



**High Capacity Transit System Study
Technical Memorandum
Initial Evaluation of Chelatchie Prairie Railroad Right-of Way
June 19, 2007**

1. Introduction

This technical memorandum provides background and evaluation of the Chelatchie Prairie Railroad right-of-way (ROW). The purpose of this evaluation is to determine if the right-of-way should be considered as a potentially feasible high capacity transit (HCT) alignment. This initial assessment focuses on providing background information and evaluating the suitability and availability of the current railroad right-of-way for consideration of HCT.

On May 1, 2007 the RTC Board endorsed the narrowing of corridors and modes to be included in the Clark County HCT System Study. That recommendation included four corridors to be studied further for HCT potential and it also included a recommendation for an initial evaluation of the Chelatchie Prairie Railroad ROW. The recommendation also identified five HCT modes to evaluate further, BRT, BRT Light, Light Rail, Streetcar and Commuter Rail. Only the portion of the Chelatchie Prairie right-of-way south of Battle Ground is being considered as a potential HCT corridor.

This memorandum provides background on the Chelatchie Prairie Railroad, a physical description of the ROW, a description of the current operations and the current legal framework with regards to ownership and operating rights. Chelatchie Prairie Railroad is the most commonly used name and is the name used in county legal documents. The railroad is also referred to as the Lewis and Clark Railroad and the Clark County Railroad. The current freight operator is the Portland-Vancouver Junction Railroad and the passenger excursion service north of Battle Ground is operated by the Battle Ground, Yacolt, Chelatchie Prairie Railroad (BYCX).

2. History

Construction on a railroad link through central Clark County began in 1888 with the intention to complete a route through the Cascades to Yakima. The line was completed as far as Brush Prairie by 1897 primarily serving logging operations. By 1903 the line was extended to Yacolt serving a growing number of logging companies. At this same time, the line began to carry passengers between Vancouver, Brush Prairie, Battle Ground and Yacolt. In 1948 the line was extended to Chelatchie Prairie to access new stands of

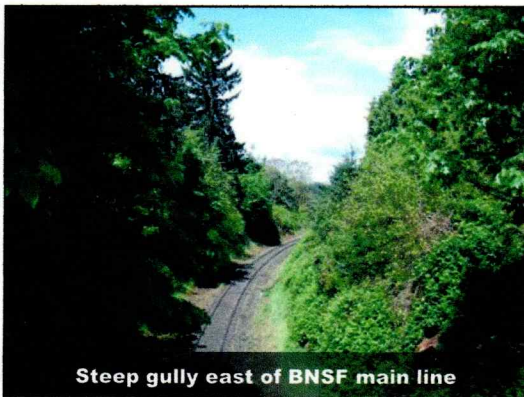
timber and serve a new lumber mill and plywood plant. The mill and plant closed in 1979 and the rail line was sold to investors.¹

In 1984, when the owners filed for abandonment, the county saw the opportunity to save a unique transportation right-of-way for future use and preserve rail service to commercial clients. The county purchased the line for \$1.2 million and leased the line to the Lewis and Clark Railway Company for freight service and passenger/excursion service. A new 30-year lease agreement (with two renewal options) was signed with the Columbia Basin Railroad Company Inc. (Portland-Vancouver Junction Railroad) in 2004.

3. Description

The Chelatchie Prairie Railroad is approximately 33 miles long, running from the Burlington Northern (BNSF) mainline in north Vancouver to Chelatchie Prairie north of Yacolt. The right-of-way width ranges from 50 feet to 150 feet. The county owns the majority of the alignment outright, but about 10 percent of the abutting properties have reversionary easements, whereby the property would revert to adjoining property owners if rail service ceased for a period of time. Most of the track is in relatively poor condition and is considered class 1 (plus or minus) with a 10 mph operating speed for freight.²

The alignment runs through of variety of terrain and land uses including Burnt Bridge Creek Greenway, commercial and industrial uses in the vicinity of St. Johns and 78th, semi-rural areas east of 78th, rural/agricultural uses east of SR 503, commercial uses in Battle Ground and rural/forest uses north of Battle Ground.



