

8 - Regional Goods Movement System

Introduction

Freight and commodities movements of all types are extremely important to the health of the SKATS area economy and, as such, they represent an essential element in maintaining our overall quality of life. The region's goods movement system is comprised of several elements. Truck routes, rail corridors, aviation facilities, pipelines, and inter- and intra-modal facilities must all function cohesively if the region's goods movement system is to operate efficiently. The linkages that allow for access between these elements are also vitally important to the commercial well being of our community. With the widespread prevalence of "just-in-time" production and inventory control techniques, America's warehouse is now "on the road" with goods from all sectors of the economy being shipped on an as, when, and where needed basis. As a result, disruptions in the flow of goods and services increasingly lead to significant negative impacts for manufacturers, distributors, retailers, and consumers.

The purpose of the SKATS Goods Movement System chapter of the Regional Transportation Systems Plan (RTSP) is to describe the problems associated with the movement of freight and commodities into, out of, within, and through the SKATS area and identify appropriate solutions for those problems. Through the implementation of the recommendations embodied in this plan, a regional goods movement system that adequately responds to the unique transportation requirements of the industries within the SKATS area can be ensured.

The Regional Goods Movement System

Efficient goods movement into and out of the SKATS area from the region's industrial and commercial areas is essential if area commerce is to continue to grow and thrive. The SKATS area's Regional Goods Movement System consists of pipeline, maritime, aviation, railroad, and highway elements (**Map 8-1**).

Pipelines

There are three regional pipeline systems located within or near the SKATS area. Kinder Morgan Energy Partners (KMEP) transports petroleum products through the Willamette Valley in their pipeline, which traverses the southeast corner of the SKATS area. The Northwest Pipeline Corporation (NWP) operates an interstate natural gas pipeline that passes just east of the SKATS area as it makes its way through the Willamette Valley. Northwest Natural Gas (NWNG) operates a system of high pressure natural gas feeder pipelines that serve the SKATS area and several communities to the west of the SKATS area. **Map 8-1** identifies the Regional Pipeline System in the SKATS area and depicts the alignments of the pipeline facilities in the

area. There are several smaller natural gas feeder pipelines serving residential and commercial users that are not shown on the Regional Pipeline System map.

Pipelines transport natural gas and petroleum products within and through the SKATS area. KMEP ships an average of 42,000 barrels of petroleum products through the SKATS area daily. NWP transports an average of 60 million cubic feet of wholesale natural gas to and through the SKATS area annually. NWNG distributes the natural gas brought to the area via the NWP pipeline. NWNG estimates that it distributes 10 million cubic feet of natural gas annually to customers throughout the SKATS planning area. The pipeline facilities operating within the SKATS area have an excellent safety record and have operated without incident.

Regional Pipeline System Inventory

Kinder Morgan Energy Partners, L.P. (KMEP) Facilities in the SKATS Area

Kinder Morgan Energy Partners, L.P. (KMEP), formerly Santa Fe Pacific Pipelines, owns and operates a petroleum products pipeline from Portland to Eugene, Oregon through the Willamette Valley.

The KMEP system collects refined petroleum products such as gasoline and diesel fuel from oil company terminals in northwest Portland. Some of the companies shipping products through the pipeline include Chevron, Exxon, Arco, Texaco, Tosco, and Tesoro. The products are pumped from various terminals in Portland to the KMEP pump station in Portland and then into the eight-inch diameter pipeline that extends 115 miles from Portland to Eugene. The amount of product carried through the pipeline averages 42,000 barrels per day (1 barrel = 42 gallons). In the SKATS area, the pipeline route is generally parallel to, and east of, Interstate 5 and is buried approximately three feet underground. The pipeline route traverses the southeast corner of the SKATS area (**Map 8-1**). One of three booster stations is located near the intersection of Kuebler Boulevard and Turner Road.

