventory will assist the County in developing a list of projects to be evaluated for the Capital Improvement Program and developing costs for projects that will eliminate deficiencies. The map at the end of this report (Figure 4) shows the locations of existing sidewalks and ramps. The map shows some ramp locations without sidewalks. These are roads built to urban standards with curbs and drainage in place, but without sidewalks. A detailed report of the inventory, *Pedestrian Facilities Inventory Technical Report*, is available as a supplementary document to the Pedestrian Master Plan.

In the urban areas, there are 66 miles of sidewalks on County arterial and collector roads; 166 miles of sidewalks are needed. Of the 166 miles of needed sidewalks, 21 miles have storm drainage and curbs in place and need only sidewalks; 145 miles of roads need to be constructed to urban standards with curbs and sidewalks. Sidewalks in Multnomah County are constructed between five and six feet wide.

Urban roadways with paved shoulders are an interim improvement for pedestrians **until** the roadway is reconstructed to urban standards. There are **41** miles of paved shoulders in the urban area providing interim pedestrian facilities. These locations are included in the 145 miles of curbs and sidewalks that need to be constructed.

In the rural area, less than 15 percent (approximately 28 miles) of the arterial and collector roads have paved shoulders. Although the current standard for paved shoulders in the rural area is eight feet, some of the shoulders are only three feet wide. Less than one percent of the roads in the rural area have sidewalks.

The inventory of crosswalk ramps in Multnomah County is valuable for two reasons: to identify missing ramps and to develop a ramp reconstruction program. For example, there are 27 intersections with marked crosswalks in East Multnomah County for which the County is responsible that are missing at least one crosswalk ramp. To complete the pedestrian facilities at these 27 intersections, 68 ramps need to be built. In addition, there are 650 existing ramps that need to be reconstructed to meet ADA standards. The inventory provides information for developing the reconstruction program.

An inventory of marked pedestrian crosswalks in East Multnomah County shows a number of locations where crosswalks are more than one-half mile apart on major streets. While spacing for crosswalks cannot be predetermined, they must provide access to the surrounding land uses to encourage pedestrian travel. If crosswalks are widely spaced, pedestrians will cross the street wherever it is most convenient to reach a destination instead of walking farther to use a marked crosswalk. Placement of crosswalks, especially if they are at mid-block locations, must be made on an individual basis.

The following list identifies sections of roadway where marked pedestrian crossings of major streets are more than 1/2 mile apart.

Halsey St.

- 162nd Ave to 181st Ave
- 201st Ave to 223rd Ave
- 223rd Ave to 238th Ave
- 238th Ave to Columbia River Highway

Glisan St

- 185th Ave to 202nd Ave
- 202nd Ave to 223rd Ave
- 223rd Ave to 238th Ave
- 242nd Ave to 257th Ave

Stark St

- Burnside St to 202nd Ave
- 223rd Ave to 235th Ave
- 257th Ave to Troutdale Rd

Division St

- 190th Ave to 202nd Ave
- 242nd Ave to 257th Ave
- 257th Ave to Urban Growth Boundary

182nd Ave

Yamhill St to Division St  
Haig Dr to Powell Blvd

182nd/190th Ave

Powell Blvd to Butler Rd

201st/202nd Ave

Sandy Blvd to Halsey St  
Stark St to Division St

Eastman Parkway/209th Ave

Powell Blvd to 209th Ave  
Eastman Parkway to Butler Rd

238th/242nd Ave

Arata Rd to Glisan St  
Hall Rd to Division St  
Powell Blvd to Palmquist Rd  
Palmquist Rd to Urban Growth Boundary

257th Ave

Glisan St to Stark St

Troutdale Rd

Cherry Park Rd to Troutdale Rd  
Troutdale Rd to Sweetbriar Rd

Burnside Rd

Stark St/190th Ave to 202nd Ave  
Main St to 235th Ave

## **Pedestrian Trips**

Pedestrian trip purposes are different in urban areas than in suburban and rural areas. In urban areas, walking trips are made for work, school, transit and social purposes. Pedestrian trips to work are usually less than one mile and less than 0.5 miles for transit access. In suburban and rural areas, the typical walk-to-work trip has limitations since most people live farther than one mile from their place of employment. Although not many pedestrian trips in the suburban area are to employment sites, pedestrian trips are made for social (neighbors, parks), shopping or

school purposes. Walk trips in suburban areas may also be part of a multi-modal trip if a transit corridor is within 1/4 mile. In rural areas, walk trips are primarily exercise oriented and social (to the neighbors or to the mailbox), or transit related for school bus access.

The average pedestrian trip is less than 15 minutes, equivalent to 0.6 miles, based on the average walking speed of 3 mph (4.0 ft/sec). Disabled and elderly people may travel at a slower speed than the average 3 mph. The American Association of State Highway and Transportation Officials (AASHTO) reports that the average speed of elderly people is 2 mph (3.0 ft/sec).

While there are differences in trip types and trip lengths based on development patterns, the requirements for an effective pedestrian system are similar. Pedestrians typically prefer a smooth, firm and uninterrupted surface for walking in urban, suburban and rural areas. An efficient pedestrian facility needs to be clear of obstructions, safe and provide direct connections to pedestrian trip destinations. In addition, locations of crosswalks need to be safe and visible.

### **Pedestrian Attractors and Disincentives**

There are many factors that contribute to pedestrian activity. The proximity of trip origins and destinations, building orientation to pedestrian access, transit service and the existence of safe and convenient pedestrian facilities influence the level of pedestrian activity. In addition, certain destinations attract relatively high levels of pedestrian activity such as bus stops, light rail stations, schools, parks, libraries, commercial centers, and main streets if they are readily accessible to pedestrians. Locations in East Multnomah County that may generate significant pedestrian traffic are identified in Figure 2.

The combination of proximity and types of trip origins and destinations is the primary factor in determining the level of pedestrian activity. More than any other mode of transportation, walking trips are most limited by the distance of the trip. The density of development does not increase pedestrian activity by itself, but in combination with the diversity of places that are close to one another. The proximity of trip attractors encourages pedestrian trips by linking trips that start as transit or automobile to the first destination, and then continue as walking trips to subsequent destinations.

Building orientation is an important factor for attracting pedestrian trips. Store fronts located close to pedestrian facilities or transit stops enable safe and convenient access for pedestrians. Buildings that are setback from the street with a parking lot between the front door and the on-street pedestrian facility is a disincentive to pedestrians due to both the actual and perceived obstacles of crossing the parking lot.

Transit trips are inherent generators of pedestrian trips since every transit trip starts and ends with a walk trip. If there are substandard pedestrian facilities serving a transit corridor, then there will be less incentive to walk to the transit service. Pedestrian facilities are needed both on the road where transit service is provided as well as on roadways within 1/4 mile of the transit

# GENERATORS OF SIGNIFICANT PEDESTRIAN TRAFFIC

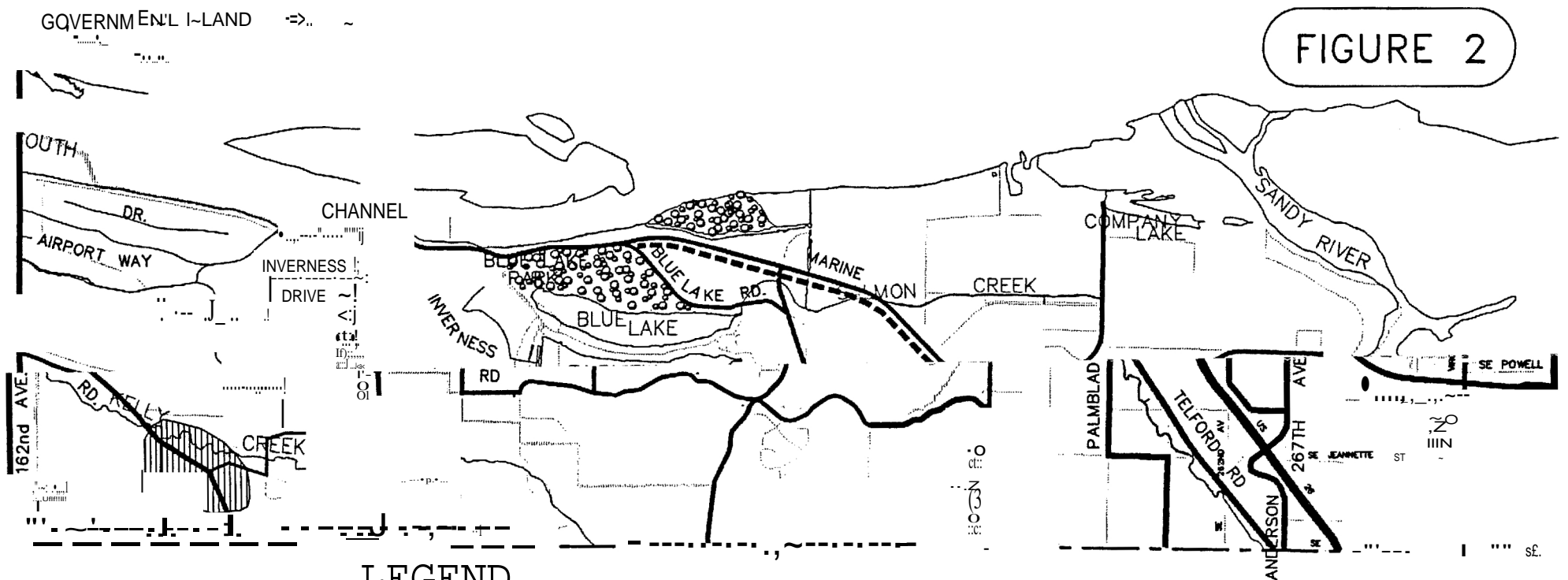


FIGURE 2

## LEGEND

Parks



Trails



Shopping



2040 Centers

Schools



Libraries



Mox Station



Gov't Offices



Hospitals



MULTNOMAH COUNTY  
DEPARTMENT OF ENVIRONMENTAL SERVICES

TRANSPORTATION DIVISION  
1820 S.E. MILWAUKEE AVE., PORTLAND, OR.

2000 0 2000 4000



service. Transit shelters are an added incentive, especially in the Northwest, where the weather can influence the mode of transportation chosen for a trip. Pedestrian access to transit corridors is essential for promoting transit use.

Transit service is provided throughout most of the urban area of East Multnomah County. Figure 3 shows transit service and the area that is within the average 1/4 mile distance that people will walk to transit. Most of the urban area in East Multnomah County is within walking distance of a transit line.

The Primary Transit Network which reflects the intensity of development is also shown in Figure 3. Primary Transit service is distinguished from Secondary service by the speed and frequency of service. The types and general locations of the Primary Transit service are listed below.

- 1) Light Rail Transit connects Regional Centers to the Central City.
- 2) Rail Emulation Bus (high-frequency, high-speed) connects Regional Centers to other Regional Centers.
- 3) Trunkline Bus (high-frequency, standard-speed) serves Regional Mainstreets for intense, local travel.
- 4) Primary Bus (high-frequency, standard-speed) connects Town Centers to their nearest Regional Center, following 2040 corridors.

