



Transit Investment Plan

FY2007

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General comments or concerns, Trip Planning & Transit Tracker™ Next Arrivals	→	Customer Service	503-238-RIDE (7433) TTY 503-238-5811	comments@trimet.org	trimet.org

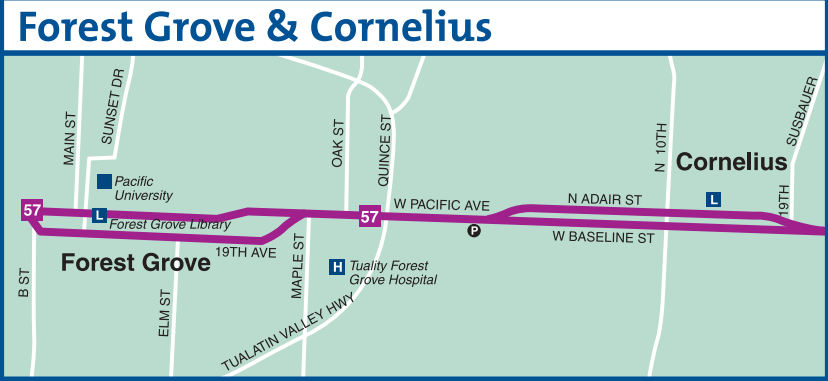
FY 2007 Transit Investment Plan



Tri-County Metropolitan Transportation District of Oregon
4012 SE 17th Avenue
Portland, Oregon 97202

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Forest Grove & Cornelius



Legend

Bus Service

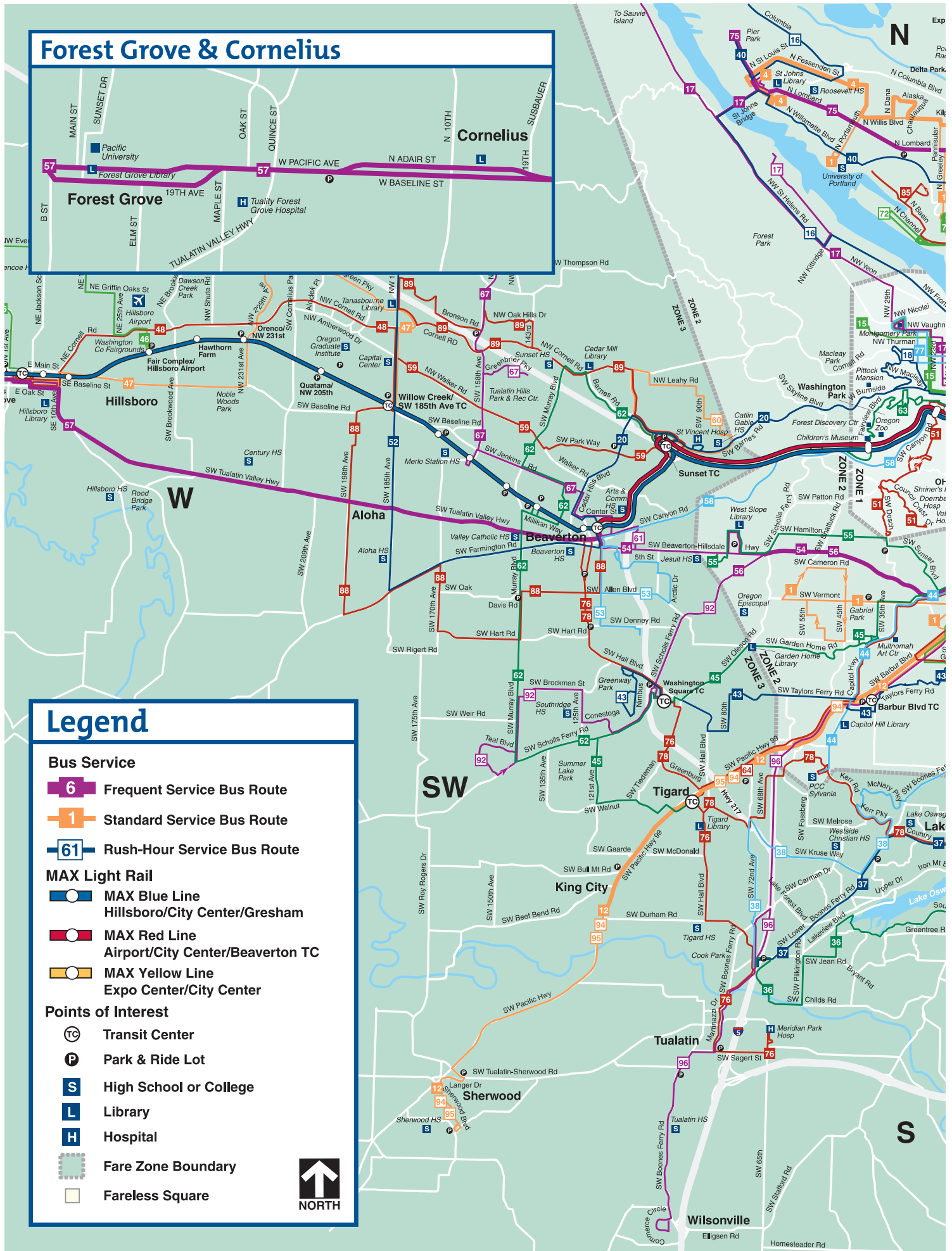
- Frequent Service Bus Route
- Standard Service Bus Route
- Rush-Hour Service Bus Route

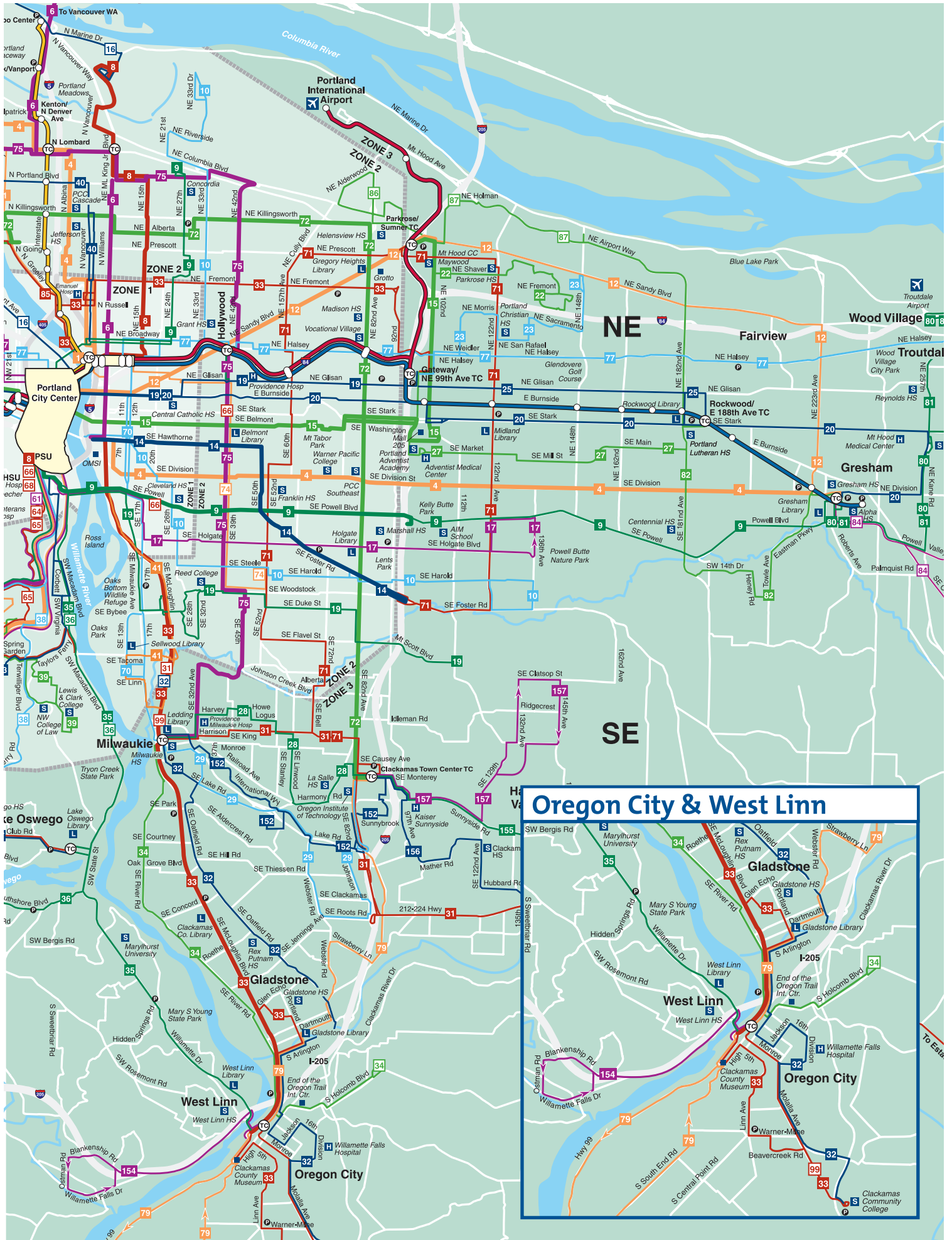
MAX Light Rail

- MAX Blue Line
Hillsboro/City Center/Gresham
- MAX Red Line
Airport/City Center/Beaverton TC
- MAX Yellow Line
Expo Center/City Center

Points of Interest

- Transit Center
- Park & Ride Lot
- High School or College
- Library
- Hospital
- Fare Zone Boundary
- Fareless Square





Oregon City & West Linn



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Dear Reader,

Decisions about where and when we make transit investments are some of the most important decisions facing our community today. Our choices will influence land development, travel patterns, the economy, public health and our very quality of life.

The Transit Investment Plan (TIP) seeks to provide a framework for how transit investments will be made. The TIP establishes the priorities for where TriMet will expand service, on-street amenities and customer information. The TIP provides local governments with a guide for their planning processes so they can leverage our investment with transit-related infrastructure such as sidewalks and safe street crossings. The TIP is becoming the basis for partnerships to improve transit service and access to that service throughout the region.

Our region has much to be proud of in the transit system we have today. In September we will celebrate the 20th anniversary of the MAX Light Rail line. When the Eastside line opened in 1986 there were those who said it was a waste of money and that people wouldn't ride. Time has proved the naysayers wrong. MAX has now expanded to three lines with 44 miles of track, carrying some 100,000 riders a day. It is the backbone of the TriMet system and is very popular not only with riders, but with the general public. Surveys show that MAX's approval rating with the public is consistently around 90 percent.

On the horizon are other major expansions of the rail system. Construction on the 8.3 mile I-205/Portland Mall project will begin in early 2007, with opening scheduled for September 2009. The 14.7-mile Washington County Commuter Rail line between Wilsonville and Beaverton will begin construction in the fall, with opening expected in 2008. These major new lines will extend rail service into Clackamas County for the first time, providing convenient connections to locations through the region.

While we have been able to make significant transit investments in the past few years, we will not be able to expand service this year because of the continued slowdown in the economy. In addition, the high cost of diesel fuel is stretching our already limited resources.

Even with limited resources we are finding ways to improve our service and protect the environment. This year we began using biodiesel in our LIFT fleet. We expect to expand biodiesel use to the fixed route fleet in the next fiscal year. Also, in the fall our buses will begin using ultra low sulfur fuel, which will significantly reduce emissions.

TriMet is committed to providing high quality transit service that meets the needs of all our riders. We will continue to work hard and make good choices to maintain our quality of life and provide more transportation options for the entire region.

Sincerely,

A handwritten signature in black ink that reads "Fred Hansen". The signature is written in a cursive, slightly slanted style.

Fred Hansen
General Manager

Executive Summary

The Transit Investment Plan (TIP) lays out TriMet's strategies and programs to meet regional transportation and livability goals through focused investments in service, capital projects and customer information. The TIP is a rolling five-year plan that is updated annually. The TriMet Board of Directors first adopted the TIP in June 2002.

The TIP relies on long-term goals and strategies developed by Metro, including the Regional Transportation Plan (RTP). These plans direct development to Regional Centers, Town Centers and key corridors. The TIP shows how TriMet will implement the transit portion of the RTP over the next five years.

The Total Transit System

The Total Transit System is TriMet's term for the elements that make transit an attractive choice for riders. The Total Transit System includes: frequent, reliable service during all times of the day and every day of the week; clear customer information; easy access to stops; comfortable places to wait for transit and modern, well-maintained vehicles. TriMet and its partners are investing in the Total Transit System to not only meet the current demand for service, but to support regional development described in the 2040 Framework Plan and to attract the level of ridership called for in the RTP.

Regional Partnerships and Focused Investments

TriMet partners with local, regional, and state governments and agencies to provide many of the important elements that enhance access to transit such as roadways, sidewalks, safe pedestrian crossings, priority treatments for transit vehicles, and building codes that promote and enhance pedestrian-friendly areas. Only with such combined and coordinated efforts can the region realize the full potential of its significant transit system investment.

The TIP provides the framework for forming regional partnerships between TriMet and other agencies to improve access to transit and encourage transit-oriented development. TriMet worked with local jurisdictions to develop criteria for expanding transit service.

TIP Priorities

Within available financial resources, TriMet and its partners balance needs to guide where, when and how to invest transit-related dollars. The TIP priorities are to:

1. Build the Total Transit System – Enhance customer information, access to transit, stop amenities, frequency, reliability, passenger comfort, safety and security.
2. Expand high capacity transit – Invest in MAX Light Rail, Commuter Rail and Streetcar service along key corridors to connect Regional Centers.
3. Expand Frequent Service – Add routes to TriMet's network of bus lines than run every 15 minutes or better, every day.
4. Improve local service – Work with local jurisdictions to improve transit service in specific local areas.

TIP Implementation

TIP Priority	FY 2006	FY 2007	FY2008 to FY 2011
	June 2005 - July 2006	June 2006 - July 2007	June 2007 - July 2011
	<i>Past Fiscal Year</i>	<i>Upcoming Fiscal Year</i>	<i>Program of investments, depends upon improved revenue</i>
1. Build the Total Transit System Chapter 4	Transit Tracker by Phone provides real time bus & MAX arrivals to more than 12,000 calls per day Added Stop IDs at 2,000 bus stops for use with Transit Tracker Installed 10 shelters and replaced 20 Install solar-powered lighting at 45 stops Deployed 39 new buses	Add Transit Tracker stop ID numbers to 1,200 more stops Open Milwaukie Park & Ride Install 35 new shelters Automate announcements on low floor buses Install stop name decals Address low performing lines 86-Alderwood, 157-Happy Valley, and the Cedar Mill Shuttle. Assess performance of Line 39-Lewis and Clark changes.	Provide automated stop announcements, air conditioning and low-floor boarding on over 3/4 of buses Add buses and light rail vehicles to address projected passenger crowding Improve Rose Quarter bicycle access Complete installation of new signs and optimize bus stop spacing
2. Expand High Capacity Transit Chapter 5	Completed South Corridor 50 percent Design	Begin Washington County Commuter Rail construction Begin I/205-Portland Mall Construction Continue Analysis & planning for future corridors (Milwaukie-Portland, Lake Oswego-Portland, Portland Eastside, Columbia River Crossing, Powell/Foster, Damascus/Boring) and possible MAX extensions.	Open Washington County Commuter Rail Open Gresham Civic MAX Station Open MAX on I-205 to Portland Mall; Redesign downtown bus service
3. Expand Frequent Service Chapter 6	Frequent Service buses served 56.7% of bus riders in FY05.	Add hours of service to line 9-Powell Construct access improvements along line 57-TV Hwy/Forest Grove	Add Frequent Service to complement Commuter Rail, I-205 investments Extend hours of Frequent Service on 4 existing lines
4. Improve Local Service Chapter 7	Second year of Blue Lake Park weekend shuttle	Tigard	Revise N. Clackamas service to coordinate with I-205 MAX Green Line Change S. Waterfront service

TriMet's Transit Investment Plan

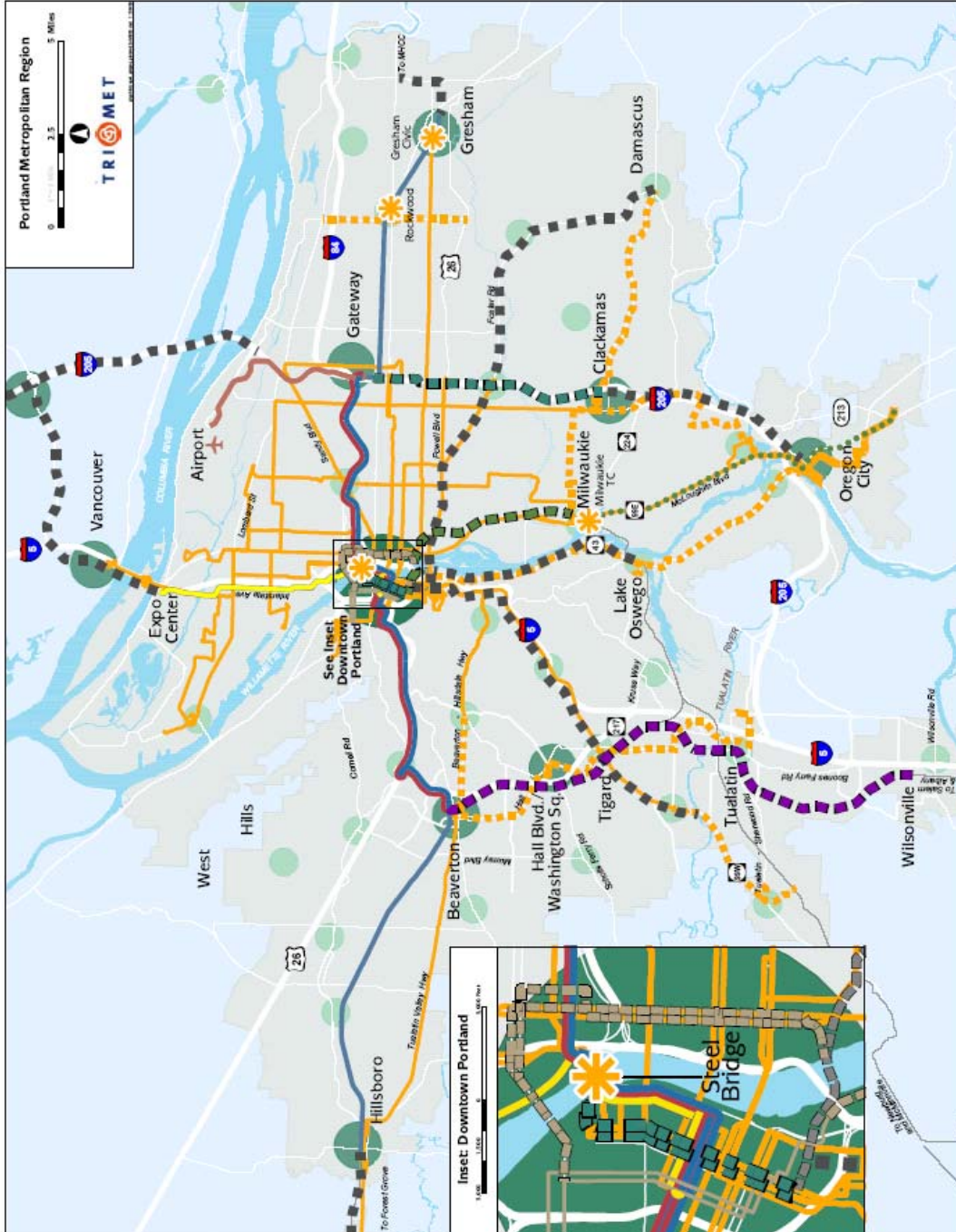
- Legend**
- MAX Blue Line
 - MAX Red Line
 - MAX Yellow Line
 - I-205 & Mill Light Rail Project
 - South Corridor LRT / BRT
 - Portland Streetcar / Extension
 - Commuter Rail
 - High Capacity Transit
 - Frequent Service (existing / future)
 - Other Railroads
 - Freeways / Arterials
 - Capital Projects

Metro 2040 Plan Center Types

- Portland CBD
- Regional Center
- Town Center
- Land within UGB

Updated Corridors Work Plan (Metro)

- On-Going Corridor Planning**
- I-5 North
 - Powell / Foster
 - North Corridor
 - South Corridor
 - Macadam / Hwy 43
 - I-5 to Hwy 99 Connector
- New Recommended Corridor Realignments**
- I-84 to Hwy 26 Connector
 - I-205 (South)
 - Outer Southwest Area
 - Outer Northwest Area
 - LRT & Streetcar System
- Other Corridors**
- North Westside Crossing
 - Hwy 213
 - Barbur Blvd / I-5
 - TV Hwy
 - Spring Hill Hwy
 - I-205 (North)
 - Bainfield (I-84)
 - McLoughlin & Hwy 224



1. Introduction

The Transit Investment Plan (TIP) lays out TriMet's strategies and programs to meet regional transportation and livability goals through annual investments in service improvements, capital projects and customer information. The TIP contains a five-year plan of service improvements and a survey of long-range system enhancements. The TriMet Board of Directors adopted the first TIP in June 2002. Community open houses, TriMet Board meetings and discussions with jurisdictional partners provide a basis for annual revisions of the TIP.

The TIP builds upon earlier planning documents including the 1997 Transit Choices for Livability project and 1993 Strategic Plan. The FY2007 TIP replaces these planning documents as TriMet's development plan.

The TIP builds on regional long-term goals and strategies developed through the Metro regional government's planning process and contained in the Regional Framework Plan. Two components of the Framework Plan, the Regional Transportation Plan and Growth Concept, direct development to centers and along transportation corridors. The TIP shows how TriMet will implement the next five years of the transit improvements called for by these plans. The TIP focuses TriMet, local, regional, state and federal funds into specific transit corridors and areas.

This plan emphasizes focused investments, not only in new bus and rail service, but in the Total Transit System: service reliability, passenger amenities, customer information, and access. These improvements are most noticed by riders and are therefore most effective when they are made on the same routes at the same time.

TriMet partners with local, regional, and state governments and agencies to provide many of the important elements that enhance access to transit such as roadways, sidewalks, safe pedestrian crossings, priority treatments for transit vehicles, and development codes that promote and enhance pedestrian-friendly areas.

The TIP provides the framework for forming regional partnerships between TriMet and other agencies to improve access to transit and encourage transit-oriented development. TriMet worked with local jurisdictions to identify areas with the greatest ridership potential.

Transit investments need to be planned and programmed several years in advance. TriMet works with jurisdictions to coordinate transit and streetscape investments to achieve the greatest beneficial impact for potential transit riders. The TIP contains priorities for new service. Actual implementation depends on funding availability as part of each year's annual transit plan and budgeting process.

TIP Priorities

Within available financial resources, TriMet and its partners balance needs to guide where, when and how to invest transit-related dollars. TriMet's priorities are to:

1. Build the Total Transit System
2. Expand high capacity transit
3. Expand Frequent Service
4. Improve local service

Regional Context

Metro is the regional government that leads the development of long-term plans for land-use and transportation. TriMet is a partner with Metro and local governments in land use and transportation planning. TriMet's commitment to improve service in concert with growth management is a basis for the region's 50-year land use vision, the 2040 Growth Concept.

