

## **GOAL 4 - PRESERVE FUTURE OPTIONS FOR USING THE REGION'S HISTORIC RAIL INFRASTRUCTURE AND RIGHT-OF-WAYS**

*The purpose of this special study was to examine the concept of securing and operating a self-propelled rail diesel car on the existing rail line from Ashton to Idaho Falls, Idaho. The report examines the operational history of the rail diesel car (RDC – also known as a DMU or diesel multiple unit in other areas of the United States), prospects for securing and legally operating a new or used RDC, and the need for transfer or feeder locations for regional bus providers.*

### **Scope of Work**

This study examines whether rail diesel car service could be one component of the overall multi-modal plan being developed for the 4-county area of Fremont, Teton and Madison, Idaho, and Teton, Wyoming. The scope of this project includes:

- Introduction to Rail Diesel Car equipment including a brief history of its use
- Types of Rail Diesel Cars available
- Similar Rail Diesel Cars operating in the USA
- Basic cost and / or availability of a Rail Diesel Car
- Discussion with Watco (Eastern Idaho Railroad) regarding use of the existing tracks
- Suggested locations for depots and transfer stations
- Public input from employers and universities in the area

### **What is a Rail Diesel Car and Where Are They Used?**

The Budd Rail Diesel Car (RDC or Buddliner) is a self-propelled [single or multiple unit railcar](#). In the period between 1949 and 1962, 398 RDCs were built by the Budd Company of Philadelphia, Pennsylvania. The cars were primarily used for passenger service in rural areas with low traffic density or in short-haul commuter service. They were less expensive to operate in this context than a traditional locomotive-drawn train. The cars could be used individually or with several coupled together in sets controlled from the cab of the front unit. The RDC was the only diesel multiple unit (DMU) train to achieve commercial success in North America.

The basic car was adapted from a standard 85 ft (25.91 m) coach. They were powered by two [Detroit Diesel](#) Series 110 diesel engines then manufactured by a division of General Motors, each of which drives an axle through a hydraulic torque converter, a technology adapted from World War II military tanks. RDC trains were an early example of self-contained diesel units, an arrangement now common in use by railways all over the world.

The local railroad history starts in Ashton, Idaho, in the early 1900's. The section of track between Ashton north to West Yellowstone is relevant as it extended the line beyond Ashton to Yellowstone National Park. The railroad was constructed by the Union Pacific Railroad between 1905 and 1909 and at the time was called the Yellowstone Park Railroad. Including siding and the turnaround at West Yellowstone, there was approximately 60 miles of track between Ashton and West Yellowstone.

The last train to use the track would have run in 1967. Many people wanted to keep the track intact, but in the early 1980's the railroad estimated that it would cost well over a million dollars to put the track back into shape to be able to make safe for rail travel. The railroad made the decision to abandon and remove the track. Starting in 1982 the deconstruction and removal of the tracks began and the land was returned to Targhee National Forest on the Idaho side and the Gallatin National Forest in Montana.

In an interview with <sup>i</sup>Glen Loomis, we found that the Yellowstone Historic Center once had a vision to restore a portion of the tracks on the Montana side. They had worked with a company to create what is called the "Portico Plan". This plan outlines how restoring the 1.9 miles of track from West Yellowstone to the South Fork of the Madison River might help with interpreting the history of West Yellowstone. Although about \$150,000 was spent to create the plan, the cost to restore the track was not fully researched. Also noted was the economic impact of such an endeavor. This plan does not exist electronically, but can be viewed at the City of West Yellowstone or the Yellowstone Historic Center office. At this point they are looking at the feasibility of adding a 1% resort tax to the existing 3% tax that would be designated for projects that would restore and preserve their railroad history and heritage.

### **Rail Diesel Car Options**

A domestic example of a modern [Rail Diesel Car](#) in use is in Texas on the Capital MetroRail line. This RDC is built by Stadler Rail Group, based in Bussnag, Switzerland.

Capital MetroRail is a commuter rail system that serves the Greater Austin area and is owned by the Capital Metro, Austin's regional public transportation provider. The Red Line, Capital Metro's first and only rail line, connects Downtown Austin with Austin's northern suburbs. The line operates on 32 miles of existing freight tracks, and consists of nine stations.

