

Section 9
County-Wide Transportation System Plan Elements

COUNTY-WIDE TRANSPORTATION SYSTEM ELEMENTS

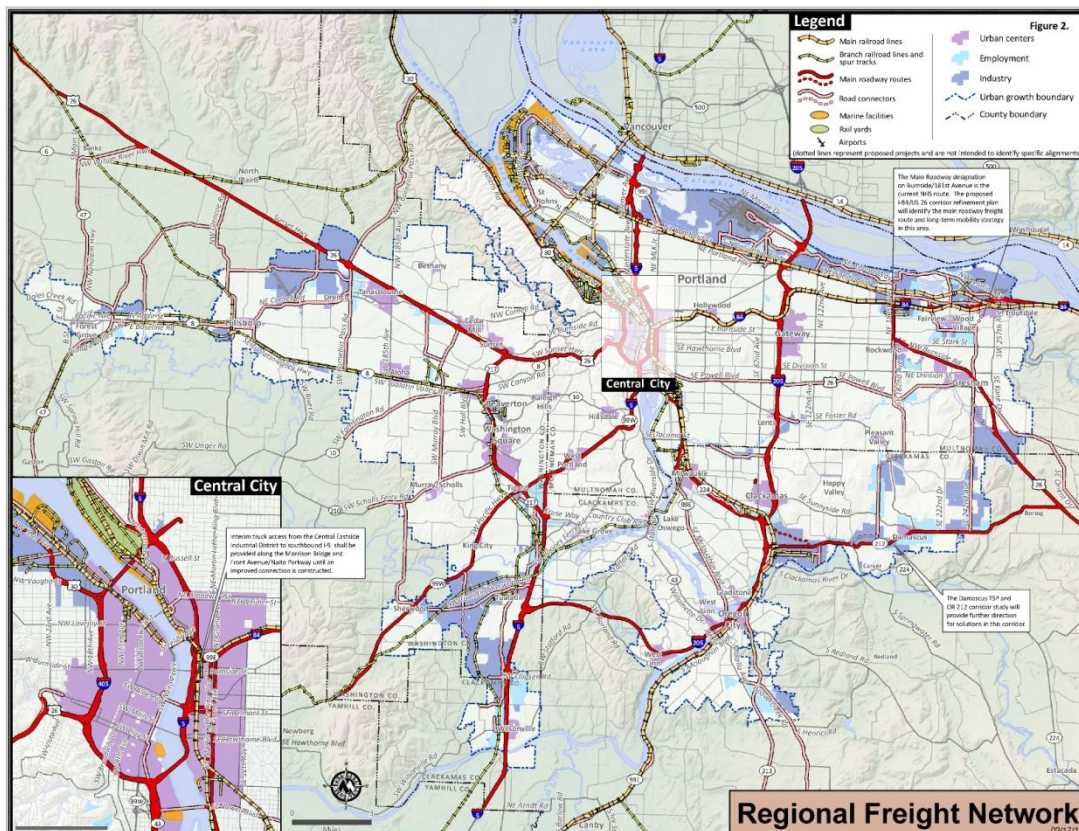
The following sections present and discuss information on truck freight routes, railroad system, air transportation system, pipeline transportation system, water transportation, and intra-modal and inter-modal connections within Clackamas County.

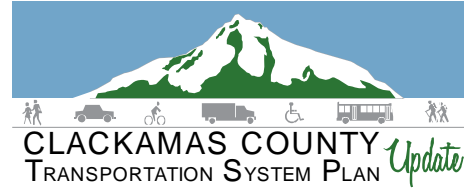
TRUCK FREIGHT ROUTES

A majority of freight traffic within Clackamas County occurs by truck along designated freight truck routes. These routes consist of both ODOT and County facilities and include interstate highways, statewide highways, and regional highways, as well as other arterial and collector roadways that support and augment the highway system. These routes provide interstate and intrastate connections to ports, intermodal facilities, and urban areas. The Oregon Highway Plan (OHP) identifies ODOT’s designated freight truck routes, while the existing Clackamas County TSP identifies the County’s. Figure W 1 illustrates the designated freight truck routes within Clackamas County according to the OHP and the existing Clackamas County TSP. ODOT’s Routes are shown in red, while the County’s routes are shown in blue.