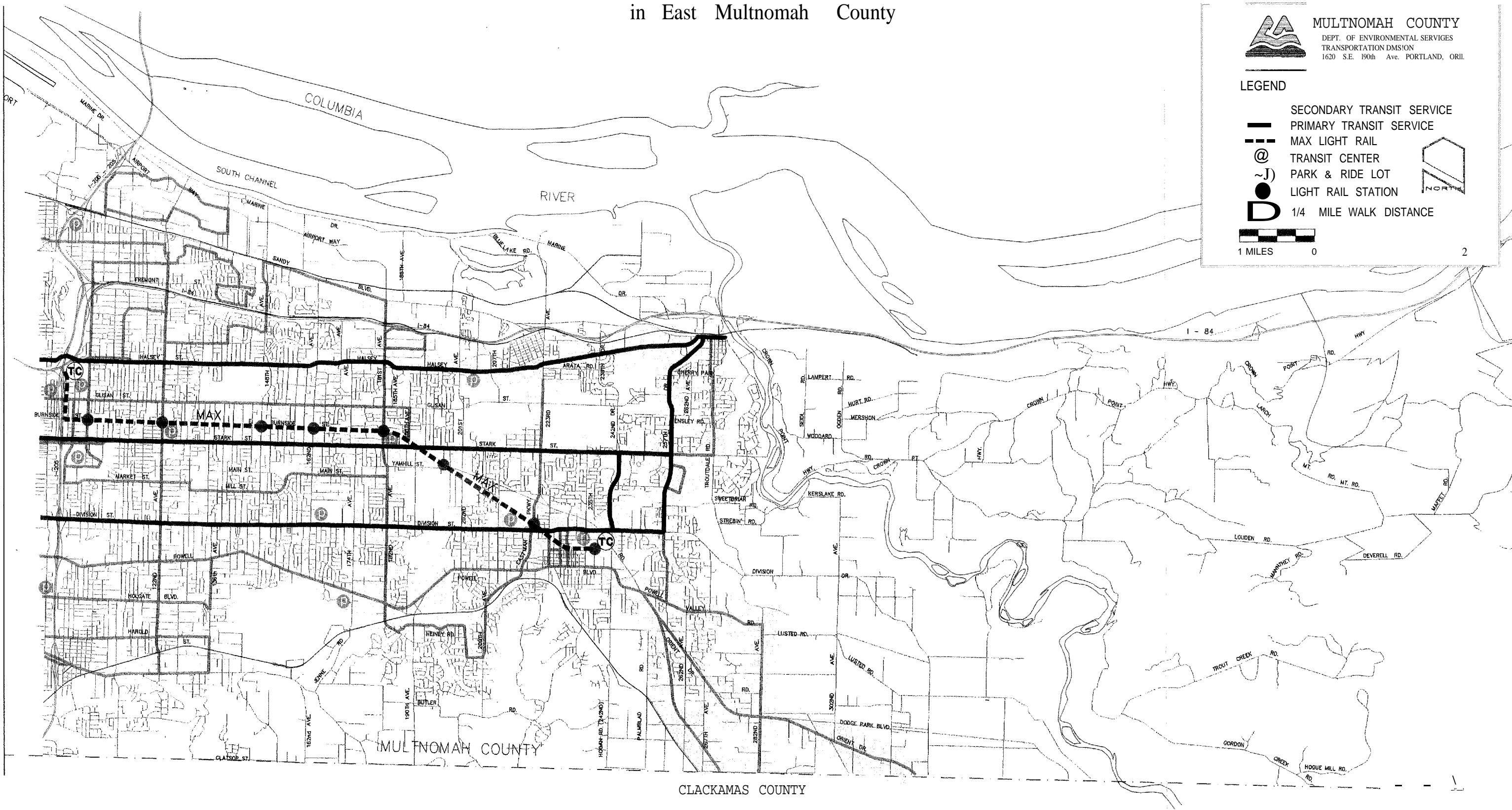
While the proximity of mixed-uses to higher density residential developments are important in influencing pedestrian travel, pedestrian facilities must exist and be connected to result in the highest level of activity. Grid street designs are most effective in providing direct connections. Suburban areas with cul-de-sacs produce longer and more circuitous walking trips between destinations that are close together. Without appropriate system design and construction, obstacles and barriers will exist which decrease the level of safety and connectivity for pedestrians. If sections of walkways are missing, pedestrians may need to walk in the vehicle travel lane or on muddy paths.

Insufficient lighting for pedestrian facilities is a deterrent to pedestrian trips because of the reduced safety of pedestrians. Pedestrians need to clearly see the walkway as well as the surrounding area to be assured of their own safety. Lighting is also needed to ensure that pedestrians are seen by motorists and bicyclists. When lighting from the surrounding land uses or street lights do not provide sufficient lighting, additional lighting is required. Transit stops and underpasses are examples of places that require special attention for lighting needs. Lighting increases the real and perceived safety of pedestrians and encourages walking trips.

Aesthetics of the pedestrian environment are beneficial to increase pedestrian activity. The placement of facilities and vegetation can add to the perceived and real environment. A walkway that is adjacent to motor vehicle traffic is less of an incentive to walking than a walkway

TRI - MET TRANSIT SERVICE  
in East Multnomah County

FIGURE 3





pedestrians will cross mid-block without the benefit of a crosswalk. Mid-block crosswalks may be provided at intervals where roadway intersections do not exist or if there is a location that generates a high volume of pedestrian trips such as MAX stations. Some locations that may warrant mid-block crossings are schools, libraries and commercial districts.

A problem that occurs at signalized intersections is the conflict between pedestrians and motorists either stopping in the crosswalk or turning right on a red light. When motorists stop in the crosswalk, pedestrians are forced into the vehicle travel space. Motorists are allowed to turn right on a red light, but this can interfere with pedestrians crossing the street since the motorist may not pay attention to the walk signal for opposing traffic.

The misunderstanding of walk signals at signalized intersections can increase conflicts between pedestrians and motorists. The pedestrian push-button lets the signal controller know a pedestrian walk light is desired. If a pedestrian call is placed just as the traffic signal is about to display the green phase for vehicles, it is not detected in time to display a walk signal during that green phase. When this occurs or when pedestrians wait an excessive amount of time for a WALK signal, they may believe that the signal is not working and cross the street at inappropriate times. In addition, if the placement of pedestrian push buttons at intersections is inconvenient, then the push button may not be used.

Walk signals add to the perceived safety of pedestrians and help motorists to be more aware of the possibility of pedestrians at a specific location. Pedestrians may be more inclined to use signalized intersections if they do not have to actuate a WALK signal, but are given the right of way with a WALK light during every green phase.

Overpasses and underpasses, built to bypass a busy street or railroad, present problems with changes in grade and pedestrian safety. If the right-of-way is limited, space may not be available to build approach sidewalks at the maximum slope of 1:12. Pedestrian safety in underpasses is jeopardized when lighting is inadequate or when visibility through the underpass is restricted by the slope of the approach. Pedestrians will be more likely to use underpasses if there is continuous visibility through the underpass. To ensure use of underpasses, the approach sidewalks need to be built with gently sloping, straight approaches for visibility.

Physical obstructions include facilities in disrepair, overgrown vegetation and appurtenances in the walkway. Broken segments of walkways, caused by weather or surrounding vegetation present an obstacle to a smooth, uninterrupted facility. Overgrown vegetation can create obstacles by reducing the width of usable space on a walkway. Appurtenances also reduce the usable width of a walkway. Locations along walkways that are in disrepair or have encroaching vegetation need to be identified and remedied through timely maintenance.

Weather and topography can deter pedestrian trips, although neither is usually severe enough in the Portland area to deter short pedestrian trips. One exception to the weather is the seasonal . Gorge Wind in East Multnomah County. The cold wind and blowing rain can be severe enough to deter pedestrians.

Pedestrians often use the center left-turn lane as a refuge to cross one direction of traffic at a time. The center left turn lane is provided to increase traffic flow of vehicles on roadways. It is not intended to be used by pedestrians for a refuge. Pedestrians using the center left turn lane as a refuge indicates a lack of safe pedestrian crossings or safer pedestrian refuges. Conflicts between pedestrians and motorists increase when pedestrians use the center left turn lane as a refuge.

Median islands can be a safer alternative to pedestrians using the center left turn lane as a refuge but may present a hazard to motorists. When median islands are used as refuge islands, ramps through the island should be aligned with the crosswalk. Additional pedestrian indicator signals may be needed on the median islands on wide streets.



## STANDARDS FOR PEDESTRIAN FACILITIES

### County Street Design Standards

Multnomah County street design standards require sidewalks on both sides of all urban streets. This exceeds the AASHTO guidelines that recommend sidewalks at a minimum on one side of the roadway in residential areas and on both sides of the street for access to schools, parks, shopping areas, transit stops and commercial areas.

Sidewalks must be a minimum of five feet wide except on Commercial Local, Major Collector and Arterial roadways where the County standard requires a minimum width of six feet (Table 5). Exceptions to the five or six feet wide sidewalk are where obstructions exist. County standards require the minimum clear space at obstructions to be 42 inches.

County standards are consistent with or greater than ADA requirements; ADA requires a minimum of five feet wide sidewalks and a clear space of 36 inches where obstructions exist. If sidewalks are less than five feet wide, passing spaces of five feet wide must be provided at intervals not to exceed 200 feet.

The County standard for shoulders on Local rural roads is four feet and gravel; on Collector rural roads, the standard for shoulders is eight feet and paved (Table 5). Multnomah County has not adopted a standard width for shoulders on Arterial rural roads, but they are typically equivalent to Collector standards. ODOT policy discourages eight foot paved shoulders since they emulate a driving lane. However, in rural areas, the wide shoulder is generally multi-use, accommodating farm equipment and rural mail delivery in addition to pedestrians, bicyclists and equestrians.

**Table 5**  
**Standard Sidewalk and Shoulder Widths**

| <b>Urban Sidewalks</b> | <b>Width</b> | <b>Rural Shoulders</b> | <b>Width</b> |
|------------------------|--------------|------------------------|--------------|
| <b>LOCAL</b>           |              | <b>LOCAL</b>           |              |
| Residential            | 5 feet       | Gravel Shoulder        | 4 feet       |
| Commercial             | 6 feet       |                        |              |
| Industrial             | 5 feet       |                        |              |
| <b>COLLECTOR</b>       |              | <b>COLLECTOR</b>       |              |
| Neighborhood           | 5 feet       | Paved Shoulder         | 8 feet       |
| Major                  | 6 feet       |                        |              |
| <b>ARTERIAL</b>        |              | <b>ARTERIAL</b>        | No adopted   |
| Minor                  | 6 feet       | Paved Shoulder         | standard.    |
| Major/Principal        | 6 feet       |                        |              |

Ramp standards from ADA are used by Multnomah County. Slopes are not to exceed 1:12, ratio of rise to run, and should be provided wherever curbs and sidewalks exist. The surface should be textured and non-skid. The texture provides a safer ramp and warns blind people of the ramp location. Currently ramps exist at most crosswalks but were constructed before the ADA standards were published and therefore do not meet the ADA standard.