Northwest Pipeline Corporation (NWP) Facilities in the SKATS Area

The Northwest Pipeline Corporation is a wholesale natural gas supplier. It owns and operates an interstate natural gas pipeline system that begins in Colorado, Utah, and New Mexico (location of gathering basins) and extends west through Utah, Idaho, and then into Oregon along the Interstate 84 corridor. The Northwest Pipeline facility merges in Portland with another natural gas line from Canada and then continues south serving the Willamette Valley down to Grants Pass. The two 12- to 20-inch diameter pipelines are generally located parallel to Interstate 5 in a 60-foot easement, approximately three to five feet underground, one to five miles east of the SKATS area (**Map 8-1**). NWP transports an average of 60 million cubic feet of wholesale natural gas to and through the SKATS area annually. There are three gate stations (locations at which feeder gas lines tap into the interstate pipeline) located just east of the SKATS area. A boost compression station located in the Silverton area is used to increase velocity of the natural gas.

Northwest Natural Gas (NWNNG) Regional Pipelines in the SKATS Area

Northwest Natural Gas is a retail natural gas distribution company that serves most of the state west of the Cascade Mountain Range. The regional NWNNG facilities in the SKATS area consist of five natural gas high pressure feeder pipelines. Each of these feeder pipelines consists of a single 8- to 12-inch diameter pipe located in a 40-foot right-of-way or easement, approximately three feet underground. NWNNG estimates that it distributes 10 million cubic feet of natural gas annually to customers in the SKATS planning area. Local natural gas service lines are not included in this inventory because they are not considered regional facilities.

The first feeder pipeline generally travels south along Highway 99E, Dietz Avenue, and River Road through downtown Salem, where it merges with the third feeder pipeline near the intersection of Front and Marion streets (**Map 8-1**).

The second feeder pipeline starts at the gate station in the Silverton area and generally travels west traversing the northern section of the SKATS area near Brooks and continues west to Lincoln City.

A third feeder pipeline begins at a gate station in Geer, generally traveling west along State Street and Pringle Parkway, merging with the second feeder pipeline near the intersection of Front and Marion Streets.

The fourth feeder pipeline begins at the gate station in Turner, generally traveling northwest along Turner Road, Kuebler Boulevard, and Battle Creek Road, merging with the third feeder pipeline near the Pringle Parkway.

The fifth feeder pipeline begins near the intersection of Front and Marion streets (where it merges with the first and third feeder pipelines) and travels west along Highway 22 to Dallas, Lincoln City, and Newport.

City of Salem Water Transmission Pipelines

The city of Salem owns and maintains two water transmission lines that traverse the city of Turner from the southeast to the northwest. A 54" to 46" pipeline enters town near Marion Road and runs northwest up to and under 3rd Street. The second pipeline is a 36" pipeline that crosses Witzel Road north of Marion Road and runs northwest in a similar alignment with the first pipeline. These pipelines supply Salem and Turner with drinking water.

Maritime

Currently, there are no maritime port or navigation facilities within the SKATS area. Barging activity on the Willamette River diminished in importance as a means of transporting goods to and from the SKATS area as rail and road access improved. No commercial barge traffic currently serves the river as far south as Salem. The Wheatland and Buena Vista ferries provide vehicular and passenger services across the Willamette River just north and south of the SKATS area, respectively. Either of the ferries can carry only one tractor-trailer at a time. While commercial vehicles can, and occasionally do, use the ferries, it is uncommon for them to do so.

Between July 1, 1993 and June 30, 1995, commercial vehicle movements on area ferries amounted to approximately 479 vehicles for the Buena Vista Ferry and 8,823 vehicles for the Wheatland Ferry. Precise classification of these vehicle counts is difficult due to counting methodology, but these figures can be considered representative.

A more detailed discussion of this system is presented in the Regional Maritime System chapter.

Aviation

McNary Field is the SKATS area's only aviation facility. It is located four miles southeast of the downtown core in the city of Salem. In a broader context, the airport is located 55 miles south of the Portland International Airport and 65 miles north of Mahlon Sweet Airport in Eugene. McNary Field comprises about 749 acres and is owned and operated by the city of Salem. The airport serves as a General Aviation Transport airport at this time, meaning that the primary airport activity is neither military nor conducted by regularly scheduled air carriers. Federal Express operates a facility at the airport with airside access, and United Parcel Service (UPS) ships air cargo from Salem via Sports Air, a contract air freight carrier based out of the Troutdale airport.

McNary Field provides the facilities for one daily air freight operation (Sports Air, a UPS contract carrier) and also provides for occasional use by a second air freight operation (FEDEX).