After a series of delays, Capital MetroRail launched the service in March 2010. Daily ridership during the first nine months was approximately 800 riders per weekday, although it had doubled to 1,600 by its first anniversary. Capital Metro added additional runs during midday beginning in mid-January 2011. Friday evening and Saturday afternoon and evening regularly scheduled service began on March 23, 2012.

In September 2005, Stadler Rail won a bid to build six [Stadler GTW diesel-electric](#) light regional railcars for the system. Each of the vehicle's capital costs is about \$6 million, and they run on 2 x 375 kW diesel-electric engines. They are 9 feet, 8 inches wide and 134 feet long.

The vehicles have a capacity of 200 passengers -- 108 seated and 92 standing. The trains have priority seating areas which are fully ADA compliant for wheelchairs. A "VIP section" with room for laptop use with WiFi access also is available. Bike racks, luggage racks, high back rests, and low floor entry for easy access are all features of what Capital Metro calls the safest and most technologically advanced



trains in North America. WiFi is provided by cellular based 3G service. For safety, the vehicles have ten cameras outside and six inside, as well as a sophisticated communications system.

Based on research, this type of RDC appears to be the most commonly used rail car operating in the USA today. Stadler is a Swiss rail car manufacturer that builds a variety of passenger rail vehicles. Their vehicles are designed to have low life-cycle cost, maintenance and operating costs, and high “Swiss” quality. Stadler also is the only rail car manufacturer to meet the FRA, [Federal Railway Administration’s](#) Alternate Compliance Requirements. Alternate Compliance is a set of standards focusing on crash energy management to reduce injuries to passengers as opposed to the traditional vehicles, which do not have any such requirements.

Stadler has two versions of diesel rail vehicles: the GTW and the FLIRT. The GTW is designed for passenger journey times up to 90 minutes long, while the FLIRT is designed for longer travel times at higher speeds. Both vehicles can be configured in various sizes to accommodate different passenger capacity. Based on the distance between Ashton and Idaho Falls, Idaho, as well as the speed allowed on the existing tracks, the GTW model will be the focus for the study.

The GTW articulated railcar is based on a modular vehicle concept to optimally meet the various requirements in terms of track gauge, structural clearance and transport capacity. Thanks to its modular design, the GTW articulated railcar is available in electric versions for all common voltages as well as in diesel-electric versions.

#### **Other RDCs in Use**

The Boston and Maine Railroad once owned the largest number of these units, but they were also very popular for commuter and short distance service with the passenger-heavy railroads such as the New Haven Railroad, New York Central, Northwestern Pacific, Reading Railroad, Pennsylvania Reading Seashore Lines and Jersey Central.

The Trinity Railways Express (TRE) service between Dallas and Fort Worth is using RDCs for commuter passenger service during off-peak hours, with connections available at various points to Amtrak and the DART system. Some of these were on loan to the Denton County Transportation Authority for the A-train service until its normal rolling stock of 11 third-generation Stadler GTW 2/6s was delivered.

The Alaska Railroad possessed five RDCs, four of which were kept in service and one kept for parts cannibalization. Recently, the ARR sold the last of its operating RDCs to TriMet in Oregon where the cars will be used as back-ups for its Westside Express Service.

Rail Diesel Cars are still used in tourist train service by the Cape May Seashore Lines, the Newport Dinner Train, the North Shore Scenic Railroad, and the Wallowa-Union Railroad Authority's Eagle Cap Train.

### **Purchase Options and Costs**

Stephen Bonina, President of Stadler Rail USA provided information regarding the pricing structure and used RDC purchase options. Stadler is the top of the line in rail cars available in the US today. A service operating between Ashton and Idaho Falls would benefit from the smallest unit in the line of cars manufactured by Stadler. These cars carry 200 passengers and the configuration of the car can be modified based on service needs. The cars are sold as a stripped down unit and the buyer can purchase bike racks, luggage racks or other options to be included in the final design. The cost estimates are very broad. A minimum of 8-10 units is needed to get the discounted rate of roughly \$6,000,000 per unit.

Based on the initial need for fewer than 10 units, Mr. Bonina recommended that purchasing used cars may be the better option. Some of the services currently operating may have some cars for sale at a later date. [Denton County Transportation Authority](#) just began a service in June 2012 and may have cars available for sale or lease by the time this project is further along in the process.