Although the standard for Multnomah County is to build sidewalks adjacent to the curb, there are examples of sidewalks built to different, more pedestrian-friendly standards on the County road system. Most commonly sidewalks are adjacent to the curb with no planting strip. Sidewalks are also setback from the curb with a planting strip between the curb and the sidewalk. Less frequently, sidewalks are adjacent to the curb with a planting strip between the sidewalk and the adjacent land use.

Design review by cities of new developments will often require landscaping between the sidewalk and the adjacent land use. This occurs where a fence surrounds a development or in some commercial areas where a parking lot is adjacent to the sidewalk. This planting strip may enhance the pedestrian experience by providing a focus away from the traffic but it also creates a barrier to surrounding land uses.

Multnomah County street design standards do not currently define widths for buffers between the curb and sidewalk. AASHTO and ODOT recommend buffers between sidewalks and curbs for safety and aesthetic purposes.

AASHTO defines a border as the space from the edge of the travel lane to the edge of the right-of-way. The border allows for a sidewalk and a landscape buffer, or planter strip. AASHTO recommends that borders be eight feet wide at a minimum allowing for two feet of buffer for appurtenances and vegetation and six feet wide sidewalks. Buffers may be omitted in locations such as commercial areas, multi-residential complexes, schools and other pedestrian generators that justify using the entire width for a sidewalk, or where the border width is restricted. The State of Oregon recommends a buffer zone to be a minimum of three feet and ideally, five feet wide.

Currently, Multnomah County standards require utilities to be placed behind sidewalks on arterials in the urban area. While the location for utilities is now standardized, there are many locations in the County where the utilities and other obstructions are located in the sidewalk. There is no standard location for utilities on Local or Collector street sidewalks, however, current ROW requirements allow space for utilities to be placed outside the sidewalk.

County standards require that designated crosswalks be provided at urban signalized intersections. The County uses the Manual of Uniform Traffic Control Devices (MUTCD) for specifications on crosswalks and other traffic control measures. Crosswalks, according to MUTCD, should be designated with solid white lines extending the entire width of the roadway.

For increased visibility, crosswalks may be painted with diagonal or longitudinal lines. This may be most useful where crosswalks are not expected, such as at mid-block crossings.

Pedestrian signals are for the exclusive purpose of controlling pedestrian traffic at either signalized intersections or at mid-block crossings. MUTCD recommends that the signals be conveniently located and may require attached signs explaining their purpose and use. Additional pedestrian signals may be needed on raised pedestrian medians for wide street crossings.

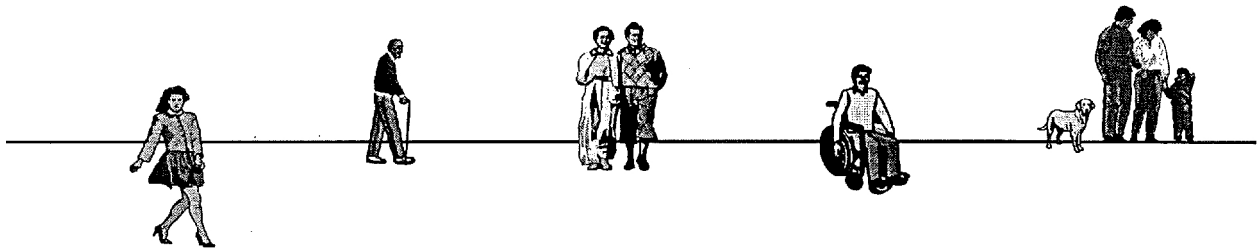
The Mid County Service District provides lighting on urban facilities in the urban, unincorporated areas and in the Cities of Troutdale, Fairview and Maywood Park.

### **County Road Maintenance Standards**

While the County provides sidewalks or ensures they are provided by private developers, the maintenance responsibility is shared between the County and property owners of property adjoining sidewalks. The County maintains sidewalks where the adjoining property does not have access to the street such as where a fence or retaining wall exists between the sidewalk and the property. Where property fronts on the street, the property owners are responsible for keeping sidewalks safe and cleared of debris so as to not impede pedestrian movements or create a hazard. Overgrown vegetation, including overhanging trees or shrubs in the walkway, and sidewalks in disrepair impede pedestrian traffic. Therefore, it is imperative that vegetation is maintained as part of the sidewalk maintenance program as well as replacing broken sidewalk segments.

Currently, Multnomah County does not proactively identify maintenance problems on pedestrian facilities in urban areas but relies on the public to report maintenance needs. Multnomah County intervenes in the property owner's responsibilities for maintenance only when the County receives a complaint from a citizen. If the County receives a complaint about a situation, the Multnomah County Vector Control Division notifies the property owner of the problem and a time by which to remedy the situation. If the property owner does not respond in the allotted time, the County makes the repair and charges the property owner for the work.

In rural areas where paved shoulders serve as pedestrian facilities, the County maintains the shoulders as part of its road maintenance responsibility. Problems are also addressed when the County receives comments from the public about a specific location.



## **PEDESTRIAN CAPITAL IMPROVEMENT PLANNING PROCESS**

Multnomah County Transportation Division has instituted a capital improvement planning process consistent with guidelines established in the County Comprehensive Framework Plan. The Capital Improvement Plan (CIP) establishes a priority list of road and road-related improvements and the estimated cost of each project. The CIP uses objective criteria to evaluate and give priority to road, bridge, bike and pedestrian improvements.

The Transportation Division uses several means of identifying transportation improvement projects. There are a variety of reports and databases produced by the County that identify hazardous or congested locations that are consulted for potential projects. In addition, citizens, neighborhood and community associations and the cities within the County are asked to identify potential projects in County road rights-of-way.

Following the CIP process, the Transportation Capital Improvement Program (TCIP) allocates available revenues to the highest ranked projects in the CIP. An improvement program with three levels of priorities is identified for each of the four categories: Roadway, Willamette River Bridges, Bicycle and Pedestrian.

The goal of the Pedestrian Capital Improvement Plan (PCIP) is to: 1) construct missing sidewalk links on urban arterial streets that have curbs and 2) solve existing hazardous pedestrian situations as identified by the public. The 1996-2000 PCIP has identified \$3.3 million in sidewalk infill projects for the urban area where curbs and drainage facilities are in place. The PCIP is primarily a sidewalk infill program and does not account for substandard roadways, rural roadways or reconstructing ramps to ADA standards. The list of infill projects will be identified as an output of the *Pedestrian Facilities Inventory Technical Report*.

### **County Revenues**

A major source of revenue to fund County transportation needs and projects are State and County gasoline taxes. State gas taxes are collected in the Highway Trust Fund, and proportionately returned to cities and counties. A minimum of one percent of State Trust Fund revenues is dedicated to be spent on pedestrian and bicycle projects each year. Multnomah County and the City of Portland share their revenue through reallocation based on the percentage of each jurisdiction's road miles of the total road miles. Historically, Multnomah County's share of this funding source has been used primarily for the bicycle program. It is expected that this source of revenue will be approximately \$50,000 annually. The distribution of funds is allocated through the TCIP.

An additional \$80,000-\$100,000 per year is allocated from the County's Transportation Fund exclusively for pedestrian projects in Multnomah County. The Pedestrian Capital Improvement Program allocates funding primarily for construction of sidewalks on urban arterial streets with curbs. Projects are prioritized using criteria established as part of the PCIP process.



Pedestrian CIP funds may also be used for projects brought to the County's attention by citizens' concerns of inadequate or unsafe pedestrian facilities. If a project is already in the PCIP, but not scheduled for construction or implementation, the project is reevaluated to determine if it should receive a higher priority. Occasionally, a roadway warrants an interim improvement to increase safety until a full urban street facility can be developed. For example, paving road shoulders in the urban area provides an interim pedestrian and bike improvement until the street is built to urban standards.

The County allocates \$50,000 per year from Transportation Funds to retrofit sidewalk ramps to ADA standards. While ramps exist at the majority of intersections on County roadways, they were constructed prior to the ADA standards and therefore need to be reconstructed to meet current federal standards. Typically, ramps are reconstructed as other construction is completed on a roadway. There are approximately 650 ramps that need to be reconstructed and are scheduled for replacement over the next three to four years.

Other pedestrian facilities are funded through the Roadway CIP in conjunction with roadway construction. It is the County's policy to construct sidewalks concurrently with road projects that are being constructed or reconstructed to urban standards. The cost of constructing new roadways includes the cost of pedestrian facilities therefore expanding the pedestrian system in a cost-efficient manner. Funds for these projects are allocated through the Roadway CIP.

An ongoing process to increase pedestrian facilities on rural and rural-type roads occurs when the County performs periodic pavement overlays. If the ROW exists and there are no physical limitations, the County widens the shoulder by extending the width of pavement. In the urban area, widening the shoulder is an interim improvement until the roadway is built to urban standards. In rural areas, a paved shoulder is the standard facility for use by pedestrians, bikes, emergency parking, farm equipment and other activities.

### **Other Revenue Sources**

Private sector funds are also used to construct public pedestrian facilities. Developers are required to provide pedestrian facilities in their development as a condition of development approval. If pedestrian facilities do not exist, the developer can either construct the sidewalk or remit to the County the cost of constructing the sidewalk. If a pedestrian facility exists prior to development of the property, then the County can recover the cost of the facility from the developer.

Federal transportation dollars are allocated to the State and region, which are then awarded to high ranking projects which meet public needs. The Regional Transportation Improvement Program (TIP) allocates federal transportation dollars for roadway, bicycle and pedestrian projects throughout the region. Projects are submitted from local governments and then ranked by project type based on evaluation criteria. Funding for pedestrian projects is not a set amount from year to year.

Congestion Management/ Air Quality (CMAQ) funds are allocated to specific Willamette River Bridges Accessibility Projects (WRBAP). These projects will implement improved pedestrian access on five County Willamette River bridges and ramps and two State bridges. The \$1 million CMAQ grant will fund over 20 access improvement projects.

### **Pedestrian Capital Improvements**

Pedestrian projects to be completed over the next five years are taken from the Transportation and Pedestrian CIP. The County Transportation Capital Improvement Plan and Program (TCIP) is updated on a biennial schedule. For project selection in the TCIP update, the criteria from the Pedestrian Master Plan will be used to evaluate pedestrian projects.

The goal of the Pedestrian Capital Improvement Program is to complete the missing segments of sidewalks on arterial and collector roads where curbs and drainage exist. Seven projects have been identified to be completed by 2000, costing \$545,200. Projects to be completed after 2000 will be evaluated and prioritized using the criteria in the Pedestrian Master Plan.

There are three categories of roadways for possible construction of sidewalks or pedestrian facilities. The locations most likely to be completed are those roadways that have curbs and drainage in place but are lacking the sidewalks to meet the County's urban standards. To complete the 20 miles of sidewalks will cost approximately \$3.3 million. These projects are listed in Table 6 as potential projects for the PCIP.

