

## **EXECUTIVE SUMMARY**

This Rail Corridor Evaluation Study was undertaken for ValleyRide in cooperation with Ada and Canyon Counties, Ada County Highway District, the cities of Boise, Meridian, Nampa and Caldwell, Community Planning Association of Southwest Idaho and the Idaho Transportation Department. The primary purpose of the study is to provide information and the background necessary for the sponsoring agencies to make an informed decision regarding the potential for a public acquisition of certain rail corridors within Ada and Canyon Counties. Factors addressed during the course of the study included:

- The current status of the ownership and operating rights of the subject corridor.
- A recommended strategy for exploring the potential of public acquisition of all or portions of the subject rail corridors.
- An opinion of value for the segment of the Boise Cut-Off not currently in public ownership.
- The current extent of railroad property holdings along the Boise Cut-Off.
- The current condition of the railroad facilities (track, ties, ballast, crossings, crossing protection and structures) in the corridor.
- The improvements and capital costs required to place a starter commuter rail operation in the corridor in service.
- An environmental scan of the corridor.
- Operating plans for 45-minute and 30-minute service options were developed including the location of potential stations and maintenance/storage facility. A rough estimate of annual operating costs was prepared for each of the service plans.
- The potential impacts on utilities and traffic of introducing a commuter operation in the corridor were also addressed.

Figure 1 in the report identifies the railroad lines in the Boise area and also highlights the segment of the Boise Cut-Off that was the primary subject of the study.

### **Commuter Rail Defined**

While acknowledging the primary purpose of the study is the exploration of the potential of public acquisition of the Boise Cut-Off, the underlying intent would be to utilize the corridor for public transportation service in the form of a commuter rail service. Commuter rail refers to passenger rail service that operates on rail lines that currently or in the past have served as freight railroad lines. Although commuter rail operations have existed for decades in some metropolitan areas, only recently has this transportation technology seen a substantial resurgence as metropolitan areas heavily impacted by traffic congestion look for lower cost solutions. Dallas, San Diego, Los Angeles, Seattle, Sacramento, Vancouver BC, Salt Lake City and Portland are a few of the communities where commuter rail has recently been introduced into service or is in the process of being implemented. In many cases, the service focuses on the peak period commute, although a number of the systems do offer service at a reduced level all day. Commuter rail cost advantages compared to typical light rail systems are the result of the use of existing freight rail lines; although in most cases they must be upgraded to accommodate the passenger operations. Vehicles used in

commuter rail systems vary substantially from double-decked locomotive pulled units to light-weight single diesel units resembling light rail cars.

### **Corridor History**

Rail Passenger service from Boise to the communities to the west, including Meridian, Nampa and Caldwell is not a new concept. Elements of such service were introduced to the Valley as early as 1887, with an interurban line from Boise to Caldwell via Eagle, Star and Middleton placed in service in 1907. A line from Boise to Meridian on the south of the Boise River was initiated in 1906 and was extended to Nampa in 1909 and on to Caldwell in 1912. The portion of this latter line between Boise and Meridian was also rebuilt in 1912 along the current Boise Cut-Off alignment. The interurban passenger service flourished for a number of years but began to feel the affects of the increased use of the automobile in the mid-1920's resulting in the abandonment of the interurban passenger service in 1928. Amtrak and its predecessors did provide long-haul passenger service utilizing the Boise Cut-Off until the service was terminated in 1997. After numerous ownership changes in the early years of the corridor, the Union Pacific Railroad (UPRR) is the current owner of the line with freight service being provided by the Idaho Northern & Pacific Railroad (INPR).

### **Corridor Condition Assessment**

A detailed assessment was conducted of the current physical condition of the Boise Cut-Off and the railroad facilities within the corridor. The right-of-way width is generous for its current use with the minimum width being 100 feet. Fifty-seven (57) percent of the 24.80 miles of the Boise Cut-Off not currently in public ownership has a width of 200 feet.