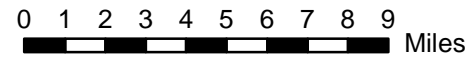
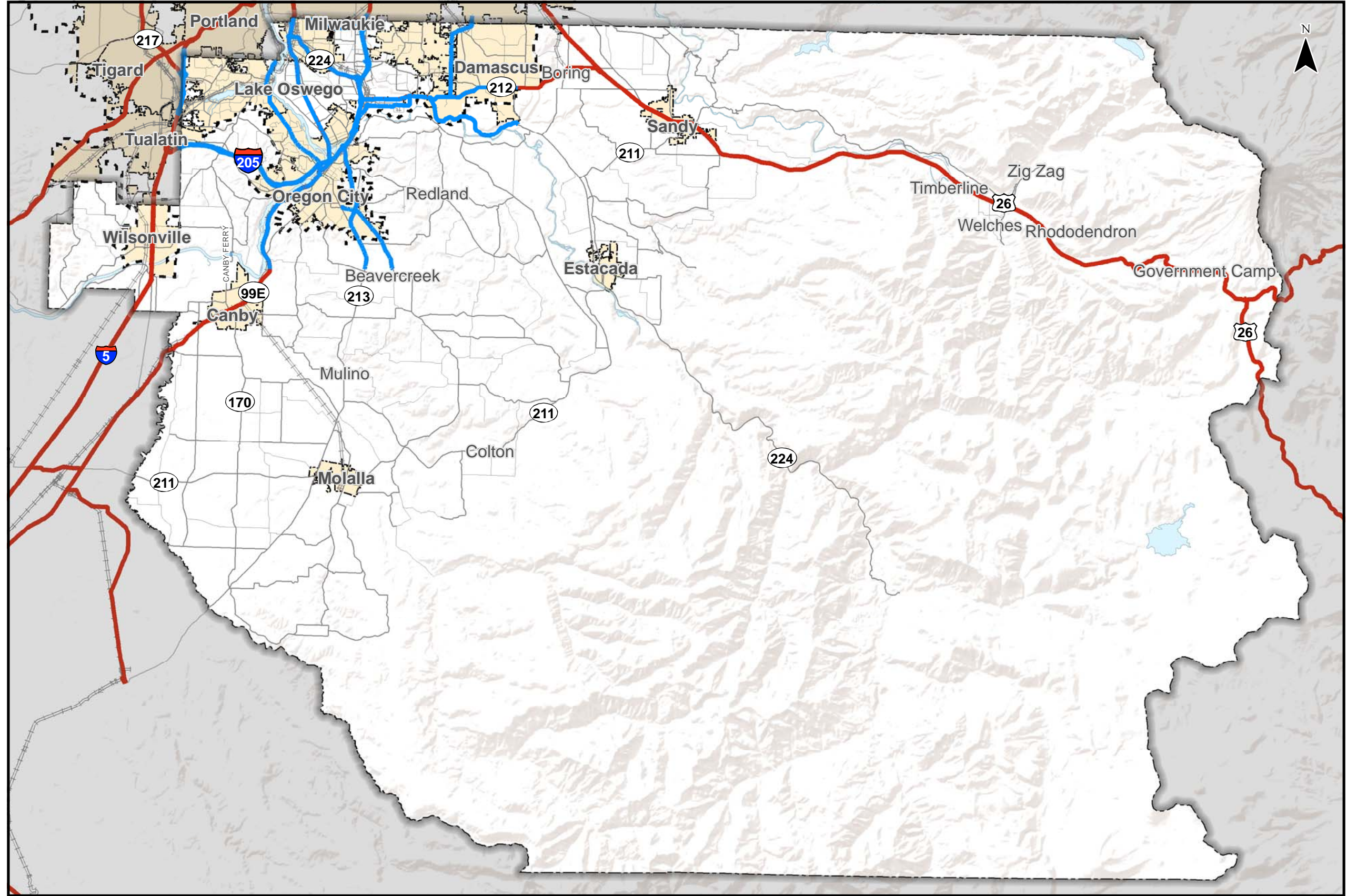
The Metro 2035 Regional Freight Plan also identifies designated freight truck routes within Clackamas County. As shown in Metro’s Regional Freight Network map in Exhibit W1 below, Metro accounts for a majority of both ODOT’s and the County’s routes, with a few notable differences: the County includes OR 43 and OR 224 as designated freight truck routes, while Metro does not; also Metro includes SE 242nd Avenue, while the County does not. The Clackamas County TSP update should address the differences between these plans.

Exhibit W1 Metro RTP Regional Freight Network Map





- County Freight Routes
- ODOT Freight Routes
- Incorporated Areas
- County Boundary
- UGB



Coordinate System:
NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl
Data Source:
Clackamas County, Metro Data Resouce Center

Truck Freight Routes Clackamas County

Figure
W 1

The East Clackamas Industrial Area is by far the largest industrial area located within Clackamas County, covering approximately 1,822 acres east and west of I-205 along Hwy 212 and Hwy 224. Access to the area is provided via I-205 on a statewide level, OR 212 and OR 224 on a regional level, and SE 82nd Avenue/SE Jennifer Street, as well as several other minor arterial, collector, and local streets, on a local level. Most of the major intersections located along all three roadways are grade separated or signalized with separate left and right turn lanes to accommodate heavy truck traffic, while most of the minor/unsignalized intersections have various access restrictions to prevent turn movements from the side streets.