Of the remaining 145 miles in the urban area that need sidewalks to meet the standards, 41 miles have an interim provision of paved shoulders for pedestrians. 104 miles of roadways have no provision for pedestrians. To provide the sidewalk facilities, the total cost for the urban area is nearly \$23 million.

Multnomah County has an Implementation Plan for retrofitting curb ramps to meet ADA standards. There are 650 ramps throughout the County to be retrofitted at a total cost of \$163,000. Specific ramps are not listed per year but will be completed based on 1) high use, 2) in conjunction with other projects and 3) when the public identifies a specific problem.

Other projects that are not listed specifically as part of a long term plan are projects that are identified by the public as needs and safety hazards. As projects are identified they are evaluated for priority and completed either to interim standards or to County standards when funding is available.

New roads constructed in Multnomah County are built as multi-modal facilities, including accommodations for pedestrian, bicycle and transit. Currently 207th Ave between Glisan St. and Sandy Blvd. is the only new road scheduled for completion.

**Table 6**  
**Proposed Pedestrian CIP Projects**

| Location          | Termini                        | Side of Roadway | Distance (feet) | Cost"     | Points | Funding | Program Year |
|-------------------|--------------------------------|-----------------|-----------------|-----------|--------|---------|--------------|
| Division St       | Eastman Pkwy to Main St        | Both            | 306             | \$9,200   | 18     | PCIP    | 97-98        |
| Stark St          | 162nd Ave to 181st Ave         | Both            | 1,297'          | \$38,900  | 16     | PCIP    | 95-96        |
| Stark St          | 202nd Ave to 223rd Ave         | Both            | 3,671           | \$110,100 | 16     | PCIP    | 96-97        |
| 242nd Ave         | Powell Blvd to Burnside Rd     | Both            | 1,415           | \$42,500  | 15     | PCIP    | 96-97        |
| Division St       | 175th Ave to 182nd Ave         | Both            | 1,203           | \$36,100  | 15     | PCIP    | 97-98        |
| Glisan St         | 162nd Ave to 181st Ave         | North           | 2,508           | \$75,200  | 15     | PCIP    | 98-99        |
| Glisan St         | 181st Ave to 202nd Ave         | Both            | 4,550           | \$136,500 | 15     | PCIP    | 99-00        |
| Division St       | 242nd Ave to 257th Ave         | Both            | 1,563           | \$46,900  | 14     | PCIP    | 97-98        |
| Division St       | 182nd Ave to 202nd Ave         | Both            | 4,366           | \$131,000 | 14     | PCIP    | 00-01        |
| Division St       | 202nd Ave to Eastman Pkwy      | Both            | 5,636           | \$169,100 | 14     |         |              |
| Halsey St         | 181st Ave to 201st Ave         | Both            | 1,858           | \$55,700  | 13     | RCIP    | 96-97        |
| Powell Valley Rd  | 257th Ave to 282nd Ave         | Both            | 518             | \$155,400 | 13     |         |              |
| 242nd Ave         | 2nd St to Powell Blvd          | West            | 148             | \$4,400   | 12     |         |              |
| 49th Ave          | McNary Pkwy to Stephenson St   | East            | 401             | \$12,000  | 12     |         |              |
| Halsey St         | 162nd Ave to 181st Ave         | Both            | 1,483           | \$44,500  | 12     |         |              |
| Stark St          | 257th Ave to Troutdale Rd      | North           | 48              | \$1,400   | 12     | RCIP    | 96-97        |
| 201st Ave         | Halsey St to Sandy Blvd        | West            | 755             | \$22,700  | 10     | RCIP    | 00-01        |
| 257th Ave/Kane Rd | Orient Dr to Powell Valley Rd  | Both            | 327             | \$9,800   | 10     |         |              |
| Glisan St         | 202nd Ave to 223rd Ave         | Both            | 671             | \$20,100  | 10     |         |              |
| 181st Ave         | Halsey St to Sandy Blvd        | Both            | 3,339           | \$100,200 | 9      |         |              |
| 182nd Ave         | Linneman Ave to 11th St        | West            | 502             | \$15,100  | 9      |         |              |
| 201st Ave         | San Rafael St to Sandy Blvd    | East            | 701             | \$21,000  | 9      |         |              |
| 242nd Ave         | Stark St to Glisan St          | West            | 248             | \$7,400   | 9      |         |              |
| Powell Valley Rd  | Burnside Rd to 257th Ave       | South           | 216             | \$6,500   | 9      | RCIP    | 99-00        |
| Stark St          | Evans Ave to 35th St           | South           | 116             | \$3,500   | 9      |         |              |
| Troutdale Rd      | Beaver Cr Ln to Cheny Park Rd  | Both            | 512             | \$15,400  | 9      |         |              |
| 162nd Ave         | Halsey St to Russell St        | East            | 702             | \$21,100  | 8      |         |              |
| 162nd Ave         | Wasco St to Halsey St          | East            | 227             | \$6,800   | 8      |         |              |
| 209th Ave         | 31st St/Willow to 23rd St      | West            | 47              | \$1,400   | 8      |         |              |
| Arata Rd          | 223rd Ave to 238th Ave         | Both            | 344             | \$10,300  | 8      |         |              |
| 202nd Ave         | Glisan St to Oregon St         | West            | 232             | \$7,000   | 7      |         |              |
| 202nd Ave         | Burnside Rd to Stark St        | Both            | 286             | \$8,600   | 7      |         |              |
| 202nd Ave         | Stark St to Glisan St          | Both            | 412             | \$12,400  | 7      | RCIP    | 99-00        |
| Canyon Ct         | Skyline to Dead end            | South.          | 1,320           | \$39,600  | 7      |         |              |
| Cheny Park Rd     | 242nd Ave to 18th Way          | South           | 53              | \$1,600   | 7      |         |              |
| Cheny Park Rd     | Hewitt to Fox                  | North           | 544             | \$16,300  | 7      |         |              |
| Hist Co River Hwy | 244th Ave to Halsey St         | North           | 1,515           | \$45,500  | 7      |         |              |
| Orient Dr         | 14th St to Salquist Rd         | North           | 95              | \$2,900   | 7      |         |              |
| Troutdale Rd      | Sweetbriar Rd to Sweetbrier Ln | East            | 21              | \$600     | 7      |         |              |
| 202nd Ave         | 5th St to Division St          | Both            | 1,050           | \$31,500  | 6      |         |              |
| 58th Ave          | Canyon Ct to Montgomery St     | East            | 37              | \$1,100   | 6      |         |              |
| 61st Ct           | 61st Dr to Dead end            | Both.           | 644             | \$19,300  | 6      |         |              |
| 64th Pl           | Bucharest Ct to Dead end       | Both            | 670             | \$20,100  | 6      |         |              |
| Bucharest Ct      | Dead end to Benz Farm          | Both            | 1,140           | \$34,200  | 6      |         |              |
| Cal'l'On Ct       | Wash. Co Line to Highland Rd   | North           | 2,403           | \$72,100  | 6      |         |              |
| Riverwood Rd      | Riverside Dr to Military Rd    | West            | 401             | \$12,000  | 6      |         |              |
| 202nd Ave         | Division St to 14th St         | Both            | 476             | \$14,300  | 5      |         |              |
| 223rd Ave         | Sandy Blvd to Marine Dr        | Both            | 638             | \$19,100  | 5      |         |              |
| Burnside Rd       | 202nd Ave to Fariss Rd         | North           | 3,933           | \$118,000 | 5      |         |              |
| BuUerRd           | Eastwood Pl to Rodlun Rd       | South           | 32              | \$1,000   | 5      |         |              |
| BuUerRd           | St Andrews to Augusta Loop     | North           | 174             | \$5,200   | 5      |         |              |

Table 6  
Proposed Pedestrian CIP Projects

| Location         | Termini                      | Side of Roadway | Distance (feet) | Cost*       | Points | Funding | Program Year |
|------------------|------------------------------|-----------------|-----------------|-------------|--------|---------|--------------|
| Fairview Blvd    | Knights Blvd to Kingston Ave | South           | 322             | \$9,700     | 5      |         |              |
| Graham Rd        | Sundial to 1-84              | South           | 6,046           | \$181,400   | 5      |         |              |
| Intertachen Lane | Marine Dr to Blue Lake Rd    | Both            | 4,203           | \$126,100   | 5      |         |              |
| 481hPI           | Windsor Ct to Downsview Ct   | Both            | 1,662           | \$49,900    | 4      |         |              |
| 501hAve          | Windsor Ct to Downsview Ct   | Both            | 1,900           | \$57,000    | 4      |         |              |
| 52nd PI          | Thomas St to Downsview Ct    | Both            | 2,729           | \$81,900    | 4      |         |              |
| 541hPI           | Thomas St to Dead end        | Both            | 580             | \$17,400    | 4      |         |              |
| 55th Ave         | Patton Rd to 55th Dr         | Both            | 1,078           | \$32,300    | 4      |         |              |
| 55th Dr          | 55th Ave to Dead end         | Both            | 2,934           | \$87,700    | 4      |         |              |
| 55th Dr          | Dead end to Patton Rd        | Both            | 4,109           | \$123,300   | 4      |         |              |
| 57th Ave         | Westdale Dr to Patton Rd     | Both            | 1,019           | \$30,600    | 4      |         |              |
| 57th Ave         | 55th Dr to Windsor Ct        | Both            | 1,816           | \$54,500    | 4      |         |              |
| Downsview Ct     | 57th Ave to 55th Dr          | Both            | 1,194           | \$35,800    | 4      |         |              |
| Downsview Ct     | 52nd PI to 48th PI           | Both            | 1,199           | \$36,000    | 4      |         |              |
| Grover Ct        | Dead end to 55th Dr          | Both            | 518             | \$15,500    | 4      |         |              |
| Madison Rd       | Salmon St to Dead end        | Both            | 876             | \$26,300    | 4      |         |              |
| Raab Rd          | Dead end to Scholls Ferry Rd | North           | 306             | \$9,200     | 4      |         |              |
| Salmon St        | 61st Dr to 57th Ave          | Both            | 1,251           | \$37,500    | 4      |         |              |
| Scholls Ferry Ct | Dead end to Scholls Ferry Rd | Both            | 1,004           | \$30,100    | 4      |         |              |
| Sweetbriar Ct    | 64th PI to Scholls Ferry Rd  | North           | 813             | \$24,400    | 4      |         |              |
| Taylor St        | 61st Dr to 57th Ave          | Both            | 2,080           | \$62,400    | 4      |         |              |
| Thomas St        | Dead end to Shattuck Rd      | Both            | 1,832           | \$55,000    | 4      |         |              |
| Westdale Dr      | 57th Ave to Dead end         | Both            | 1,499           | \$45,000    | 4      |         |              |
| Windsor Ct       | Dead end to Dead end         | Both            | 1,340           | \$40,200    | 4      |         |              |
| Windsor Ct       | 52nd PI to Shattuck Rd       | Both            | 2,150           | \$64,500    | 4      |         |              |
| Woods Ct         | 55th Dr to Dead end          | Both            | 888             | \$26,600    | 4      |         |              |
| Graham Rd        | Sundial to Harlow            | North           | 6,157           | \$184,700   | 3      |         |              |
| Sundial Rd       | Marine Dr to Graham Circle   | West            | 396             | \$11,900    | 3      |         |              |
| Total            | ---                          |                 | 107,655         | \$3,369,500 |        |         |              |

\* Cost estimated at \$30/lineal foot, rounded to nearest hundred.

