

Oregon Department of Transportation – Rail Division



## **Oregon Rail Study Appendix K**

### **Rail Access & Land Use Considerations**

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# Introduction

Many Oregon communities were first settled along the state's rail lines most of which remain in operation today.<sup>1</sup> Oregon's rail network was critical in the development of the state's economy and continues to serve the growing transportation demand for both industry and passengers alike. The Oregon Transportation Plan states that "by 2030, Oregon's Transportation System needs to accommodate 41 percent more population and an 80 percent increase in freight tonnage."<sup>2</sup> The rail network, along with the other freight and passenger modes, will carry this growing demand; resulting in increased train frequency. This increase will present both benefits and challenges for communities located along these corridors. Careful community planning is critical to avoid new conflicts between heavy rail and neighborhoods. This report highlights three issues related to land use conflicts in rail corridors: impacts of increased frequency on communities, how to secure rail service, and impacts of passenger rail related land use planning on freight rail service.

**Issue 1: Impacts of increased frequency:** As population increases and successful business development occurs, freight and passenger trains will increase. About half of the track miles in Oregon currently host less than six trains per day, many not even hosting one train per day. Whereas other lines in Oregon host 20-30 trains per day. As the freight and passenger train demand increases, some low-activity lines will experience more use over time. Residential neighborhoods and commercial areas built near these rail sleepy corridors may struggle with the impacts of increased rail movements. Without proper land use planning, complaints regarding train horns, vibrations, traffic interruptions from trains passing through at-grade railroad crossings, and safety concerns associated with train derailments can be expected. Understanding that low use rail lines may be heavily used in the future allows communities to thoughtfully plan development near rail lines in the future.

**Issue 2: How to secure rail service:** Although it is logical to assume that being on a rail line guarantees access to rail service, this isn't the case. The reality is that one can never assume rail service will be provided without discussions with the railroad, even if there is an existing rail spur to the property. The railroad companies, mostly privately owned and operated, have different requirements that must be met in order for them to provide service (e.g. infrastructure and freight volumes). Therefore, due-diligence on behalf of the property owner and rail operator is vital to ensure service will be provided. Securing pricing and service for rail is highly dependent upon: the type of rail operator (Class I rail carrier or shortline); existing property characteristics; proposed use of the property; proposed on-site and off-site rail infrastructure to support operations; and, the market and operational characteristics of the rail line from which service is requested.

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<sup>1</sup> In 2005 upwards of 185,000 employees and \$7 billion of payroll were potentially supported by rail services in region. The key industries included in this estimate are defined by OBDD and reflect aggregations of individual NAICS industry sectors; these are also commodity based. Includes the wood and other forests products industry cluster; processed food and beverage products industry cluster; agricultural products industry cluster; metals industry cluster; and, transportation equipment and parts industry cluster. Bureau of Labor Statistics, 2005 QCEW; Oregon Employment Department; OBDD.

<sup>2</sup> Oregon Transportation Plan, 2007.

Railroads must be contacted early in the development process as they ultimately determine service provided along their alignment.

### **Issue 3: Impacts of passenger rail related development on freight rail service:**

Some communities in Oregon have anticipated future passenger rail services within existing freight corridors in their local land use plans. In these plans, it is important that community planners understand the impacts of traditional station area development on freight railroads. The Transit Oriented Development (TOD) which has been successfully implemented in Oregon is by definition dense, mix-used development around transit stations. This type of development is not easily integrated with successful freight rail corridors. The intent of TOD is to develop compact communities that encourage transit ridership and pedestrian friendly neighborhoods. However, these very uses can conflict with freight rail operations by limiting access to industrial lands and displacing current industrial rail users.

### **Issue 1: Impacts of increased frequency**

Oregon has over 2,404 track miles of Class I and shortline railroads.<sup>3</sup> Since the Staggers Rail Act of 1980, many Class I railroads have abandoned, sold or leased rail lines and granted operating rights to shortline railroads.<sup>4</sup> Some of Oregon's rail lines have little traffic, while others experience very robust operations, which can become more or less intense depending on market demands. Both intercity and commuter passenger rail operations have experienced growth in the past decade and there are plans to increase the intercity passenger service between Eugene and Vancouver B.C.

Changing the intensity of rail operations in any community impacts all adjacent uses, whether they are residential, commercial, or industrial. However, history shows that residential and commercial communities along inactive or infrequently used rail lines tend to forget that the rail line is there. When activity on one of these lines increases, conflicts often occur with residential and commercial uses as a result of train noise, vibrations, and safety concerns.