Responses from electronic component manufacturers to the Goods Movement Survey in 1995 indicate that the majority of their finished products are currently shipped via air freight. This can be attributed to the high value and relatively light weight of their finished products and the time-sensitive nature of the electronics industry in general.

A more detailed discussion of this system is presented in the Regional Aviation System chapter.

Railroads

The SKATS region is served by one of the major (Class I) railroad companies that operate in the state of Oregon: the Union Pacific (UP). The UP operates in primarily a north-south rail corridor that traverses the length of the SKATS region. The Willamette Valley Railway (WVRY) has abandoned their line from the city line to 14th Street SE, with their track east of Cordon Road currently serving as storage for rail cars. The area's second Class III carrier, Portland & Western, began operating former BNSF track from Norris Road, north of Keizer to Portland in 1998. In 2002, they acquired the track from Keizer to Eugene from BNSF.

There are approximately 35.6 miles of trackage (not counting spurs and/or sidings) in the SKATS region associated with these three principal rail corridors. Approximately 25 miles (70%) of this infrastructure is located inside the Urban Growth Boundary (UGB); 10.6 miles (30%) are located outside the UGB.

The region's major rail spur, the P&W/UP interchange track, is currently classified as yard trackage and runs just north of Johnson Street NE through the Cherry Avenue Industrial Area. This trackage is now used as the principal interchange between the UP and P&W mainlines through the Willamette Valley. Forty-three SKATS area business addresses are also currently served by active rail sidings.

The UP operates a rail yard bordered by Cross Street SE to the north, Vista Avenue SE to the south, Pringle Road SE to the west, and 14th Street to the east.

As of 2004, up to twenty-four UP through trains and up to six P&W through trains pass through the Salem-Keizer area daily. This number does not take into consideration the locally generated "switch jobs" that occur daily. In addition, six Amtrak trains move through the Salem-Keizer area daily. The number of Amtrak passenger trains moving through the SKATS area is expected to increase as the High Speed Rail program becomes a reality. This is not expected to affect overall rail traffic, as advances in Positive Train Identification will allow for increased train traffic levels, while maintaining operational safety. A typical freight train consists of 60 to 100 rail cars and can extend up to a mile in length.

In 1999, the area was served by two Class 1 railroads that transported an estimated 30 million gross tons of cargo through the Salem-Keizer area. The region's two Class 1 railroads carried a total of 11,388 rail car loads of hazardous materials, of all hazard classes, through the SKATS area during 1994.

The UP Valley Mainline crosses twelve regionally significant roadways at grade. The projected 2000 average daily traffic (ADT) is 130,000 vehicles. The 2025 forecasted traffic level estimates that 167,000 vehicles per day will pass over these rail crossings. Conflicts between existing and projected traffic levels and the likelihood of increased passenger and freight train traffic frequencies must be considered in the future.

The P&W Oregon Electric line crosses six regionally significant roadways as it passes through the SKATS area. The total ADT passing over these crossings in 2000 amounted to 106,440 vehicles. The 2025 traffic forecasts estimate that 145,000 vehicles will pass over these six crossings. It should be noted that P&W rail traffic, both through and local, moves through the SKATS area at a far lower speed than a typical UP through train, and that P&W operates fewer through trains than UP does.

A more detailed discussion of this system is presented in the Regional Rail System chapter.

Highways

The vast majority of freight movements have a truck modal component somewhere in the process. Even when trucks are not physically used to transport a particular item, they are often used in a supporting role, as in the case of power or telephone utility repair vehicles. Given the importance that adequate truck access plays in movement of goods, the servicing of critical utilities, and the movement of public safety equipment in the SKATS area, it quickly becomes clear that a well-developed truck circulation system is extremely important to the SKATS area.

The interstate and state highways passing through, and the major arterials within, the SKATS area form the backbone of SKATS area truck movement infrastructure. Currently, no need for a defined system of truck routes has been established within the Salem-Keizer area. In addition, the city of Salem does not regulate the location of truck routes within its boundary. However, a regional freight roadway network has been identified (**Map 8-1**) that links the SKATS region's principal industrial and commercial areas regionally and nationally. The primary corridors of this system include I-5, Oregon Highway 22, Salem Parkway, Portland Road, Lancaster Drive, and Commercial Street; and portions of 25th, Hawthorne, Liberty, Market, Madrona, Pine, and State Streets. In addition, Cherry Avenue, Chemawa, Hazelgreen, and Indian School Roads and Blossom Drive; and portions of Hyacinth Street, Salem Industrial Drive, Cordon Road, and Kuebler Boulevard are also included in this regional network. In addition, ODOT has designated I-5 between Oregon Highways 22 and 214 as a Truck Safety Corridor.