The 2040 Growth Concept, adopted by Metro in 1995, preserves access to nature and builds better communities by maintaining a compact urban form with increased travel options. It directs most new development to population centers and along corridors that can be well served by transit, walking and bicycling. Focusing jobs, housing and services in these areas takes best advantage of transit system investments by reducing the need to drive alone.

The Regional Transportation Plan (RTP) was extensively updated in August 2000 and updated in January 2004. For transit, the 2004 update addresses the development of the Frequent Service concept and the designation of Frequent Service bus routes. Planning groundwork is already being laid for an extensive 2008 RTP update. TriMet will work with Metro and regional partners throughout this process to further develop transit and land use planning.

The Regional Transportation Plan is based on the development of a balanced transportation system that reduces our reliance on single-occupant automobiles and that focuses growth in Regional Centers. On an average weekday in FY2004, the TriMet system served approximately 228,300 originating rides (not counting transfers). By 2020, the RTP calls for that number to increase to more than 500,000 originating riders.

The region depends on TriMet to improve service to encourage and accommodate the growth in demand for transit. If TriMet is not able to expand service to accommodate the expected growth, we will fall short of our regional livability goals and air quality commitments.

The RTP calls for High Capacity Transit and Frequent Service bus lines to become the backbone of the transit system, serving major corridors and connecting Regional Centers to each other and to the Central City.

Most new development in the region is planned to be within a five-minute walk of transit service. A more extensive grid network of east-west and north-south bus service, to the extent allowed by existing roads and topography, creates a high level of coverage to access the Central City, Regional Centers, Main Streets, Corridors and light rail station areas.

- The RTP identifies 18 corridors that are important for travel by auto, transit and freight. Metro-led studies were recently completed for the South Corridor (Hwy 99E from Portland to Oregon City and I-205 from Gateway to Clackamas Town Center). Local funding for that recommended project is in place and Federal funds are now being sought.
- In June 2002 the Oregon and Washington Departments of Transportation with a Governors Task Force made recommendations for multi-modal investments in the I-5 corridor across the Columbia River. Those recommendations were extended to include similar investments in the I-205 corridor. That work resulted in the start of an Environmental Impact Statement that will address the multi-modal strategies identified in that plan.
- Phase 1 study of transportation needs in the Powell-Foster corridor calls for Bus Rapid Transit that would provide similar service features as light rail, extended from Portland ultimately to Damascus.
- Metro is advancing a Highway 217 corridor study. Those recommended transportation investment would compliment the introduction of commuter rail in that corridor.

- A merged transit alternatives analysis is being initiated for transit and trail improvements in the Portland-Lake Oswego corridor to Lake Oswego as well as an Alternatives Analysis to examine the potential for an Eastside Streetcar loop.

Making transportation investments in Regional Centers fosters development that can be efficiently provided with public services. Finally, areas proposed to be included within the urban growth boundary will be the focus of transportation improvements so they develop in ways that are less dependent upon cars.

The policies in the 2004 Regional Transportation Plan emphasize transportation alternatives for travel to work, shopping, and recreation. The policies also focus on ensuring that all layers of the region's transportation system work together in the most effective way possible. Local Transportation Systems Plans complement TriMet's TIP with related infrastructure improvements.

2. Transit System Status

TriMet provides a viable transportation option for thousands of Portland area residents every day. Ridership is expected to total 95.7 million boardings in FY2006.

TriMet was created in 1969 as a special district of the state of Oregon and is governed by a seven-member board of directors appointed by the Governor. TriMet's 575 square mile district serves 1.3 million people in the urban portions of Clackamas, Multnomah and Washington counties.

The TriMet fleet of 626 buses serves more than 90 bus lines and seasonal shuttles with 7,744 bus stops and 1,100 bus shelters. There are 164 miles of Frequent Service bus lines that provide fifteen minute or better service seven days a week. The MAX Light Rail system is 44 miles long and also operates at least every fifteen minutes. Over one-half of the district's population lives within one-half mile of TriMet service that arrives every fifteen minutes or better.

In addition to bus and MAX service, TriMet meets the needs of eligible elderly and disabled individuals with the LIFT and Medical Transportation Programs. TriMet operates 225 LIFT vehicles, providing door-to-door service for people with special needs. TriMet provides over eight million rides to seniors and people with disabilities on the fixed route system and an additional 958,000 rides on LIFT.

Fixed Route Service

TriMet's network of fixed route bus and rail lines attracts riders making trips at a variety of times and locations. The system is based upon a grid of north-south and east-west transit routes on arterial streets serving the Central City as well as cross-town trips. This grid serves the more densely populated parts of the region with weekday service on most lines operating at least every 15 minutes. Less frequent service connects lower density areas to transit centers (located in Regional Centers and some Town Centers). Though many of the routes serve downtown Portland or Regional Centers because they have the highest travel demand, the system design allows travel from any point in the system to any other point, without necessarily passing through downtown. Bike lockers, Park & Ride lots, sidewalks and shuttles provide access to transit from areas without fixed route service. Overall, 90 percent of people within the TriMet district live within one-half mile of TriMet service.

**Table 2.1
Fixed Route Summary**

	MAX Light Rail	Frequent Service Bus	Standard Service Bus
Routes	3	16	77
Length	44 mi	164 mi	728 mi
Vehicles Peak Service	82	204	330

**Table 2.2
MAX Light Rail Summary**

Line	Project / Construction segment	Open	Length (mi)	Annual Ridership Opening Year	Annual Ridership FY2006	Stations	Park & Ride Spaces
	Data for each construction segment						
Blue Hillsboro to Gresham	Eastside <i>Portland to Gresham</i>	September 1986	15	6,600,000	32,591,800	30	3,054
	Westside <i>Hillsboro to Portland</i>	September 1998	18	5,900,000		20	3,613
Red Beaverton to Airport	Airport <i>Gateway to Airport</i>	September 2001	5.5	571,484		4	193
Yellow City Center to Expo	Interstate <i>Rose Quarter to Expo</i>	May 2004	5.8	3,900,000		10	604

Development

The Gateway Transit Center is designated as a 2040 Regional Center and is an urban renewal district with aggressive redevelopment plans underway. The transit center will soon be a hub for three light rail lines. TriMet is working with the Portland Development Commission, the Gateway Program Advisory Committee and a private developer to transform the 6.5-acre and Park & Ride lots into a phased active mixed use development. In the first phase 140 parking spaces have been relocated to the NE 122nd Ave MAX station and 480 parking spaces were available in a 3-level parking structure that opened in 2006.

The development of the Yellow Line coincided with the creation of the Interstate Avenue Urban Renewal Area. In November 2004 the new Interstate Fred Meyer store opened, representing the largest of new developments along the Yellow Line alignment. Other retail and housing developments are currently underway, all conveniently located at MAX stations.

Portland Streetcar

The Portland Streetcar extended its existing 4.8-mile loop by an additional 1.2 miles to Riverplace in March 2005. Construction is currently underway to extend streetcar operation to SW Moody/Gibbs in the South Waterfront District, with service currently slated for late 2006.

Today, the Portland Streetcar serves a 6-mile loop linking Riverplace, Portland State University, the Pearl District, the Northwest Neighborhood and MAX Light Rail. The streetcar was constructed by the City of Portland through a partnership with adjacent property owners, managed by a non-profit organized by the City, and operated by TriMet personnel under an agreement with the City. The City of Portland and TriMet share operating costs. After it is extended in 2006, the streetcar would connect at SW Gibbs with an aerial tram to the main Oregon Health Sciences University campus on Marquam Hill.

Ridership

TriMet's annual ridership has increased every year since FY1988. Passengers boarded a TriMet bus or MAX train 95.7 million times in FY2006. Ridership growth reflects the investments TriMet has made in improving service, especially on Sundays. Since 1998, the portion of weekday riders served by Frequent Service increased from 17 percent to over 50 percent. All of the net bus system ridership growth since FY1999 has been on Frequent Service lines. Overall, TriMet ridership is increasing faster than other indicators of regional growth, including population.

3. Priority 1: Build the Total Transit System

The Total Transit System describes the elements that make transit attractive to riders. This chapter details investments in five of these elements, specifically:

- Customer information regarding TriMet service
- Access to transit via walking, bicycling or driving
- Passenger amenities at transit stops
- Quality service that is frequent, reliable and comfortable
- A safe and secure trip

TriMet and its partners are investing in the Total Transit System to not only meet the current demand for service, but to attract the level of ridership called for in the RTP. This is the foundation for growing the system.

Customer Information

Clear and relevant customer information is an essential component of the Total Transit System. What is considered critical customer information varies according to need. First-time or infrequent riders may require an overview of the entire system along with specific information on fares, routes, and schedules. For regular riders, it is important to have timely updates regarding service to aid their transit planning pre-trip, on-street (or wayside) and onboard.

Because TriMet serves a broad customer base, with varying needs and levels of access, it is important to provide information in as many forms and across as many distribution points as practical. The following chart demonstrates TriMet's customer information types and sources. This chart identifies the relevant type of information and the most pertinent tools available to access and make use of that information at each stage of transit trip planning, as indicated by the check marks in Table 3.1.

**Table 3.1
TriMet Customer Information**

Information Need	Information source					
	Pre-trip			On-street		On-board
	Print materials	Landline phone	Online	Display	Cell phone	Display/print materials
Schedule	•	•	•	•	•	•
Map	•	•	•	•	•	•
Trip planning	•	•	•	•	•	•
Arrival time	•	•	•	•	•	•
Delay information	•	•	•	•	•	•
Stop locations	•	•	•	•	•	•
Trip length/time	•	•	•	•	•	•
Route options	•	•	•	•	•	•
Transfer information	•	•	•	•	•	•
Service frequency	•	•	•	•	•	•
Park & ride info	•	•	•	•	•	•
How to ride/fare info	•	•	•	•	•	•
Time of day	•	•	•	•	•	•

Schedule Information

Schedules for buses and light rail allow customers to determine planned arrival and departure information, either before beginning a trip or while a trip is in progress. TriMet provides this information in multiple forms:

- Printed maps at the TriMet Ticket Office and online at trimet.org
- Printed schedules at the TriMet Ticket Office, onboard buses and MAX trains and at schedule and sales outlets
- Printed schedule information at heavily used stops and transfer points. Currently there are 4,500 information displays at stops, stations and shelters throughout the TriMet system, with a goal of eventually providing schedule information at every stop
- Telephone access to schedules 24 hours, seven days a week in English and Spanish and via TTY
- Schedules on television monitors on the Portland Mall

- Internet access to all schedules and maps at TriMet's website, trimet.org including downloadable schedules for personal digital assistants (PDAs).

Trip Planning

Customers can plan trips in advance by telephone (503-238-RIDE), online at trimet.org or at the trip-planning kiosk at TriMet's Ticket Office at Pioneer Courthouse Square. TriMet processes 1.7 million trip planning requests each year. Of those, 1.3 million trips are planned by customers at trimet.org.

Transit Tracker

TriMet's Transit Tracker uses satellite technology to track buses. It allows customers access to the projected time the bus or train will arrive. Transit Tracker is available at 37 bus and 24 MAX stops and online at trimet.org for all bus stops and MAX stations. Wireless access for PDAs and Internet-ready cell phones is also available.

In addition, Transit Tracker is now available on touch tone phones (land line and cell). Customers can call 503-238-RIDE and enter their Stop ID number to get real time arrival information 24 hours, seven days a week in English and Spanish. Through the first five months of this program, TriMet customers are calling to get real time arrival information for their stop an average of more than 375,000 times per month in May 2006, up from an average of 85,000 times per month in FY2005.

Stop ID numbers are assigned to each bus stop and MAX station in the TriMet system. Currently, customers can access the Stop ID number for their stop location by going online at trimet.org or by calling 238-RIDE and using the automated system; trip planners at the Customer Service Center include Stop ID numbers in all itineraries.

Since September 2005, Stop ID numbers have been listed in timetables and at bus shelters and MAX platforms. Stop ID numbers will also be added to all new bus stop signs as they are installed. About half of all bus stops will have a Stop ID posted by the end of FY2007.

Personal Service

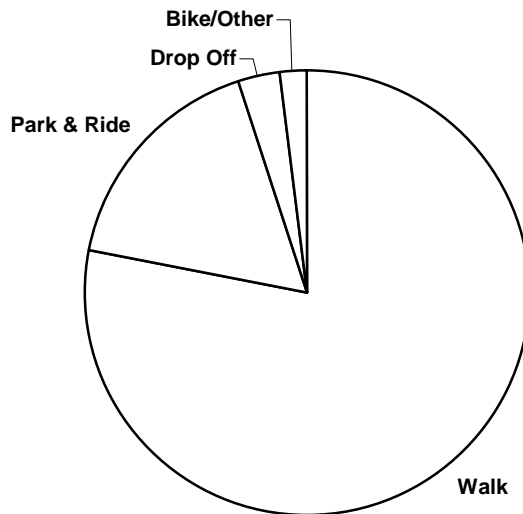
TriMet's commitment to accessible customer information includes direct personal contact with customers. In any given month, upwards of 80,000 contacts with customers are made over the telephone, at the Ticket Office counter, at Portland Airport and at special events.

The TriMet Ticket Office at Pioneer Courthouse Square offers ticket and pass sales, trip planning assistance and general customer information. At 503-238-RIDE, customers can get assistance from live operators for trip planning, fare information and related transit service information. TriMet's telephone operators will also log customer comments, suggestions and complaints into a Customer Service Information database. These calls are logged, tracked and responded to as part of an agency-wide customer service commitment. Finally, dedicated on-street Customer Service Representatives are deployed to assist customers during special events and whenever there are service adjustments or service disruptions.

Access to Transit

Investments in transit service are only useful to riders if they can get to it. The majority of riders access transit by walking. The chart below, from TriMet's 2002 Origin-Destination Survey, shows how people access transit from home.

Figure 3.1
Access to Transit from Home



Pedestrian

The Total Transit System includes safe and convenient pedestrian access to transit with sidewalks, crosswalks and trails. Every transit rider is a pedestrian at some point in his or her journey. Pedestrian access is the most important mode for meeting local service needs. Maximizing transit ridership depends on safe, welcoming and direct pedestrian access to transit stops. Many people are willing to walk up to one-quarter mile to a bus or streetcar stop or one-half mile to MAX, Frequent Service or Commuter Rail.

Ninety percent of the region's population lives within a half-mile of a bus stop or light rail platform. However, sidewalks connect to only about 69 percent of the stops. Discontinuous sidewalks, indirect routings, and difficult street crossings discourage local circulation and transit use. Given that half of all bus rides are on Frequent Service, TriMet is interested in working with local jurisdictions to focus pedestrian enhancements on these key corridors.

To this end, TriMet and Metro completed a region-wide sidewalk inventory to document the presence or absence of sidewalks on each side of the street, sidewalk coverage per block, marked crosswalks on major arterials, and traffic signals. The inventory is used to find pedestrian access gaps along or within one-quarter mile of existing and proposed Frequent Service routes.

TriMet will provide an inventory of high-use bus stops for jurisdictions to use in planning pedestrian investments. Criteria for allocation of Metropolitan Transportation Improvement Program funds support the development of sidewalks, trails and bike routes. Many jurisdictions are using those funds to provide improved transit access. Private development also plays an important role in providing these needed connections. Additional resources are needed to make significant progress in providing access to transit.

There is a similar need for safe street crossings where bus routes follow major arterial streets and highways. Busy streets with signals spaced far apart are barriers to safe access to transit. Neighborhood-

oriented streetscape improvements may not all be applicable to such busy streets. TriMet has been working with ODOT and other jurisdictions to identify these difficult locations and to begin to make improvements.

TriMet will work with Metro to integrate the most recent bus stop information into the next RTP update. Major transit stops identified in the RTP will reflect TriMet’s levels of bus stop use and priority. This will in turn facilitate the inclusion of this information in local transportation system plans and allow jurisdictions to better build capital development work programs in concert with transit needs and priorities.

Bicycle

Bicycle infrastructure extends the reach of the public transit system. All TriMet buses have bicycle racks and all MAX trains have designated bicycle areas. Bicycles are allowed on the Portland Streetcar. Most stations, transit centers, and Park & Ride lots have bike racks or lockers. TriMet offers over 340 bicycle lockers. TriMet will continue to promote bike access to transit by expanding the distribution of bike racks and lockers as new investments in high capacity transit are made. TriMet will work with local jurisdictions to improve bike access and awareness of bicycle facilities in the metropolitan area. High capacity transit corridors will preserve, enhance or establish bike routes.

**Table 3.1
Bicycle Projects**

Project	Status
Hollywood Transit Center: new smart card lockers, new bike lane and wayfinding	Construction began in July 2006, expected completion in FY2007
Test triple bike racks on 2 hybrid buses	Testing to begin in FY2007
Rose Quarter Transit Center: Stop Relocation and new bike lanes	Seeking funding. Construction possible FY2008.
Portland Mall: Attended bicycle parking in lieu of lockers	Seeking partnership with PSU and the City of Portland to provide attended bike parking and some shop services on the South Mall.
I-205 Light Rail	Working with City of Portland to optimize distribution of required bicycle lockers. Possible installation of smart-card on-demand lockers, with bike rental capability. Additional short-term parking may be provided if funds are available. TriMet is also working with jurisdictional partners to improve access to MAX via the I-205 multi-use path.

Park & Ride

Park & Ride lots provide access to transit in locations that are not well served by bus lines and at rail platforms outside the Central City. These parking lots are either owned by TriMet or provided in a shared

use arrangement through churches, movie theaters, or retail establishments. Users may park free of charge up to 24 hours or as posted at 57 Park & Ride lots.

TriMet provides over 10,000 parking spaces for Park & Ride commuters. Sixteen of the 21 TriMet-owned lots are on MAX lines. Dedicated lots provide 80 percent of the total Park & Ride capacity. While many of these lots are used beyond capacity, overall use is at 80 percent of capacity. Shared use lots are a tradition in Portland as these lots once provided the entire Park & Ride capacity for the system. Today the 36 shared use lots make up 20 percent of the system capacity. Shared use parking lots make maximum effective use of existing community investments in parking. While generally provided by institutions as a community service, TriMet often enters into agreement for nominal improvements or maintenance of these lots. Challenges include managing over-use of these lots and liability protection for the partner institution. It can be difficult to locate shared lot partners at attractive locations and with demand on the lots that complements the weekday work schedules of Park & Ride commuters. TriMet continues to explore opportunities for additional shared use Park & Rides at locations that effectively supplement fixed route services.

Quick Drop

Many centrally located MAX stations and transit centers are provided with curbside locations where transit riders can be met or dropped off. These facilities make it easier for families or carpoolers to coordinate trip making. Quick Drop locations were added to the system in conjunction with the opening of the Airport MAX Red Line to make it easy for passengers with luggage to access stations. TriMet continues to incorporate Quick Drop facilities as MAX stations and transit centers are redeveloped.

Stops and Shelters

There are 7,700 bus stops, 1,090 bus stop shelters, 570 trashcans and over 1,800 benches for TriMet riders. When placing stops, TriMet tries to use locations that are accessible by sidewalks, near crosswalks, safe, convenient, visible and well lit. TriMet continues its implementation of a multi-year bus stop development program that includes placement of new signs and poles at stops, additional shelters and benches, and more lighting at stops. New signs and poles include a schedule display, Stop ID number and Frequent Service branding (where applicable). 35-40 new shelters and 35 solar lighting installations are planned for FY2007. In addition, a new type of bus stop sign for very busy stops is being tested in downtown Portland. 36 of these signs will be installed for the Temporary Portland Mall reroutes.

Capital program efforts will look for partnerships that match bus stop investments with sidewalk and crosswalk improvements. New development will continue to be asked to provide some of this bus stop and amenities investment.

Shelter expansion opportunities will be coordinated within local area plans and will address regional needs and priorities. Stop names (based upon intersection) and ID numbers will be posted at shelters starting in FY2007.

Ridership, number of transfers, type of destination and land use were analyzed to categorize bus stops as level 1, 2 or 3. These criteria are detailed in the appendix.

**New Signs, Poles & Schedule Displays
Updated-June 2006**

Project Year	Routes (sorted by proposed order)	Status
2003 Work Plan Elements * Finalize New Look Sign Design * N/NE Focus Area * Frequent Service Emphasis * NW Portland Changes * Coord. with Interstate MAX	4-Fessenden	Completed
	4-Division	Completed
	6-MLK	Completed
	8-Jackson Park	Completed
	8-Dekum	Completed
	9-Powell	Completed
	9-Broadway	Plan
	67-Jenkins/158th NW & Fareless Portland Sign Changes	Completed Substantially completed
2004 Work Plan Elements * Finalize N/NE Changes * Finalize Interstate Changes * Emphasis on Frequent Service	Final Routing changes in NE Area	Completed
	68-Collins Circle	Completed
	33-Fremont	Completed
	75-39th Ave/Lombard	Sustantially completed
	72-Killingsworth/82nd	Sustantially completed
14-Hawthorne	Portionscomplete.	
2005 Work Plan Elements * Upcoming Frequent Routes * Emphasis on high ridership service * Tap Commuter Service * Tap Commuter Service	12/94-New sign Change Outs	Completed
	33/99-McLoughlin	Completed
	15-Belmont	Completed
	57-TV Highway	Completed
	58-Canyon Rd	Completed
	58-Canyon Rd	Completed
2006 Work Plan Elements * Combination of Regular, Local & commuter emphasis * Future Frequent Route	70-12th Avenue	Completed
	18-Outside NW Portland	Completed
	65-Marquam Hill-Milwaukie TC	Completed
	64-Marquam Hill-Tigard TC	Completed
	54-BH Hwy	Completed
	56-Scholls Ferry Rd	Completed
	95-Tigard/I-5 Express	Completed
	35-Macadam	Underway
	16-Outside NW Portland	Underway
	92-So. Beaverton Express	Underway
	17-Outside NW Portland	Planning
	96-Tualatin/I-5	
	20-Outside NW Portland	
77-Outside NW Portland		
63-Washington Park		
	71-60th/122nd Ave	
	76-Beaverton/Tualatin	
	78-Beaverton/Lake Oswego	
	19-Glisan/Woodstock	
	74 -Lloyd District-SE	
	10-NE 33rd Ave/Harold 1-Greeley/Vermont	

Project Year	Routes (sorted by proposed order)	Status
<p>2007 Work Plan Elements * Combination of Regular, Local & commuter emphasis * Future Frequent Route</p>	<p>31-Estacada 22-Parkrose 23-San Rafael 27-Market-Main 28-Linwood 29-Lake-Webster 40-Mocks Crest/Tacoma 43-Taylors Ferry Rd 45-Garden Home 61-Marquam Hill-Beaverton 66-Marquam Hill-Hollywood TC 79-Clackamas Town Center 32-Oatfield 34-River Rd 36-South Shore 37-North Shore 38-Boones Ferry Rd</p>	
<p>2008 Work Plan Elements * Last Year of Changeouts, including low performing routes * Includes Coordination with I-205 Light Rail Project * Coordinate with Clackamas Co. changes</p>	<p>39-Lewis & Clark 47-Base-Evergreen 49-Quatama 48-Cornell 51-Vista 52-Farmington-185th 88-Hart-198th 55-Hamilton 89-Tanasbourne 62-Murray Blvd 152-Milwaukie 46-North Hillsboro 53-Arctic-Allen 59-Walker-Park Way 60-Leahy Rd 80-Kane Rd-Troutdale 81-Kane Rd-257th 82-Eastman-182nd 84-Kelso-Boring 87-Airport Way-181st 155-Sunnyside 156-Mather Rd 157-Happy Valley 154-Willamette</p>	

Service Quality

High quality transportation is key element to the Total Transit System. Frequent, reliable and comfortable service on modern vehicles is fundamental to improving service quality and attracting new riders. TriMet will maintain and improve the quality of its transit service as described below.