Implementation of the Westside Express Service (WES) commuter rail between Beaverton and Wilsonville in February 2009 serves as an example of the impacts of increased rail service on neighboring communities.<sup>5</sup> Even though the line was originally built and used to host frequent passenger service, 28 trains a day in 1914, train frequency on the line had fallen over the years. Since the passenger rail operation ceased in 1932, freight train frequencies have averaged two to six trains per day. When WES began in 2009, it added 32 new passenger trains per day and 32 additional horn

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<sup>3</sup> Oregon Department of Transportation. 2001. *Oregon Transportation Plan*.

<http://www.oregon.gov/ODOT/TD/TP/docs/ortransplanupdate/2007/OTPvol1.pdf>. Accessed December 3, 2009.

<sup>4</sup> Federal Railroad Administration. *Impact of the Staggers Rail Act of 1980*. <http://www.fra.dot.gov/us/issue-briefs>. Accessed December 3, 2009.

<sup>5</sup> OregonLive.com. *WES Train Horn Wake-up Call Unwelcome in Tualatin*.

[http://www.oregonlive.com/washingtoncounty/index.ssf/2009/02/wes\\_horns\\_blasting\\_tualatin\\_re.html](http://www.oregonlive.com/washingtoncounty/index.ssf/2009/02/wes_horns_blasting_tualatin_re.html). Accessed December 6, 2009.

blows at each at-grade railroad crossing. This noticeable change resulted in the surrounding communities to voice concern, and measures to establish a quiet zone in Tualatin are now underway.<sup>6, 7</sup>

This example provides insight as to how increased frequency can create conflict in residential neighborhoods along the corridor. Carefully planning where future residential and commercial uses will be located can help prevent conflicts with existing or future rail services. When communities develop their long-term plans, it is important that they identify active or inactive rail facilities and take these into account when developing and implementing land use and transportation plans. ODOT's Transportation System Planning (TSP) Guidelines advises planners to closely evaluate rail systems and services. The guidance suggests that corridor plans and transportation system plans include the following for each rail facility located in or passing through a community:

- Owner/operator of the rail line
- General description and location of rail line and facilities
- Class of track (based on allowable speed)
- Number of trains per day and speed
- Inventory of crossings
- Accident history
- Possible crossing consolidations
- Potential grade separations and closures
- Crossing signals, active or passive
- Existing and potential interconnections with traffic signals
- Future potential for passenger rail service<sup>8</sup>

Most of this information can be obtained through the ODOT Rail Division.

TSPs and other long-term planning documents should incorporate the railroads' future visions and plans for the rail corridor; including railroads' planned infrastructure expansions, such as the installation of double-tracking or construction of maintenance facilities. Since railroads control the right of way, service can change with little or no warning. When local communities develop their planning documents, they should assume that rail service will increase on all existing tracks unless the rail operator expressed that they were looking to abandon the line or sell the right of way for a non-rail use.

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<sup>6</sup> Federal Railroad Administration. 2003. *Train Horn Rulemaking*. <http://www.fra.dot.gov/us/content/95>. Accessed December 6, 2009.

<sup>7</sup> City of Tualatin Oregon. 2009. *Quiet Zone Project Updates*. <http://www.ci.tualatin.or.us/departments/communitydevelopment/planning/CommuterRail.cfm>. Accessed December 6, 2009.

<sup>8</sup> ODOT Transportation Development Division. 2008. *Transportation System Planning Guidelines, 2008. Appendix 16: Guidelines for Addressing Rail in Corridor Plans and Transportation System Plans*. <http://www.oregon.gov/ODOT/TD/TP/docs/publications/TSP/Appendix.pdf>. Accessed September 16, 2009.

## Issue 2: How to secure rail service

Sometimes prospective shippers and planners assume that rail service is available as long as the infrastructure is adjacent to an industrial site. However, to determine if service should be granted to any new or existing industry, a railroad will review infrastructure, operations, market, density of traffic on the line, shipper volumes and potential revenue of the prospective cargo before committing to provide service.

Railroads review and analyze requests for service differently. The larger national, Class I railroad companies, have different requirements for shippers than the more local shortline railroads.

In order to obtain rail access, Class I railroads require off-site infrastructure to support on-site rail development and allow for delivery of loads and empties simultaneously. In addition, if a site has no existing rail spur, service to any new industry will require a siding along the Class I mainline with a typical minimum length of 7,000 feet. Any existing siding that is sought to support a facility must be located on the same side of the mainline as the industry.

To meet operational requirements, Class I railroads use both mainline crews, who deliver trains between originations and destinations, and local crews, who break down trains and deliver the railcars to individual receivers. An industry must locate where service from these local crews already exists; have enough volume to justify the railroad's cost of an additional crew and locomotive; or have enough room to receive an entire train with a mainline crew.