In general the track, structures and grade crossings are in good condition with the INPR generally maintaining the line to approximately FRA Class 2 conditions that allow freight trains to operate at 25 MPH. The rail is jointed 133RE section in generally good condition. Most of the ballast is clean and free draining with a few isolated areas of fouled ballast. The condition of the ties is a limiting factor in upgrading to passenger-level operations with between 15% and 50% of the ties on a per mile basis requiring replacement. The 13 structures that are the responsibility of the railroad are in fair to very good condition. There are a total of 45 grade crossings along the portion of the Boise Cut-Off under consideration. The level of crossing protection varies substantially with some crossings having flashing lights and gates and others protected by crossbucks and stop signs. The condition of the crossing surfaces also varies substantially from timber headers with gravel to full concrete surfaces.

### **Improvements Required For a Commuter Rail Operation**

The study identifies a detailed set of recommended upgrades necessary to the existing rail facilities in order to achieve FRA Class 3 conditions that would allow passenger operations at speeds up to 60 MPH. The detailed recommendations are included in a set of spreadsheets contained in Appendix A.

Recommendations include:

- The replacement of all of the existing rail with continuous welded rail (CWR) using either 133RE or 136RE rail in order to decrease signal and rail maintenance, provide a smoother ride and increase the initial service life after startup of the commuter operation.

- Approximately 20,000 ties are recommended for replacement including nearly all switch ties.
- Following the tie replacement and rail relay, the entire line is recommended to be surfaced and lined at tolerances exceeding FRA Class 3.
- Track ditches are to be cleaned and proper drainage reestablished at all locations.
- Only a few minor upgrades to structures in the portion of the Cut-Off recommended for use in a starter operation are identified including some replacement of ties.
- 21 crossings are recommended to have new flashing lights and gates installed. Another 20 crossings are recommended to have crossing gates added to the existing flashing light systems now in place.
- New CWR and ties through all existing public crossings and replacement of all non-concrete crossings with concrete panels.
- The study also recommends the closing of one public and one private crossing.
- Installation of a full centralized train control (CTC) signal system and communications system for the entire corridor is recommended.

### **Environmental Scan**

An environmental scan was conducted on the subject portion of the Boise Cut-Off. The scan addressed hazardous wastes, wetlands, and sensitive species. No sites were identified that would appear to impact either the ability to implement or the cost of implementing a commuter rail operation in the corridor.

### **Utility and Traffic Impacts**

Given that the vast majority of a commuter operation would occur on the existing track alignment, the impacts on utilities either within or crossing the rail corridor are anticipated to be very minimal. Some minor impacts could occur in the station areas.

An assessment of the impacts of a commuter rail operation on existing traffic in the corridor was undertaken on five representative crossings. For purposes of the investigation, the more frequent 30-minute service was utilized, representing the maximum anticipated impact for a starter line. With a maximum of four crossings in a one hour period, the relatively short period the gates are down (approximately 45 seconds), and the ability to coordinate the signals to compensate for the gate times at the nearby intersections, the overall impact is found to be negligible.

### **Operations Plans**

Two operating plans were developed to help illustrate the range of service and costs that might be appropriate for an initial commuter operation on the Boise Cut-Off. The two plans are identified as a 45-Minute Service and a 30-Minute Service. Both services would have a western terminus at 11<sup>th</sup> Avenue in Nampa and the eastern terminus (East Terminal Station) near the intersection of Federal Way and Yamhill. Five intermediate stations are assumed at:

Idaho Center  
Meridian

Eagle Road  
 Boise Towne Square Mall  
 Boise Depot

The total length of the service would be 22.9 miles with a small limited function maintenance facility located near the Nampa end of the project. A number of vehicle options are discussed in the report. For purposes of developing the operating plan and cost estimates a Federal Railroad Administration (FRA) fully compliant Diesel Multiple Unit (DMU) vehicle is utilized. A detailed schedule is provided for both the 45 and 30-Minute services with both providing a 15 and one-half hour service day with less frequent service during the mid-day and late evening. The 45-Minute service requires two three car trains with a third train set as a spare. The 30-Minute service requires three car trains with a fourth train set as a spare. The travel time from terminal to terminal is estimated at 34 minutes. The following are the operating statistics for the 45 and 30-Minute services:

### Operating Statistics

Category	45-Minute Schedule	30-Minute Schedule
Daily One-Way Trips	26	38
Daily Revenue Train Miles	596	871
Daily Revenue Car Miles	1,789	2,614
Daily Train Hours	20	36
Daily Peak AM Eastbound Seats	1,500	2,100
Annual Revenue Train Miles	152,026	222,192
Annual Revenue Car Miles	456,078	666,575
Annual Train Hours	5,100	9,690

### Operations Costs

Operating costs were estimated for the two operating plans utilizing the experiences of similar scaled operations. Operating costs for small to moderate commuter rail operations where the passenger service, rather than the freight service, is the dominant factor in the corridor will not vary significantly based on the level of service. This is the case because fixed costs will typically make up a significant portion of the overall operating costs. The following are the estimated annual operating costs associated with the two operating plans:

### Operations Cost Summary

Cost Category	45-Minute Schedule	30-Minute Schedule
Track and Signal Maintenance	1,000,000	1,040,000
Dispatch	600,000	600,000
Station and Revenue Collection	350,000	300,000
Direct Management	525,000	525,000
General Administrative	1,000,000	1,000,000
Fuel	159,000	232,000
Transportation	500,000	600,000
Equipment Maintenance	500,000	650,000
Maintenance Facility	200,000	200,000
<b>Total</b>	<b>\$ 4,834,000</b>	<b>\$ 5,147,000</b>

Because of the unknown factors influencing both the level and cost of insurance, no assumed level of coverage or premiums are estimated.

### Capital Costs

Capital cost estimates were developed for both the 45-Minute and 30-Minute operating plan options. The costs are based on the costs experienced on similar projects and include what are considered appropriate levels of contingency, engineering, administration and construction support allowances given the conceptual nature of the current definition of the projects. The estimates do not include an estimate of a public purchase of the Boise Cut-Off right-of-way. The following table provides a brief summary of the estimates:

### Capital Cost Summary

Cost Category	45-Minute Schedule	30-Minute Schedule
Track and Structures	11,898,000	13,998,000
Grade Crossings/Signals	4,624,000	4,896,000
CTC, Communications, Dispatch	25,000,000	25,000,000
Vehicles	24,000,000	36,000,000
Stations	3,500,000	3,500,000
Park and Ride	7,450,000	7,450,000
Maintenance	3,050,000	3,050,000
Contingency	15,904,000	18,779,000
Engineering and Administration	7,952,000	9,389,000
Construction Support Services	4,771,000	5,634,000
<b>Total</b>	<b>\$ 108,149,000</b>	<b>\$ 127,696,000</b>

For comparison purposes, the costs for commuter rail operations of a similar nature with moderate levels of ridership have ranged from \$4 to \$8 million per mile. The 45-Minute service with an estimated capital cost of \$108.1 million for a 22.93 mile project results in a \$4.72 million per mile estimate. The 30-Minute service with an estimated capital cost of \$127.7M results in a \$5.57M per mile estimate.

### **Corridor Ownership and Operating Rights**

The Boise Cut Off corridor extends from MP 467.8 in Nampa to MP 423.5 in Orchard, a total of 44.3 miles. The 16.94 mile section of the corridor from Nampa to the Boise Branch (MP 467.8 to MP 450.86) is currently owned by the UPRR. The second section of the corridor extends from the Boise Branch (MP 450.86 east to Orchard (MP423.5) where the line intersects with the UP mainline. UPRR owns the corridor from the Boise Branch (MP450.86) to near Hillcrest, southeast of Boise (MP443.0). From MP 443.0 to Orchard (MP423.5) the City of Boise owns the corridor, having acquired the corridor from the UPRR in a sale (MP 443.0 to MP 439.5) and donation (MP 439.5 to 423.5) in 2000.

The underlying title for both of the above mentioned sections of the corridor was examined by a review of the Schedule of Property contained in the UPRR maintained Valuation Maps. Sample deeds and agreements were randomly searched to verify the accuracy of the original transfer. In summary, the Boise Cut Off from Nampa to Boise is owned by the UPRR and is secured by generally good title.

The most significant property owned by the UPRR outside the rail corridor is in Meridian. In Meridian, UPRR owns approximately 18 acres north of the rail line, extending to Broadway, and extending 6 blocks east of 1<sup>st</sup> Street. Some of the area is under lease to mostly rail using businesses.