Frequency

Frequency (service at least every 15 minutes throughout the day) contributes to ridership in several ways:

- It reduces actual and, even more substantially, perceived travel time by transit
- It makes the need to transfer less onerous. Given contemporary multi-destination travel patterns, TriMet cannot connect all the origins and destinations with direct service. If the transfer wait time is short and the transfer environment is good, customers will be much more willing to transfer
- It makes transit more attractive for short trips. Most trips by automobile are short, so it is important for transit to attract these trips in order to increase ridership and meet RTP goals, particularly for transit ridership to Regional and Town Centers and along Main Streets
- It makes transit convenient, an essential element in attracting more trips.

Reliability

TriMet's market research shows that transit service must be reliable in order to be a viable alternative transportation choice. This is achieved by writing accurate schedules; minimizing the time buses are delayed by traffic congestion; using efficient boarding and fare payment systems; proper training and supervision of drivers; and restoring service promptly after a disruption. Over the last five years, TriMet has invested in several key physical, operational and technological improvements to increase reliability through its Streamline program.

The Streamline program has been effective in meeting most of its objectives as outlined below:

1. Travel times have increased on Streamline routes about half the amount of non-Streamline routes.
2. Access to transit has been enhanced both at bus stops themselves and by improving access from adjacent neighborhoods to bus stops.
3. Average weekday ridership on streamlined routes has grown by 12,000.
4. Several improvements, most notably along lines 14 and 72, were made that are consistent with and have helped prepare routes for possible bus rapid transit, and have increased the total carrying capacity of the street system.

Individual capital projects have improved safety for passengers, pedestrians and other traffic with new traffic signals, reconfigured intersections and shorter pedestrian crossings.

Transit-preferential improvements along roadways that help keep buses moving include transit signal priority (extended green-light time for all traffic traveling in the direction of a bus that is 30 seconds or more behind schedule), jump lanes at intersections, bus stops with curb extensions, re-spacing of bus stops and other management and route design measures to reduce running times and improve reliability. This program covered the installation of transit signal priority at 275 intersections, the installation of Opticom emitters on 97 percent of the TriMet bus fleet and an upgrade of the agency's bus tracking system, and construction or installation of physical improvements to the transportation system and bus stops. Since the beginning of the Streamline efforts, on-time performance has increased from 79 percent to 83 percent .

Case Study: 70-12th Ave

As part of TriMet's efforts to better place stops, some poorly spaced and low performing bus stops were removed on Line 70-12th Avenue. Currently some stops along the route are spaced as close as one block

apart, causing many unnecessary stops. TriMet can increase service efficiency and reliability simply by asking customers to walk an additional block or two. With fewer stops, amenities can be concentrated at the remaining stops to benefit more customers.

This work is combined with the installation of TriMet’s new bus stop signs and blue poles. Roughly 20% of redundant stops were removed. 100 new poles with schedule displays and bus stop ID #s. The changes to line 70-12th Ave are part of a larger effort to streamline TriMet bus service. The increased reliability and efficiency will greatly improve overall service and should make it easier for bus operators to stay on schedule.

On-Time Performance

Signal modifications and track layout changes are used to increase reliability of train operations as the rail network expansion involves more merges and higher train volumes.

TriMet improves internal operations to ensure that buses and trains leave the end of the line on time, that schedules reflect realistic running times, provide balanced layover times, and that service disruptions are addressed quickly. Efforts are also underway to work with operators and other field personnel to improve on-time performance and operating conditions.

A bus or train is considered on time if it arrives no more than one minute early or five minutes later than its scheduled arrival time. Information on bus and train arrival times is continually collected and summarized each quarter. The goal is for at least 90 percent of all bus trips and 95 percent of MAX trips to arrive at timepoints on time during an average weekday, Saturday or Sunday.

It is projected that 80 additional weekly vehicle hours and three peak buses would be needed so that schedules better match actual conditions (considering lines on which median run times exceed scheduled run times, and that have an average more than 15 boarding rides per vehicle hour).

**Table 3.2
Average Passenger Capacities per Low-floor Vehicle**

Low-Floor Vehicle	Passenger Capacities (Average during peak one hour in peak direction of travel)		
	Seated	Standing	Total
30-Foot Bus	28	2	30
40-Foot Bus	39	12	51
Light Rail Vehicle	64	69	133

Based upon the passenger capacities for different vehicles, up to seven additional afternoon rush hour buses may be needed by September 2009 (FY2010) based on ridership growth projections. Actual afternoon peak hour ridership growth rates (Fall 1998-Spring 2004) were applied to FY2004 passenger loads to develop projections. Table 3.3 shows which lines are expected to be over capacity in the next 5 years.

**Table 3.3
Bus Passenger Volumes FY2004-FY2010
Weekday PM Peak Hour**

Line	Trips	Peak Hour Volume	FY2004 Percent Achievable Capacity	Peak Hour Passengers	FY2010 Percent Achievable Capacity (no new trips)
94- Pacific Highway Express	6	215	69%	387	126%
61- Marquam Hill/ Beaverton	2	82	79%	110	78%
68-Collins Circle	5	157	61%	269	105%
72-Killingsworth/82nd Ave	8	339	82%	413	101%
66-Marquam Hill/Hollywood	2	84	82%	99	97%

TriMet modifies bus schedules and routes to manage capacity and maximize service productivity. Productivity is measured as the portion of time that buses spend serving passengers (revenue hours) compared to the total time that buses are out of the bus yard (vehicle hours). Vehicle hours include revenue hours, time between ends of lines and the garages (deadhead hours), and schedule recovery/operator break times during the day (layover hours). Productivity enhancements balance layover hours to provide schedule recovery time when and where it is most needed. This increases the overall usefulness of transit service by reallocating service (lines and parts of routes) with low ridership to lines with higher ridership potential. Allocation of service to meet customer demand is important for ensuring adequate frequency and availability of seats.

TriMet has established criteria to identify low-performing lines based on those lines with less than one-half the system average weekly boarding rides per vehicle hour. Those lines with 10 to 15 weekly boarding rides per hour are considered to be performing at a marginal level and lines with less than 10 weekly boarding rides per hour are considered to be performing at a low level. Low and marginal-performing lines are regularly reviewed for opportunities to improve ridership, raise service productivity, and potential to reallocate scarce resources for greater benefit.

TriMet designates specific low-performance lines as a focus for review and improvement during the upcoming fiscal year. In selection of lines for review TriMet may also consider factors such as prior service adjustments, other lines also serving the area, and opportunities to coordinate with other planned service changes, the role of a line in providing essential service to transit dependent riders, and the scope of resources involved.

The review process for a line includes timely notification and opportunities for riders, local jurisdictions and other interested parties to participate in the review. In the process of review TriMet considers a variety of possible actions to increase rides and boost productivity such as modifying routes and schedules, improving access to stops, promotion and awareness efforts, and other opportunities. The range of potential changes may include: modifying routing on an entire line or a portion of a line; schedule adjustments spanning all service days/hours; service changes on weekdays, Saturday, or Sunday; schedule adjustments during weekday peak or non-peak periods; or adjustments on individual trips.

After initial review, consultation and comment a decision will be made on the next steps and the timeframe for actions to be taken. If the decision is to modify the current service a 6-12 month trial

period is typically set and the reconfigured service is reviewed after that time to determine whether or not performance has improved and the need for further action.

When service fails to reach acceptable performance and actions to modify service are not feasible, TriMet may propose discontinuation of service. In advance of a decision to end service riders, jurisdictions and other interested parties are notified and given opportunity to comment. In assessing a potential elimination of service, consideration is given to resources available in the community to assist those riders with special mobility needs associated with aging or disability. TriMet will also review park & ride options for the affected area and look for new shared-use opportunities for parking where current options are limited or unavailable.

Table 3.4 lists low and marginally performing lines based on FY2006 weekly boarding rides and vehicle hours. All lines shown have less than one-half the system average weekly boarding rides per hour and more than double the system average cost per boarding ride.

In FY2007 TriMet will focus on reviewing and addressing low performance on lines 59-Walker/Park Way, 63-Washington Park, 86-Alderwood, 157-Happy Valley, and the Cedar Mill Shuttle. In addition, the performance of Line 39-Lewis and Clark will be assessed as of six months following service changes implemented on June 4, 2006.

**Table 3.4
FY2006 Low and Marginally Performing Lines**

	Line	Weekly Boardings	Weekly Vehicle Hours	Weekly Boarding Rides/ Vehicle Hour	Cost/ Ride	PM Peak Buses
Low performing <10 BR/VH	Cedar Mill Shuttle	460	83	5.5	\$14.59	2
	84-Kelso-Boring	158	22	7.2	\$11.16	0
	39-Lewis & Clark ⁽¹⁾	696	81	8.6	\$9.37	1
	86-Alderwood	170	18	9.2	\$8.76	1
	27-Market-Main	612	66	9.3	\$8.72	1
Marginally performing 10-15 BR/VH	37-Lake Grove	653	65	10.0	\$8.06	1
	60-Leahy Road	268	26	10.2	\$7.96	1
	59-Walker/Park Way	1,352	129	10.5	\$7.70	2
	36-South Shore	1,335	126	10.6	\$7.62	3
	154-Willamette	423	39	10.8	\$7.50	0
	18-Hillside	378	33	11.6	\$6.95	1
	63-Washington Park	992	81	12.3	\$6.58	1
	28-Linwood	1,198	93	12.9	\$6.26	1
	23-San Rafael	695	53	13.1	\$6.18	1
	41-Tacoma	1,162	88	13.2	\$6.14	2
	34-River Road	1,603	119	13.5	\$6.01	2
	25-Glisan-Rockwood	730	54	13.5	\$5.98	1
	157-Happy Valley	718	52	13.9	\$5.81	1
	38-Boones Ferry Rd.	1,787	128	14.0	\$5.77	3
	82-Eastman-182nd	1,015	72	14.0	\$5.76	1
16-Front Ave.-St. Johns	2,675	180	14.9	\$5.44	5	
	FY2006 Bus System Average ⁽²⁾ (Frequent & Standard Service)			32.8	\$2.47	

Notes:

(1) Effective on June 4, 2006 Line 39 – Lewis & Clark was extended to Hillsdale with buses running every 45 minutes. These changes, on a trial basis, are aimed at increasing ridership and productivity. Performance will be evaluated following a 6-month trial period, in Dec. 2006.

(2) Bus system average weekly boarding rides per hour for FY2006 fall, winter and spring periods. Bus system 12-month average cost per vehicle hour as of May 2006 was \$80.86.

Modern vehicles

TriMet’s newest buses have low floors that make it easier for all riders to get on and off, especially elderly individuals and persons with mobility devices. New buses are also air-conditioned, and have lower emissions than our older vehicles. Future bus orders will include automated stop announcement equipment as well. New light rail cars will continue to be of low-floor design and will feature additional seating compared to existing MAX vehicles.

The following criteria are used to recommend lines for expanded use of low-floor buses:

- Weekly ridership on the route is the primary factor used when determining where to place low-floor buses because the higher the ridership the more customers benefit from air-conditioning and quicker boarding
- Weekly boardings by honored citizens (elderly customers or people with disabilities) who especially benefit from not having to climb steps to board the bus
- Weekly boarding rides that require the use of the lift
- Running the lower-emission buses in neighborhoods with high existing levels of diesel emissions or on the Portland Mall

The lines listed below indicate where TriMet will focus low-floor bus deployment, however. As TriMet assigns buses to serve more than one route in a given day, the agency is not able to guarantee that a particular line will always be served with low floor vehicles.

**Table 3.5
Proposed Low-floor Bus Deployment FY2006-FY2010**

Line	Year
10-NE 33rd Ave	FY 2008
10-Harold	
77-Broadway/Halsey	
44-Capitol Hwy	Routes are listed in priority order. Deployment will be based on peak pullouts, garage assignment, timing of bus purchases and sidewalk conditions.
40-Mock’s Crest	
52-Farmington/185th Ave	
31-Estacada (Proposed Frequent Service)	
1-Greeley	
1-Vermont	
70-12th Ave	
62-Murray Blvd	
96-Tualatin/I-5	
35-Macadam (Proposed Frequent Service)	
76-Beaverton/Tualatin (Proposed Frequent Service)	

Automated Stop Announcements

Automated Stop Announcements (ASA), are planned for all new and existing low-floor buses. TriMet is committed to removing transit-riding barriers for persons with disabilities and is working to fully comply with the Americans with Disabilities Act (ADA) requirement for announcing transit stops. Moreover, the ASA project will improve service quality for all transit riders. The ADA requires that stops be announced

for transfer points, major intersections, destination points, requested stops, and for the bus line number and destination for customers waiting at stops served by multiple lines. TriMet's MAX Light Rail system has included an ASA system on its vehicles since 1997.

The bus ASA system will include internal and external audio announcements, and may include reader board displays of stops inside the buses. No advertising will be included in ASA announcements or displays. TriMet's ASA project staff is consulting with Committee on Accessible Transportation (CAT), disability organizations, and TriMet bus operators in development of the system. The system will be configurable to adjust features such as what is announced, audio volume, etc., based on feedback from bus riders.

In FY2007, system testing will take place on the following routes: 9-Powell, 9-Broadway, 17-Holgate, 17-NW 21st Ave, 57-TV Hwy/Forest Grove. After that, remainder of TriMet's existing 282 low-floor buses will offer ASA.

Safety & Security

Ensuring safe operation of transit service and safe design of transit facilities and equipment is embedded into all TriMet activities. Similarly, all TriMet employees serve as "eyes and ears" for security awareness.

The procurement of new buses and light rail vehicles and the construction of facilities include safety requirements in design and performance specifications, which are verified in design reviews and testing. Safety hazards are formally identified, assessed, and resolved as part of developing specifications and designs. Acceptance testing against safety-related design and performance requirements is formally performed and documented. Certification that all safety design requirements have been met, as well as the following operational safety requirements, is required before completed facilities and equipment are placed into passenger service. Standard Operating Procedures (SOPs) govern all operations, to assure safety and quality.

4. Priority 2: Expand High Capacity Transit

The Portland region is distinguished by making high capacity transit investments that are more than just about moving people. These investments influence land development in support of the 2040 Growth Concept. This chapter details high capacity projects that are in progress as well as areas that are under study for transportation investment.

High capacity transit is the most effective means of serving the high volume travel corridors between 2040 Centers by:

- Operating at speeds and with a ride quality that make transit competitive with the automobile for many trip destinations
- Providing reliable service by avoiding traffic congestion
- Making the most cost-efficient use of vehicles and operators
- Focusing development by demonstrating a long-term commitment to quality transit service
- Using clean power systems that improve air quality in the corridor

High capacity transit need not be limited to light rail. Commuter rail, streetcar and bus rapid transit (priority bus service with limited stops) are being considered to augment the high capacity system, possibly as an interim step toward light rail service. TriMet's Frequent Service, discussed in the next chapter, includes many elements of bus rapid transit.

Current Projects

The following sections describe High Capacity Transit projects led by TriMet, with the exception of the Portland Streetcar. Each project is described in detail on the following pages.

Table 4.1
High Capacity Transit Projects in Progress

Project	Status
Washington County Commuter Rail	Groundbreaking in FY2007
South Corridor / I-205/ Portland Mall	Mall Construction in FY2007
Portland Streetcar	Constructing Gibbs Street extension

Washington County Commuter Rail

The Washington County Commuter Rail line will offer a new transportation choice within the heavily traveled Interstate 5 and Highway 217 corridor. Using existing freight tracks, it will connect to TriMet MAX light rail in Beaverton and serve Washington Square, Tigard, Tualatin and Wilsonville.

The 14.7-mile line will share freight train tracks with the Portland & Western Railroad. There will be five stations with approximately 800 parking spaces at four stations. Self-propelled vehicles would run weekdays every 30 minutes during morning and afternoon rush hours. Travel time via rail between Wilsonville and Beaverton Transit Center is estimated to be 27 minutes versus a projected future travel time of 40 minutes by auto.

The cost for the project is \$103.5 million, 50 percent from federal funds. In addition, the project will make some associated roadway improvements with local-only funds.

Total population in the commuter rail corridor is forecast to increase by more than 45 percent by 2020, with employment expected to increase by more than 88 percent during the same period. Regional plans identify over 29,000 new homes and apartments and 65,000 new jobs in the corridor cities by 2017.

Pedestrian access and bus transfers along this line would be reviewed to consider connections to the rail service. Local governments and businesses would be encouraged to develop vanpool shuttle connections to nearby employment areas and attractions.

South Corridor I-205 / Portland Mall Light Rail Project

The South Corridor I-205 / Portland Mall Light Rail Project will construct 8.3 miles of light rail in two segments with 15 new stations and approximately 2,000 additional Park & Ride spaces. The MAX Green Line will operate along 6.5 miles of rail I-205 from Clackamas, serve existing stations from Gateway to the Rose Quarter, and then use new track on the Portland Mall. Three miles of the I-205 extension will be on a grade-separated alignment that was reserved and graded as a transitway when the freeway was originally constructed, reducing project costs and minimizing impacts.

In downtown Portland, 1.8 miles of new track on 5th and 6th Avenues are planned, serving 7 stations from Union Station at the base of the Steel Bridge to Portland State University. The provision of a north-south MAX alignment in the downtown connects Portland State University, the largest single transit trip generator, to the light rail system, and provides circulator service along the spine of downtown to allow better mobility for those traveling within downtown. The alignment is a springboard for light rail to Milwaukie and for a potential extension into the southwest.

The projected ridership of the MAX Green Line is 46,500 daily boarding rides in the year 2025 (Final Environmental Impact Statement, November, 2004). A total of 38,800 daily transit riders (83% of the total) are projected to travel to, from, or within the I-205 segment in 2025. The I-205/Portland Mall Light Rail Project will cost approximately \$493.7 million (in 2006 dollars). The region is seeking 60% of the cost from the Federal 5309 New Starts program. The remaining funding share has been secured for the project through urban renewal commitment from 4 districts, an allocation of Federal STP funds allocated through the MTIP, and from TriMet. Construction will begin in FY2007, with a projected opening date of September 2009.

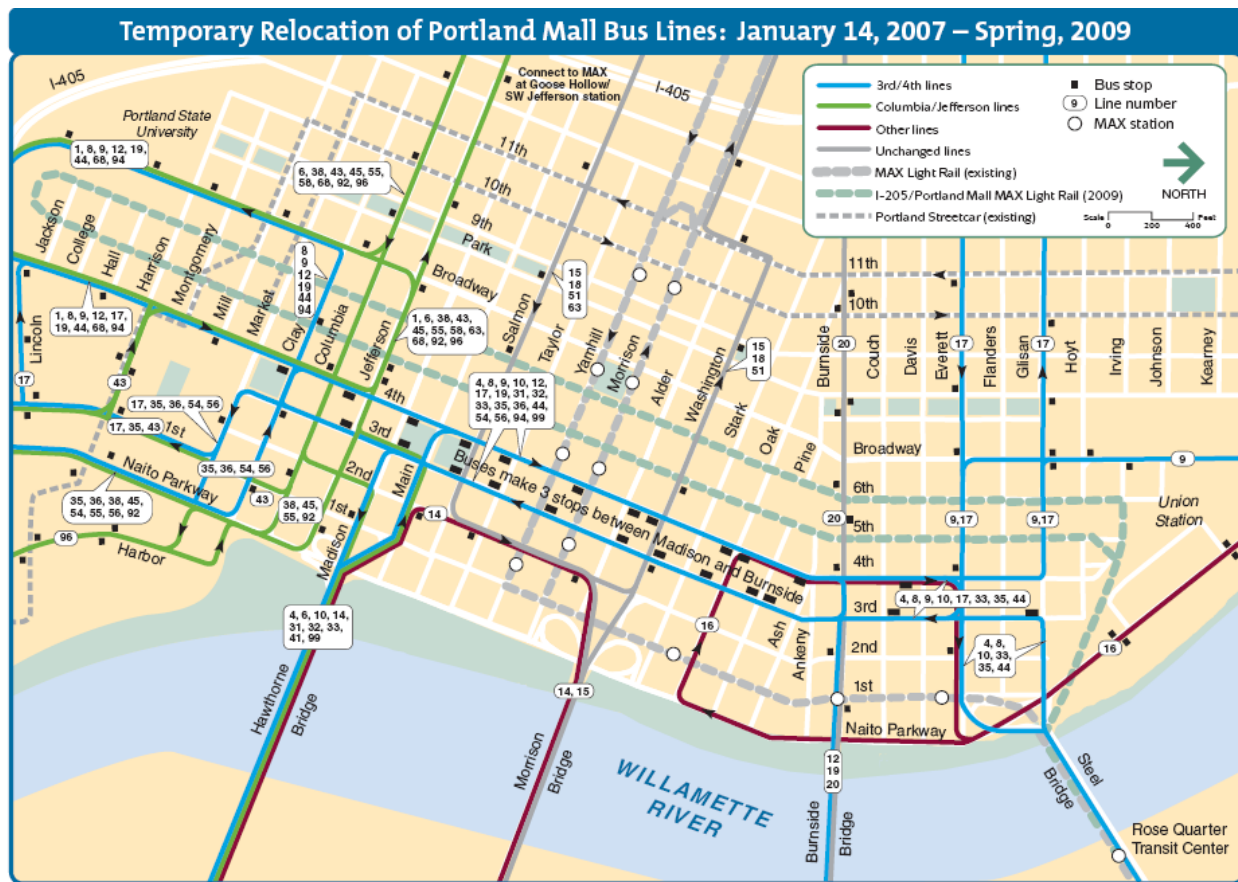
Temporary Bus Relocation Plan (January 2007 – Spring 2009)

- Bus stops will be located approximately every 4-5 blocks
- 17 bus lines will run on 3rd and 4th avenues, carrying 85 percent of downtown riders on weekdays
- 7 bus lines will run on Columbia and Jefferson streets, carrying six percent of weekday downtown riders

- Line 14-Hawthorne will run on SW 2nd Ave and cross the Morrison Bridge before returning to its regular route on SE Hawthorne. Line 14 carries eight percent of downtown riders
- Frequent Service on Line 9-Powell will be extended to the Union Station area to connect with Amtrak and Greyhound arrivals and departures. Night service on Powell will be added between SE 98th and Union Station, running every 15 minutes until about 10 p.m., seven days a week.
- Line 77-Broadway/Halsey will be rerouted to run in front of Union Station
- Line 1-Greeley will become Line 35-Greeley and continue through downtown as Line 35-Macadam. Line 40-Mocks Crest will become Line 44-Mocks Crest and continue through as Line 44-Capitol Hwy.