RCIP (Roadway Capital Improvement Plan)

PCIP (Pedestrian Capital Improvement Plan)

Sidewalks and other pedestrian facilities are added to the system during road reconstruction in Multnomah County. Over the next five years, seven miles of sidewalks will be constructed due to road reconstruction.

Pedestrian facilities are also improved when intersections are upgraded. Ramps are added or retrofitted, and signals, sidewalks and street lights may be added or replaced during intersection improvements.

Although the deficiency list identifies 145 miles of needed sidewalks, costing approximately \$23 million, a portion of the sidewalks will be provided by the private sector. Developers can construct sidewalks or pay the County for the cost of construction.

County standards require sidewalks to be included during reconstruction of urban roadways and intersections, construction of new roadways and when development occurs. In addition to the PCIP, over \$3 million of projects will contribute to the pedestrian system throughout the County during the next five years. Table 7 shows these additional projects as well as those project in the PCIP.

Table 7

## 1996-2000 PEDESTRIAN CAPITAL IMPROVEMENTS

| PROJECT NAME                               | FY 1996-97  | FY 1997-98 | FY 1998-99 | FY 1999-00 | FY 2000-01 |
|--------------------------------------------|-------------|------------|------------|------------|------------|
| Category: ADA Implementation               | \$50,000    | \$50,000   | \$50,000   | \$50,000   | \$50,000   |
| Category: Public Requests/Safety           | \$30,000    | \$30,000   | \$30,000   | \$30,000   | \$30,000   |
| Category: New Road Construction            |             |            |            |            |            |
| 207th Ave Connector                        | \$129,600   |            |            |            |            |
| Category: Road Reconstruction              |             |            |            |            |            |
| Stark St (257th Ave/Troutdale Rd)          | \$174,200   |            |            |            |            |
| Halsey St (190th Ave/207th Ave)            | \$301,000   |            |            |            |            |
| Halsey SU223rd Ave                         | \$267,000   |            |            |            |            |
| Jenne Rd (Foster Rd/Powell Blvd)           |             | \$65,280   |            |            |            |
| 201st Ave (Halsey_SUSandy Blvd)            |             |            |            |            | \$253,400  |
| Hensley Rd (257th Ave/Trdl Rd)             | \$42,200    |            |            |            |            |
| Troutdale Rd (Strebin Rd/ Stark St)        |             |            |            | \$288,300  |            |
| 201 st Ave (Halsey SUGlisan St)            |             |            | \$158,400  |            |            |
| Bull Run Rd (Burnside Rd/257th Ave)        |             | \$158,400  |            |            |            |
| 202nd Ave (Stark SUGlisan St)              |             |            |            | \$158,400  |            |
| 190th Ave (Division SUYamhill St)          | \$229,700   |            |            |            |            |
| Corbett Hill Rd (1200'-2200' S of 1-84)    |             |            | \$8,500    |            |            |
| Glisan St (3500' E of 223rd Ave/242nd Ave) |             | \$110,900  |            |            |            |
| 257th Ave (Bull Run Rd/Division St)        |             |            |            |            | \$158,400  |
| Powell Valley Rd (Burnside Rd/257th Ave)   |             |            |            | \$110,900  |            |
| Glisan St (223rd Ave/3500' E of 223rd Ave) | \$105,000   |            |            |            |            |
| Glisan St (202nd Ave/207th Ave)            |             |            | \$110,900  |            |            |
| Subtotal: Road Construction                | \$1,119,100 | \$334,580  | \$277,800  | \$557,600  | \$411,800  |
| Category: Intersection Upgrade             |             |            |            |            |            |
| 182nd Ave/Powell Blvd                      |             |            |            | \$26,000   |            |
| Halsey SU238th Ave                         | \$24,500    |            |            |            |            |
| Burnside Rd/242nd Ave                      |             | \$18,500   |            |            |            |
| Glisan SU172nd Ave                         |             |            | \$8,000    |            |            |
| Powell Valley Rd/257th Ave                 |             |            | \$28,000   |            |            |
| Subtotal: Intersection Upgrade             | \$24,500    | \$18,500   | \$36,000   | \$26,000   |            |
| Category: Sidewalk Infill                  |             |            |            |            |            |
| Stark St (202nd Ave/223rd Ave)             | \$110,200   |            |            |            |            |
| Division St (175th Ave/182nd Ave)          |             | \$36,100   |            |            |            |
| Division St (242nd Ave/257th Ave)          |             | \$46,900   |            |            |            |
| Division St (Eastman Pkwy/Main St)         |             | \$9,200    |            |            |            |
| Glisan St (162nd Ave/181 st Ave)           |             |            | \$75,300   |            |            |
| Glisan St (181st Ave/202nd Ave)            |             |            |            | \$136,500  |            |
| Division St (182nd Ave/202nd Ave)          |             |            |            |            | \$131,000  |
| Subtotal: Sidewalk Infill                  | \$110,200   | \$92,200   | \$75,300   | \$136,500  | \$131,000  |
| Category: Development Support              | \$35,000    | \$35,000   | \$35,000   | \$35,000   | \$35,000   |
| Total Pedestrian Capital Improvements      | \$1,498,400 | \$560,280  | \$504,100  | \$835,100  | \$657,800  |

## **Criteria**

Since the need for pedestrian facilities outweighs foreseeable revenues, it is necessary to develop evaluation criteria to identify a priority for developing the pedestrian network over a period of years. The Citizen Task Force and the Technical Advisory Committee developed the criteria for ranking pedestrian projects. Criteria and the points are shown in Table 8.

Safety is the primary reason to provide walkways, either new facilities or maintenance of existing facilities. Safety issues can be addressed by evaluating accident data, overcoming barriers such as railroad crossings or intersections, retrofitting substandard conditions such as ramps or surface type, and providing lighting for increased visibility of pedestrians and by pedestrians.

The interrelationship between land use and transportation is an integral part of developing a pedestrian system. Land uses as defined in the Regional 2040 Plan and local comprehensive plans are used in this evaluation to determine the priority of a project. Projects within Regional or Town Centers, Rural Centers, and MAX station communities are given relatively higher priority as well as projects located close to schools, parks and activity centers.

Pedestrian projects located within transit corridors or within 1/4 mile of a corridor are given high priority for development. Transit usage will not increase if access to the service is difficult or nonexistent. School bus routes are given a high priority to increase the safety of school children walking to a bus stop and waiting for a bus.

It is important for the pedestrian system to be a continuous network of facilities. Filling in missing segments of walkways or extending existing walkways increases pedestrian activity by creating a comprehensive and connected system.

Multnomah County responds to citizens' requests for pedestrian facilities as soon as they can be accommodated. If a project is supported by a neighborhood group or a homeowner's association, then the project will receive a higher ranking than if a single individual has registered a concern for an equivalent project. This attempts to ensure that a project will receive community support after it has been added to the PCIP.

Aesthetics increases pedestrian activity and increases pedestrian's perceived sense of safety. Aesthetic criteria will be difficult to develop since it is more subjective than the other criteria, but will benefit from public discussions of defining deserved aesthetic qualities.

**Table 8**  
**Criteria for Pedestrian Project Evaluation**

|                            |                                                                                                                                      | Points |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------|--------|
| Safety                     | • Have pedestrian accidents occurred at location of project?                                                                         | 3      |
|                            | • Will barriers be mitigated or eliminated?<br>(railroad tracks, waterways, highways, signs, fire hydrants, telephone poles)         | 2      |
|                            | • Does the project replace a substandard condition, (Existing conditions do not meet ADA, AASHTO, MUTCD or walkway is in disrepair.) | 1      |
|                            | • Does the project increase visibility for pedestrians or of pedestrians? (lighting)                                                 | 1      |
| Land Use (within 1/4 Mile) | • Regional/Town or Rural Centers                                                                                                     | 2      |
|                            | • Schools                                                                                                                            | 2      |
|                            | -Parks                                                                                                                               | 1      |
|                            | • Main Street (2040 designation)                                                                                                     | 1      |
|                            | • Community buildings (libraries, health clinics, post offices, government buildings)                                                | 1      |
| Transit                    | • Headways less than or equal to 20 minutes                                                                                          | 2      |
|                            | • Headways more than 20 minutes                                                                                                      | 1      |
|                            | -Within 1/4 mile of transit corridor                                                                                                 | 2      |
|                            | • School bus routes                                                                                                                  | 2      |
| Connectivity               | • Within 1/4 mile of a MAX station                                                                                                   | 2      |
|                            | • Does the project complete a missing segment?                                                                                       | 2      |
|                            | • Is the project an extension of an existing facility?                                                                               | 1      |
| Public Input               | -Is the project supported by a group, neighborhood organization or homeowners' association?                                          | 2      |
| Aesthetics                 | • Is the project supported by an individual's concern?                                                                               | 1      |
|                            | • Does the project increase the appeal of a pedestrian facility or increase the perceived safety of pedestrians?                     | 1      |
|                            |                                                                                                                                      |        |
| Functional Classification  | • What is the functional classification of the adjacent roadway?                                                                     |        |
|                            | Arterial                                                                                                                             | 2      |
|                            | Collector                                                                                                                            | 1      |





## Appendix A

## Glossary

**Appurtenances:** Necessary equipment in the right-of-way, but frequently seen as obstacles to pedestrians including: traffic control devices, mailboxes, utilities, lighting, fire hydrants, traffic signs and newspaper boxes.

**Building orientation:** Refers to the spatial relationship between storefronts and sidewalks and/or roadways.

**Crosswalk:** The portion of the roadway designated for pedestrian crossings, either marked with stripes or unmarked.

**Curb ramp:** A facility provided to ease transition from roadways to sidewalks for pedestrians. Typical locations are at street corners and driveways. Maximum slopes are defined by the Americans with Disabilities Act.

**Multi-use pathway:** A path which is separated from the roadway for use by pedestrians, bicyclists, skaters and other non-motorized modes. The surface of a multi-use path is usually an improved all-weather surface.

**Pedestrian:** A person on foot or in a wheelchair.

**Pedestrian facility:** Any facility which is established primarily to aid pedestrians in their ease of mobility, including, but not limited to, walkways, crosswalks, and signals.

**Planter strip or Buffer:** A strip of land separating roadways and sidewalks or paths typically landscaped to enhance the pedestrian environment and increase the perceived safety level.

**Sidewalk:** A walkway separated from the roadway by a curb, constructed of an all-weather surface primarily for pedestrian travel.

**Multi-use Trail:** Typically an unimproved surface used by pedestrians, equestrians and other non-motorized users; may exist within a roadway right-of-way or through parks or open spaces.

**Walkway:** A generic term used to denote places specifically for pedestrians and persons in wheelchairs. Walkways include sidewalks, paths, trails, and roadway shoulders.