The Chelatchie Prairie Railroad branches off from the BNSF main line at Fruit Valley Road south of 78th Street. There is currently no connection to go southbound on the BNSF line. From the junction with the BNSF main line to the St. Johns area, the Chelatchie Prairie Railroad runs through a steep gully. While there is generally 100 to 150 feet of right-of-way, most of this is on a steep slope. The existing roadbed is designed for a single track and does not appear to be wide enough to add an additional track or guideway, without extensive retaining walls along the slope. The surrounding area is primarily residential and relatively high-density. Most of the roadway crossings in this area are grade separated.

¹ <http://www.bycx.com>, Chelatchie Prairie Railroad History.

² Conversation with Steve Schulte, Clark County, May 1, 2007.



CLARK COUNTY HIGH CAPACITY TRANSIT SYSTEM STUDY

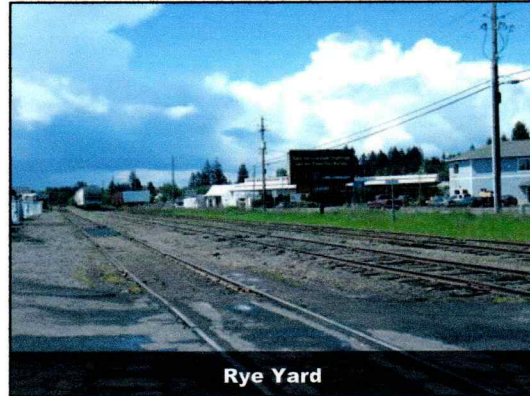
FIGURE 1: CHELATCHIE PRAIRIE RAILROAD RIGHT-OF-WAY CHARACTERISTICS



Right-of-Way Width		Adjacent Land Character		Railroad Crossings	
—	50 foot ROW		Adjacent Land Use		Public At-Grade Crossing
—	60 foot ROW		Steep Gully		Private At-Grade Crossing
—	66 foot ROW		Heavily Built Up Adjacent to ROW		City Limits
—	80 foot ROW				
—	100 foot ROW				
—	150 foot ROW				



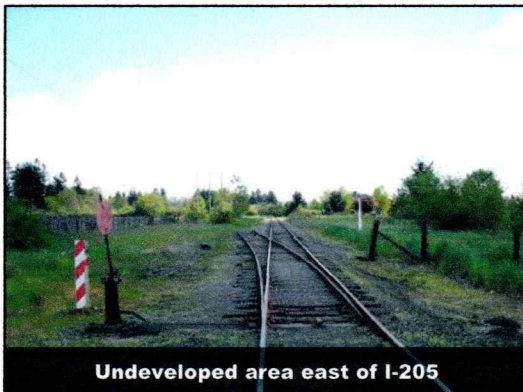
The Chelatchie Prairie Railroad in the St. Johns area runs through industrial and commercial areas. The Rye Yard has 100 feet of right-of-way and is surrounded by heavy industrial uses. The area around St Johns Road and 78th Street has a mix of industrial and commercial uses. There are also several large vacant lots in the area of St Johns Road and 78th Street that could provide some redevelopment potential. The intersection of St Johns Road and 78th Street is a major roadway intersection, with 78th Street connecting to the Padden Parkway just east of the Chelatchie Prairie Railroad grade crossing, and St Johns Road connecting to 72nd Avenue to the north.



Rye Yard

North of St Johns, there are several more light industrial and warehousing areas. Of particular note is the area around 88th Street, where the right-of-way is as narrow as 50 feet in an area that is built up with warehouses and other industrial uses. This area is also interspersed with several large vacant parcels.

North and east of I-205, the Chelatchie Prairie Railroad runs through flat and relatively undeveloped areas including a portion of the alignment that travels through the Cedars Golf Club. Property maps indicate that much of this area is divided into developed and vacant residential lots of approximately 1 to 5 acres. The right-of-way in this section ranges from 50 to 100 feet.



Undeveloped area east of I-205

There is light industrial development adjacent to the railroad as it enters Battle Ground north of 199th Street. The right-of-way is approximately 100 feet wide as it enters Battle Ground. The rail alignment is located at the far eastern end of the commercial portion of downtown Battle Ground.