The plan will keep traffic on these streets moving, provide access to parking garages and accommodate buses during construction.

**Map 4.1
Portland Mall Bus Relocation Plan**



Downtown Service Beyond September 2009

As part of the project, service in downtown will be reconfigured to take advantage of the new opportunities presented by light rail on the Portland Mall. Frequent service bus lines and the Yellow and Green MAX lines will serve on the Mall. Some other bus lines will be distributed on other streets such as Columbia/Jefferson and 10th/11th Avenues to provide a grid of light rail, streetcar, and bus to serve the entire downtown, including growing areas in the west end. Fewer buses will operate on the Mall north of Burnside, where many buses currently operate almost empty or deadhead to the North Terminal near Union Station. In addition, the access to and from the Mall will be simplified to focus on fewer streets. These streets are designated as transit priority or access streets by the City of Portland and will make it easier for transit riders to understand the routings of various bus lines.



Upcoming Projects

TriMet is working with regional partners to study the next investments in high capacity transit. Metro plays a lead role in defining the scope of these studies and alternatives to be considered for each corridor. Metro manages the framework for engaging the community in a discussion of the merits and impacts of each alternative. Annual updates of the TIP will include more detail about these projects as they develop and are included in the Regional Transportation Plan. TriMet will work with Metro to prioritize and implement the expansion of high capacity transit and to create future updates of the Regional Transportation Plan consistent with those priorities. The region's capacity to invest in the transit infrastructure is limited by both the local funding capacity to support at least 50% of the project cost and the Federal government's ability to direct a like amount to this region.

Table 4.2
Upcoming Projects

Study Area/Project	Status
Milwaukie-Portland Light Rail	Supplemental Draft Environmental Impact Statement underway in 2006
Portland-Lake Oswego Transit & Trails	Metro leading Alternatives Analysis
Portland Eastside	Streetcar selected as locally preferred alternative
Milwaukie-Oregon City Rapid Bus	Frequent Service, Park & Ride improvements
Columbia River	Columbia River Crossing Project underway
Powell/Foster	Phase I Study recommendations adopted by Metro Council, October 2003
Damascus	Damascus/Boring Concept Plan
MAX Extensions to Mount Hood Community College, Forest Grove, Tigard	Conceptual Plans to be analyzed by TriMet

Portland-Lake Oswego

A Portland-Lake Oswego Transit Alternatives Analysis began in 2005 under Metro management and will look at streetcar, enhanced bus and other options, together with pedestrian and bicycle trails. The streetcar alternative would be an extension of the Portland Streetcar from the South Waterfront area, potentially using the existing publicly-owned Willamette Shore rail right-of-way, which parallels SW Macadam Avenue and Highway 43 to downtown Lake Oswego and used by a historic trolley line for weekend excursions during the summer. The 5.6-mile line could have 10-11 stations and a transit transfer facility and a Park & Ride lot in Lake Oswego. The single-track line with passing sidings would need to be improved and signal, power and communications systems installed. Bus alternatives focus on the parallel Highway 43.

Portland Eastside

A concurrent Eastside Transit Alternatives Analysis also began in 2005. The TriMet Board adopted the locally preferred alternative, a streetcar couplet on SE MLK and SE Grand Avenues, with some concerns.

There are three principal concerns TriMet has related to Eastside Streetcar construction and operations that are reflected in the conditions listed in the LPA document as well as the Work Program Considerations. First, TriMet is concerned that the alignment on Grand Avenue and MLK may prove problematic for two reasons on these streets:

- Auto traffic which is already heavy on these streets will be further compromised by streetcar operations occupying one travel lane and necessitating additional controlled intersections for safe pedestrian crossing at MLK Boulevard;
- The effect the alignment on MLK will have on transit connections from the street east to Grand Avenue where east/west transit connections will need to be made. This connection will be particularly acute with elderly and disabled passengers; and

Second, is the source of on-going operating funds. Although no commitment has been made by TriMet to provide any operating revenue for Eastside Streetcar operations (estimated at approximately \$5 million per year), the expectation of at least some advocates of the Portland Streetcar is that TriMet will continue to fund operations at the current two-thirds / one-third ratio of westside streetcar. This is neither likely nor possible – not likely because TriMet funding will be tied to the transit benefit provided by streetcar, which is limited because of extensive service already provided, and not possible because of limited TriMet future resources.

Third, the current state of FTA regulations governing Small Starts do not favor streetcar investments. These regulations are interim, and TriMet and the region have advocated changes to allow development benefits to be considered in the transportation cost/benefit measure. Advancing the Eastside Streetcar within the Small Starts program will require FTA's acceptance of revised measures and demonstration that the project will rate well in relation to those measures in a manner which fully maintains TriMet and the region's credibility with FTA.

Milwaukie-Portland Light Rail

The South Corridor Phase II Milwaukie light rail alignment would cost approximately \$550 million in current year dollars, assuming a new Caruthers Bridge river crossing. The Milwaukie extension, Phase II, would connect downtown Portland, the central eastside industrial area, densely populated southeast Portland neighborhoods and the community of Milwaukie. Frequent Service buses from Clackamas Regional Center and Oregon City would connect to the line in Milwaukie.

TriMet and agency partners also worked closely with a Milwaukie Working Group with broad neighborhood, resident and business representation to refine the selection of a site for the Phase I and the Phase II light rail alignment. As a result of this process, which included public hearings in front of the Milwaukie Planning Commission and City Council. The Working Group recommended, and the City Council has approved, study of the potential for a transit center on McLoughlin Blvd, just south of Kellogg Lake, at the south end of downtown Milwaukie. Additional reviews, including land use changes, engineering, and environmental study will be required for Phase II to move forward.

Oregon City -Portland Bus Rapid Transit

The South Corridor Locally Preferred Alternative (April 17, 2003) calls for "incremental BRT-type improvements" between Milwaukie and Oregon City. The North Clackamas Local Area discussion in Chapter 6 contains more detail on current and near-term efforts toward this end. Currently underway is the addition of a TriMet-owned Park & Ride in this corridor to provide greater access to the high frequency bus service in this corridor. Improvements to the frequency and span of service along

McLoughlin are also identified. Additional enhancements that will require a new source of funding could include transit signal priority and select stop and intersection improvements.

Columbia River

An analysis of alternatives and Environmental Impact Study, to look at options for freeway and transit improvements across the Columbia River at or near the current I-5 bridge began in 2005. The study is led jointly by the Oregon and Washington Departments of Transportation.

Powell/Foster

Metro Council adopted Phase I recommendations of the Powell/Foster Corridor Study in October 2003. Transit recommendations include, bus priority treatments along Powell Boulevard such as signal priority, queue jumps and stop placement at the far side of intersections. The plan recommends “Rapid Bus” implementation concurrent with development in Pleasant Valley and Damascus.

Damascus

Clackamas County, in partnership with Metro, TriMet, ODOT and areas residents is entering the second year of a two-year planning process for the Damascus/Boring area. The Damascus/Boring Concept Plan is a unique opportunity to create a livable community that integrates transit with new development. Transit is an important component of that plan. Policies identified in the Core Values and the Damascus/Boring Concept Plan project goals and principles call for a well-connected and well –designed transportation system that:

- Provides travel options, including transit connections to community destinations and I-205 and Gresham light rail stations
- Reinforces a sense of community and is pedestrian friendly
- Includes regional and community transit service in mixed-use areas and on key streets that is supported by street design, a mix of land uses and transit-supportive densities.

MAX Extensions

Growth of the MAX system to serve more Regional and Town Centers is under preliminary review at TriMet. Potential extensions to Forest Grove, Tigard and Mt. Hood Community College will be examined for cost effectiveness.

5. Priority 3: Expand Frequent Service

Frequent Service buses arrive as often as MAX trains, every 15 minutes or better from the early morning to late in the evening, seven days a week. Frequent service serves Main Streets and connects Regional and Town Centers in the 2040 Plan with each other and with the Central City. Frequent Service is a key way to meet Regional Transportation Plan mode share targets in centers and along main streets. This chapter presents existing Frequent Service and proposed enhancements to the system.

Frequent Service lines are the focus for TriMet and jurisdictional investments in the Total Transit System: additional service, reliability improvements; distinctive branding; improved passenger facilities at bus stops; enhanced pedestrian access; and modern low-floor buses. Frequent Service builds upon TriMet's strong geographic coverage: 90 percent of people in the district live within one half mile of transit service. Adding frequency and amenities to existing routes is more effective in attracting riders than offering new, infrequent routes. Nearly all of the net bus system ridership increases between FY1999 and FY2004 occurred on Frequent Service.

In 1998, four lines had 15 minute or better service available each day of the week. Today, the Frequent Service network comprises 16 bus routes and is 164 miles long. Most recently, Line 75-Lombard/39th Ave joined the Frequent Service network in May 2004, and Line 57-TV Hwy/Forest grove was upgraded in September 2004.

Substantial improvements in local ridership result from Frequent Service. Frequent Service lines, such as McLoughlin Boulevard, provide local access within Milwaukie and Oregon City. For example, less than a quarter of Line 33-McLoughlin ridership is to or from Portland. More riders use Line 33 for local travel within Clackamas County than use it for trips into Portland. Other examples include Line 57-TV Highway in Forest Grove and Cornelius and Line 12-Barbur in Tigard and Sherwood.

Elements of Frequent Service

On weekdays, 15 minute or better service should begin no later than 6:00 a.m. and continue until 10:30 p.m. On weekends, it should begin by 8:00 a.m. and continue until 10:30 p.m. Running buses frequently until 10:30 p.m. matches service levels on MAX. Longer-term improvements (beyond 2010) aim for service at least every 10-12 minutes. Service on these lines before 6:00 a.m. and after 10:30 p.m. may not be as frequent as every 15 minutes. The guidelines for the span of Frequent Service were based on an hour-by-hour ridership productivity analysis for weekdays, Saturdays and Sundays on existing Frequent Service lines and MAX. The morning start of Frequent Service accommodates the early rush hour commute. Evening productivity remains strong (above the bus system average of 31 boarding rides per vehicle hour) until after 10:00 pm. The 10:30 p.m. end time for Frequent Service corresponds to end times for evening activities, based on a survey of evening college classes, movie theaters, shopping and event centers.

Eight Frequent Service lines have 15-minute service after the evening commute or at night. Four Frequent Service lines in North and Northeast Portland gained early morning and late evening service as part of the reallocation of buses from Line 5-Interstate (replaced by MAX in May 2004).

Frequent Service lines that provide regional connections, such as McLoughlin and Barbur/ Pacific Highway, have Frequent Service Express service during rush hours complementing the local Frequent Service. Lines 99-McLoughlin Express runs from Portland through Milwaukie and region City to Clackamas Community College every fifteen minutes with only ten stops outside of Portland and 94-Pacific Highway Express runs every ten minutes from Portland through Tigard, King City and Sherwood with ten stops outside downtown Portland.

Frequent Service Stop Amenities

Part of the total transit trip, the bus stop experience is oftentimes cited by transit users as being as important as the onboard experience. Rider amenities such as shelters, trash cans, lighting, and sidewalks are installed by TriMet and local governments when a line is upgraded to Frequent Service.

In Fall 2004, TriMet tested a solar lighting installation in one shelter at 234th Ave. and TV Highway. The solar panel can operate in cloudy, winter weather.

Frequent Service Marketing

TriMet has implemented an integrated marketing campaign with the theme “The Wait is Over,” to increase customer awareness and ridership on Frequent Service lines by promoting a combination of elements, including:

- New low-floor buses with new identity graphics and Frequent Service icons
- New bus stop signs, highlighting Frequent Service
- Frequent Service campaign ads on buses, benches and bus shelters
- Frequent Service brochures
- Promotion on trimet.org
- Frequent Service identification on customer information, including:
 - Schedules and timetables
 - System map
 - Bus shelter information displays
 - Single time point schedules at selected bus stops

This program seeks to make it easy for customers to recognize which bus lines run frequently, at a glance, when looking at a bus, map, schedule or bus stop sign.

Frequent Service Development

The 2002 TIP proposed adding over 110 miles to the Frequent Service system to serve 65 percent of weekly bus ridership on 22 Frequent Service lines. Since FY2002, 39 net miles have been added to the system.

**Table 5.1
Frequent Service Development**

		FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006
Fiscal Year-end Statistics (June 30)	Number of FS lines	4	9	9	14	14	15	16	16
	FS Route mileage	39	88	88	125	125	138	164	164
	Weekly FS Ridership	210,190	396,050	413,880	531,625	549,250	593,425	685,136	Awaiting
	Weekly Share of all bus ridership	18%	34%	34%	43%	45%	48%	56%	Final
	Peak buses	66	128	128	175	175	190	204	data
Service Upgrade History	Existing lines		Sep 1999 Service Change		Sep 2001 Service Change		Oct 2003 Service Change	Sep 2004 Service Change	
	5- Interstate		4- Fessenden		12- Sandy		4- Division	57-TV Hwy/ Forest Grove	
	14- Hawthorne		6- Martin Luther King Jr Blvd		12- Barbur		May 2004 Service Change		
	15-NW 23rd Ave		9- Powell		54- Beaverton-Hillsdale Hwy		75- Lombard/ 39th Ave		
	72- Killingsworth/ 82nd Ave		15- Belmont		Dec 2001 Service Change		5- Interstate replaced by MAX		
			33-Mc-Loughlin		8-NE 15th Ave				
					8- Jackson Park				

Frequent Service ridership has been tracked on a monthly basis since new look vehicles and Frequent Service branding were introduced in FY2003. Before FY2003, ridership was counted on a quarterly basis.

Frequent Service Expansion

Investments in Frequent Service over the next five years would both expand the number of Frequent Service lines and add more service to existing lines in the early morning and evening.

Table 5.3 identifies planned Frequent Service improvements that will complete the RTP's 20-year strategy for service development. Future TIP updates will address the development of new town centers and updates to regional land use and transportation plans.

Seven criteria determined priorities for the Frequent Service line expansions and extensions. They were developed in consultation with a technical advisory committee composed of representatives from each local jurisdiction that would receive new Frequent Service. Table 5.2 presents each criterion and its weight corresponding to its relative importance. The criteria are listed in the appendix.

Half of the 16 existing Frequent Service lines do not have 15-minute or better service levels in the early morning and the late evening. Service would be added to these lines as resources become available.

Express Service that overlays Frequent Service during rush hours on McLoughlin and Barbur/ Pacific Highway could be improved to run in off-peak directions during the peak and midday service could be added to provide a precursor to Bus Rapid Transit.

**Table 5.2
Frequent Service Weighting Criteria**

Criterion	Description	Weight
Ridership productivity	Projected short-term ridership productivity, population/employment density, major attractions	40
Transit/pedestrian friendly streets	Sidewalk coverage, signalized crosswalks, planned improvements	20
Density of transit dependant population and activities	Areas with high proportion of low income residents, seniors, or persons with disabilities	10
RTP Designation	Frequent or rapid bus designation in RTP	10
Relationship to major transportation developments	Connection to existing or proposed high capacity transit	10
Land use connectivity	Number of 2040 Centers served	10
Transportation demand management	Number of ECO compliant companies	5
Total Possible Score		105

Table 5.3 presents the program of improvements to Frequent Service. Two new Frequent Lines and four span-of-service increases are programmed for the next 5 years.

**Table 5.3
Frequent Service Expansion**

Type	Line	From	To	Weekly Vehicle Hour Increase	Peak Bus Increase
FY 2007-FY2012					
New	76-Beaverton/Tualatin (Hall Blvd.)	Beaverton TC	Tualatin	390	3
New	31-King Rd	Milwaukie TC	Clackamas TC	240	2
Span	9-Powell	Portland Mall	I-205	80	0
Span	4-Division	Portland Mall	Gresham TC	50	0
Span	8-Jackson Park	Portland Mall	Marquam Hill	25	0
Span	15-Belmont	Portland Mall	Parkrose TC	75	0
Total				860	5
Tier 2 Priority					
Extension	54-Beaverton-Hillsdale Hwy	Beaverton TC	Scholls Ferry Rd.	225	2
Extension	33-McLoughlin (Molalla Ave)	Portland Mall	Clackamas Community College	260	2
New	35-Macadam Ave (Hwy 43)	Oregon City TC	Portland Mall	605	0
Extension	31-King Rd (Sunnyside Rd)	Clackamas TC	152nd	125	1
Span	12-Barbur	Portland Mall	Durham Rd.	60	0
Span	12- Sandy	Portland Mall	Parkrose TC	40	0
Span	33- McLoughlin	Portland Mall	Oregon City	160	0
Total				1,475	5
Tier 3 Priority					
Extension	12- Barbur	Durham Rd.	Sherwood	140	2
New	79-Clackamas Town Center (Webster Rd)	Clackamas TC	Oregon City TC	305	3
New	87-181st /182nd Ave	NE Sandy Blvd	SE Powell Blvd	380	2
Total				825	7

57-TV Hwy/Forest Grove

Frequent Service on Tualatin Valley (TV) Highway started in September 2004, one year earlier than programmed in the 2004 TIP. Weekly bus service on TV Highway increased by almost 20 percent and service on Sundays more than doubled. Winter 2004-05 Sunday ridership is up 39 percent over the prior year. Approximately, 35,000 jobs are located along the 16-mile route.

Consistent with the Total Transit System, TriMet is working with Washington County citizens and jurisdictions to improve pedestrian access along TV Highway. The TV Highway Pedestrian Access Work Group evaluated pedestrian crossing and sidewalk conditions at each bus stop. The group recommendations are in the table below.

**Table 5.4
TV Highway Pedestrian Access Work Group Recommendations**

Action	Status
Eliminate 28 bus stops that are underused, close to a nearby stop or are not near safe crossings	Complete
Construct or rebuild over 3,000 feet of sidewalks	Design work underway, construction to begin in FY2007
Install 23 new shelters	Design work underway; solar lighting installed in most existing shelters beginning in May 2005
Evaluate two new crossing islands at unsignalized intersections	Will take place in FY2007, after two years in place
Implement a new pedestrian and driver safety campaign in conjunction with a speed enforcement effort.	Seeking funding: Possible grant source includes the Region 2040 Funds from the Regional Travel Options Program

Capital investments of \$732,862 in the project include:

- \$255,975 from ODOT's Bicycle/Pedestrian Grant Program,
- \$363,289 in Federal Job Access Reverse Commute grant funds that would be passed through TriMet,
- \$88,000 in ODOT Special Transportation Grant Funds, and
- \$25,598 from Beaverton, Hillsboro, Cornelius, Forest Grove and Washington County.

76-Beaverton/Tualatin

Frequent Service on Line 76-Beaverton/Tualatin would provide 15-minute service along the Highway 217 corridor between Beaverton and Tigard, and along the I-5 corridor between Tigard and Tualatin. Frequent Service on Line 76 would supplement the rush hour Commuter Rail service during the midday, evening and on weekends.

This service would connect two Regional Centers and two Town Centers. In addition to linking three growing cities, Frequent Service on the Line 76 would serve local trips in each jurisdiction through which it passes. For example, of all transit trips in Tigard, 32 percent either stay within the city or are destined for Beaverton. Line 76 Frequent Service would be poised to carry a large portion of those trips.

TriMet is working in partnership with local jurisdictions to make investments in sidewalks, crossings, lighting, and stop spacing improvements as well as shelters and benches at bus stops. This effort has been incorporated into the Tigard Local Service planning process (See Chapter 6).

6. Priority 4: Improve Local Service

TriMet receives requests, primarily from local jurisdictions, to make improvements and implement programs focused on meeting local jurisdictions' needs. These include requests to extend routes to areas that are not within walking distance of present routes, capital improvements to complement local development initiatives, and marketing programs to support local transit service.

TriMet's local transit service helps meet the needs for basic community mobility and development needs, provides transportation for those unable to drive and provides connections to the regional transit system. Successful local service requires:

- Land use patterns and densities that encourage and generate transit usage
- Safe, direct and convenient pedestrian and bicycle access, within communities and to transit stops
- Running buses frequently throughout the day
- Marketing and customer information

Local service expands the coverage of transit service for those unable to directly access lines that connect with MAX or Frequent Service. Local lines contribute to the success of Frequent Service Bus and MAX by linking them with additional riders.

Frequency and span of service

Local service riders typically take short trips (2-4 miles). The waiting time for short trips is a proportionately larger component of the total travel time than for longer trips (a ten minute wait for a five minute ride is less attractive than a ten minute wait for a sixty minute ride). Hence, the market for short trips demands high frequency service (at least every 15 minutes). Even for transit dependent riders, high frequency is needed because alternatives to transit such as walking, biking or carpooling are often available.

All TriMet routes perform a local service function to some extent. MAX, for example, provides local circulation within downtown Portland and in central Hillsboro. Frequent Service lines, such as McLoughlin Boulevard, provide local access within Milwaukie and Oregon City. For example, less than a quarter of Line 33-McLoughlin ridership is to or from Portland. More riders use Line 33 for local travel within Clackamas County than use it for trips into Portland.

There have been substantial improvements in local ridership when frequency is improved. Examples include Line 57-TV Highway in Forest Grove and Cornelius, Line 52-Farmington/185th in Beaverton and Hillsboro, Line 12-Barbur in Tigard and Sherwood, Lines 12-Sandy and 77-Halsey in East Multnomah County, Lines 33-McLoughlin and 79-Clackamas Town Center in Gladstone and Oregon City.

Buses are effective in serving shorter local trips. The average passenger trip length on buses is 3.66 miles in FY2004, a little shorter than the 3.74 miles in FY97. Bus ridership increased 52%, from 42 million to 64 million boardings during the same period.

Many existing lines do not operate frequently, only every 30-60 minutes on some days of the week. Many of these lines have demonstrated ridership demand, but do not have the service frequency to meet that ridership demand. TriMet's priority for local service improvements is to increase frequency on these lines.

Land Use

Given that high frequency bus service is needed to attract local trips, local bus service needs higher ridership demand to support greater frequency. Areas with low population or employment densities, abundant free parking and with difficult access to transit stops, do not generate sufficient ridership. Other land use factors related to transit use include:

- A mix of uses to facilitate access to a variety of activities and jobs/housing balance
- Street connectivity
- Transit oriented design of streets and buildings

TriMet participates in local planning processes including community plans, transportation system plans and urban renewal committees. TriMet also reviews and comments on land use actions for proposed development to encourage transit-supportive design, parking and street and pedestrian connectivity.