As described above, I-205, OR 212, and OR 224 are designated as freight routes by the OHP, while I-205, OR 212, OR 224, and SE 82nd Avenue/SE Jennifer Street are designated as freight routes by the County TSP. Also described above, frequent transit service is provided along OR 212, OR 224, and SE 82nd Avenue/SE Jennifer Street by TriMet. Continuous pedestrian and bicycle facilities are also located along most of OR 212 as well as SE 82nd Avenue and segments of SE Jennifer Street. These particular facilities are currently designated to serve multiple modes and may benefit from treatments targeting how to serve each within the same right-of-way effectively.

Other industrial areas within Clackamas County are located to the north along SE Johnson Creek Road (119 acres); to the west along SE McLoughlin Boulevard (63 acres); to the east along OR 212 (145 acres); and in various other locations along major arterials such as 99E and OR 213; each of which have direct access to the regional, statewide, and interstate highway system. Given the location of these areas, with respect to the central city, transit, pedestrian, and bicycle access is more limited than in the East Clackamas Industrial Area.

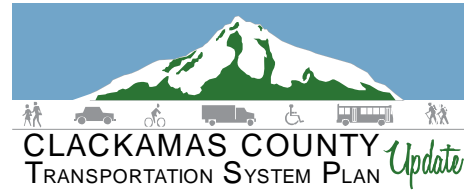
RAILROAD SYSTEM












Clackamas County has passenger and freight rail service. Passenger service is provided by Amtrak and TriMet (WES) and freight rail service is provided by several railroads. The passenger and freight rail service is discussed below. The rail system, including Amtrak and WES stations, is depicted in Figure W 2.

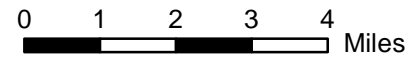
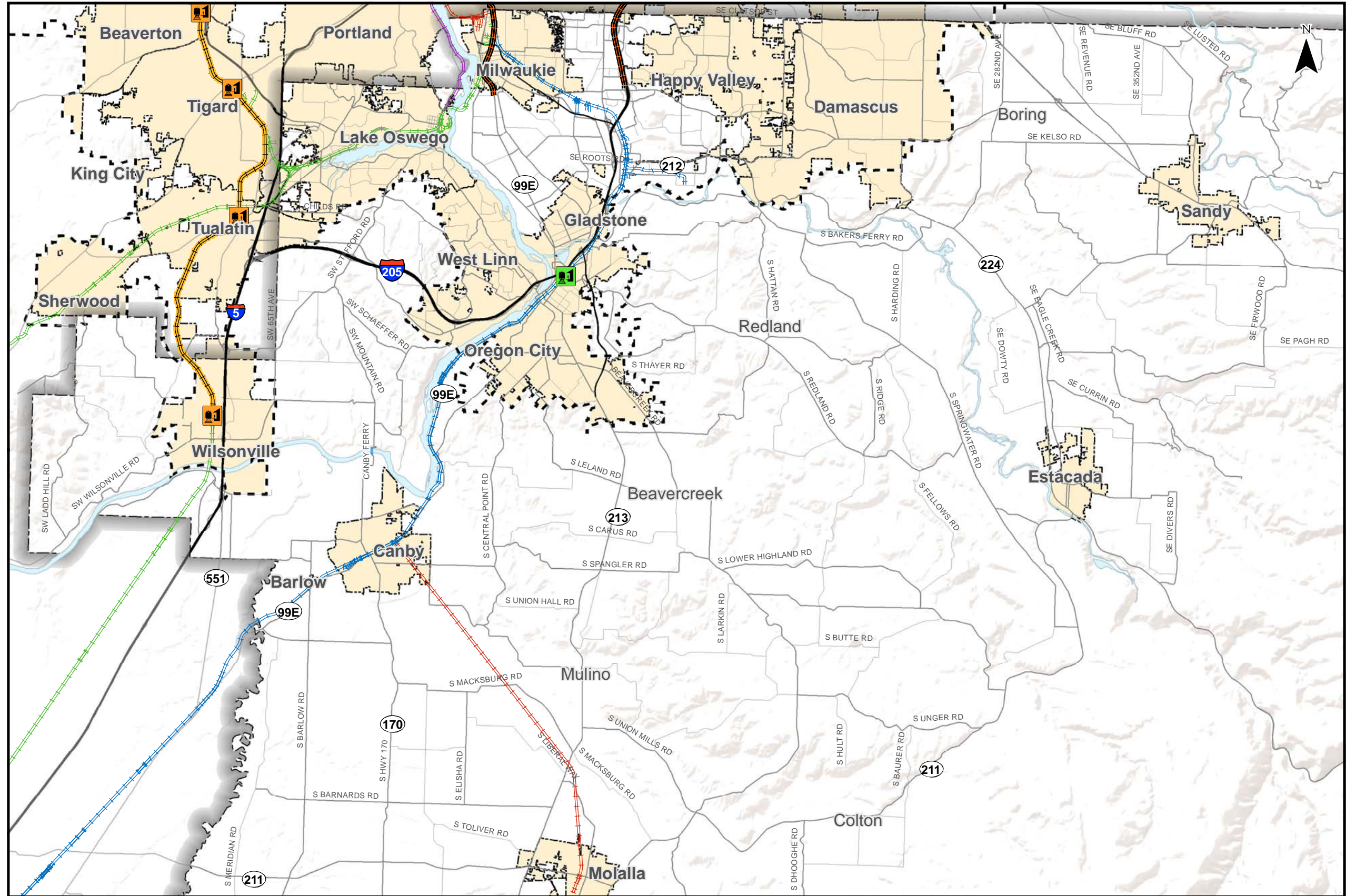
Passenger Service