## Appendix B

## COMPREHENSIVE PLANNING RESPONSIBILITIES

197.175 Cities' and counties' planning responsibilities; rules on incorporations; compliance with goals. (1) Cities and counties shall exercise their planning and zoning responsibilities, including, but not limited to, a city or special district boundary change which shall mean the annexation of unincorporated territory by a city, the incorporation of a new city and the formation or change of organization of or annexation to any special district authorized by ORS 198.705 to 198.955, 199.410 to 199.519 or 451.010 to 451.600, in accordance with ORS chapters 195, 196 and 197 and the goals approved under ORS chapters 195, 196 and 197. The commission shall adopt rules clarifying how the goals apply to the incorporation of a new city. Notwithstanding the provisions of section 15, chapter 827, Oregon Laws 1983, the rules shall take effect upon adoption by the commission. The applicability of rules promulgated under this section to the incorporation of cities prior to August 9, 1983, shall be determined under the laws of this state.

(2) Pursuant to ORS chapters 195, 196 and 197, each city and county in this state shall:

(a) Prepare, adopt, amend and revise comprehensive plans in compliance with goals approved by the commission;

(b) Enact land use regulations to implement their comprehensive plans;

(c) If its comprehensive plan and land use regulations have not been acknowledged by the commission, make land use decisions and limited land use decisions in compliance with the goals;

(d) If its comprehensive plan and land use regulations have been acknowledged by the commission, make land use decisions and limited land use decisions in compliance with the acknowledged plan and land use regulations; and

(e) Make land use decisions and limited land use decisions subject to an unacknowledged amendment to a comprehensive plan or land use regulation in compliance with those land use goals applicable to the amendment.

(3) Notwithstanding subsection (1) of this section, the commission shall not initiate by its own action any annexation of unincorporated territory pursuant to ORS 222.111 to 222.750 or formation of and annexation of territory to any district authorized by ORS 198.010 to 198.430 and 198.510 to 198.915 or 451.010 to 451.600. [1973 c.80 §§17, 18; 1977 c.664 §12; 1981 c.748 §15; 1983 c.827 §3; 1989 c.761 §18; 1991 c.817 §21; 1993 c.792 §45]

366.514 Use of highway **fund** for footpaths and bicycle trails. (1) Out of the funds received by the department or by any county or city from the State Highway Fund reasonable amounts shall be expended as necessary to provide footpaths and bicycle trails, including curb cuts or ramps as part of the project. Footpaths and bicycle trails, including curb cuts or ramps as part of the project, shall be provided wherever a highway, road or street is being constructed, reconstructed or relocated. Funds received from the State Highway Fund may also be expended to maintain footpaths and trails and to provide footpaths and trails along other highways, roads and streets and in parks and recreation areas.

(2) Footpaths and trails are not required to be established under subsection (1) of this section:

(a) Where the establishment of such paths and trails would be contrary to public safety;

(b) If the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use; or

(c) Where sparsity of population, other available ways or other factors indicate an absence of any need for such paths and trails.

(3) The amount expended by the department or by a city or county as required or permitted by this section shall never in any one fiscal year be less than one percent of the total amount of the funds received from the highway fund. However:

(a) This subsection does not apply to a city in any year in which the one percent equals \$250 or less, or to a county in any year in which the one percent equals \$1,500 or less.

(b) A city or county in lieu of expending the funds each year may credit the funds to a financial reserve or special fund in accordance with ORS 280.100, to be held for not more than 10 years, and to be expended for the purposes required or permitted by this section.

(c) For purposes of computing amounts expended during a fiscal year under this subsection, the department, a city or county may record the money as expended:

(A) On the date actual construction of the facility is commenced if the facility is constructed by the city, county or department itself; or

(B) On the date a contract for the construction of the facilities is entered with a private contractor or with any other governmental body.

(4) For the purposes of this chapter, the establishment of paths, trails and curb cuts or ramps and the expenditure of funds as authorized by this section are for highway, road and street purposes. The department shall, when requested, provide technical assistance and advice to cities and counties in carrying out the purpose of this section. The department shall recommend construction standards for footpaths and bicycle trails. Curb cuts or ramps shall comply with the requirements of ORS 447.310 and rules adopted under ORS 447.231. The department shall, in the manner prescribed for marking highways under ORS 810.200, provide a uniform system of signing footpaths and bicycle trails which shall apply to paths and trails under the jurisdiction of the department and cities and counties. The department and cities and counties may restrict the use of footpaths and bicycle trails under their respective jurisdictions to pedestrians and nonmotorized vehicles, except that motorized wheelchairs shall be allowed to use footpaths and bicycle trails.

(5) As used in this section, "bicycle trail" means a publicly owned and maintained lane or way designated and signed for use as a bicycle route. f1971 c.376 §2; 1979 c.825 §1; 1983 c.19 §1; 1983 c.338 §919; 1991 c.417 §7; 1993 c.503 §12]

368.910 Owner to repair sidewalks and curbs along road; county may repair if owner fails. (1) Whenever in an unincorporated area, sidewalks or curbs are constructed along county roads or are existing along roads taken over by the county, the owner of the abutting real property shall maintain and repair the sidewalks or curbs. If any such sidewalk or curb is out of repair, the county governing body shall send a notice by mail to the owner of the abutting property to repair the sidewalk or curb, setting forth the nature and extent of repairs and the time, not less than 30 days, within which they must be made.

(2) If the owner does not make the repairs within the time allowed, the county governing body may order the repairs to be made. The county governing body shall file the order for the repairs with the county clerk, the order describing the abutting property. The recorded order is notice that the described property is subject to a lien for the cost of the repairs, in an amount to be determined later by an order of the county governing body. The county clerk shall indorse upon the order the date of the filing and record and index the order in special books to be kept by the county clerk for such purpose.

368.915 Payment and reimbursement when county makes repairs. (1) After the repairs mentioned in ORS 368.910 have been completed the county governing body shall compute the cost to which may be added up to 10 percent of the cost for administration. Payment for the repairs shall be made from the general fund of the county.

(2) The fund drawn upon for the repairs shall be reimbursed by an assessment of the total cost against the abutting property. After the owner has been given notice and an opportunity to be heard, the county governing body shall by order determine the cost to be assessed against the abutting property. Notice of the determination of the assessment shall be mailed to the owner within 10 days after the cost is determined. The county governing body shall certify the order to the county assessor and shall record the order with the county clerk. The clerk shall indorse on the order the date of filing and record and index it in the special books kept by the clerk for such purpose.

"Of today's metropolitan problems, none has more effect on the others than transportation. The average American, accustomed to the 'good life,' has a need for many types of transportation. The trend toward suburban living, the two or three-car family, and the greater mobility demanded by our technological revolution have caused a vicious circle of problems, all of which create or are affected by transportation problems.

Transportation gets us, or doesn't, from home to jobs, to shopping, to recreation areas. Where we want to live, work and play creates needs for housing, employment, services, public transit, highways and land use planning. All these factors affect the social, economic and physical health of our environment."\*

"Side by side with an obvious need for renewal of mass transit is the problem of the automobile, the desire by most Americans for one or more cars has affected the health of public transit systems and has set the automobile on a collision course with the environment. We are confronted by air pollution from exhaust fumes, waste disposal problems from tires and petroleum products, and visual scarring of the landscape by parking lots and derelict cars. Development of any transportation system has vast social implications. Are there people who cannot afford a car and are unable to get a job for lack of public transportation? How do senior citizens on fixed incomes get to medical care? How do highways and rapid transit lines affect the growth, development and general health of neighborhoods through which they pass? All of these problems indicate the far-reaching influence of transportation, transit and the automobile."\*

\* Transportation - A Study by the Tri-County Metro Committee League of Women Voters, March 1970.



POLICY 33:       TRANSPORTATION SYSTEM

INTRODUCTION

The transportation system policies include:

Transportation System Policy

Trafficways Policy

Public Transportation Policy

Transportation Development Requirements Policy

The transportation system consists of a variety of vehicles and a complex physical structure. The efficiency and safety of the system depends on the design of the physical facilities and vehicles and the integration of the various modes.

The Portland Metropolitan transportation system includes:

1.     A north-south and east-west interstate highway network.
2.     City and County arterial system.
3.     Local streets and roads.
4.     Sidewalks and bicycle paths.
5.     Two inter-regional and two intra-regional bus lines.
6.     Fifty-two truck lines.
7.     Four major railroads.
8.     Ten airlines, served from an international airport.
9.     Six public general aviation airports.
10.    Five marine terminals and three ship repair yards.
11.    Fourteen tug and barge lines.
12.    Special services and designs to provide for movements of the elderly and handicapped.
13.    Numerous parking areas.

The purpose of a balanced transportation system is to provide people and commerce with alternative transportation facilities.

K. ENERGY CONSERVATION AND EFFICIENCY

L. SYSTEM FLEXIBILITY;

M. PEDESTRIAN CROSSING AND SAFETY; AND

N. THE NEED FOR LANDSCAPING AND OTHER DESIGN TECHNIQUES NECESSARY FOR VISUAL ENHANCEMENT.



## POLICY 33A: TRANSPORTATION SYSTEM

### INTRODUCTION

A balanced transportation system means providing alternatives for people, including those who can and cannot operate an automobile, and alternatives for commerce. The County is involved in making decisions with respect to Federal, State and County road improvements and the provision of public transportation. It also reviews applications for spur railroad lines. In planning for the system, environmental impacts and social consequences must be mitigated and cost, safety and efficiency factors emphasized. In addition, the facilities should be located and designed to reinforce community identity and aesthetic quality.

The purpose of this policy is to establish criteria for the County to use in evaluating alternative transportation proposals in order to achieve its objective of a balanced, safe and efficient system.

## POLICY **33a**

THE COUNTY'S POLICY IS TO IMPLEMENT A BALANCED, SAFE AND EFFICIENT TRANSPORTATION SYSTEM. IN EVALUATING PARTS OF THE SYSTEM, THE COUNTY WILL SUPPORT PROPOSALS WHICH:

- A. IMPLEMENT THE COMPREHENSIVE PLAN;
- B. BEST ACHIEVE THE OBJECTIVES OF THE SPECIFIC PROJECT;
- C. PROTECT OR ENHANCE WATER AND AIR QUALITY AND REDUCE NOISE LEVELS;
- D. PROTECT SOCIAL VALUES AND THE QUALITY OF NEIGHBORHOODS AND COMMUNITIES;
- E. SUPPORT ECONOMIC GROWTH;
- F. PROVIDE A SAFE, FUNCTIONAL AND CONVENIENT SYSTEM; AND
- G. PROVIDE OPTIMUM EFFICIENCY AND EFFECTIVENESS OF INVESTMENT.
- H. UPDATE AND REFINE THE BICYCLE CORRIDOR CONCEPT PLAN.