Local Areas

Areas programmed in this 5-year TIP to receive local service improvement are Tigard / Tualatin / Lake Oswego, East County / Gresham, Hillsboro, South Waterfront, and North Clackamas. These areas were selected based on expected population and employment growth, major infrastructure investments and the demonstrated potential for ridership growth. High population and employment growth rates, access to employment areas, service for low-income residents, the need to review low-performing lines, and the number of years since last route restructuring were also considered in selecting local areas. The most recent local area improvements were made in North/Northeast Portland when the Yellow Line opened in May 2004.

TriMet and city staff from each focus area meet to review the transit needs and groups to include in the process, to provide:

- An overview of transit trends, existing transit service and pedestrian issues
- A summary of local jurisdictional Transportation System Plan goals or action items
- Potential target populations and possible areas for capital projects, marketing programs or service changes
- A timeline for the planning process

The planning process for a local service improvement should take at least a year. The product could be an Inter-Governmental Agreement and financial strategy that phases service enhancements and pedestrian/transit capital projects within the jurisdiction's right-of-way. Private development may also be integrated with this process. TriMet focuses on one Local Area at a time.

FY2007 Local Area Planning Process: Tigard/Tualatin/Lake Oswego

TriMet and the City of Tigard have been working over the past 18 months on developing a Local Area plan to improve access, leverage public and private investments, and enhance and promote mobility options. A Memorandum of Understanding to guide the planning was completed and signed in January 2005. Staff from the City of Tigard and TriMet began meeting with stakeholders in April 2004 to review transit needs identified in Tigard's Transportation System Plan. As a result, TriMet has evaluated 11 potential service options for Tigard. In addition, TriMet and Tigard staff are also evaluating where capital improvements such as shelters, benches, and sidewalks could be placed.

Since the planning process has begun, Tigard has been successful in acquiring \$600,000 in ODOT grant funds for sidewalk improvements on Pacific Highway. TriMet and Tigard have also begun discussing placing new bus shelters and benches with the possibility of adding new sidewalk. Both organizations are

exploring a partnership in which TriMet would install new trashcans and Tigard would contract with a trash hauler to empty them. Lastly, both Tigard and TriMet staff have been searching for possible sites for new, shared use park and ride facilities.

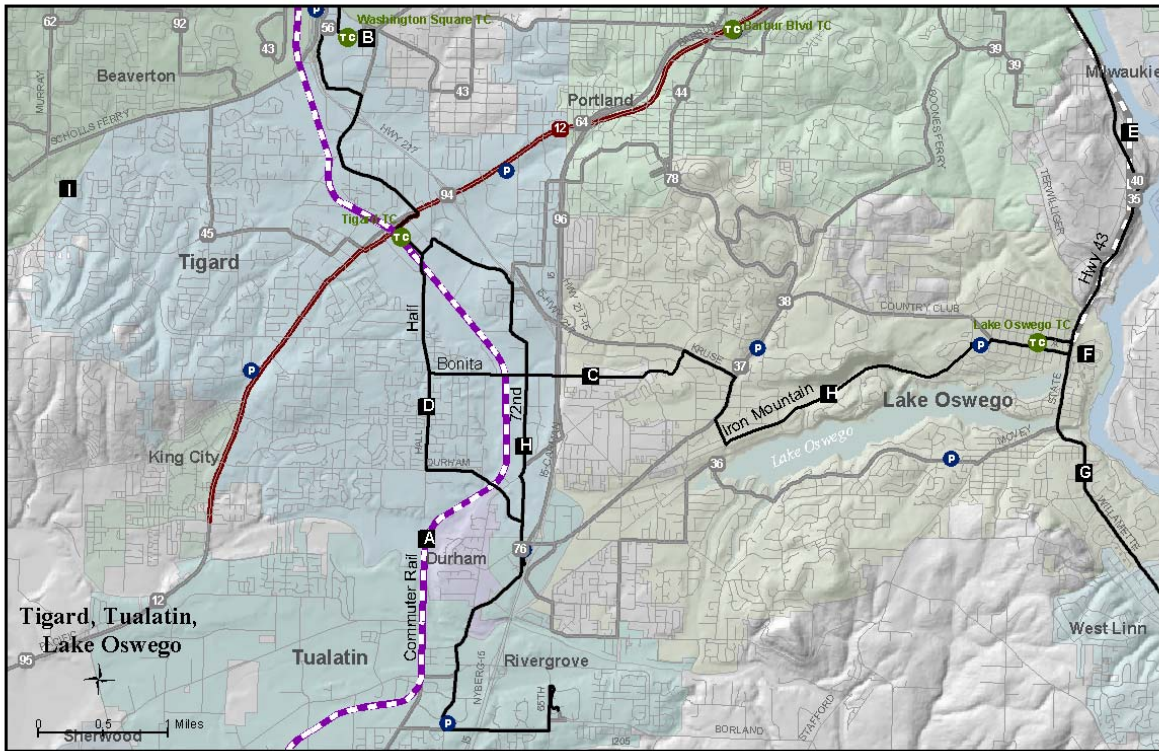
Though no agreement has been developed, Lake Oswego has been included in some of the Tigard transit improvements and connections to the Tualatin Commuter Rail Station are also being assessed with that city.

Tigard's population is estimated to have grown by 11 percent between 2000 and 2003. Like the rest of the state, Tigard's employment is showing signs of recovering from the recent recession. Highlights of recent service improvements in Tigard include more than a doubling of service along Pacific Highway within Tigard, between Tigard and Sherwood and between Tigard and Portland. Connections between Tigard and Beaverton, as well as Tigard and Tualatin have been improved over the last several years, doubling the number of bus trips between these communities.

As part of the Bridgeport Village development in Tualatin, TriMet was able to expand the Tualatin Park & Ride by 81 spaces. The developer has also agreed to install two electrified shelters at the park & ride. The additional parking spaces and shelters would improve access and comfort for express bus service between Tualatin and Downtown Portland on Line 96 Tualatin/I-5 Express. The \$480,000 in improvements were a part of the Bridgeport Village project. No TriMet funds were used in the expansion of the Park & Ride.

Priorities identified in Tigard/Tualatin/Lake Oswego are:

- A. Commuter rail service between Beaverton, Tigard, Tualatin and Wilsonville
- B. Bus and pedestrian connections at the Washington Square and Tualatin commuter rail stations
- C. The study of transit alternatives in the Highway 43 corridor between South Waterfront and Lake Oswego
- D. Local connections by rerouting Line 38 along Meadows and SW Bonita Rd. and an extension of the Line 45 along SW 72nd and Sequoia Parkway
- E. Frequent Service on Line 76 between Beaverton-Tigard-Tualatin, including potential routing along Hall
- F. New downtown Lake Oswego transit facilities and Park & Ride.
- G. Frequent service on Line 35-Macadam connecting West Linn, Oregon City and Portland and routing it along State Street through downtown
- H. Monitor low-performing service along Line 37-Lake Grove
- I. Service to Barrows Rd. area



A. Commuter Rail Service

The construction and operation of the commuter rail line is the major transit development initiative in Tigard and Tualatin. TriMet, Washington County and its jurisdictional partners are advancing the rail line for opening as early as 2008. The Washington County Commuter Rail Line would travel between Wilsonville and the Beaverton Transit Center, making stops in Downtown Tualatin, the Tigard Transit Center, and Washington Square. Three of the five stations would be served by TriMet bus routes. Planning is underway for bus connections at the Tualatin station.

B. Bus and Pedestrian Connections at the Washington Square and Tualatin Commuter Rail Stations
 Appropriate bus connections with existing lines and pedestrian access improvements would be developed. Shuttle connections would be the responsibility of the area's transportation management association (TMA) or other entities. Bus and pedestrian connections were especially considered when siting the station at Washington Square. Between the two locations considered, a Hall Boulevard site versus a Scholls Ferry Road site, the Hall Boulevard site was chosen because of the better pedestrian environment and the convenient bus connections. Some work still needs to be done to improve the pedestrian environment, as the station would still be located opposite the Highway 217 freeway from Washington Square. In addition, pedestrian improvements are planned in downtown Tualatin as part of the commuter rail station location on Boones Ferry Road.

Buses serving Washington Square will begin using Hall and Greenburg instead of the Washington Square ring road in June, 2005.

The preliminary planning and modeling for commuter rail included 5 bus routes and the Tualatin Chamber of Commerce Shuttle serving the Tualatin Commuter Rail Station. TriMet is assessing the feasibility of extending or rerouting Lines 36, 37, 45, 76 and 96 to serve the Tualatin Commuter Rail

Station when it opens in 2008. Connecting Sherwood to the commuter rail via Tualatin-Sherwood Road is a long-term goal identified in the RTP.

C. Line 38 reroute along Meadows and Bonita Roads

Tigard has identified Bonita Road as a priority for transit service. A short distance away from the Tigard Transit Center, Bonita Road is a predominantly low-income area with many apartment complexes. Line 38-Boones Ferry would be rerouted along Bangy and Bonita Roads in order to serve this area and to provide a connection between Tigard and the Kruse Way employment area (pending funding). The line would also be rerouted from Kruse Way to Meadows Road to better serve the employees in the area.

Currently served by the Line 38, transit service on SW 72nd Avenue would be provided by an extension of Line 45 (pending funding) between Tigard Transit Center and Tualatin to connect businesses on SW 72nd Avenue with commuter rail. Line 45 would also divert over to the Sequoia Parkway employment area, better serving the majority of riders in the area.

D. Line 76 Frequent Service Beaverton-Tigard-Tualatin, including routing along Hall Boulevard

Line 76 Frequent Service is essential to meeting the needs for local transportation in Tigard and Tualatin, resulting in a greater share of riders using the line for localized travel. Line 78 would run between Tigard Transit Center and Lake Oswego Transit Center. A potential extension of Line 78 to Washington Square via Greenberg Road (to replace Line 76 if it is rerouted onto Hall) is being evaluated to enhance local coverage.

E. Highway 43 Corridor Transit Alternatives: South Macadam to Lake Oswego

A Metro-led study of transit and trail alternatives in this physically constrained travel corridor is underway. Alternatives for this corridor are few and include making use of the 5.6-mile publicly owned Willamette Shore rail line. More information is in Chapter 5. If the streetcar is selected as the primary transit mode in this corridor, TriMet would consider terminating the Line 35 at Lake Oswego, relying on the streetcar to provide service between Lake Oswego and downtown Portland. Service could be reallocated to the remaining portion of Line 35, increasing frequency between Lake Oswego and Oregon City.

F. New Downtown Transit Facilities and Park and Ride

Studies of a potential redevelopment project involving a new transit center and potentially a new Park & Ride have been completed by the city of Lake Oswego. A process to analyze alternatives and sites for the transit center and Park & Ride has just begun. The alternatives analysis would also look at costs, facility design and the development of a connecting trail to the transit center.

G. Frequent Service on Line 35-Macadam

Line 35 is a second-tier priority for Frequent Service, programmed for implementation after FY2010. Service would be doubled on weekdays from every 30-minutes to every 15-minutes and more than doubled on weekends (from hourly to every 15 minutes). Frequent service on Line 35 would be evaluated in conjunction with the streetcar extension.

H. Monitor Low-Performing Line 37-Lake Grove

Service on Line 37 was reconfigured in December 2003 to provide more direct routing. Complementing this change, service was improved to run every 45 minutes on Line 37 and every 60 minutes on Line 36. Although ridership on Line 37 has increased by more than 20%, it continues to be among low-marginal performing lines with just under 10 rides per vehicle hour. TriMet will continue to track ridership on Line 37 and review opportunities for further improvement as part of planning bus service adjustments in conjunction with the beginning of Washington County Commuter Rail service in 2008.

I. Service to Barrows Road

As part of the Local Area planning process, TriMet identified the Barrows Road area of Tigard and Beaverton as having the potential to sustain bus service. Four specific routes were assessed for their cost

and ability to serve the area. Initial estimates suggest that it would take up to 240 weekly vehicle hours to serve the area and would result in approximately 10 boarding rides per vehicle hour depending on the specific route chosen. In order to provide the service without increasing vehicle hours, TriMet would reroute the Murrayhill portion of the Line 92 South Beaverton Express to the Barrows Rd. area. Other alternatives require new vehicle hours.

East County/Gresham

In September 2001, TriMet improved three east-west lines so East Multnomah County has the same frequency as most lines on the inner eastside of Portland. As a result, weekly ridership increased 76 percent from 25,574 to 43,154 boarding rides. The number of weekly bus trips serving Gresham increased 157 percent, Troutdale 469 percent and Wood Village/ Fairview by 100 percent since 2000.

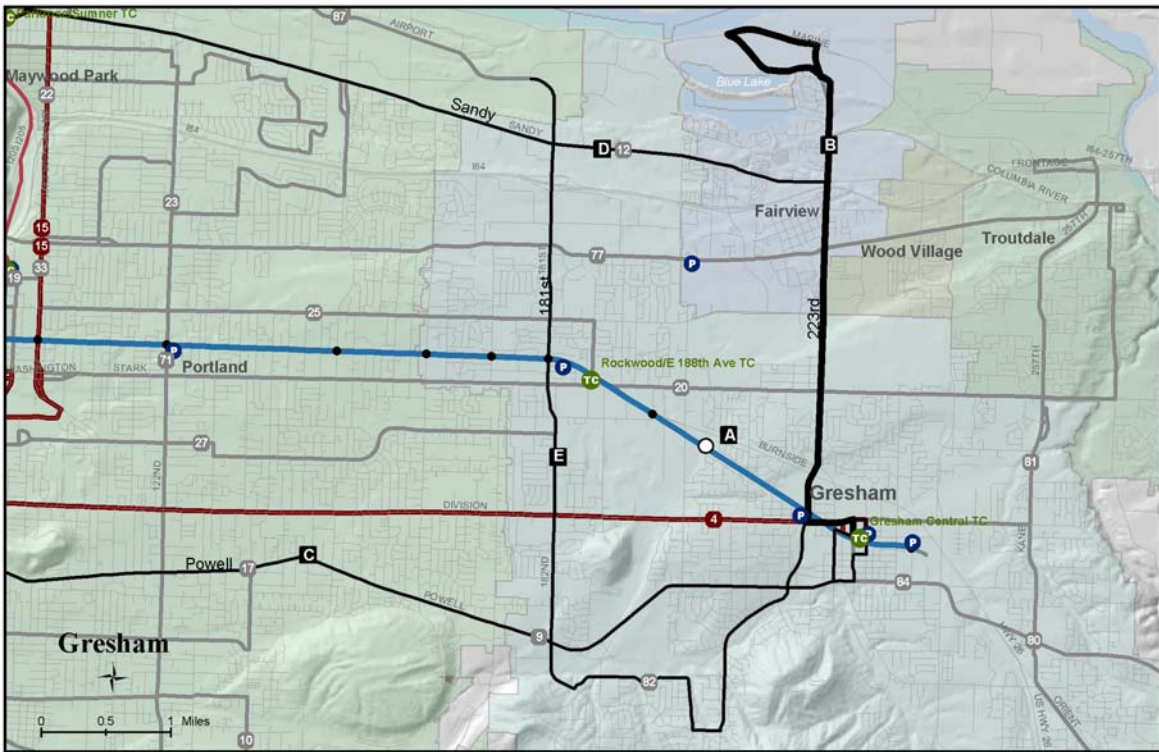
Line 4-Division became a Frequent Service Line in October 2003, doubling midday and weekend service on this line in East County. Frequent service is now available to the 11,500 residents and 6,500 employees within one-quarter mile of Division Street.

Increasing north/south crosstown transit service and improving the pedestrian access to transit stops within the City would build on the ridership successes of the Line 4 Division. Crosstown ridership growth, particularly on 122nd Avenue, has been significant, indicating that additional crosstown service may be successful. Most east-west streets (NE Halsey, E Burnside, SE Stark, SE Division) now have at least 15-minute weekday and Saturday service, but SE Powell and NE Sandy still require improvements in order to expand the grid of lines.

In FY2006 TriMet evaluated several service concepts with the City of Troutdale. All of the concepts would require additional funds and would not add significantly to ridership as called for by the TIP priorities.

Service improvements for East County, in priority order, are to provide:

- A. A new MAX station and public plaza at the Civic Neighborhood transit oriented development (Construction begins in FY2006) (\$5.6 million)
- B. Blue Lake Regional Park summer service on weekends (Summer 2005 startup)
- C. 15-minute weekday midday service along SE Powell between SE 98th and Gresham Transit Center
- D. 15-minute weekday service along NE Sandy/223rd between Parkrose and Gresham Transit Centers
- E. Continuous crosstown service on NE 181st/SE 182nd Avenues between NE Sandy and SE Powell



A. Civic Neighborhood MAX station

TriMet, Metro and the City of Gresham are working together on a concept and work program for the design and construction of a MAX station at Civic Drive, adjacent to transit-oriented developments constructed or planned there. The total budget for the station and adjoining plaza to the north is \$5.6 million. The station itself is proposed to be covered, spanning the tracks, and include retail spaces that would spill out onto the plaza. Further development on both sides of the station is planned to occur during near-term phases of the program (guided by the Metro Transit Oriented Development program). The City of Gresham has a Transit-Oriented Tax Exemption incentive that applies to some of the areas in the Gresham Civic Neighborhood.

The 130-acre district, located in the heart of Gresham, is anchored by Gresham City Hall on the east and is bisected by MAX. The Civic Neighborhood is a high-density mix of residential, commercial and retail uses in a design that features quality of life amenities. The street plan, size of blocks, wide, landscaped sidewalks, and bike paths all enhance out-of-car mobility within the new neighborhood, with adjacent neighborhoods, and with the historic downtown. Gresham Station North would consist of approximately 250,000 sq. ft. of Class A office space, including an Adventist Health Center and Surgi-center, fitness facility, and the Center for Advanced Learning, a high school for 750 gifted students offering advanced

educational opportunities in the arts and sciences. In addition, over 1,400 residential units and many shops and restaurants are planned. Upon completion Gresham Station North would be the largest mixed-use project in the state with over 400,000 sq. ft. of retail, 1,600 homes, and 250,000 sq. ft. of office space.

B. Blue Lake Regional Park Summer Service

Long identified as a priority for local service in East County, TriMet would launched a pilot project for weekend service to Blue Lake Park in Summer 2005. In the first year, the line did not meet TriMet performance standards. The service experiment will be repeated in Summer 2006. Two buses would from 10:00 a.m. to 7:00 p.m. with late service for the Memorial Day, Fourth of July, and Labor Day holidays. The route would follow the Line 12 Sandy route up 223rd to Blue Lake Park, making all stops along the way.

C. SE Powell Boulevard (Line 9-Powell)

Powell Boulevard, an east/west arterial that provides primary access to the Gresham Regional Center, is at various stages of build out and needs to be upgraded to meet basic standards. Some sections are missing sidewalks, not all intersections function well, transit service and bus stops need improvement. Gresham plans an \$11.5 million project between 2005 and 2008 to redesign and reconstruct Powell Boulevard from 174th to Burnside. This four-mile corridor project would standardize the road and add amenities to the downtown section, such as a raised landscaped median, historic street lighting, and wide sidewalks. TriMet is working with the city to optimize the location of bus stops and to integrate bus stop improvements with the new streetscape.

Improving weekday service frequency on Line 9-Powell would make the service more consistent because all buses during non rush hours would run all the way to the Gresham Transit Center. Frequent Service along SE Powell now ends at SE 98th Ave., near the I-205 freeway.

D. NE Sandy Blvd./223rd (Line 12-Sandy)

Mayors of several East County cities noted in 2001 that improving service along NE Sandy Boulevard and 223rd Avenue as a priority. The pedestrian environment along these streets should be evaluated for potential improvements that would make the most out of any service investments. In September 2001 TriMet doubled service along Sandy and 223rd. The resulting ridership increased 400 percent, from 1,477 to 7,396 weekly boarding rides. Major employers along the route include American Honda, Boeing, Boyd Coffee Company, LSI Logic and Gresham City Hall. These service and ridership increases were not matched with right-of-way improvements to improve pedestrian access or transit flow. Future service improvements should be part of a package of improvements to the Total Transit System.

E. NE 181st/SE 182nd Avenue Frequent Service (Line 82)

A new crosstown line on 181st/182nd Avenue between Powell and Sandy is a Frequent Service corridor in the TIP. The proposed improvement increases access to the Rockwood Town Center urban renewal area, employment areas in part of the Columbia Corridor, and high-density residential areas. There are 11,000 residents and 7,000 jobs within walking distance of the proposed line. Major employers include US Bank, Albertson's, and Safeway.

To make the new service on 181st/182nd Avenue work, pedestrian projects and land-use changes are needed to enhance the pedestrian safety and friendliness of the streets. TriMet would undertake the service improvements in conjunction with improvements to the right-of-way by the city of Gresham. The proposed service along 181st is similar to service along Main Streets in the 2040 plan.

At present, 181st/182nd intersects with seven east-west bus lines and the MAX Blue Line. However, only three of these lines (including MAX) have 15-minute base service. To make the 181st/182nd Avenue service attract the most ridership, it would also be necessary to improve service on SE Powell, and NE Sandy.

TriMet has begun discussion with the City of Gresham on how Rockwood Urban Renewal resources could be leveraged to improve the bus and MAX environment in this community. Suggestions call for design upgrades to the E 181st Avenue and Rockwood Transit Center MAX stops and to the transit center itself. Improvements could lead or be in conjunction with private development on the adjacent vacant properties.

An interim change to provide continuous 30-minute service between SE Powell and NE Sandy was evaluated in 2004. The plan included reallocation of the low ridership Line 82 service south of Powell Blvd. During Summer 2004, TriMet engaged the South Gresham community about shifting service from Line 82 Eastman Parkway/182nd Ave. to increase frequency on Line 87 181st/182nd Ave., connecting South Gresham to the Southshore Corporate Park and the (Airport) MAX Red Line at Parkrose/Sumner TC. During the process the community expressed a desire to keep the service in South Gresham in order to serve transit dependent riders in that area. Consequently, the service has remained unchanged.

Lastly, TriMet staff is participating in the master planning process for the Springwater Corridor industrial area in southeast Gresham. The process would help determine the long-term need for service in the corridor. The Springwater Corridor industrial area is expected to contain thousands of jobs and abuts the emerging town of Damascus.