4. Operations

The Columbia Basin Railroad Company's lease agreement with Clark County gives them full control over rail uses of the full right-of-way. Columbia Basin operates commercial service as the Portland Vancouver Junction Railroad, primarily serving shippers between the Vancouver and Battle Ground. Since acquiring the operating rights in 2004, Columbia

Basin has grown the service to over 600 cars per year. The service is scheduled on an as-needed basis with approximately two to four runs per week on average.³

The Battleground, Yacolt, Chelatchie Prairie Railroad Association (BYCX) operates passenger excursion trains north of Battle Ground through the scenic Lewis River Valley. The excursion trains typically operate approximately one weekend per month between March and October, with special Christmas Tree trains in December. The BYCX has operating agreements with Clark County and Columbia Basin.⁴

5. Lease Agreement

Clark County's lease agreement with Columbia Basin Railroad Company is a 30-year lease with two additional renewal terms of 30-years each, which are at the "sole and exclusive option of the lessee." The lessee (Columbia Basin) pays the county rent based on the number of annual carloads, with no charge for the first 1,000 carloads and an escalating per carload rate after that. Columbia Basin has the right to terminate the lease with twelve months prior written notice.

There are several provisions in the lease agreement that are potentially relevant to consideration of HCT options utilizing the right-of-way.

- Section 4.A. states that the lessee (Columbia Basin) will not use the right-of-way for any use other than the provision of rail service.
- Section 4.B. states that the lessee "agrees to reasonably work with governmental agencies to establish rail transit on Leased Premises."
- Section 4.C. states that Columbia Basin agrees in good faith to accommodate future BYCX passenger operations, but that Columbia Basin has sole discretion to allow BYCX to operate.
- Section 4.F. states that the County agrees that no entity other than Columbia Basin can use the alignment for a railroad operation and that the County does not have the right to condemn for a railroad use by another operator.

The Lease Agreement appears to give Columbia Basin Railroad Company the right to approve (and potentially operate) any proposed passenger rail use of the existing tracks. Any proposals related to use of the existing tracks for HCT purposes would need to include both Clark County and Columbia Basin Railroad Company.⁵

6. Chelatchie Prairie Trail

Clark County has received a \$450,000 federal transportation enhancement grant to develop a trail plan for the full length of the Chelatchie Prairie Railroad right-of-way and begin to implement a portion of the trail north of Battle Ground to Battle Ground Lake State Park. This trail planning effort is just getting underway and specific details of the

³ Conversation with Steve Schulte, Clark County, May 1, 2007.

⁴ <http://www.bycx.com>, Chelatchie Prairie Railroad, Fares and Schedules,

⁵ Columbia Basin Railroad – Clark County, Lease Agreement, December 20, 2004.

trail plan are not yet available. A reasonable assumption for planning purposes is that a multi-use trail (12 feet wide) will occupy a portion of the right-of-way for the full length between Fruit Valley Road and Battle Ground.

7. Right-of-Way Width and Clearance Requirements

*Railroad single track
is 17' wide*

As noted above in the description, the right-of-way owned by the county varies between 50 feet and 150 feet. One question for consideration of HCT in the right-of-way is whether there would be adequate space to develop a new and separate transit alignment within the existing county-owned ROW or whether HCT options would be limited to using the existing tracks.

Washington Administrative Code 480-60 defines the legal clearance requirements between railroad tracks and other tracks or structures. At a minimum, a railroad requires eight feet clearance between the track centerline and any adjacent structures, for a total freight rail width of 16 feet. The clearance requirement between an active freight railroad and an adjacent railroad track is defined in the code as 14 feet.⁶

The existing freight tracks are generally located at or near the center of the right-of-way. This means that in the narrowest sections of right-of-way (50 feet) there would be a maximum of 17 feet available for separate transit alignment within the right-of-way. If a separate rail transit alignment were considered, it would require a 14 foot clearance rather than 8 foot which would leave only 11 feet available in the 50-foot right-of-way sections.