THE COUNTY WILL ALSO CONSIDER:

- I. EQUALITY OF ACCESS TO URBAN OPPORTUNITIES;
- J. THE DEGREE OF MOBILITY AVAILABLE TO ALL PEOPLE IN TERMS OF ALTERNATIVE TYPES OF TRANSPORTATION;

THE COUNTY'S POLICY IS TO IDENTIFY, EVALUATE AND ENCOURAGE THE DEVELOPMENT OF SUFFICIENT NEEDED PORT AND MARINE FACILITIES. PROVISIONS WILL BE MADE TO:

- A. INVENTORY THE ACREAGE AVAILABLE FOR MARINE TERMINAL FACILITIES AND DETERMINE IF MORE LAND IS NEEDED, IN ACCORD WITH COUNTY FRAMEWORK POLICY 6.
- B. EXPLORE THE CONCEPT OF A JOINT PUBLIC/PRIVATE PARTNERSHIP, INCLUDING CO-OPERATION WITH OTHER GOVERNMENTAL AGENCIES, TO FINANCE INFRASTRUCTURE IN ACCORD WITH COUNTY FRAMEWORK POLICY 4. HOWEVER, IT IS THE PRIMARY RESPONSIBILITY OF THE PROPERTY OWNER/DEVELOPER TO PROVIDE THE INFRASTRUCTURE NECESSARY TO SUPPORT DEVELOPMENT.
- C. ENCOURAGE IMPROVEMENTS TO PUBLIC AND PRIVATE ELEMENTS OF THE PORTLAND AREA HARBOR WHICH SUPPORT REGIONAL ECONOMIC DEVELOPMENT AND DIVERSITY, IN ACCORD WITH COUNTY FRAMEWORK POLICY 5.

#### STRATEGIES

- 1. As a part of its ongoing planning program, the County should consider the need for marine terminal facilities and suitable future land.
- 2. Based on its review of information on future needs for port facilities, the County should support appropriate action so that the required land will be available.
- 3. Protecting the rights and privileges of recreational boaters should be considered in the County's updating of the Framework Plan through Policy No. 39 (Open Space and Recreation).

POLICY 33B: MARINE TRANSPORTATION SYSTEM

INTRODUCTION

The 40 foot Columbia River shipping channel *is* a federally funded, integral part of the national transportation system, which has significant economic and social impact on the Portland region, Multnomah County, and the State of Oregon. In Multnomah County, the 40 foot channel extends from the north county line as it crosses Sauvie Island, upstream to the Interstate 5 freeway bridge.

Requirements for land, docks and terminals, and rail and highway facilities to support the marine transportation system vary according to the types of products and materials moved through the harbor. These include foreign cargoes such as grain, coal and autos, and domestic materials such as sand and gravel, and wood products. Another important activity is shipment of local products and goods to foreign markets through containers. Other significant waterfront activities dependent upon maintenance of the 40 foot channel and availability of suitable land are ship repair, marine construction, and private industries.

A critical component of the marine system, which is part of the region's total transportation network, is sufficient, suitable and appropriately zoned land which can be served efficiently by rail and highway. If the system is to continue serving the region, all components, particularly suitable land, must be available.

The Portland harbor and adjacent waterfront land depend upon a complex public/private partnership for continued success. The federal government *is* primarily responsible for navigation channel maintenance and improvements, while the Port of Portland owns and operates public marine terminals. The private sector provides for special facilities such as docks and facilities which handle major commodities, such as grain and wood chips, and towboat, barge, rail, *ship* and salvage services. Local jurisdictions generally are responsible for land use regulations, streets and public utilities. State and federal aid has been available for major highways.

The purpose of this policy is to ensure that Multnomah County takes appropriate action to provide for needed marine transportation system facilities in those areas of the Portland region within its jurisdiction. The system must include appropriate backup land for marine terminal and waterfront industrial facilities.

Based on a survey of attitudes toward bicycling (Columbia Research Associates, 1982), community workshops (conducted Fall and Winter, 1982), and coordination with the cities, it was determined that both on-street routes (commuter oriented) and recreation routes should be constructed with the 1% bikeway fund. An assessment of the existing Bicycle Corridor Concept Plan was completed. An update of the plan was recommended with the addition of a capital facilities program for funding prioritization.

The following Policy directs this bicycling facility planning and route implementation effort. The attached map labeled "Bikeways" reflects the preliminary analysis for a bicycle transportation network. Information compiled to prepare the map included Community Plan recommendations, citizen input, survey of employment centers, schools, parks, and high density population areas, and the existing transportation system.

## POLICY **33c**

IT IS THE COUNTY'S POLICY TO IMPLEMENT A BICYCLE/PEDESTRIAN SYSTEM AS AN ALTERNATIVE TRANSPORTATION MODE, FURTHERING THE OPPORTUNITY FOR A BALANCED SYSTEM BY:

- A. IDENTIFYING STREETS WITH GOOD BICYCLE ACCESS AND TRAVEL POTENTIAL ON THE MAP TITLED BIKEWAYS, WHICH PROVIDES THE FRAMEWORK FOR FUTURE BIKE ROUTE PROJECTS AND ASSURES THAT FUTURE STREET IMPROVEMENT PROJECTS ON A DESIGNATED ROUTE WILL BE DESIGNED TO ACCOMMODATE BICYCLES.
- B. PROVIDING FOR COMMUTER TRIP AND RECREATION BICYCLE TRAVEL THROUGH THE DEVELOPMENT AND ADOPTION OF A BICYCLE CORRIDOR CAPITAL IMPROVEMENTS PROGRAM (C.I.P.) AND ROUTE PRIORITY MAP, AS PART OF THE OVERALL MULTNOMAH COUNTY CAPITAL IMPROVEMENTS PROGRAM.
- C. ADOPTING STANDARDS FOR BICYCLE ROUTE DESIGN IN THE C.I.P., INCLUDING THE AMERICAN ASSOCIATION OF AMERICAN STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) GUIDE FOR DEVELOPMENT OF NEW BICYCLE FACILITIES, 1981.
- D. IMPLEMENTING BICYCLE FACILITIES DESCRIBED IN THE BICYCLE CORRIDOR C.I.P. BY IDENTIFYING PROJECTS THAT CAN BE CONSTRUCTED THROUGH:
  1. THE LAND DEVELOPMENT PROCESS WHERE DEDICATION OF A RIGHT-OF-WAY OR EASEMENT CAN BE REQUIRED AS A CONDITION OF LAND DEVELOPMENT.
  2. ROAD IMPROVEMENTS, WHERE A BICYCLE FACILITY IDENTIFIED AS A ROAD SLATED FOR IMPROVEMENT CAN BE DESIGNED, CONSTRUCTED AND FUNDED AS PART OF THE ROAD IMPROVEMENT.
  3. PRIORITIZING THE 1% BIKEWAY FUNDS FOR BICYCLE FACILITY PROJECTS WITH CONSIDERATION GIVEN TO ROUTES ON COUNTY ROADS WITHIN THE CITIES AS WELL AS UNINCORPORATED MULTNOMAH COUNTY.

POLICY 33C: BIKEWAYS/PEDESTRIAN SYSTEM

INTRODUCTION

With an estimated 150 million American enthusiasts, bicycling is fast becoming an important and attractive alternative to the vehicle. In less than 15 years, the bicycle has grown from a child's toy to a popular adult mode of travel.

The potential energy shortage and increased public awareness regarding physical fitness has made commuting and recreation bicycling in the Portland Metro area a feasible alternative. East County offers a good road system for utilitarian bicycle routes and many scenic areas for recreation bicycling. As a result, there is a growing appreciation of the benefits of bicycling by residents of all ages.

In 1978, the County addressed the needs of the bicycling public through Comprehensive Framework Plan Policies #39 and #40, which recommended the preparation of a Bicycle Circulation Plan.

The Bicycle Corridor Concept Plan was prepared and adopted along with an ordinance directing implementation of the proposed routes. The plan included some corridors of undefined routes, recreation routes linking scenic areas and parks, and some utilitarian (street) routes that were planned in conjunction with road projects.

Despite the fact that a map existed and the County's policy directed implementation of the routes on the map, the mechanisms to assess route safety, define route alternatives and build facilities were not in place and as a result, the County has, five years later, only one separated facility and one signed facility.

Studies indicate that bicycle safety is enhanced through designation of potential bicycle use. Such designation can occur several different ways. Lane striping and signing is recommended for those streets selected as bicycle streets with high traffic volumes and speed limits. Route signing is recommended for bicycle streets with lower speed limits and traffic volumes. Separated bike paths provide access to recreation or scenic areas and allow the less experienced cyclists the opportunity to improve their bicycling skills away from perceived dangers.

As a result of ORS 316.544, the State mandates that 1% of a jurisdiction's Road Fund monies shall be spent toward the planning, design, construction and maintenance of bicycle/pedestrian facilities within the road right-of-way and in accordance with State Standards (AASHTO Guidelines), or that the 1% be committed to a reserve to be held for not more than 10 years. With this directive and the increased awareness of the benefits of bicycling, the County has taken a more active role in implementation of facilities.

- E. PARTICIPATING IN THE UPDATE OF THE METRO REGIONAL BICYCLE PLAN AND PROJECT PRIORITIZATION PROCESS.
- F. PROVIDING PUBLIC INFORMATION REGARDING BICYCLE ROUTES AND SAFETY.
- G. PROMOTING THE USE OF COMPLETED AND APPROVED BICYCLE FACILITIES.