Amtrak provides service to Clackamas County via the Amtrak Cascades Line¹. The Amtrak Cascade Line provides service between Vancouver, BC; Seattle, Tacoma; Portland; Salem; and Eugene. The Clackamas County Amtrak station is located in Oregon City on Washington Street. Several trains serve the station every day. The most up-to-date information on Amtrak passenger rail service is available at <http://www.amtrak.com/>.

¹ Source of passenger rail service information: <http://www.amtrak.com>



-  Amtrak Stations
-  WES Stations
- Railroads by Owner**
-  Oregon Pacific
-  P&W
-  UPRR
-  Willamette Shore Trolley
- Tri-Met Rails**
-  MAX
-  WES
-  Incorporated Areas
-  County Boundary
-  UGB



Coordinate System:
NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl
Data Source:
Clackamas County, Metro Data Resource Center

**Railroad System and Operators
Clackamas County**

Figure
W 2

Passengers traveling to/from Oregon City via Amtrak's Cascades Line can connect to other long distance Amtrak trains in Portland that provide access to other destinations in the United States. Passengers can connect to the Empire Builder line which serves Spokane, Milwaukee, St. Paul-Minneapolis, and Chicago. Passengers can also access the Coast Starlight Line, which provides daily service between Los Angeles and Seattle.

TriMet operates the Westside Express Service (WES) commuter rail, which connects Wilsonville, Tualatin, Tigard and Beaverton. The WES service runs about every thirty minutes during the weekday AM and PM peak hours. The WES stop locations provide connections to TriMet and other transit agency bus service as well as to TriMet's MAX light rail which provides connectivity to the much of the Portland Metro area as well as Portland International Airport (PDX). The most up-to-date schedules and route information are available at <http://www.trimet.org>. The Wilsonville WES stop is located at 9699 SW Barber Street.

Freight Service

Freight railroads are customarily divided into three economic categories, prescribed by the Surface Transportation Board (STB):

Class I railroads have annual gross revenues that exceeded \$401.4 million in 2008. They earn approximately 92 percent of all freight railroad revenue and operate about 96,000 route miles in the U.S. Of the seven Class I railroads in the nation, BNSF and UPRR operate in Clackamas County.

Class II or Regional railroads operate 350 or more miles and have annual gross revenues exceeding \$40 million. Nationally, regional railroads operate about 15,000 route miles and earn about 3.5 percent of all freight railroad revenue.

Class III or Shortline railroads have annual gross revenues less than \$40 million. They earn about 4 percent of all freight railroad revenue and operate approximately 26,000 route miles in the U.S.

Clackamas County is mainly connected to the regional rail system through the rail lines in the northwestern portion of the county, which are considered part of the Portland Area rail corridor. This rail corridor is the densest in the state and carries the highest quantity of rail tonnage. It is considered the hub of most rail operations in the state. Therefore, Clackamas County's close proximity to the rail hubs in Portland provides connections to the Salem, Eugene, Southern, North Central, and East regions. The Burlington Northern Santa Fe (BNSF) and Union Pacific Railroad (UPRR) handle the majority of freight rail volumes in the state. The facilities and service provide by each within Clackamas County are described below.

Burlington Northern Santa Fe (BNSF)

BNSF is one of the two Class I railroads in Oregon and is Oregon's second largest carrier after UPRR. It operates primarily in the western two-thirds of the U.S. BNSF owns a portion of the railway located just north of Milwaukie. BNSF provides a direct connection with eastern Washington and Spokane. The northern portion of the railroad line also connects to a north-south railroad line providing service to main points along the west coast such as Portland, Seattle and Vancouver, BC. BNSF primarily handles Washington generated

products while UPRR handles Oregon generated products due to track ownership and operating rights established in agreements dating back to the 1800s and 1900s.