Generally, while truck freight moves through the Salem-Keizer area safely and efficiently, higher traffic levels are resulting in increasing levels of delay. While truck freight constitutes a relatively small percentage (two to seven percent) of the overall traffic flows on the freight-supportive roadways, the importance of moving such vehicles through the roadway system efficiently should not be understated. Freight tonnages transported into, out of, within, and through the SKATS area continue to increase annually as the SKATS area economy grows. Private sector expansion in the food processing, semiconductor, and retail sectors of the SKATS area economy will continue to add significantly to existing levels of commercial traffic.

A Goods Movement Survey of 11 goods-producing and freight-shipping companies was conducted in October 1995 by SKATS staff. The results indicated that these firms generated approximately 825 tractor-trailer trips per day and that these trips were responsible for nearly 62 million gross pounds of freight *per day*. This amount of weight is equivalent to approximately four 90-car freight trains.

A more detailed discussion of this system is presented in the Regional Highway System chapter.

Principal Industrial Areas

Most freight shipments generated in the area come from firms located within the SKATS area's industrial areas (**Map 8-1**). Access to these industrial areas is generally good, although some improvements are needed (see Recommended Improvements).

The Northgate Industrial Area includes both the Salem and Cherry Avenue Industrial Parks. Cascade Warehouse, UPS, Morse Brothers, Siltec, Viking Freight System, Roadway Package System, Blue Diamond, Columbia Distributors, Coast Distributors, Western Beverage, Capital City Transfer, The Garten Foundation, White's Farms, the State of Oregon General Services Warehouse, and other major shippers operate facilities in this industrial area. Other firms within the general vicinity of this industrial area include Stark Trucking. The approximate boundary of this area comprises Blossom Drive to the north, Salem Parkway to the west, Portland Road to the east, and Pine Street to the south. Primary roadway access to this industrial area is provided by Blossom Drive, Portland Road, Salem Parkway, and Pine Street. Secondary roadway access from the Salem Parkway is provided via Cherry Avenue NE, Hyacinth Street, and Mainline Drive. This is the only area within SKATS served by both of the

region's railroads, and an interchange between the two railroads exists within the boundaries of the Cherry Avenue Industrial Park.

The South Salem Industrial Area includes several industrial sites surrounding Salem's McNary Field, the Fairview Industrial Park, NORPAC and Boise Cascade facilities, and several industrially zoned vacant parcels. This area is divided by I-5, with the eastern portion bordered by Highway 22 to the north and Kuebler Boulevard and Lancaster Drive to the south and east; and the western portion bordered by Highway 22 and Hines Street SE to the north, 13th Street and Strong Road SE to the west, and Marrietta Street SE to the south. Major access routes into the area from I-5 include Highway 22 to the north and Kuebler Boulevard to the south. Access to the interior of this industrial area is provided by 25th Street and Airway Drive SE (south of Highway 22), Turner Road, Lancaster Drive SE, and McGilchrist Street and Madrona Avenue SE. The western edge of this area is crossed from north to south by the UP's Valley Mainline, and the UP's Salem rail yard is located just south and east of Mission and 13th Streets, respectively.

The Front Street Industrial Area is situated primarily between Commercial Street and the Willamette River to the area's east and west, and Locust and Union Streets to the north and south. It is one of the oldest industrial areas in Salem, serving firms such as Truitt Bros., Stewart Stiles, Cascade Warehouse, Liquid Sugar, and United Transfer. Road access to the area is gained via Highway 99E (Business), which is comprised of Commercial and Liberty Streets NE in this part of Salem. Rail service is provided by the P&W trackage, which runs along Front Street through the area.