Hillsboro

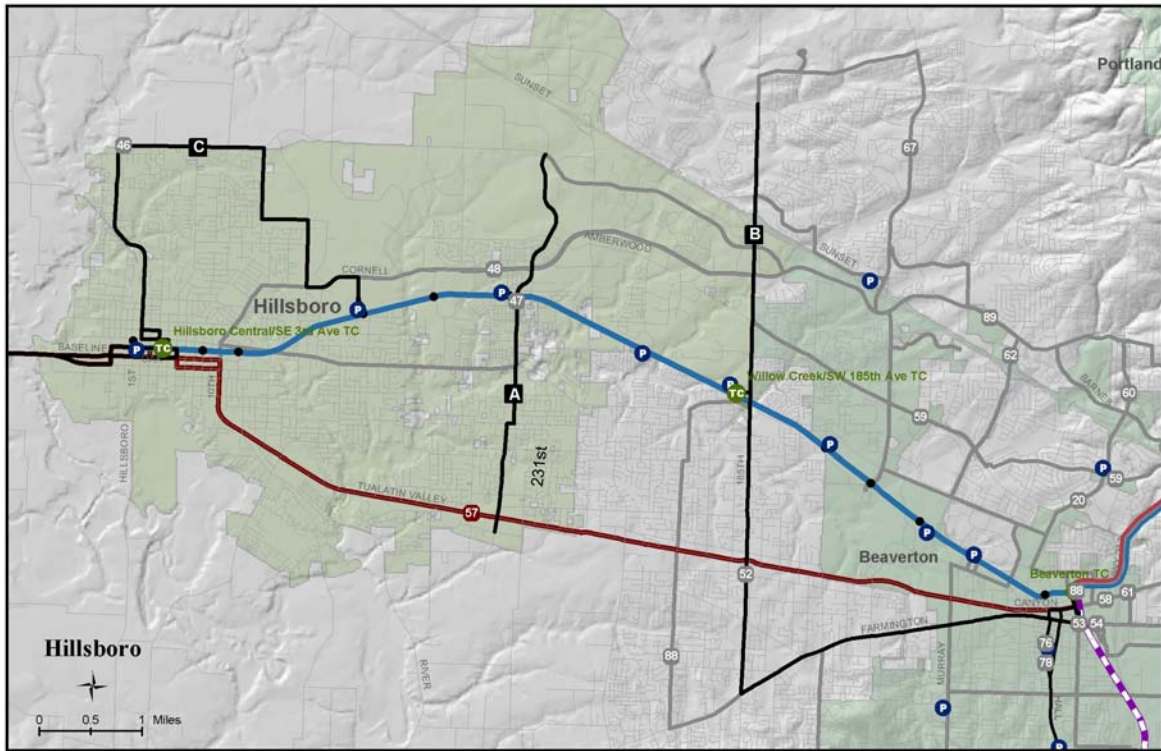
Hillsboro is a high growth area particularly for jobs. While employment is beginning to return to pre-recession levels, Hillsboro's population is estimated to have increased by 11 percent between 2000 and 2003. Some of the state's largest employers are in Hillsboro. There is interest in improving transit options to respond to this growth. Forty-one percent of passengers from Hillsboro use transit for intra-Hillsboro trips, 35 percent for trips to Portland and 14 percent for trips to Beaverton. Approximately 69 percent of Hillsboro residents and 84 percent of employees are within a quarter mile of a transit stop.

Frequent Service was implemented on Line 57 TV Hwy/Forest Grove in October 2004. Ridership on Line 57 increased by 7% after only three months of Frequent Service operations. As part of the Frequent Service upgrade on TV Highway, TriMet, ODOT, Beaverton, Hillsboro, Cornelius, Forest Grove, & Washington County are investing over \$600,000 in sidewalk, shelter, and lighting improvements along the highway. Preliminary design of the improvements is currently being conducted and construction will begin in FY2006.

Potential improvements include expanding service for employers, more north/south service, and improved frequency along Cornell and Baseline Roads, and 185th Avenue on weekends.

Priorities for Hillsboro are to provide:

- A. New crosstown service along 231st between TV Highway and US 26
- B. More frequent weekend service on Line 52-Farmington/185th
- C. A review of low-performing Line 46-North Hillsboro



A. New crosstown service along 231st
 More frequent north/south service is a priority to connect with east/west service and would serve Hillsboro's employment areas and neighborhoods. Hillsboro would need to develop road connections and pedestrian improvements to facilitate north/south service. The only continuous north/south arterial is Cornelius Pass Road, but that road does not have a rail station, so it is not a good candidate for new service. The proposed 231st Avenue corridor between US 26 and TV Highway appears to offer the most potential.

B. More frequent weekend service on Line 52-Farmington/185th
 Line 52 has high ridership potential for improved Saturday service so that buses would run every 15 minutes instead of every 30 minutes.

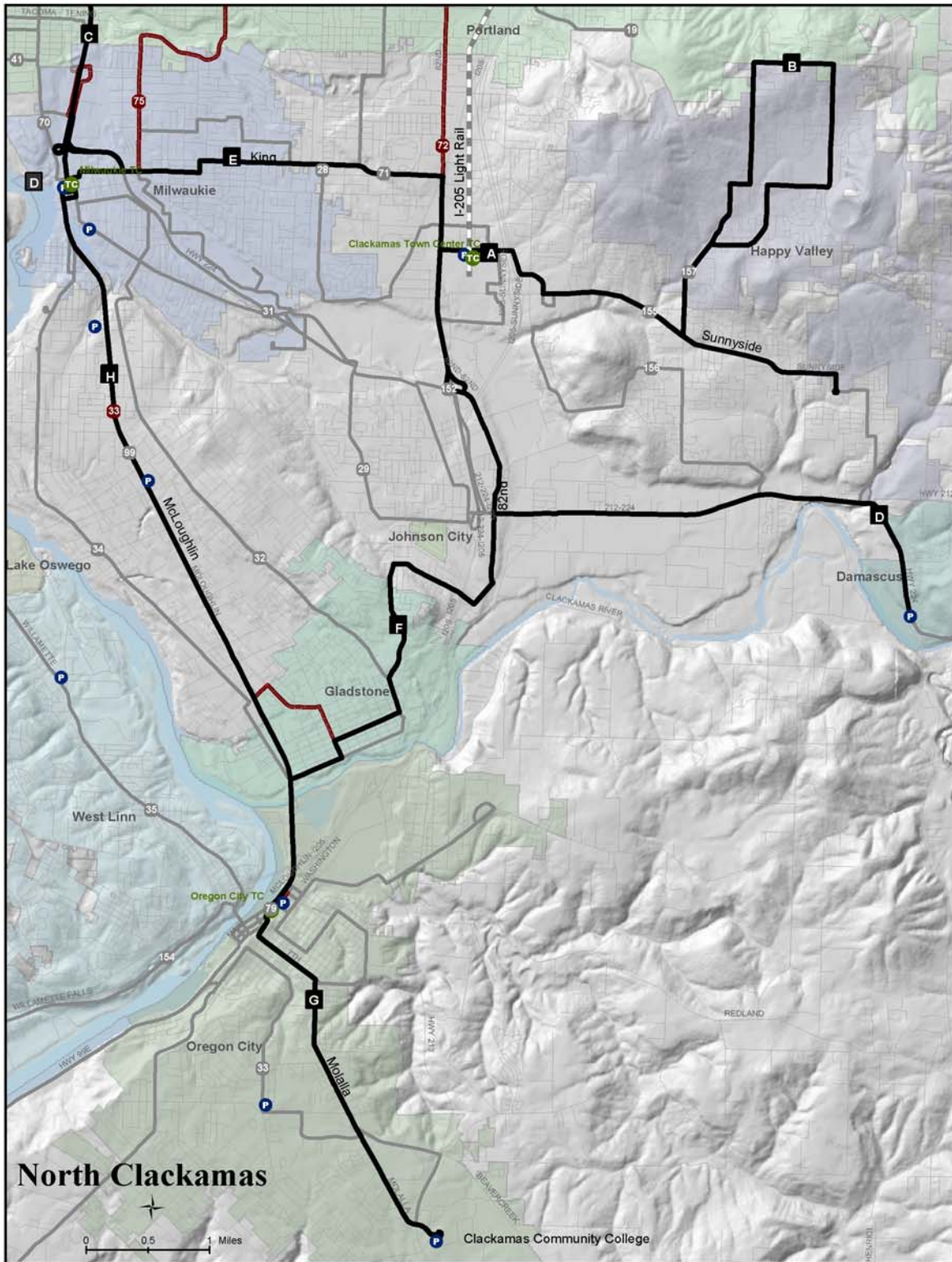
C. Address low-performing Line 46-North Hillsboro
 Line 46 has been a low-performing line since service started in 1998. Options to improve ridership and to find alternatives for transit dependent riders would be evaluated.

North Clackamas

The North Clackamas Local area includes Regional Centers at Clackamas Town Center and Oregon City as well as the Milwaukie, Gladstone, Happy Valley, Pleasant Valley and Damascus Town Centers, which was recently included in the urban growth boundary. The I-205 MAX Light Rail line will terminate the

Clackamas Town Center Transit Center. In addition to the MAX project, priorities for North Clackamas are to provide:

- A. Clackamas Transit Center layover adjustments
- B. A review and steps to address low-performing Line 157-Happy Valley
- C. A new park and ride in Milwaukie
- D. Continuation of service between Clackamas Town Center and Estacada
- E. Frequent Service between Milwaukie, Clackamas Town Center and Sunnyside Road
- F. Frequent Service between Clackamas Town Center and Oregon City Transit Center
- G. Extended Frequent Service on Line 33-McLoughlin to Clackamas Community College
- H. Improved night service on Line 33-McLoughlin.



A. Clackamas Transit Center layover adjustments

Extensive renovation of the Clackamas Town Center property will include a relocation of the Clackamas Transit Center. During this time a temporary transit center will be constructed on the north side of the Town Center, in close proximity to the current facility. The layover location for buses, however, will move to a separate location east of the Town Center, requiring additional run-time for nearly all buses serving the transit center. The layover location will likely move again when construction on the I-205 MAX Green Line begins in January 2007. Though the bus stop on the north side of the Town Center will remain after rail construction is complete, the new transit center will be located east of the Town Center where it will serve TriMet customers riding both MAX and fixed route bus service.

**Table 7.2
Clackamas Town Center Reconstruction Schedule**

Phase	Date	Milestone
1	June 2006	Construction of temporary transit center and new driveways begins. Implement Line 152 reroute. Implement Line 31 reroute.
	September 2006	New driveway from Monterey Ave and internal roadways are partially completed. Temporary transit center opens and new bus layover area is ready for use. Existing transit center is demolished.
2	January 2007	I-205 Light Rail Construction begins.
3	November 2007	Permanent bus stops north of new theatre are completed along with new driveways from 82nd Ave and Monterey Ave. Clackamas Town Center Mall expansion is completed.
4	September 2009	New Clackamas Transit Center and parking garage is completed. I-205 Light Rail Opens.

B. Address low-performing Line 157-Happy Valley

The portion of Line 157 north of Sunnyside Road is among the lowest performing route segments in the system, with only five boarding rides per vehicle hour. Given service already provided by other lines along Sunnyside Road, TriMet proposes to review the Line 157 service and discuss alternatives with the community.

C. New Milwaukie Park & Ride

TriMet has purchased the Southgate Movie Theater site on SE McLoughlin Boulevard, once a very popular shared use Park & Ride. With the loss of that shared use arrangement, the SE McLoughlin corridor lost the only major Park & Ride facility. TriMet will make site improvements necessary to reopen a 376-space Park & Ride facility at this location at the intersection of McLoughlin Boulevard and Milport Road. Design will be complete in spring 2005 with construction in the summer and opening by winter 2006.

The Milwaukie community has for many years expressed a desire to move downtown Milwaukie's on-street transit center to a new location. The former Southgate Theater site was adopted for this purpose in

the South Corridor Locally Preferred Alternative (LPA), but not without some questions to be separately resolved. In 2004 a citizens Working Group was created, supported by TriMet and jurisdiction staff, that recommended an alternate location south of the downtown between Kellogg Creek and SE McLoughlin Boulevard. That recommendation was supported by the Milwaukie Planning Commission and City Council, but not without significant community-wide debate. Open space and visual impacts of the built-out transit center, with Park & Ride facility, were cited as the principal concerns. A transit center at either location would be matched with a proposal for new downtown bus stops on Main Street that would conform to the City's downtown streetscape standards and coordinate with adjacent redevelopment plans. While the timing, sequence and funding considerations are still under discussion, it is possible that the environmental work required for relocation of the transit center will be incorporated into the larger environmental study for Phase 2 of the South Corridor light rail project.

D. Continue service between Clackamas Town Center and Estacada

The reconfiguration of service on Line 31 would improve frequency and connectivity. Service to Estacada would end at Clackamas town center with transfers to I-205 MAX for trips to the Central City and to Line 31 for trips to Milwaukie. Service span and frequencies would be comparable to those presently provided.

E. Frequent Service between Milwaukie-Clackamas Town Center-Sunnyside Road

Frequent service between Milwaukie Transit Center and Clackamas Town Center through to Kaiser Sunnyside Hospital is a high priority. The TIP programs Frequent Service between the two centers in FY 2009. Line 31 service would be reconfigured when I-205 MAX service starts: trips to downtown Portland (limited and express) would be discontinued, and the portion of the line between Clackamas Town Center and Estacada would run as a separate line (see item F below). Service could be extended east on Sunnyside Road to 152nd (replacing local service on Lines 155-157) and eventually on to the Damascus Town Center as development in that area progresses.

This route would be a crosstown line connecting with Frequent Service lines 33-McLoughlin, 75-Lombard/39th Avenue, 72-Killingsworth/82nd Avenue, 79-Clackamas Town Center (proposed Frequent Service) and I-205 MAX.

F. Frequent Service between Clackamas Town Center and Oregon City

Line 79 would be improved to provide Frequent Service connecting the two Regional Centers and to serve Johnson City and Gladstone. Ridership has responded well to the service increase on Line 79 that was made in September 1999. Line 79 improvements are programmed for after FY 2010.

G. Extend Frequent Service on Line 33-McLoughlin to Clackamas Community College

An extension of Frequent Service on Line 33-McLoughlin to Clackamas Community College, via Molalla Avenue, is programmed for FY 2010. As part of this change, service on Line 33 in Gladstone would be streamlined to stay on McLoughlin Boulevard and service on Line 32 and present Line 33 on the Oregon City hilltop would be reconfigured into a local circulator.

H. Improved night service on Line 33-McLoughlin

Frequent service on Line 33 ends after the evening rush hour on weekdays and earlier on weekends. This improvement would continue 15-minute service until 10:30 pm, seven days a week.

The South Corridor Project Locally Preferred Alternative Report also called for implementing limited Bus Rapid Transit (BRT) improvements and Park & Rides incrementally in accordance with priorities in TriMet's Transit Investment Plan. Those improvements are to begin to take place concurrent with the Phase 1 South Corridor Project, with further improvements to be aligned with the Phase 2 development of light rail to Milwaukie. The above Line 33 improvements and the construction of a Milwaukie Park & Ride are important elements of that LPA commitment. TriMet will continue to work with Milwaukie, Oregon City, Gladstone and Clackamas County to identify and support other capital improvements that can build service in this corridor, consistent with the South Corridor work program.

Conceptual planning as part of the South Corridor Study identified some alternative local service improvements on SE Johnson Creek Boulevard and SE Thiessen Road. Those improvements were not adopted as part of the South Corridor project and would require further study before their implementation could be considered in the period of time leading to the introduction I-205 light rail. Resources for the operation of such new service would have to be identified and may require the deferral of such new service beyond this 5-year horizon.

Past Local Area Planning Process: South Waterfront

The South Waterfront is a 130-acre district within Portland's Central City area, bounded by I-5, Moody Avenue, the Willamette River and Montgomery Street (RiverPlace). The last major undeveloped area within the city's core adjacent to the Willamette River is planned to become a neighborhood with up to 10,000 jobs and 3,000 housing units over the next 20 years. Recent developments include the start of work on three condominium towers (totaling 520 residential units) with retail and the first OHSU office tower, which would include the landing platform for the aerial tram that will connect the OHSU campus on Marquam Hill, 0.8 miles away, with this riverside location. The building where the aerial tram would originate on Marquam Hill is already under construction.

Road access constraints due to topography and freeways mean that the housing and employment goals could only be met if transit helps move people into and out of the area. As a result, the district established aggressive mode-split targets and policies to encourage alternative transportation modes.

Priorities for South waterfront include:

- A. Extend Portland Streetcar service to RiverPlace and then Gibbs Street
- B. Reroute Line 35-Macadam through the area
- C. Marquam Hill Aerial Tram



A. Extend Portland Streetcar Service

Operation of the new 0.6-mile Portland Streetcar extension from Portland State University to RiverPlace started in March 2005. Two new streetcars were purchased as a result of the extension. TriMet and the City amended the Operations Funding Agreement to provide an additional TriMet contribution of \$400,000 annually. The present agreement terminates on July 1, 2006. Construction of a streetcar extension to Gibbs Street is in progress.

The basis for the Gibbs Street extension is the South Waterfront Central District Development Agreement between the city and developers. It calls for the city to build the Gibbs extension in conjunction with the Marquam Hill Aerial Tram and other development within the center of the district. The Gibbs Street extension is expected to open at the end of calendar year 2006 (TriMet FY2007). Moody Street must be reconstructed as part of the project. The extension would also require the purchase of two additional streetcars (beyond those needed for the RiverPlace extension) to maintain present headways with the Gibbs extension. The Gibbs extension is projected to add \$600,000 annually to the streetcar operations cost, in addition to the RiverPlace extension.

B. Reroute Line 35-Macadam

Line 35 (and downtown Portland rush hour trips on Line 36) would be rerouted when Moody and Bond streets are reconstructed to accommodate transit service (projected for 2007). The city would provide transit preferential treatments at the north and south portals so that the 750 through-passengers in each direction do not encounter significant delays and so that bus operating costs do not increase.

Line 35 would turn onto and off of Macadam at Moody Street and then use the Moody/Bond couplet to Montgomery Street. Then it would use the Harrison Connector to access the Portland Mall and to serve Portland State University.

C. Connections to Marquam Hill Aerial Tram

OHSU and the City of Portland plan to begin operating the Marquam Hill Aerial Tram in 2007. The Tram would operate on 5 minute intervals during the peak and 10-minute intervals during the off-peak. Tram cabins would accommodate 62 people standing and 8 people sitting. Tram service would operate for 18 hours a day, from 6:00 a.m. to 12:00 a.m., everyday with only 5 days off per year for scheduled maintenance.

TriMet will continue to run buses directly to Marquam Hill (Lines 8-Jackson Park, 61-Marquam Hill/Beaverton, 64-Marquam Hill/Tigard Transit Center, 65-Marquam Hill/ Barbur, and 66-Marquam Hill/Hollywood Transit Center) instead of South Waterfront because travel times between the two areas are equivalent. Still, service to Marquam Hill is will connect to South Waterfront with the tram. The tram's operation increases both connections and options for people wanting to access Marquam Hill or South Waterfront.

Past Local Area Plans: North/Northeast Portland

As part of the Interstate MAX Yellow Line project, TriMet, the City of Portland, the Portland Development Commission and community stakeholders developed and implemented a Local Area Plan for the North/Northeast Portland area. The plan increased the amount of bus service available in the area and made it easier for pedestrians, particularly seniors and people with disabilities, to access the bus and train. Table 7.3 details the improvements made in North/Northeast Portland.

**Table 7.3
Summary of Local Area Improvements in North/Northeast Portland, 2004**

Improvements	Bus Routes/Projects
Bus Lines with Frequency Upgrades	2 (75-Lombard/39th Ave, 85-Swan Island)
Bus Lines with Route Changes	4 (6Martin Luther King Blvd., 8-NE 15th Ave, 16-St. Johns, 33-Fremont)
Bus Lines with Increased Service Span	5 (4-0Fessenden, 6 Martin Luther King Blvd, 8 NE 15th Ave, 72- Killingsworth/82nd Ave, 40-Mocks Crest)
Bus Shelters	28
Information Displays at the Stops	44
Signal Priority	58
Directional Signage	64
Curb Ramps	335
Sidewalk Improvements	4
Crossing Improvements	2

In addition to the above improvements, TriMet partnered with Ride Connection, the African American Chamber of Commerce, the Urban League and several businesses to run the North/Northeast RideAbout for seniors and people with disabilities. The N/NE RideAbout provides free door-to-door shopping, medical, nutritional and recreational shuttle service to seniors and people with disabilities living in the area on weekdays.

8. Environmental Justice & Access to Transportation

Transportation is vital to fully participate in all aspects of society. Transportation is needed to attend school, get to jobs, access health care, or participate in social, recreational or civic activities. When people can't afford a car, public transportation is necessary to ensure that everyone in a community has access to all the activities offered in society. Those people in our community that are most likely to be transit dependent are economically disadvantaged populations.

Transportation equity issues arise when transportation benefits accrue to the wealthier and more educated segment of society, while transportation burdens (such as environmental impacts) fall disproportionately on people of color and individuals at the lower end of the socioeconomic spectrum.

Transit Equity

TriMet wants to ensure the allocation of service and amenities is fair and equitable throughout the system. TriMet is committed to providing high quality service to low-income and minority communities. Transit Equity is a consideration in decisions about the following:

- Transit service to low-income neighborhoods and communities of color
- Placement of bus stops and shelters
- Allocation of new low-floor buses
- Service for non-English speaking populations

TriMet has traditionally planned transit service and on street amenities to achieve the highest ridership potential, without regard to income, race or neighborhood. To determine how service lines up with transit equity goals, TriMet used the latest data from the US Census to look at where minority and low-income populations are located in the District. (See map) TriMet then analyzed its service in relation to minority and low-income neighborhoods. The majority of the Frequent Service lines are in North, Northeast and Southeast Portland, providing high quality service to transit dependent and low-income populations. Additionally, these routes are designed for a variety of trip purposes, locations and times, including commuting, medical appointments, special events and school.