#### STRATEGIES

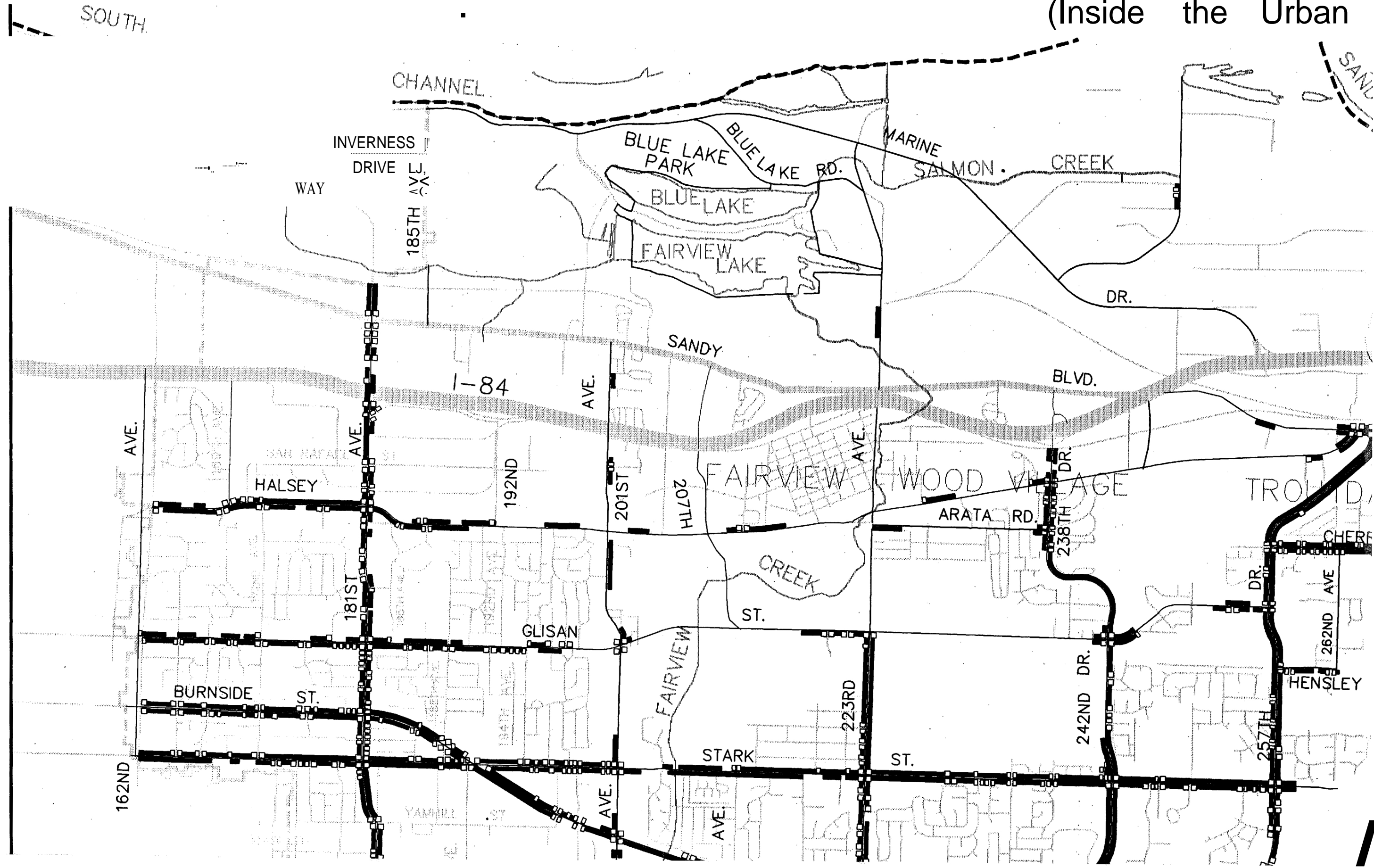
The following Strategies should be used to implement the bicycle/pedestrian system.

- A. The Zoning Article should include the designation of the proposed 40 Mile Loop route.
- B. The Streets and Roads Standards Ordinance should include the adopted bike-way design standards including AASHTO Guidelines for Development of New Bicycle Facilities, 1981.
- C. The Bicycle Corridor Capital Improvements Program should include the following:
  - 1. A citizen involvement process including establishment of a departmental Bicycle Advisory Committee for review and comment on proposed routes, route treatment and project criteria.
  - 2. Identification of corridor bicycle routes to serve major activity centers.
  - 3. Identification of community level routes to serve employment centers, schools, parks and neighborhood shopping centers.
  - 4. Identification of criteria for bicycle facility treatment.
  - 5. Identification of criteria to prioritize projects with special consideration given to:
    - a. potential use,
    - b. connectivity;
    - c. road and traffic conditions.
  - 6. A review and comment and prioritization process to include the Engineering Department, Operations and Maintenance Department, Planning Commission and 40 Mile Loop Land Trust and the cities within Multnomah County.
  - 7. A candidate list of projects and map prioritized for bicycle funds forwarded to the Board of County Commissioners for their consideration for inclusion in the Bikeway/40 Mile Loop Program budget.



# SIDEWALKS & RAMPS IN E

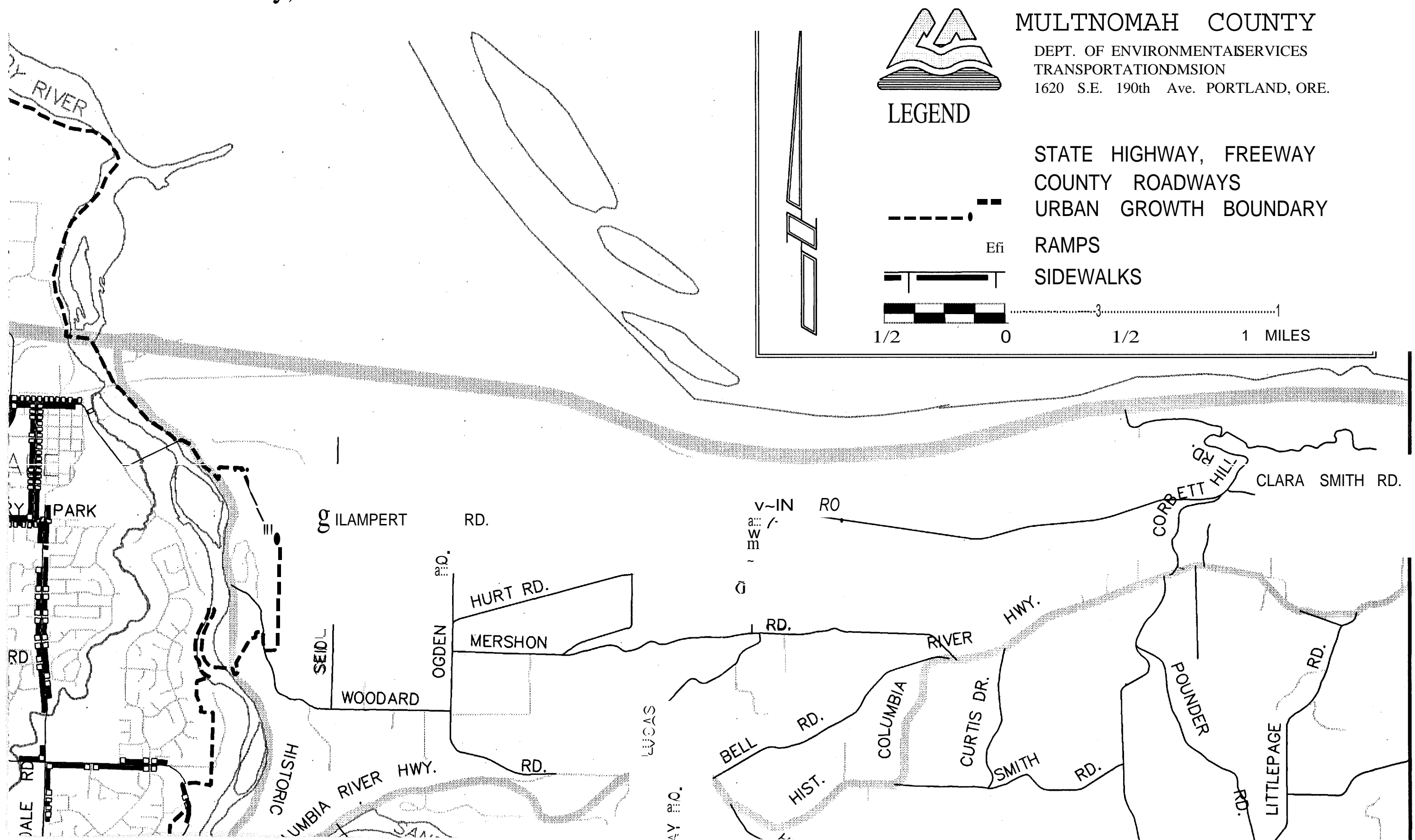
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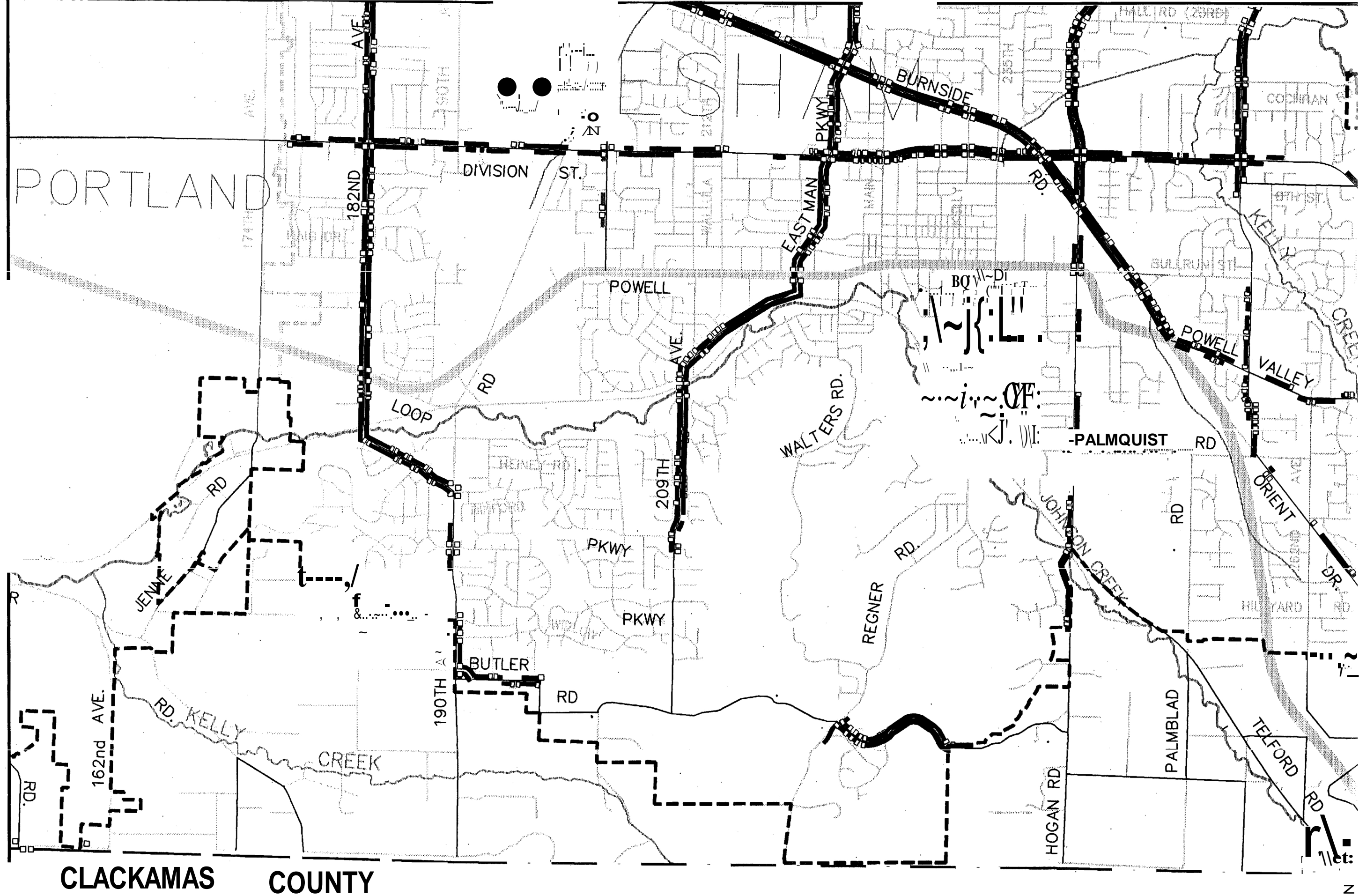


# EAST MULTNOMAH COUNTY

(FIGURE 4)

Growth Boundary)





CLACKAMAS COUNTY