Transitional urban lands slated for eventual industrial development are dispersed along the entire length of Cordon Road. Access to the northernmost of these sites, located at the southwestern corner of the intersection of Hazelgreen and Cordon Roads, is quite good. The site can be reached from I-5 or Highway 99E via Hazelgreen Road. Recently, the majority of this site has been platted for residential development. The next transitional site identified for industrial development is located at the northwestern corner of the intersection of State Street and Cordon Roads. The third transitional site is located both east and west of Cordon Road just north of Highway 22.

Goals, Objectives, and Policies

Goal 1: **Efficient and coordinated transport of goods into, out of, within, and through the SKATS area.**

Objective: *Provide a system of efficient and coordinated transport of goods into, out of, within, and through the region.*

Policy: Support continued public and private efforts to develop and enhance the efficiency of the SKATS area's goods movement transportation systems.

Goal 2: Safe transport of goods into, out of, within, and through the SKATS area.

Objective: *Reduce the number and severity of commercial transportation-related accidents.*

Policy: Support private, ODOT, PUC, and law enforcement commercial vehicle safety programs (all modes).

Goal 3: A goods movement system that provides a competitive advantage for SKATS area shippers whenever possible.

Objective: *Maximize modal options that facilitate nonpredatory competition between SKATS area commercial transportation providers.*

Policy: Identify and support appropriate development and expansion in services offered by commercial transportation providers.

Goal 4: Maximize access to viable, economical, alternative modes for SKATS area shippers.

Objective: *Provide efficient access to a range of viable, economical, alternative modes of transportation for SKATS area commercial needs.*

Policy: Ensure adequate goods movement system carrying capacities to adequately serve current and future needs of SKATS area shippers and transportation providers.

Goal 5: Maximize SKATS area's exposure to international marketplace.

Objective: *Improve SKATS area's global goods movement capability.*

Policy: Support efforts to increase the range and breadth of transportation services offered in the SKATS area that have, or directly connect to, an international component.

Goal 6: Minimize negative impacts associated with the regional goods movement system.

Objective: *Reduce negative noise, emission, and safety impacts associated with goods movement related activities within the SKATS area.*

Policy: Encourage use of noise overlay zones in areas adjacent to air and ground transportation corridors.

Policy: Clearly identify, and enforce the use of, truck routes within the SKATS area.

Policy: Control, where appropriate, the operations of commercial activities so as to minimize disruption to residential land uses and peak hour arterial flows.

Recommended Improvements

While we experience high levels of service from the majority of our goods movement system, mobility to and from certain industrial areas is currently deficient while other areas are expected to experience deficiencies in the future. Much of the non-roadway portions of the goods movement infrastructure are privately owned, and as such, local government can only play a supportive role.

Pipelines

Currently, pipeline facilities that serve customers within the SKATS area are considered adequate for the area's foreseeable future. Pipeline facilities operating in or near the SKATS area are privately owned and improvements are privately financed. Improvements to these systems being considered may include:

- Kinder Morgan Energy Partners' system
 - Increasing the use of a drag reducing agent in the pipeline
 - Increase use and/or installation of additional horsepower at the three booster pump stations
 - Installing an additional larger diameter pipeline along the current route
- Northwest Natural Gas system
 - Increasing the operating pressure
 - Increasing the diameter of the feeder pipelines in the current system
- Within the next five to ten years, the city of Salem plans to build a water transmission pipeline through Turner. The new pipeline is planned to follow an alignment similar to the location of the city of Salem's existing water pipelines running through Turner (see **Map 8-1**).

Maritime

The Mid-Willamette Valley Council of Government's Economic Development District completed a study in 1996 to determine the feasibility of reinstating commercial traffic on the Willamette River. The study concluded that dredging the river to allow for the movement of goods on the river is no longer feasible due to economic and environmental reasons. The study did support the use of the river for recreational and commercial ventures such as the tourist-oriented Riverboat. Ferry services to the north and south of the SKATS area should continue for the foreseeable future, as long as the system can maintain or expand its base of patrons.

Aviation

The most recent Airport Master Plan (AMP) for McNary Field was completed in 1997. Short-term needs identified include concrete overlays for both runways and an extension of the parallel taxiway to the main runway. Terminal repairs are taking place as part of an ongoing city of Salem maintenance program.