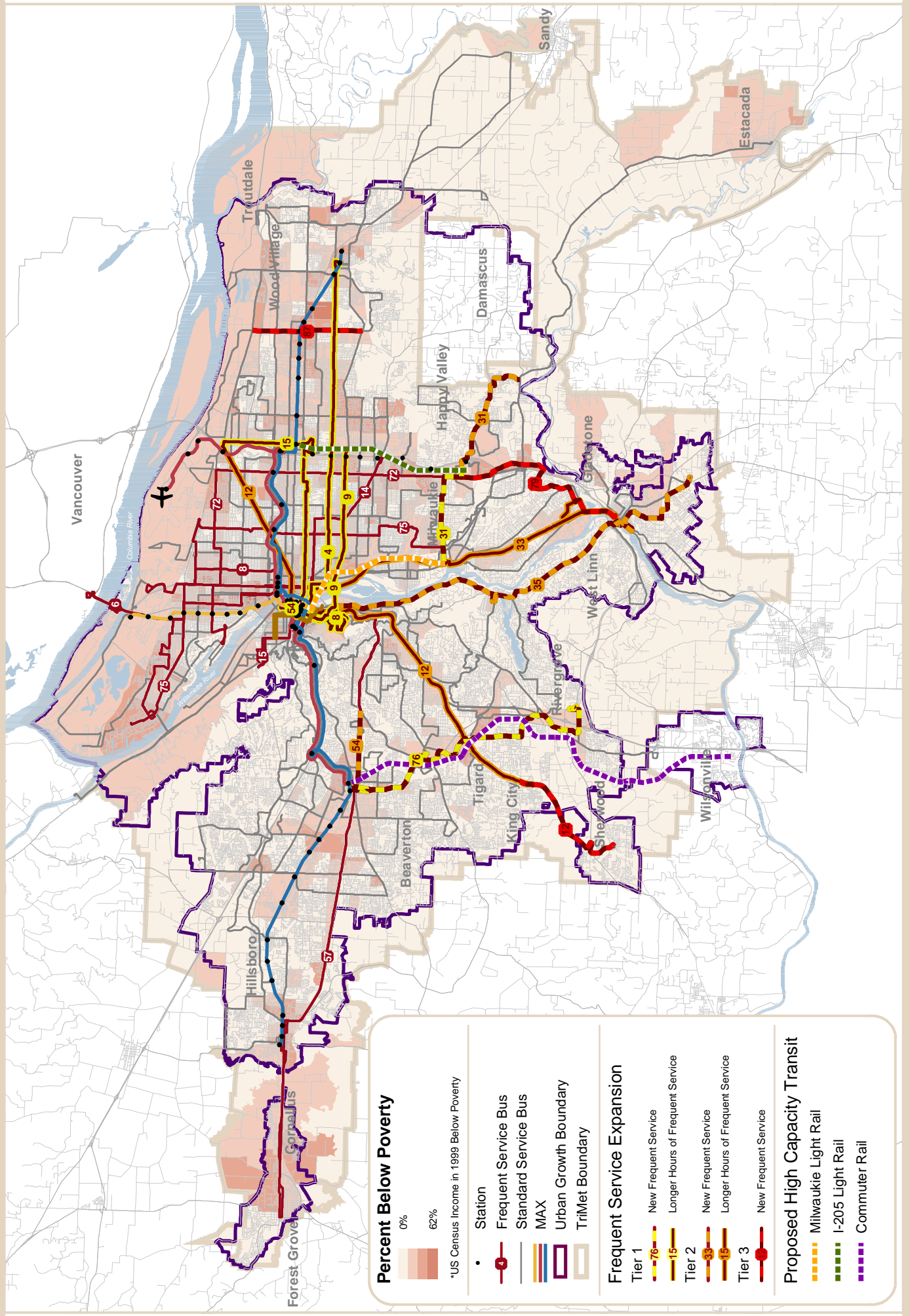
In 2003, TriMet adopted new criteria to govern how Frequent Service will be expanded. The most important factor in the criteria is ridership, but one of the new factors is the density of the transit dependent population. To determine transit dependency TriMet looks at areas with high proportion of low-income residents, seniors, or persons with disabilities.

Service for Non-English Speaking Populations

Non-English speaking populations are growing in the Portland area and many have found the convenience of riding the bus or light rail to be a good alternative to their vehicle. Others simply cannot afford the costs associated with owning and maintaining a vehicle and are dependent on public transportation as their primary mode of access to work, school or recreation. Exceptional services to the growing non-English speaking populations are important to attract and sustain riders.

TriMet provides many of its informational materials in multiple languages. Guidebooks are printed in six languages other than English, rider alerts and fact sheets are often printed in English and Spanish, and TriMet's website has basic information available in six languages, and the 503-238-RIDE accommodates for multiple languages. Ticket Machines have a Spanish option and audio messages on MAX are in Spanish and English.

Transit Equity



Environmental Justice

TriMet seeks to ensure that its operations do not have a disproportionate impact on air quality within the region. TriMet's deployment of new low-floor buses helps to achieve this goal. The new buses provide easier boarding and are equipped with air conditioning. Another big advantage of the new buses is that because of advanced pollution control equipment the emissions from the bus are substantially less than emissions from TriMet's older vehicles, some of which are sixteen years old. In FY2007 TriMet will begin using ultra-low sulfur diesel, which will further improve air quality. The agency is also using a five percent biodiesel blend in the LIFT Accessible Transportation Fleet. The B5 mixture is blended by Oregon's Carson Oil Company, using pure biodiesel produced by SeQuential Pacific Biodiesel based in Salem, OR.

Because TriMet can control where these new buses are placed, an environmental justice consideration can be related to air pollution. Too often, low-income neighborhoods are on the receiving end of environmental hazards and pollutants. TriMet now looks at the on-road emissions data collected by state and federal environmental agencies to map high existing levels of diesel emissions. TriMet uses the data to determine which routes new buses should serve. By placing new buses on routes that already have high levels of vehicle emissions, TriMet will not further contribute to air pollution in those neighborhoods. By applying the criteria, the new buses purchased in FY2004 were placed on the Line 17 in Northwest Portland where heavy truck traffic was already contributing to poor air quality along NW St. Helens Road.

Accessible Transportation

Mobility is an important quality-of-life issue for seniors and individuals with disabilities. Transportation provides independence, community connections, and access to life-sustaining activities.

Seniors and persons with disabilities in the tri-county area currently represent about 17 percent of the total population. By the year 2010, this number is expected to increase to 20 percent with the most significant increase coming from the generation of "Baby Boomers" who will begin turning 60 years of age in 2005.

TriMet Fixed Route

TriMet has an extensive fixed route network (TriMet's vehicle hours per capital are 56% higher than the average for its peer group) and is in a good position to provide more rides on fixed routes in the future to the Elderly and Disabled community. Low-floor boarding, stop announcements and helpful staff make fixed route service accessible to more people.

TriMet Complementary Paratransit

LIFT services are door-to-door paratransit provided to people who, because of their disability cannot use or access fixed route transit. Services are provided to all areas of the TriMet district from 4AM to 2PM, based on the span of the longest fixed route service day (MAX service). There are 1 million annual boardings on TriMet LIFT service and an average cost of \$22 per boarding ride. Ridership growth has been about 7.5% per year. LIFT has more than 10,000 registered customers and provides about 3,000 rides each weekday or about 920,000 rides annually. About sixty-eight percent of the costs for the LIFT program come from TriMet's general fund.

The Medical Transportation Program (MTP) dispatches Medicaid eligible rides to the lowest cost, most appropriate providers through an intergovernmental agreement with the State of Oregon. These rides may be on fixed-route, or on a medically needed alternative such as a LIFT bus, taxi, or ambulance depending on the needs of the individual. The costs for MTP are fully funded through the State of Oregon Medical Assistance Program. MTP serves more than 2,000 clients each weekday.

Tri-County Elderly/Disabled Transportation Plan

In response to the combined pressures of increasing ridership demand, customer demands for service quality improvements and limited funding, TriMet, the three counties, consumer groups in the region are working together to improve transportation services to people who are elderly and disabled.

The Tri-County Elderly and Disabled Transportation Plan (EDTP) is a result of this collaboration. Building on the foundation of the 2001 EDTP, the 2006 update describes a continuum of service investments designed to provide attractive and cost effective transportation alternatives to elders and people with disabilities. The goal is to offer a range of services that match individual abilities and support customer independence and convenience, but also promote fixed route and other lower-cost options as the best use of scarce transportation resources. It provides assurances that basic transportation needs are met and that services are well distributed and coordinated.

The region's goal is to improve mobility for persons with disabilities through cost-efficient, innovative services, targeted fixed route service improvements, customer education, the involvement of the community and coordination between service providers and social service agencies.

The approach being taken emphasizes three fundamentals:

- An Improved Fixed Route Foundation
- Innovative Service Options
- Coordination and Involvement of the Community

Improved Fixed Route Foundation for People with Disabilities.

Goal: Make fixed route services friendlier and more accessible to elderly and disabled customers.

Build the Total Transit System-enhance customer information, access to transit, stop amenities, frequency, reliability, passenger comfort, safety and security. Building the total transit system is the top goal in TriMet's Transit Investment Plan.

Disability Awareness and Sensitivity Training for Fixed Route Operators. In response to LIFT customer focus groups, all TriMet fixed route operators receive this training.

RideWise Services

RideWise provides a continuum of travel training services to elderly and people with disabilities including:

- Intake and referral to community and public transportation services
- Personal transportation planning to help elderly and people with disabilities to choose the service that works best for them for a particular trip, whether it is fixed route, LIFT or a community based service
- Fixed route travel training
- Train the travel trainer program
- Consumer education and outreach to introduce seniors and people with disabilities to the benefits of using fixed route transit
- Fixed route familiarization
- One-on-one orientation to fixed route
- Specialized one-on-one travel training
- Peer trainer program (Ride Ambassador)

RideWise can be a key to matching riders with the best, most cost-effective transportation option. Ultimately, the RideWise number will become the single number elderly and people with disabilities call for information about all the transportation services in the area. RideWise is a partnership of Ride Connection and TriMet.

Customer Service Monitoring

TriMet contracted with Elders in Action (EIA) to provide an elder-friendly, disabilities-friendly assessment of TriMet's fixed route services. Elders in Action assessed the total transit experience of elderly and disabled bus and MAX customers in North/Northeast Portland including evaluation of access by phone, physical access to the stop and to the vehicle, bus stop conditions (cleanliness, lighting, schedule readability [if there], shelter condition [if there], etc.), the layout of the bus, customer service on the bus, and the ease of use of the bus.

Findings were presented to TriMet management July 2004. In summary, Elders In Action found that whether a route is Elder – Disabilities friendly depends largely on the bus operator. To improve performance, TriMet is and Elders in Action have developed an Elder Friendly Operator reward program.

Both the Customer Service Monitoring and Feedback and the Mobility Support Services projects will provide input to management on actions needed to remove environmental barriers. In addition, TriMet budgets funds each year for accessible bus stops.

Innovative Service Options

Goal: Improve services at lower cost than door-to-door service by delivering services differently, coordination of services provided by different providers and involvement of the community.

Our observations tell us that we have to provide more choices than LIFT and fixed route to people with disabilities in order to reduce the demand on LIFT:

Many trips that are taken on LIFT, such as short, local neighborhood trips, would be impractical or impossible on fixed route. People who are mobile can walk to make fixed route work for them, thus avoiding difficult transfers or long wait times. A frail elderly person, for example, does not have that opportunity.

Elderly customers of community based services seem to prefer to reserve rides days in advance if they can be guaranteed a consistent or shorter arrival time (not possible on LIFT) to the next day service LIFT offers.

In order to have an impact on cost, the service has to be provided so that rides are grouped, the service is attractive enough to draw rides from LIFT and duplication is avoided (Ride Connection, TriMet, OMAP, other).

The N/NE RideAbout is a free community shuttle for seniors and people with disabilities serving the neighborhoods around the Urban League's Adult and Senior Services Center on MLK Blvd.

This shuttle is an innovative and collaborative effort between the African American Chamber of Commerce, The Urban League, Metropolitan Family Services/Project Linkage, The American Red Cross, Ride Connection and TriMet. The RideAbout shuttle will provide transportation to shopping, to medical and business appointments, to meal sites and senior centers. The service is provided without cost, but donations are appreciated.

Service began May 3, 2004 and provided 1,482 rides in September, many of them former LIFT riders. Rides per hour are 4-double the number of LIFT rides per hour. Staff is planning further outreach and schedule changes to make the service more convenient and increase ridership. The ride per hour goal is 7.

The Hillsboro RideAbout is a partnership of Ride Connection, TriMet, Washington County. Service has been delayed due to TriMet's financial condition. Additional funding will be sought for this service.

Ride Connection's private non-profit providers offer shopper shuttles, medical transportation services and community transportation services that, if coordinated with TriMet LIFT and fixed route service and enhanced with additional funding, could provide additional community based services. TriMet hopes to use TEA-LU New Freedom funds to provide additional shopper and community based services in partnership with Ride Connection and its providers for current LIFT and fixed route riders as well as new riders.

Coordination

In this area, there are many providers of door-to-door services:

- LIFT Services
- OMAP Services
- Ride Connection services provided by 30 transportation providers
- Social service agencies, non-profit organizations not under Ride Connection
- Transit districts in Sandy, Molalla, Wilsonville and Canby

All with separate vehicle fleets, separate services, separate dispatch and administration, but often the same client base and several providers providing transportation to the same site.

Coordination goals are:

- Work with providers of transit service and social service agencies to mutually optimize transportation and other services
- Work with transportation providers and organizations that work with people with disabilities to develop a continuum of cost effective transportation services to meet a range of needs for people with disabilities.
- Optimize use of vehicles
- Get organizations in the community to work with us as transit coordinators, trip planners, community transportation resource specialists

Special Transportation Fund (STF) Program

Most Ride Connection services are funded by the state Special Transportation Fund Program. The STF program supports about 10% of LIFT program operating and capital costs and supports between 20% and 60% of the costs of elderly and disabled transportation at the four small transit districts. The STF Program is a grant program that is intended to provide a flexible, coordinated, reliable and continuing source of revenue in support of transportation service for the Elderly and People with Disabilities. STF moneys may be used for:

- Maintenance of existing transportation programs and services for the Elderly and People with Disabilities
- Service expansion
- Creation of new programs and services
- Planning for and development of, access to transportation for Elderly and People with Disabilities who are not currently served

The Oregon Department of Transportation (ODOT) distributes the funds. The STF Agency (TriMet for the tri-county area) administers the program and coordinates the grant process. A Special Transportation Fund Advisory Committee (STFAC) recommends projects for funding to the TriMet Board.

STF funds have played an important role in the expansion of community-based services for elderly and people with disabilities the last five years.

STF formula funds have permitted areas that are un-served by transit districts to provide transportation to people who don't have service.

STF formula funds have permitted non-profit transportation providers to hire paid drivers, improving the reliability of the service over that which can be provided with volunteers.

STF formula funds have increased ridership on the Ride Connection network by 49 percent, from 198,000 rides a year in 2000 to 295,500 in 2004 (97,000). That is a remarkable accomplishment for a fairly small network. By comparison, during the same period, LIFT ridership increased 30% or 223,000 rides a year.

STF formula funds have permitted the out-of-district transit agencies to add routes and better serve elderly and people with disabilities.

Recently, ODOT adopted new STF Program rules. The rules require STF Agencies to develop a three-year STF Plan in consultation with the STFAC.

The purpose of the STF Plan is to set out the long-term vision for public transportation in the STF Agency's service area, and guide investment of STF moneys to maximize benefit to the Elderly and People with Disabilities within that area. The STF Plan must cover at least a three-year period and include the following information:

Inventory of transportation services and capital resources currently available for the elderly and people with disabilities, without regard to how they are funded

Identify current and forecast county population and demographics

Inventory of current and future needs for elderly and disabled transportation services and programs. The inventory may include and is not limited to, changes in employment opportunities, housing, access to medical services, special services affecting access to public transportation services for elderly and people with disabilities

Identifies opportunities to coordinate transportation services within the county, district and with other agencies and areas to improve efficiency and effectiveness of service.

With the help of funds from the STF program and other sources, service providers have made progress implementing the Elderly and Disabled Transportation Plan. RideWise, the North/Northeast RideAbout, Elders in Action Customer Service Monitoring, increases in LIFT and Ride Connection programs all have met the goals of the EDTP.

7. Finance

TriMet receives its funding from a variety of sources. Large projects, like construction of MAX Light Rail, are funded through a combination of local and federal dollars. Operating expenses are paid for from several sources, primarily fares and a tax on payrolls. This chapter of the TIP summarizes TriMet's financial status and future prospects. The adopted budget and financial issues report contain more detail.

Although the region's economy is now recovering from the recent recession, TriMet, like all other public agencies, has been faced with difficult decisions because of the economic conditions over the past few years. Jobs in the region decreased by approximately 53,000 (6.5 percent) between January 2001 and January 2004. Loss of jobs has a direct impact on TriMet's primary source of operating revenue, a tax on gross payrolls. In spite of the reduction in revenue, TriMet has been able to make strategic cuts and productivity improvements to maintain and grow the Total Transit System.

Resources

**Figure 9.1
Resources**

Line No.	Revenue Category	% of Total Resources
1.	Beginning Fund Balance	4.76%
	Operating Revenue	
2.	Passenger	11.21%
3.	Advertising	0.58%
4.	Accessible Transportation	0.35%
5.	Contracted & Special Service	2.19%
6.	Total Operating Revenue	14.33%
	Non-Operating Resources	
7.	Interest	0.45%
8.	Miscellaneous	0.55%
9.	Total Non-Operating Resources	1.00%
	Tax Revenue	
10.	Employer Payroll	28.22%
11.	Self-Employed	1.45%
12.	State "In-Lieu"	0.34%
13.	Total Tax Revenue	30.02%
	Grants	
14.	Federal Operating Grants	7.37%
15.	State Operating Grants	0.31%
16.	Capital Grants	23.25%
17.	Total Grants	30.93%
	Other Capital	
18.	Capital Assistance	6.64%
19.	Total Other Capital	6.64%
	Other Resources	
20.	Bond Proceeds	11.43%
21.	Other Non-Operating Resources	0.90%
22.	Total Other Resources	12.33%
23.	Total Resources	100.00%

Payroll Tax

TriMet levies a 0.6318 percent tax on the gross payrolls of private businesses and municipalities within its district. The payroll tax is TriMet's largest source of continuing revenue, accounting for 53 percent of operating revenues in FY2003. It is levied on the gross payroll of the region's employers. Self-employed individuals pay a similar tax on net income from self-employment.

Regional employment began to increase March 2004. As a result, TriMet's revenue outlook has begun to improve. After two years of declines and one year without growth, payroll tax revenues increased 5.8% in the first half of FY2005, higher than the projected 4% growth rate.

Beginning on January 1, 2005, the payroll tax rate for employers and self-employed individuals began the adopted increase of .0001 percent each January 1 for ten years. Revenues from the payroll tax increase will support new services and capital for service increases, such as TriMet's contribution to the South Corridor I-205 / Portland Mall Light Rail Project local match, the option order light rail vehicles, Washington County Commuter Rail operations, bus services, I-205 light rail operations, LIFT services, and the cost of extending Streetcar operations to Riverplace and Gibbs Street. The payroll tax rate increased from .6218% to .6318% in January 2005. TriMet expects to see the first results of the rate increase in the fourth quarter of FY2005.

Passenger Fares

Passenger fares are TriMet's second largest continuing revenue source. In FY2004, passenger revenues totaled \$55.6 million, 20 percent of operating revenue. TriMet's fare recovery ratio (the percentage of operations costs minus capital and debt service covered by fares) was 23 percent in FY2004.

TriMet reviews fares annually as part of its budget process and increases fares regularly to keep pace with inflation, to meet revenue goals, and occasionally, to fund special service improvements.

Federal Funding

TriMet receives about \$30 million a year in formula assistance from the federal transit program. In addition, federal resources are available for capital projects on a discretionary, competitive basis. For example, the construction of MAX Blue Line and Interstate MAX Yellow Line was accomplished with federal funds matched by local revenues. TriMet has received cash or pledges of \$1.2 billion in federal discretionary funds for MAX Blue Line and MAX Yellow Line.

In addition to the formula assistance and discretionary funding, the region's Metropolitan Planning Organization (MPO), Metro, also allocates federal transportation "flex fund" resources to TriMet and other transportation agencies in the region through a competitive process called the Metropolitan Transportation Improvement Program (MTIP). The federal "flex funds" distributed through the MTIP process are from the federal Congestion Mitigation and Air Quality (CMAQ) and Surface Transportation Programs (STP). The MTIP funds are awarded based on proposed project ranking against 2040 Concept Plan supportive criteria, community input and policy deliberations. Criteria are directly based on the development of alternative and sustainable transportation options, not otherwise well supported by Federal funding. Jurisdictions apply for these funds in support of multi-modal transportation projects under 12 program categories, including transit, Regional Travel Options, Transit Oriented Development, trail and bikeways, pedestrian improvements and planning projects.

The MTIP program has also been used to provide \$1.4 million annually for bus service expansion in the McLoughlin and Barbur corridors. Beginning in FY2004 and continuing in FY2005 the fund is also supporting on-street capital improvements with \$625,000 in CMAQ funds. The combined MTIP contribution in those years will be \$4.1 million. The bus operating support will be discontinued in FY2006, at which point all MTIP support will be directed at Frequent Service bus capital improvements with \$2.75 million available in FY2006 and FY2007 and the same amount in FY2008 and 2009.

A condition for receipt of these funds is a direct connection between MTIP funded projects and TriMet's 5-year TIP.

Since FY2004 TriMet's on-street capital program has been fully reliant on these and other Federal sources of funds, with general funds meeting the local matching requirements.

State Funding

The State Special Transportation fund and Oregon Department of Human Resources Title XIX funds provide formula and discretionary assistance for elderly and disabled transportation programs. These funds covered 12 percent of the cost of TriMet's Accessible Transportation Program in FY2004.

State of Oregon government offices located within TriMet's district boundaries make in-lieu of tax payments to TriMet. These make up less than 1 percent of operating revenues.

Similar to the Oregon Benchmark that measures the State's progress toward maintaining roads at good or better condition, the State recognizes that the equivalent infrastructure for transit (the statewide fleet of buses) must also be maintained at good or better condition. In 2003, the Oregon State Legislature created an additional source of state funding for transit by dedicating \$2 million in federal Surface Transportation Program funds for the replacement of mass transit vehicles in the 2003-2005 biennium. Funding for the Mass Transit Vehicle Replacement Program will be administered by the Oregon Department of Transportation. The Oregon Transit Association is working to establish this program as a permanent funding source for mass transit vehicle replacement across the state. If funded in future biennia, TriMet will compete for these bus replacement funds.

Other Revenue

Revenue also comes from advertising on bus and rail cars, interest earnings and state revenues for OMAP (Oregon Medical Assistance Program) and other miscellaneous revenues (6.0 percent of revenues in FY2004).



Requirements

**Figure 9.2
FY2007 Requirements**

Line No.		% of Total Requirements
	Personal Services	
1.	Office of the General Manager	0.30%
2.	Information Technology	0.77%
3.	Finance & Administration	1.05%
4.	General Counsel/Human Resources	0.44%
5.	Marketing & Customer Services	0.84%
6.	Operations	26.51%
7.	Capital Projects & Facilities	1.45%
8.	Total Personal Services	31.36%
	Materials & Services	
9.	Office of the General Manager	0.11%
10.	Information Technology	0.22%
11.	Finance & Administration	0.32%
12.	General Counsel/Human Resources	1.75%
13.	Marketing & Customer Services	0.32%
14.	Operations	12.82%
15.	Capital Projects & Facilities	1.13%
16.	Total Materials & Services	16.67%
17.	Capital Programs	4.00%
18.	Light Rail Programs	38.55%
19.	Pass Through Requirements	0.90%
20.	Debt Service	3.64%
21.	Contingency	1.50%
22.	Ending Fund Balance	3.39%
23.	Total Requirements	100.00%

TriMet revenues pay for the operation and maintenance of the transit system. This includes Accessible Transportation, bus and light rail services, vehicles, facilities, and equipment. With the addition of Interstate MAX to the MAX Blue Line and MAX Red Line, light rail service has increased 317 percent since 1992. Accessible Transportation service hours have increased 217 percent.