Within the Greater Clackamas Regional Center/Industrial Area BNSF owns and operates a portion of the rail line that runs north from Milwaukie to industrial areas in southeast Portland.

Union Pacific (UPRR)

UPRR is one of the two Class I railroads in Oregon and operates the most U.S. route miles. UPRR competes with BNSF for dominance of the railroad networks in the western-two thirds of the U.S. UPRR owns approximately 80% of the market share in Oregon. Within the County, UPRR operates along a rail line that runs north through Barlow and Canby, along the Willamette River through Oregon City and Gladstone, and through Johnson City to Milwaukie. Within the Southwest County subarea the UPRR runs along 99E through Barlow, Canby, and Oregon City. Within the Greater Clackamas Regional Center/Industrial Area the UPRR runs through Johnson City and Milwaukie. The rail line extends east parallel to OR 224/212 to the industrial areas south of Jennifer Street. There are also several southern extensions of the rail line to the industrial area north of OR 224 and east of SE Lake Road.

Oregon Pacific (OP)

OP is a shortline railroad that owns or leases less than one percent of the Oregon route miles of track. It consists of two divisions: the East Portland Branch and the Molalla Branch; the Molalla Branch is located in Clackamas County and is a Class I rail line.

Within Southwest County OP operates a rail line between Liberal (located south of Mulino) and Canby, where it connects to an interchange with UPRR. One round trip freight train runs from Canby to Liberal as often as three times per week. A spur was constructed in 2008 into the American Steel Complex south of Canby. A second freight train services the American Steel spur. In addition, the line services several other companies, including RSG Forest Products and Willamette Egg. The line will likely serve additional customers as Canby Industrial Park becomes developed with new businesses. The line continues south of Liberal to Molalla, but is no longer operational. This portion of the line is considered an at-risk corridor, as the track has been removed without STB approval.

Willamette Shore Trolley (WST) – Greater McLoughlin Area

The WST is a scenic trolley that runs along the western bank of the Willamette River from Lake Oswego to Riverwood. Although the trolley is not currently operating, it formally provided seasonal service. A portion of the rail line runs through the northern portion of the Greater McLoughlin Area.

Portland/Western Railroad (P&W)

P&W operates approximately 286 miles of railroad in the northern central Willamette Valley and Northwester Oregon. It has the most rail traffic of any short line in Oregon. The railroad has interchanges with both UP and BNSF in Portland. Other interchanges connect P&W lines to Astoria, Salem, Albany,

Corvallis, and other areas in eastern Oregon. In general, most P&W freight lines in the County run one round trip daily.

Within the Greater McLoughlin Area P&W operates a line that runs through Lake Oswego, crosses the Willamette River over a rail bridge, and runs north through the northern portion of the Greater McLoughlin Area. Within the Greater Clackamas Regional Center/Industrial Area P&W operates a rail line that runs north through the western portions of Milwaukie. There are several extensions of the rail line to the industrial areas East of Highway 99E before the P&W line connects to UPRR lines. Within Northwest County P&W operates a rail line that runs north through Wilsonville with several rail crossings in the city. The line connects with several other P&W lines in Durham, with one line running east through Lake Oswego.

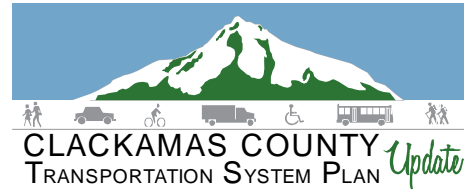
Peninsula Terminal Company (PTC) – Clackamas Town Center

PTC is a switching operation adjacent to the BNSF main line in North Portland that services the industrial areas between SE 17th Avenue and SE Main Street. PTC operates three switchers twelve hours per day. Petroleum and chemicals are mainly transported on PTC's tracks. PTC connects with UPRR and BNSF at an interchange just south of its lines. PTC operates with FRA Class 1 track, which has no weight or dimensional restrictions.