Longer term improvements call for lengthening the primary runway and eventual replacement of the airport terminal. Staged expansion of the airport's general aviation facilities is also being contemplated. The city is installing a new addition to the existing passenger terminal to provide space to meet current requirements for security screening and passenger check-in as part of the resumption of commercial passenger air service.

Railroads

All rail infrastructure within the SKATS area is privately owned and maintained by the railroads. Improvements are often made at the discretion of the railroads, with the Oregon Department of Transportation (ODOT) involvement occurring whenever there are safety or capacity concerns, or potential conflicts with other modes of transportation.

Most of the publicly funded rail infrastructure improvements proposed for the SKATS area are associated with the Enhanced Passenger Rail Service (EPRS) program. Improvements to the carrying capacity of the local rail system, along with refinements to safety devices installed at area grade crossings, are the state's primary focus in funding system improvements within the SKATS area. Upgrades that would dramatically increase speed are not considered of the utmost importance along the section of the corridor that passes through the SKATS area.

According to the *2000 Pacific Northwest Rail Corridor, Oregon Segment Operating / Capital Facilities Plan*, the Oregon Department of Transportation has identified \$1.1 million in improvements along an approximately four mile stretch within the Salem-Keizer urban area. These improvements include upgrading the track and crossing signals along the Union Pacific mainline to allow the passenger trains to operate at a faster speed.

Oregon Operation Lifesaver, a joint rail safety program between the railroads and the Oregon Department of Transportation, Rail Division, should be continued, its message honed, and its audience clearly targeted. It is especially important that this message reach the children of the SKATS area most directly affected by train traffic. The 12th Street Pedestrian Promenade was constructed to address safety issues that were identified in the 1996 RTSP Update. The 12th Street corridor between Marion Street and the Salem Railroad Station was the location of nineteen train-pedestrian incidents between 1993 and 2000, many resulting in the loss of life for the pedestrian. The Pedestrian Promenade provides an attractive and safe walking facility, separating the UP rail line from walkers by a four-foot handrail. However, since its construction, an additional nine people have lost their lives along the UP line between Market Street and the Salem Railroad Station. The final phase of this project was completed in 2006, crossing Mill Creek to connect to North Salem HS and Olinger Pool. Since mid-2004 there have been no fatalities along the UP rail line.

Highways

Improving commercial vehicle access to the SKATS area's primary industrial areas and commercial corridors to the local, intrastate, and interstate highway systems, as well as the area's intermodal and intramodal facilities, was considered of paramount importance to this

plan element. The regional network of freight roadways (**Map 8-1**) was used as a basis to establish a list of freight-supportive roadway projects from the projects proposed in the SKATS TIP. Two of the largest industrial areas in the SKATS region have very specific access improvement needs that are widely supported by the firms in these areas.

As a developing industrial area of regional significance, the Fairview Industrial Park would benefit from enhanced access to the south Oregon Electric route. Train operations at this location frequently result in commercial vehicles being delayed and can limit access to public safety vehicles as well.

The urban transitional sites located on Cordon Road, as well as the Mill Creek employment area (nee SREC), have the poorest access to both the regional and national freight transportation network. Access to I-5 from the sites is generally via Cordon Road or Lancaster Drive, and they do not feature direct rail service. Both of these sites would benefit from enhanced access, in the form of a highway interchange, at the location of the Cordon Road overpass of Highway 22. However, such an intersection should be considered a long-term improvement. Lack of rail service into the area precludes the development of certain industries.

Outstanding Issues

Several issues have been identified in the process of updating the plan that have not been resolved or adequately addressed in this plan for a variety of reasons. One of these is the need for additional information regarding the quantity and type of goods being moved in and around the SKATS area, as well as a more thorough identification of particular freight-critical routes and associated problem areas.

ODOT has completed the Freight Route Analysis Project (FRAP), which included a recommendation for changes to the designation of several segments of facilities in the SKATS area. As a consequence of their designation as "Oregon Freight Routes," it is possible that these facility segments would also be subject to the provisions of as-yet-to-be-defined "management plans." Inasmuch as the ultimate effects on the responsible jurisdictions of the interaction of these designations, management plans, local land use plans, STA requirements, etc., is uncertain, the affected jurisdictions have requested a delay in the OTC adoption of the Freight Route redesignations until such time as all the associated impacts can be meaningfully evaluated.