In FY2005, while still adjusting to the recession and declines in payroll tax revenues, TriMet was hit with an unexpectedly large increase in diesel fuel costs. In FY2005, TriMet budgeted diesel fuel at \$1.02 per gallon. FY2005 to date, diesel fuel costs have averaged \$1.45 per gallon. In its business plan, TriMet anticipates paying \$1.50 per gallon for diesel fuel in FY2005 and FY2006, resulting in a \$3.3 million increase in fuel expenditures. To address the expected increase in diesel fuel costs, TriMet is making offsetting adjustments to fares and service levels. A fare increase is anticipated September 2005. Bus and light rail services will be adjusted March, June and September 2005.

Bus and MAX service adjustments reflected in the FY2006 budget were based on a detailed analysis of service and ridership on a trip-by-trip basis over the course of a day. The result is minor to modest service adjustments on over three dozen bus lines, focusing on low ridership trips and on adjusting schedules on lines with available seating capacity. Overall, the adjustments attempt to better match passenger capacity with demand. Most all of the schedule adjustments are 15 minutes or less, mostly during the evening and late night. Midday service was adjusted on four lines by about 3 minutes. The goal is to minimize impacts on riders by: making minimal changes to span of service, adjusting schedules by 3-15 minutes; keeping Frequent Service intact; and measuring lift deployments and use of lines by low income/ minority riders to determine that there is not a disproportionate impact on those riders.

Over the next twenty years, transit investment will focus on meeting demand on the system's network of bus and light rail lines and meeting demand for ATP service.

Five-Year Financial Outlook

TriMet has been deeply affected by the recent recession and increased fuel costs. Budgeted capital expenditures were reduced \$18 million in FY2002, \$20 million in FY2003 and \$5 million in FY2004 and \$1 million in FY2005. Expected capital expenditures between FY2006 and FY2009 are also reduced roughly \$18 million each year. Further, baseline expenditures (continuing expenditure levels for current services after contractually obligated wage and benefit costs increases are added) have been reduced \$20 million (\$3.9 million in FY2001 and \$3 million each fiscal year through FY2002-FY2005 and \$4.1 million in FY2006).

The summary chart on the next page shows TriMet's expected expenditures through the next five years. For complete descriptions of each line item, please request the "Financial Issues Report" from TriMet.

General Fund Inflated Dollars (000s)	Annual Percent Change FY06-FY12											
	FY2002 ACTUAL	FY2003 ACTUAL	FY2004 ACTUAL	FY2005 ACTUAL	FY2006 FORECAST	FY2007 FORECAST	FY2008 FORECAST	FY2009 FORECAST	FY2010 FORECAST	FY2011 FORECAST	FY2012 FORECAST	
Revenues:												
A. Passenger Revenue	53,191	52,746	55,664	59,487	68,489	75,638	80,275	82,169	93,476	95,740	103,944	1,0720
B. Other Operating Revenue	17,217	18,268	17,482	16,204	19,509	19,292	19,959	22,788	23,338	24,094	23,541	1,0318
C. Employer/Municipal Payroll Tax	146,228	145,231	146,125	155,317	166,966	177,662	189,488	202,184	215,730	220,184	245,607	1,0664
D. Self-Employed Tax	7,289	6,801	7,541	7,906	8,801	9,245	10,017	10,378	10,752	11,139	11,540	1,0462
E. State In-Lieu	1,941	1,869	1,869	1,971	2,131	2,305	2,494	2,638	2,790	2,950	3,120	1,0656
F. Grants & Capital Reimbursement	40,863	39,885	51,635	58,350	57,027	46,247	51,360	55,292	55,623	58,029	59,568	1,0074
G. Interest	3,152	2,072	1,622	2,375	1,000	1,000	940	1,135	1,503	1,990	2,661	1,1772
H. A1P-Cigarette Tax, Agency	3,510	3,380	3,773	7,122	3,418	3,496	3,579	3,667	3,760	3,850	3,965	1,0250
I. New Revenues				639	3,524	6,746	10,349	14,420	18,960	18,960	29,764	1,4270
J. Total Continuing Revenues (CR)	273,391	270,251	285,713	309,971	330,865	341,622	368,461	394,671	425,952	452,063	483,738	1,0654
	-1.8%	-1.1%	5.7%	8.5%	6.7%	3.3%	7.9%	7.1%	7.9%	6.1%	7.0%	
Expenditures, Current Service:												
K. Bus Operations	117,981	127,177	133,968	148,859	148,908	154,386	160,707	166,852	174,292	181,144	187,775	1,0394
L. Rail Operations (incl. Puid, Streetcar, Int. MAX)	37,887	41,362	44,263	50,441	45,811	46,181	48,527	50,577	53,013	55,291	57,540	1,0387
M. Field Services	9,544	9,868	10,190	11,018	11,174	11,634	12,146	12,631	13,236	13,763	14,257	1,0414
N. Accessible Transportation Programs	27,900	30,023	31,914	35,452	38,091	40,579	43,253	46,128	49,220	52,547	56,127	1,0667
O. Capital Projects & Facilities	12,280	10,601	18,830	19,676	17,251	15,865	16,715	17,586	18,580	19,556	20,549	1,0296
P. General & Administration	49,372	39,821	38,289	39,426	48,316	46,627	49,535	52,106	55,302	58,699	62,148	1,0429
Q. Transfer to Capital Fund-Projects	14,678	20,349	10,354	11,331	6,939	7,649	11,686	10,334	7,217	3,683	8,885	1,0421
R. Debt Service	10,479	9,337	10,369	15,239	13,254	18,860	20,546	24,016	26,195	30,182	31,968	1,1581
Expenditures, Future Service												
S. Bus Operations: Peak, Reliability, New												
T. Rail Operations: EastWest, Airport, IMAX												
U. Rail Operations: WCCR							668	1,302	2,249	735	1,528	
V. Rail Operations: I-205 LRT								3,926	4,887	5,088	5,257	
W. Continuing Expenditures Less Capital	265,443	268,209	287,843	320,111	322,805	334,154	351,898	375,125	406,588	431,607	452,505	1,0579
X. Total Continuing Expenditures (CE)	280,121	288,567	298,397	331,441	329,744	341,802	363,584	385,479	413,765	435,291	461,390	1,0576
Y. General Fund Results	(6,730)	(18,306)	(12,685)	(21,470)	1,121	(181)	4,878	9,192	12,167	16,572	22,348	
Z. Beginning Working Capital	86,900	70,300	51,994	37,100	22,567	23,688	23,508	28,386	37,577	49,744	66,517	
AA. Months of Operating Expense in Working Capital		3.1	2.2	1.4	0.8	0.9	0.8	0.9	1.1	1.4	1.8	
AB. Cash and Cash Equivalents *		80,276	100,503	51,712	49,807	50,928	50,748	55,626	64,817	76,984	93,757	
AC. Cash as a Percent of Operating Cost		28%	34%	16%	15%	15%	14%	14%	16%	18%	20%	

*excludes bond proceeds)

8. Appendix - TIP Input

TIP Open House Summary

TriMet held four Transit Investment Plan (TIP) Open Houses in three locations during March 2006. This annual activity was organized by the Marketing and Capital Projects Departments, with participation from other agency staff. Following is a review of the open houses, including dates and locations, our objectives, some vital statistics regarding the events and the marketing efforts surrounding them, and a brief section on some lessons learned.

Locations

- Downtown Portland, March 15 – Portland Building; two sessions 11 am – 2 pm, 4 pm – 7 pm
- SE Portland, March 21 – Portland Adventist Academy 4 pm – 7 pm
- Beaverton, March 22 – Beaverton Community Center 4 pm – 7 pm

Objectives

- Provide in-depth explanation of important projects like I-205/Mall and Washington County Commuter Rail, with special emphasis on the proposed bus relocation plan for downtown mall during renovation
- Increase awareness of TIP and how it fits into regional planning
- Provide forum for people to provide input on TIP and related projects
- Reinforce the concept of the Total Transit Experience in the minds of our riders

Key Statistics

Attendance	
Downtown	237 people
SE Portland	42 people
Beaverton	24 people
Advertising	
<i>Oregonian</i>	337,000 copies
Willamette Week – two consecutive weeks	180,000 copies
<i>Skanner</i>	50,000 copies
<i>Observer</i>	30,000 copies
<i>El Hispanic News</i>	20,000 copies
<i>Asian Reporter</i>	20,000 copies
Awareness:	
“Save the date” postcards to stakeholders	7,000 cards
Distributed via outreach, Sales	3,000 cards
Govdocs e-mail meeting notice	9,706 emails
News release	
Oregonian; Portland Tribune; community newspapers	662,000 copies
New/revised factsheets at open houses	300 each
<i>trimet.org</i> – virtual open house	
Page Name Visits	
Meetings (both Portland Mall & TIP)	1,723 page visits
TIP (landing page)	1,504 page visits
Bus Relocation	4,491 page visits
Total Documents viewed from TIP landing page	7,051 downloads
Complete TIP Report	4,524 downloads
Executive Summary	1,119 downloads
Email Alerts sent Subscribers	16,980 subscribers

9. Appendix - Bus Stop Amenities

Stop Level	Basic Stop	Level 1	Level 2
Bus stop use	stops meeting spacing and siting criteria	high use stops, significant employer program participation, apartments, hospitals, shopping centers, major business, minor park-and-ride, significant use by mobility challenged riders	major stops associated with active or dense land uses, transit mall, major park-and-ride lot, transfer points, stops with active lift / ramp usage
Preferred street setting	pavement, ADA clearances met, safe street crossing or safe shoulder access	ADA clearances met, sidewalks connections, possible curb extensions, crosswalks	ADA clearances met, full width sidewalks in good repair, curb extensions, protected crosswalk, community stop features - art, newspaper vending, bulletin board
Bus Stop Amenities	Pole and sign	Pole and sign	Pole and sign
	Schedule display	Schedule display	BCID in shelter
		Frequent sign*	Frequent sign*
		Sidewalk access	Sidewalk access
		Bench	Bench
		Curb ramp	Curb ramp
		<i>Optional elements:</i>	
		<i>A or B type shelter</i>	A, B or BX type shelter
		<i>Pad for rear door</i>	Pad for rear door
			Trash can
			Lighting
		<i>Optional elements:</i>	
		<i>BX or BB Shelter</i>	
	Any of the shelters may include sandblasted art glass panels. BCID = bus catcher information display * as applicable ** Weather / wind protection to be considered. Windscreens may be included in shelter designs accordingly.		
Daily equivalent	0-35	35-100	100-200
Service types (typical)	Local Bus	Express / Local Bus	Express / Local / Frequent Service / Streetcar

Attributes of a poorly developed bus stop:	
Bus stop use	Poor or lack of supporting land uses, low ridership, unpleasant site or traffic conditions, high crime exposure.
Street setting	No pavement or inadequate shoulder, blocked views, poor ADA clearances, high weather exposure, no logical, safe street crossing, unsafe topography, chronic standing water

Level 3
high capacity transit service serving major corridors or centers, transit centers, high volume park-and-rides, major transfer hubs
ADA clearances met, site configured to meet circulation needs, bus bays, protected crosswalk, community stop features - art, newspaper vending, bulletin board, landscaping, nearby concession
Pole and sign
BCID in shelter
Frequent sign*
Sidewalk access
Bench
Curb ramp
High capacity or custom shelter**
Pad for rear door
Trash can
Lighting
Bike locker
Concessions
Public telephone
Ticket vending
Artwork element
Landscaping
200+
Frequent Service / Streetcar / MAX

10. Appendix - Peak Vehicle Requirements

TIP Priority		Peak Vehicles (Bus or Light Rail Vehicle)					
		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
1. Build the Total Transit System	New Buses	0	39	0	55	55	56
	Service Standards	0	1	2	2	2	2
	Reliability	0	1	1	1	1	1
	Productivity	-18	-2	-2	-2	-1	-7
	Low Floor Bus	46%	52%	52%	61%	70%	79%
2. Expand High Capacity Transit	Yellow Line	14					
	Green Line						18
3. Expand Frequent Service	57-TV Hwy/Forest Grove	0					
	76-Beaverton/Tualatin				3		
	31-King Rd						2
4. Improve Local Service	Tigard			1			
	N. Clackamas						
Peak Requirements							
Buses		525	527	528	532	534	532
Light Rail Vehicles		83	77	80	84	88	114

11. Appendix - Frequent Service Criteria

	Major Criteria	Subcriteria	Possible Scores	Data
1	Ridership	Marginal Increase in Boarding Rides per Increase in Vehicle Hour	15	20+ Boardings/Vehicle Hour
			10	17-19 Boardings/Vehicle Hour
			5	12-16 Boardings/Vehicle Hour
			0	10-11 Boardings/Vehicle Hour
		Number of Residents per Acre within a 1/4 Mile of the Frequent Service Corridor	10	15+ Residents/Acre
			8	12-14 Residents/Acre
			6	9-11 Residents/Acre
			4	6-8 Residents/Acre
			2	3-5 Residents/Acre
			0	<3 Residents/Acre
		Number of Employees per Acre within a 1/4 Mile of the Frequent Service Corridor	10	15+ Employees/Acre
			8	12-14 Employees/Acre
			6	9-11 Employees/Acre
			4	6-8 Employees/Acre
			2	3-5 Employees/Acre
			0	<3 Employees/Acre
		Major Attractions within a 1/4 Mile of the Frequent Service Corridor	5	15+ Attractions
			3	10-14 Attractions
			1	5-9 Attractions
			0	<5 Attractions
2	Transit/Pedestrian Friendly Environment	% Sidewalk Coverage w/in 1/4 Mile of Corridor	10	80+% Coverage
			7	70-79% Coverage
			4	60-69% Coverage
			1	50-59% Coverage
			0	<50% Coverage
		Number of Regulated Crossings/Mile	5	5+ Crosswalks/mile
			4	4 Crosswalks/mile
			3	3 Crosswalks/mile
			2	2 Crosswalks/mile
			1	1 Crosswalks/mile
			0	0 Crosswalks/mile
		Pedestrian/Transit Priority Improvements Along the Route are in the Jurisdiction's CIP	5	5+ Projects in CIP
			4	4 Projects in CIP
			3	3 Projects in CIP
			2	2 Projects in CIP
			1	1 Project in CIP
		0	0 Projects in CIP	

3	Transit Dependence	Does the Frequent Service Route enter a Job Access Employment Area?	2	Yes
			0	No
		Number of Households Per Mile at 150% of Poverty is Greater Than the Average	2	>110 Households/Mile
			0	<110 Households/Mile
		Number of Lift Deployments as a Percentage of Total Boardings	3	1.5%+
			2	1%-1.4%
			1	.5%-.99%
			0	<.5%
		Senior and Disabled Residential Facilities & Work Training Centers within a 1/4 Mile of the Frequent Service Corridor	3	41-50
			2	31-40
1	20-30			
0	<20			
4	Regional Transportation Plan Coordination	Frequent/Rapid Bus Designation	10	Yes
			0	No
5	Relationship to Major Transportation Developments	Frequent Service Connects to High Capacity Transit Developments	10	Connection to Blue Line, Red Line, Interstate LRT, Proposed South Corridor LRT, WA County Commuter Rail
			0	No Connection
6	Land Use Connectivity	Frequent Service Connects with 2040 Land Type	10	Tier 1: Central City, Regional Centers, Industrial Areas
			5	Tier 2: Town Centers, Main Streets, Station Areas
			0	Tier 3: Inner/Outer Neighborhoods & Employment Areas
7	Transportation Demand Management	% of ECO Compliant Companies within a 1/4 mile of the Route	2	>50%
			1	25%-49%
			0	<25%

12. Appendix - Glossary

Boarding rides are counted each time a person steps enters a vehicle. As used in the TIP, trips, boardings and rides all refer to boarding rides. TriMet uses automated passenger counters to record boardings.

Boarding rides per vehicle hour (BR/VH) describe a route's productivity. The desired minimum BR/VH is one-half the average for all routes.

Central City is a term from the Growth Concept, describing downtown Portland. It would grow at about the same rate as the rest of the region and would remain the location of about 20 percent of regional employment. To do this, downtown Portland's 1990 density of 150 people per acre would increase to about 250 people per acre (Adapted from the 1997 Regional Framework Plan).

Choice Riders are people who either have a car available or decide not to own one because they prefer riding TriMet.

Commuter Rail generally operates during rush hours between major urban centers, using self-propelled or locomotive-hauled trains on an existing railroad.

Corridors are not as dense as centers, but also are located along good quality transit lines. They provide a place for densities that are somewhat higher than today and feature a high-quality pedestrian environment and convenient access to transit. Typical new developments would include row houses, duplexes and one- to three-story office and retail buildings, and average about 25 persons per acre. (Adapted from the 1997 Regional Framework Plan).

Deadhead Hours- are the time spent out of service when a transit vehicle travels between the yard and the start of a route.

Fiscal Years start on July 1 of the preceding calendar year. FY 2005 runs from July 1, 2004 to June 30,2005.

Fixed-route service refers to TriMet's scheduled service on 3 MAX lines and 93 bus routes.

Framework Plan Metro document adopted in 1997 that incorporates regional policies such as the Growth Concept and Regional Transportation Plan.

Frequent Service operates every fifteen minutes or better, every day. 15 bus routes and all MAX lines meet this level of service.

Growth Concept is a 50 year vision for land use and transportation in the Portland Metropolitan Region adopted by Metro.

Headways describe the amount of time between arrivals of a transit vehicle along a particular line. Headways decrease as service frequency increases.

Layover Hours Time spent out of service after reaching the end of a route and before starting over.

LIFT paratransit provides door-to-door service for eligible people under the Americans with Disabilities Act who are unable to ride TriMet fixed route service.

Light Rail-see MAX.

Linked Trip- see originating ride.

Low Performing lines attract fewer than 10 boarding rides per vehicle hour.

Main Streets typically will serve neighborhoods and may develop a regional specialization that draws people from other parts of the region. Examples include Hawthorne Boulevard in Portland, Main Avenue in Gresham and Main Street in Hillsboro. The Growth Concept calls for Main Streets to grow from 1990 levels of 36 people per acre to about 39 per acre. (Adapted from the 1997 Regional Framework Plan).

MAX Light Rail is TriMet's high capacity transit service. MAX began operating in 1986 and was extended in 1998, 2001 and 2004. MAX uses its own lane in the Central City and Hillsboro Regional Center; outside of these areas, MAX travels at up to 55 miles per hour with limited stops in an exclusive right of way.

Originating Rides count the number of total boardings, but exclude transfers. A person who rides MAX and then boards a bus is counted as one originating ride or one linked trip.

Platform hours-see revenue hours.

Portland Mall 36 blocks of bus-only lanes and unique shelters on Fifth and Sixth Avenues in Downtown Portland. The Portland Mall was part of the 1972 Downtown Plan, opened in 1978 and was extended north in 1994.

Portland Streetcar operates in mixed traffic on a rail loop linking NW 23rd, the Pearl District and PSU via Tenth and Eleventh Avenues. The streetcar is owned by the City of Portland, managed by a non-profit organized by the City, and operated by TriMet personnel.

Pullouts refer to vehicles leaving the garage. Peak pullouts described the maximum number of vehicles in service. Pullout can also describe paved shoulders where buses can stop along higher speed roadways.

Quick Drop offers short-term parking for easy access to the Airport MAX Red Line.

Regional Centers are the focus of compact development, redevelopment and high quality transit service, multi-modal street networks and act as major nodes along regional through routes. The Growth Concept estimates that about 3 percent of new household growth and 11 percent of new employment growth would be accommodated in these Regional Centers. From the current 24 people per acre, the Growth Concept would allow for about 60 people per acre. Gresham is an example of a Regional Center. (Adapted from the 1997 Regional Framework Plan).

Regional Transportation Plan (RTP) lays out the 20-year priorities for road, trans, freight, bicycle and pedestrian improvements. The RTP is administered by Metro. See chapter 3.

Revenue hours refer to the amount of time a TriMet vehicle and operator are available to serve passengers. Revenue hours describe how much service is provided to customers.

Service hours-see vehicle hours.

Standard Service refers to buses that arrive less often than Frequent Service.

Total Transit System is TriMet's term for all of the attributes that make transit an attractive choice for riders, including: rich customer information, easy access to transit, comfortable places to wait, high quality transportation (frequent, reliable, comfortable), safety and security.

Town Centers are smaller than Regional Centers and centers would accommodate about 3 percent of new households and more than 7 percent of new employment. The 1990 density of an average of 23 people per acre would increase to 40 persons per acre, the current densities of development along Hawthorne Boulevard and in downtown Hillsboro. (Adapted from the 1997 Regional Framework Plan).

Transit Center (TC) is a hub where multiple TriMet bus MAX lines meet. Bus service to transit centers is scheduled to facilitate transfers.

Transit Mall- see Portland Mall.

Transit Oriented Development (TOD) is designed for pedestrians and includes housing, employment and recreation in a compact area near public transit.

Transit Tracker provides real-time Bus and MAX arrivals online and at key bus stops and MAX stations.

Unlinked Trip-see boarding ride

Urban Growth Boundary (UGB) controls urban expansion onto farm, forest and resource lands. Metro manages the UGB as required by state law. See chapter 3.

Vehicle hours include revenue hours plus the time it takes a vehicle to travel from the garage to the end of the line. Vehicle hours describe how much of the agency's resources are needed to serve a particular route, including times when the vehicle is not in service to customers.

Vintage Trolley began operating replicas of Portland's Council Crest streetcars in 1991 and is administered by Vintage Trolley, Inc, a non-profit corporation. The Trolley is supported by business sponsors along the route and operates on weekends using MAX and Streetcar tracks.

Willamette Shore Trolley is operated by the Oregon Electric Railway Historical Society on a publicly owned right of way between the South Waterfront and Lake Oswego.

13. Appendix - Acronyms

ADA-Americans with Disabilities Act
APC-Automated Passenger Counter
ASA-Automated Stop Announcement
ATP-Accessible Transportation Program
BR-Boarding Ride
BRT-Bus Rapid Transit
CBD-Central Business District
CMAQ-Congestion Mitigation and Air Quality
DEQ-Oregon Department of Environmental Quality
E&D-Elderly and Disabled
ECO-Employee Commute Options
EDTP-Elderly and Disabled Transportation Plan
EIS- Environmental Impact Statement
FTA-Federal Transit Administration
FY-Fiscal Year
LPA-Locally Preferred Alternative
LRT-Light Rail Transit
MAX-Metropolitan Area Express
MTIP-Metropolitan Transportation Improvement Program
ODOT-Oregon Department of Transportation
OMAP-Oregon Medical Assistance Program
PIP-Productivity Improvement Process
ROW-Right of Way
RTCC-Elderly and Disabled Regional Transportation Coordinating Committee
RTO-Regional Travel Options
RTP-Regional Transportation Plan
SOP-Standard Operating Procedure
STF-Special Transportation Funds
STP-Surface Transportation Program
TC-Transit Center
TDM-Transportation Demand Management
TIP-Transit Investment Plan
TriMet-Tri-County Metropolitan Transportation District of Oregon
TSP-Traffic Signal Priority
TSP-Transportation System Plan
UGB-Urban Growth Boundary