Class I railroads undertake a fairly lengthy internal approval process, which is described on their websites, before granting new rail access.<sup>9</sup> Preliminary engineering must be completed at the 30 percent design level prior to receiving approval for rail access. This approval process includes review of conceptual design documents by several departments within the railroad and can take six months to a year to complete.

Shortline railroads have generally taken an aggressive view of providing rail service as long as it can be provided economically. Prohibitive costs are almost always driven by issues with the potential industrial site such as major road crossings, wetland fill challenges, or major earth works rather than specific railroad requirements. Shortlines require siding and yard capacity to be able to handle additional business, but they generally run shorter trains than Class I railroads so sidings do not have to be as long, nor do they require the expensive electronically controlled switches.

Shortline railroads generally run local crews, allowing them to service any location on their railroad where the appropriate infrastructure is in place. The shortlines also have local staff who can assess and approve rail access applications much more quickly than the relatively lengthy process of the Class I railroads.

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<sup>9</sup> For example, the Union Pacific Railroad web site provides descriptions of their procedures and requirements for determining access to their line at: <http://www.uprr.com/customers/ind-dev/index.shtml>.

While the shortline railroad is the primary contact in terms of operations and infrastructure, it is typically the connecting Class I carrier who has responsibility for pricing any new service since they will carry the freight over the long haul portion of the corridor.

Obtaining rail service requires early contact with the rail operators to determine the feasibility. The following case studies show two approaches to acquiring rail access. The first case study illustrates a proactive regional approach employed by the Central Oregon Area Commission on Transportation (COACT) to determine how best to support rail freight industries and rail operations between Madras, Prineville, Redmond, Bend and La Pine in central Oregon. The second example is a site-specific look at an unsuccessful attempt to secure rail service for a proposed soft drink bottling plant in Albany, where rail access anticipated by the developer was not granted. These examples demonstrate the importance of including rail operators in discussions about rail service.

### **Study of Economic Opportunities – Rail Accessible Land Supply in Central Oregon<sup>10</sup>**

In 2009, COACT prepared a regional economic opportunity analysis with a focus on rail-accessible lands. This study was developed by the COACT Rail Committee composed of representatives of the City of Prineville Railway, ODOT (including the Rail Division), Oregon Department of Land Conservation and Development, and staff from the counties and cities in the region. The study reviewed the economic development potential that can be achieved in Central Oregon with existing regional rail assets, including rail operations; infrastructure; facilities; and, connectivity to the state's road system. The study also inventoried industrial lands adjacent to rail and developed a screening matrix to determine which parcels would be best used as rail-served lands.

This effort was unique in both its level of technical accuracy as well as its regional context. Stakeholders worked directly with the Class I and the shortline railroads serving the region to identify operational efficiencies for both shippers and rail carriers, while also enhancing safety and access to rail lines. Including the railroads in the information gathering effort enabled the planners identify properties for rail service and the potential benefits that enhanced rail access could provide to Central Oregon. This collaborative, planning effort serves as an example of a successful regional approach to assessing rail-served lands to provide decision makers with a solid understanding of where and how to invest in regionally significant transportation infrastructure.

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<sup>10</sup> Central Oregon Advisory Committee on Transportation. 2009. *Study of Economic Opportunities Rail Accessible Land Supply in Central Oregon*. Prepared by Tangent Services, Inc. [http://www.oregon.gov/ODOT/HWY/REGION4/Central\\_Oregon\\_Rail\\_Plan/Central\\_Oregon\\_Rail\\_Economic\\_Opportunities.pdf](http://www.oregon.gov/ODOT/HWY/REGION4/Central_Oregon_Rail_Plan/Central_Oregon_Rail_Economic_Opportunities.pdf).

## **PepsiCo – Albany, Oregon**

In 2006, PepsiCo signed a development agreement with the City of Albany to develop a manufacturing and bottling plant adjacent to the Union Pacific Railroad (UPRR) mainline that runs through the city.<sup>11</sup> PepsiCo assumed that rail access and service would be granted by UPRR since the property is contiguous to the UPRR track and a rail spur was shown on the existing site plans. However, the feasibility of rail service was not discussed with UPRR until after the purchase agreement was signed.

When PepsiCo contacted UPRR, they found that rail service would only be granted if a long siding was constructed along the mainline track, requiring the company to purchase additional right of way. PepsiCo investigated several other options for gaining access to UPRR's operations, including construction of a rail segment to access the nearby Albany & Eastern Railroad shortline, which could have potentially provided more service flexibility than UPRR.

Ultimately, PepsiCo chose not to pursue development at this location. Interviews with the City of Albany indicated PepsiCo's decision was based on the economic downturn and the cost-prohibitive improvements needed to obtain rail access.<sup>12</sup> Significant money, time and effort could have been saved by holding discussions with UPRR early in consideration of purchase and development of the site.