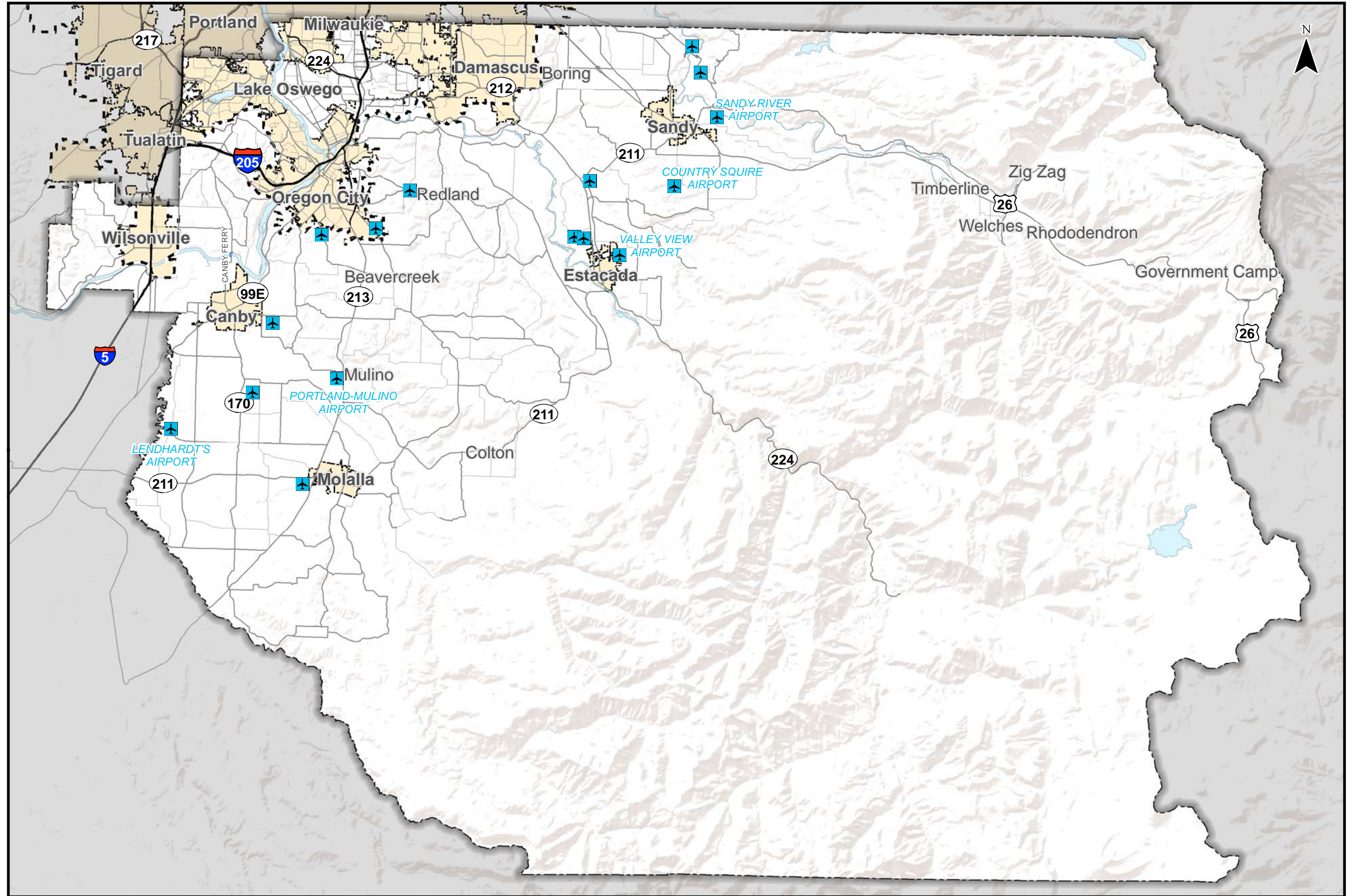
AIR TRANSPORTATION SYSTEM

There are over 30 airports, airparks, and airfields located throughout Clackamas County that provide a variety of air transportation services to local residents as well as people traveling through. Figure W 3 illustrates the airport locations within Clackamas County. While a majority of the airports shown are private, five are open to the general public, including Valley View Airport, Lenhardt Airpark, Portland-Mulino Airport, County Squire Airpark, and Sandy River Airport.

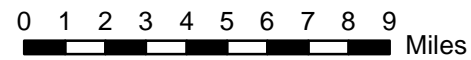
- The Portland-Mulino Airport, located off Hwy 213 in Mulino, is one of the largest airports in Clackamas County with over 40 general aviation aircrafts, 34 aircraft T-hangers, and 25 tie-down spots. The Portland-Mulino Airport is publicly owned by the Port of Portland and managed by the Oregon Department of Aviation. The Port and the Federal Aviation Administration initiated a Master Plan update for the Portland-Mulino Airport in 2006. The plan was adopted in 2008 and includes a number of improvement projects to be implemented over the next 20-years (see http://www.portofportland.com/mulino_home.aspx).
- Lenhardt Airpark is a privately owned, public use airport located along the eastern boundary of Clackamas County approximately three miles east of Hubbard. It has two asphalt runways, both of which are in good condition.
- County Squire Airpark is a privately owned, public use airport located in the center of Clackamas County approximately three miles south of Sandy. It has a single asphalt runway that is in poor condition (loose gravel on surface with grass growing in cracks).
- The Sandy River Airport is a privately owned, public use airport located in the center of Clackamas County approximately one mile northeast of Sandy. It has two turf runways, both of which are in good condition.