With the 14 foot clearance required between active rail lines, there would not be room for a double track light rail (or other double-tracked section of a separate rail transit line) within the Chelatchie Prairie Railroad right-of-way in the 50, 60 or 66-foot right-of-way sections. Single-track light rail would not fit within the required clearances in the 50-foot right-of-way sections, but could fit within wider sections.

The clearance requirement for a paved transitway adjacent to the Chelatchie Prairie Railroad is 8-feet. This would leave 17-feet of right-of-way available in the narrowest (50-foot) sections. It could be possible to design a predominantly 2-way paved transitway that would operate with a single lane (using signage and other safety features) in the portions with the most constrained right-of-way.

In addition to the narrowest sections of right-of-way, there are other limitations to implementing a separate transit alignment within the existing Chelatchie Prairie right-of-way.

- West of I-5 the right-of-way ranges from 100 to 150 feet. However, the tracks are located at the bottom of a steep gully with only about 20 to 30 feet of flat grade at the bottom. Development of an additional transit alignment through this section would require widening the gully using retaining walls.

⁶ AREMA Manual for Railway Engineering, American Railway Engineering and Maintenance-of-Way Association, 2004.

- There are numerous spur tracks that serve adjacent businesses. A new, adjacent transit right-of-way could require consolidation or closure of some rail spurs.

8. Conclusions and Recommendation

The purpose of this Technical Memorandum is to determine if the Chelatchie Prairie Railroad right-of-way could be available and might be appropriate to consider for a high capacity transit alignment. Based on the evaluation of the ownership, operations and physical right-of-way the following conclusions have been reached:

- The portion of the right-of-way west of I-5 would not be promising as a transit alignment due to the steep gully and the lack of access to any activity centers.
- Columbia Basin Railroad has the right to approve any passenger rail service in the right-of-way.

Recommendation: The Chelatchie Prairie Railroad alignment is a unique publicly-owned resource for Clark County. The cross-county alignment provides an opportunity to consider non-traditional transportation uses such as a separated busway, a rail transit alignment and a multi-use trail alignment. RTC and C-TRAN should continue to work with Clark County to preserve the potential long-term transportation use of the Chelatchie Prairie alignment.

Actions by the Clark County Commission and the Columbia Basin Railroad have indicated strong support for maintaining and enhancing the commercial rail service using this corridor. The county recognizes that a viable commercial railroad on the Chelatchie Prairie line can provide an important element in the county's economic development strategy. This support is evident in the following actions:

- The state legislature has provided \$300,000 for track upgrades in the 2006-07 biennium and \$1,100,000 in 2008-09.
- The county has funded and is seeking to hire a full-time Railroad Coordinator.
- The draft county comprehensive plan proposes a new zoning category of Railroad Industrial, which is proposed to be applied to former agricultural land near Brush Prairie.
- Columbia Basin Railroad has increased the number of shippers and overall carloads since taking over the line in 2004.
- Columbia Basin Railroad has a 30-year lease with two additional 30-year terms at their discretion.

Given this strong support for the continuation and enhancement of commercial rail service in the corridor, transit concepts that rely on the elimination of commercial rail service should not be considered.

The most promising potential for near-term HCT use of the alignment would be to utilize the existing railroad tracks and share operations with the freight rail operator. This service could use diesel multiple units (DMU) or locomotive propelled passenger cars and should be considered only between I-5 and Battle Ground.

Other long-term transit uses of the right-of-way should not be precluded by future actions and should be a consideration as plans for a multi-use trail are developed.

The next step would be to identify how such an operation on the Chelatchie Prairie alignment could integrate with the other HCT corridors and what the potential ridership demand might be. Other elements to be considered in a work scope for additional analysis include:

- Define the magnitude of track upgrades that would be required to bring the track up a standard that could operate at a reasonable speed for regular transit service (35 to 60 mph).
- Identify possible strategies for crossing treatments for both public and private crossings.
- Identify potential station locations and park-and-ride lots based on accessibility and potential ridership markets.
- Prepare a transit operations plan that would maximize the potential utility of the Chelatchie Prairie alignment, including potential connections to the Columbia River Crossing HCT improvements.