These two examples illustrate very different approaches to planning for rail service. Although a regional approach to identifying rail-accessible sites allows local and regional leaders to make informed decisions about industrial land preservation, there will always be location specific development pursuits. Land owners or developers and businesses seeking rail service should take a proactive approach in discussing proposals with railroad operators before too much money, time, and effort has been invested in site development.

For a more thorough understanding of railroads in Oregon, see the *Oregon Freight Rail System* report.<sup>13</sup>

## **Issue 3: Impacts of passenger rail related development on freight rail service**

Some communities along rail corridors in the Willamette Valley have updated their comprehensive plans to include passenger rail services or transit services on existing rail corridors. These plans show conceptual station locations surrounded by transit friendly zoning, or transit oriented development (TOD) such as compact residential, commercial and mixed uses. However, in most cases the existing rail corridors

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<sup>11</sup> City of Albany Oregon. October 30, 2006. *Government Partners Sign Development Agreement with Pepsi*. [http://www.cityofalbany.net/services/news\\_releases/show\\_item.php?id=580](http://www.cityofalbany.net/services/news_releases/show_item.php?id=580)

<sup>12</sup> Ron Irish, City of Albany Transportation System Analyst. Personal Communication. October 7, 2009.

<sup>13</sup> Oregon Department of Transportation. 2010. *Oregon Freight Rail System*.

currently provide freight service to industrial users. As discussed in Issue 1, conflicts can arise when residential and commercial uses are planned and developed adjacent to rail; this section explores the impacts to industrial areas and freight rail operators when residential and commercial uses are introduced along freight rail corridors.

Recent changes to the City of Woodburn's comprehensive plan serve as an example for this discussion. In 2005, the City amended their comprehensive plan to expand the urban growth boundary (UGB), adding low-density residential land abutting a segment of the Portland & Western Railroad (PNWR) rail line.<sup>14</sup> The city's transportation plan also suggests locating a commuter rail station within the UGB.<sup>15</sup> There are currently several freight rail customers along this segment of the line and at the suggested station location. If the rail station is pursued at the location suggested in the comprehensive plan, an existing rail-served industry would be forced to relocate and/or discontinue business. Further, since the comprehensive plan designates the land uses along this segment of railway as low-density residential, the other industrial users will be no longer in conformance with the zoning code. This means they will not be able to expand or redevelop into other industrial uses in the future because any redevelopment will be required to conform to the designated land use.

Developing land along railroads and the displacing of rail-served industries is a growing concern of freight railroads. Since WES began operating between Beaverton and Wilsonville, PNWR representatives have indicated that the railroad and its customers are worried that the land uses around WES stations and along the alignment may become increasingly more residential and commercial as commuter rail service facilitates development along the alignment.<sup>16</sup> This development could impact railroad operations by driving away industrial customers due to incompatible land use designation and/or increased land values.

Although planning for land uses that support passenger rail is traditionally encouraged by federal, state and local policies, planners must understand railroads' existing freight operations and customer base before implementing a plan that could eliminate valuable rail-served industrial lands. This is a delicate balancing act. Freight railroads and industrial users should be consulted as to how to best develop station area plans that can both serve passengers while not impeding freight service.

During the process of developing comprehensive plans and designating land use zones adjacent to railroads, existing rail-served industrial areas should be considered and preserved. If preservation is unavoidable, then jurisdictions should plan for the relocation of the rail-served industries to another area that can be developed and preserved as an industrial sanctuary.

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<sup>14</sup> City of Woodburn. 2005, as amended. *Comprehensive Plan Map*. <http://www.woodburn-or.gov/communitydevelopment/planning/compplanupdate/08CompPlanMap.pdf>. Accessed December 6, 2009.

<sup>15</sup> City of Woodburn. 2005. *Transportation Plan*. [http://www.woodburn-or.gov/communitydevelopment/planning/compplanupdate/\(10-31\)06TSP.pdf](http://www.woodburn-or.gov/communitydevelopment/planning/compplanupdate/(10-31)06TSP.pdf). Accessed December 6, 2009.

<sup>16</sup> Billy Eason, PNWR President; Ron Russ, PNWR Deputy General Manager; Mike Lundel, PNWR Vice President Transportation; David Anzur, PNWR Director Finance & Administration. Personal Communication. April 23, 2009

## **Conclusion**

The issues and examples presented above reveal insight into the impacts of land use decisions on freight rail operations. Early dialogue with applicable freight railroads is essential when planning or proposing any new use or development adjacent to a rail line. Whether a city is updating their comprehensive plan, a property owner is seeking rail service, or a passenger station is being considered, involving the rail operator early in the process will increase the likelihood for success for all parties.

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