- Airports
- Incorporated Areas
- County Boundary
- UGB



The airports mapped on this figure are those with three or more aircraft based at the airport. Smaller airports are not shown.



Coordinate System:
NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl
Data Source:
Clackamas County, Metro Data Resouce Center

Airport Locations Clackamas County

Figure
W 3

- Valley View airport is a privately owned, public use airport located in the center of Clackamas County approximately one mile northeast of Estacada. It has two asphalt runways, both of which are in good condition.

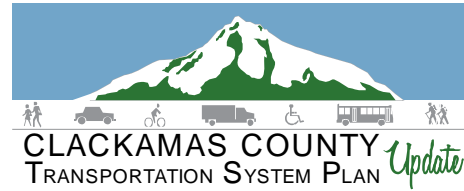
Both public and private airports within Clackamas County generally serve smaller flights and personal aircraft; private airports require special permission or private memberships.





PIPELINE SYSTEM

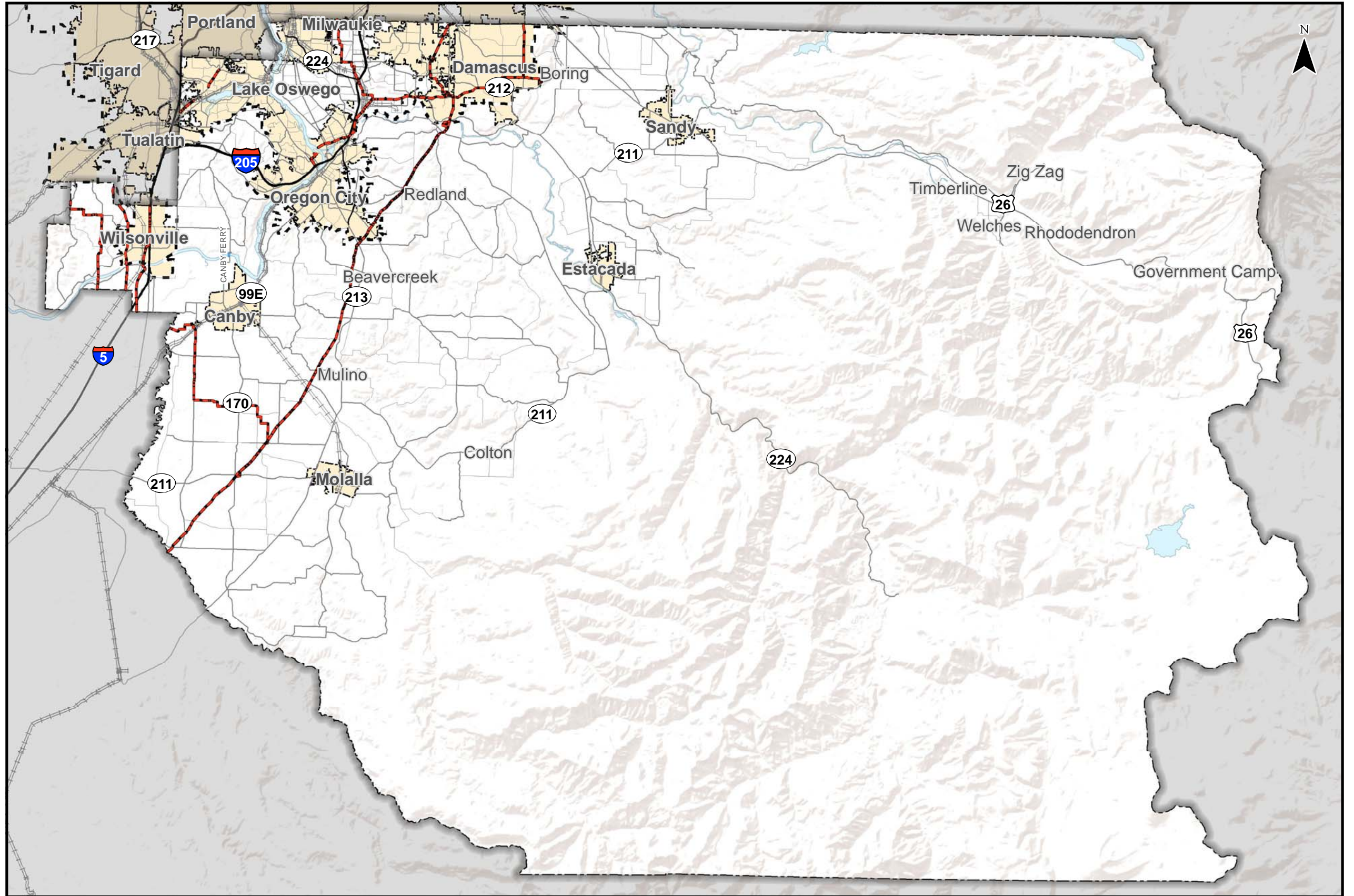
NW Natural provides natural gas to homes and businesses through Clackamas County. NW Natural gets its gas from the Northwest Pipeline. The Northwest Pipeline is a 4,000 mile bi-directional transmission system that crosses the states of Washington, Oregon, Idaho, Wyoming, Utah, and Colorado. As shown in Figure W 4, the Northwest Pipeline passes through the northwest corner of Clackamas County. The Northwest Pipeline is owned, operated, and maintained by Williams. Williams operates over 15,000 miles interstate pipelines across the United States. Williams has identified the following two major infrastructure improvement projects that will impact service to Clackamas County in the future:

- 1) The Molalla Capacity Replacement Project involves retiring 15 miles of 16-inch diameter pipeline between Williams Northwest Pipeline's Oregon City compressor station and its Molalla Meter Station and installing approximately 7.75 miles of new 20-inch diameter pipeline further south in order to replace the capacity associated with the retired segment of pipeline.
- 2) The Pacific Connector project involves installing a 234-mile, 36-inch diameter pipeline designed to transport up to 1 billion cubic feet of natural gas per day from the Jordan Cove LNG terminal in Coos Bay to markets in the Pacific Northwest.

Kinder Morgan's Pacific Operations includes approximately 3,000 miles of refined products pipeline, serving Arizona, California, Nevada, New Mexico, Oregon and Texas. The Oregon Line is a 114 mile pipeline that transports liquid petroleum products through west Clackamas County between the marine terminal in Portland and Eugene.



-  Pipelines
-  Incorporated Areas
-  County Boundary
-  UGB



0 1 2 3 4 5 6 7 8 9 Miles

Coordinate System:
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Data Source:
Clackamas County, Metro Data Resouce Center

Pipeline System Clackamas County

Figure
W 4

WATER TRANSPORTATION SYSTEM

The Willamette River and Clackamas River are the only navigable waterways within the Clackamas County. The Clackamas River flows from the east into the Willamette River, which flows northward through the northwest corner of the county to meet the Columbia River further to the north. The Columbia River then flows northwest to meet the Pacific Ocean, forming the border between Oregon and Washington states. The Willamette River carries both recreational and commercial vessels. The Willamette River caters to commercial operations by providing a waterborne through route for commercial vessels from the Willamette Valley to the Columbia River and the Port of Portland. From the Columbia River mouth to the Broadway Bridge, the Willamette River is a deep draft channel, maintained by the US Army Corps of Engineers at a depth of 40 feet. Above this point, and notably within the Oregon City area, the channel is maintained at a depth of 8 feet and a width of 150 feet.

Willamette Falls Locks

The Willamette Falls Locks is a seven gate, four chamber, lock system that lifts or lowers boats up to 50-feet in elevation to provide access to areas north and south of the Willamette Falls, which act as a natural barrier to water transportation on the Willamette River beyond the area located south of the Highway 43 Bridge in Oregon City. The locks are owned and operated by the United States Army Corps of Engineers, and although they are now closed, while they were in operation, passage through the locks was free for both commercial and recreational boats. The locks were closed in December 2011 due to excessive corrosion of the locks gate system and they are expected to remain permanently closed as the lack of traffic through the locks makes funding for any repairs a low priority.

The Canby Ferry

The Canby Ferry provides ferry service across the Willamette River between Canby and Wilsonville seven days a week from 6:45 a.m. to 9:15 p.m. whenever there is a vehicle to transport. The ferry has space for six cars, but also accommodates pedestrians, bicycles, and motorcycles. The Canby Ferry operates year-round except when the river is above 70 feet. Starting July 1, 2012 fares will be \$2 for pedestrians, bicycles, and motorcycles, \$4 for vehicles, and \$8 for extra-long vehicles or trailers.

INTRA-MODAL AND INTER-MODAL FACILITIES

As discussed throughout this report, there are several intra-modal and inter-modal facilities located within Clackamas County that allow residents and goods to transfer between travel modes. Regional Transit Centers, such as the Gresham Central Transit Center and the SMART Center in Wilsonville provide a place for residents to access or transfer between transit services, such as fixed-route bus lines, light, and heavy rail. Park/rides, such as those in Sandy and Estacada provide a place for residents from far out communities with a place to park their cars and take transit. Other facilities, such as airports, marine docks, or rail yards (identified in Exhibit W 1) provide a place for people and goods to transfer between travel modes as well as travel throughout the region. Intra and inter-modal facilities are an important component of the regional transportation system within Clackamas County.