Freight service in the corridor is currently provided between Nampa and Hillcrest (MP 443). The service is provided by the Idaho & Northern Pacific Railroad (INPR), a subsidiary of the Rio Grande Pacific, under a lease agreement between the UPRR and INPR. The UPRR interchanges rail traffic with the INPR at Nampa. Under the terms of the agreement, the UPRR retained all passenger rights on the corridor as well as management responsibility and income generated from other property leases, licenses and agreements such as billboards, pipelines and fiber optics. UPRR has the right to sell the corridor, provided that the INPR lease agreement also transfers to the new owner.

### **Establishing an Opinion of Value**

Acquisition of railroad corridors, or rights to use the corridor or track capacity, is almost always a critical element in the implementation of a rail passenger system. Unlike other real estate acquisitions, local or state governments do not typically have condemnation authority to acquire existing, active railroad corridors. With no real alternative, public authorities must therefore bargain with the railroads to acquire all or part of a corridor for passenger rail development. The railroads of course, realize the importance and uniqueness of their corridor assets to any publicly funded passenger rail project and are well equipped to bargain effectively for the maximum value.

In these situations where there is but one buyer and one seller, traditional appraisal techniques have not proven to be particularly useful or accurate in establishing a corridor value. Establishing a value for corridors such as the Boise Cut Off has become more art than science. Because the 2000 Boise sale/donation is the only recent area sale of a rail corridor, it will play an important role in framing the negotiations for the acquisition of the remaining 24.8 miles of the Boise Cut Off. Negotiations between ValleyRide and the UPRR will determine the final agreed upon value. Public disclosure of a possible or likely result of the negotiations will only serve to set the threshold of value and therefore have been provided separate from this report. ~~Public disclosure of a possible or likely result of the negotiations will only serve to set the threshold of value and therefore have been provided separate from this report.~~

### **Transit System Integration**

The study includes a discussion of the importance of integrating the commuter operation with the remainder of the public transportation system. This is not only important for the outlying stations in order to provide enhanced access to the system, but in the case of this corridor, is particularly important at the Boise Depot Station that is not within pedestrian range of the numerous major trip generators such as the Central Business District, Boise State University, and the State Capitol complex. Therefore the success of such a commuter line will be significantly dependant upon quality of the connecting service that will efficiently distribute the passengers to their final destinations. An added consideration is the selection of a vehicle type that would be compatible with a future extension of the service to directly serve the above mentioned areas or to connect into one of the planned downtown intermodal centers.

### **Getting to Caldwell**

The study identifies alternatives that can be considered for extension of the commuter operation beyond the initial west terminus in Nampa to Caldwell. Three conceptual alternatives were explored and are described. One option would run parallel to the existing UPRR mainline between Nampa and Caldwell, utilizing a portion of the existing rail right-of-way. Two other alternatives would make use of the Madden Spur between Nampa and Highway 20/26 with one alternative terminating at that point with a park and ride lot. The second option would extend the rail service to the east edge of Caldwell by running within the Highway 20/26 right-of-way. Each of the alternatives would introduce a number of design, regulatory and acquisition issues that would make implementation difficult. The costs of any of these alternatives on a per mile basis would be substantially more that the estimates for the initial starter line on the Boise Cut-Off alignment.

### **Next Steps**

ValleyRide, with participation from partner jurisdictions, has initiated discussions focused on negotiating an acquisition of the remaining portions of the Boise Cut-Off as the appropriate next step in the process of possible introduction of passenger rail service in the area.

With the assumption that ValleyRide would pursue Federal Transit Administration (FTA) New Starts funding, the project would proceed according to the processes outlined for all projects competing for funding under this program. The initial steps would include the

following:

- Alternatives Analysis - evaluation of a range of alternatives that could result in improved service in the corridor. Involved would be an added level of conceptual design, ridership projections, project justification and an initial identification of local funding commitment
- Selection of a Locally Preferred Alternative
- Request to FTA to enter Preliminary Engineering
- Preparation of environmental documentation (Environmental Assessment or Environmental Impact Statement)
- Preliminary Engineering

Each step includes a number of specific requirements be met as the project moves forward and requires frequent consultation with FTA as the project advances.