Another possible procurement source of a used RCD in the future would be [Dallas Area Rapid Transit](#). Without a definitive budget, start times, quantities, etc., these two sources were not able to give much information though contacting them once more decisions have been made would be appropriate<sup>ii</sup>. Purchase of a used car from Europe could be option as well; however, they would have to be retrofitted to adjust to the tracks and specifications for regulations in the United States.

### **Feasibility of Using Existing Tracks**

“The Eastern Idaho RR is one of the railroads within the family of Watco railroads. The line that you refer to is an active freight line on the Eastern Idaho Railroad and as such would generally not be considered as viable for passenger service consideration due to several safety and liability reasons, not limited to the requirement of complete temporal separation from freight services”, said John Brown, Senior Vice President of Special Projects, for Watco. Mr. Brown referred the researcher to Rob Thrall, VP of West Operations to provide the needed information and recommendations. Rob works out of the Twin Falls, Idaho, office. The Watco headquarters are in Pittsburg, Kansas.

Eastern Idaho Railroad currently owns the tracks between Ashton and Idaho Falls, Idaho. Although Rob was helpful, he wanted the region to recognize the obstacles in using the existing tracks that currently carry freight. **Because of the current contracts and commitments to freight customers along this stretch, the tracks would only be available for passenger use between the hours of 2:00 AM and 8:00 AM, which would not be suitable for commuter or recreational use.** Rob also explained that future regulations will require a \$15,000-\$20,000 investment per route for satellite tracking of traffic on any tracks that carry both freight and passenger cars. If at some point the tracks were used for passengers, this investment would need to be considered in the planning. Liability insurance on the part of the provider would also be needed should this project come to fruition.

Another point of discussion was the need for depots or transfer stations. These would also need to meet all safety requirements, as well as fill the logistical needs of the riders. **At this time Watco does not see**

**the use of tracks as feasible given the existing freight traffic, but they asked to be kept informed of the overall findings of this study and any future developments.**

### **Station Locations and Design**

Evaluation of logical sites to be used as feeder locations or depots included current placement of the tracks between Ashton and Idaho Falls, Idaho as well as input from local community leaders with an interest in public transportation.

Service could be provided at six points; Ashton, St. Anthony, Rexburg, Rigby, and two locations in Idaho Falls one on the north end and one on south end near the Melaleuca facility. Currently there are no train boarding platforms at any of the potential station stops. The success of the service would require that park-and-ride facilities be provided at most of the stations. A basic platform, security lighting, trash receptacles, along with the park-and-ride spaces would need to be installed at each location. Other suggested amenities at the stations would be restrooms, lockers, WiFi and bike racks.

### **Public Input**

Eastern Idaho Technical College, University of Idaho, and Brigham Young University-Idaho all agree that public transportation – or more specifically the lack of public transportation – is a problem, although the introduction of a rail system to fill the void didn't seem to be the obvious "next step". Representatives of these institutions felt the infrastructure would first need to be in place for transferring from one bus to another or from a bike to a bus, etc. Any plans for transfer stations for buses, bikes, or park and rides take into consideration inclusion of a rail service in the future.

When discussing overall transportation needs, all those surveyed mentioned [TRPTA](#) (Targhee Regional Public Transportation Authority) was service they believed their students, staff and faculty had access to, but, "it didn't fill the needs. Many find it necessary to purchase rides from private transportation companies when TRPTA can't meet their needs." TRPTA purchased the assets of CART, Inc., hired its staff, and assumed all of the transportation services previously provided by CART, Inc. in 2006.

Salt Lake Express also offers transportation to this area via bus but at this time does not offer intra-city services. There also is a lack of transfer stations located close to where rail riders could transfer to the existing services in the area.

One of the major employers in Madison County, Artco Printing, has employees based in Madison, Fremont and Teton counties, Idaho. Aaron Lerwell, Human Resources Director at Artco had the following comment based on the needs for their 235 employees:

"With this being a rural community, I am not sure how many would be open to this idea (having rail service as a mode or option for transportation to commute) nor do I think it would serve Madison County all that much. If there was transportation from the outlying cities and counties

going into Idaho Falls, where more employers and growth is happening, I could see this being a benefit. I do not see it helping our business for a while but it may as growth continues in Rexburg.”

Regarding placement of a depot, it was noted that Artco is located adjacent to the existing tracks and if the depot was located near them it could bolster use by employees.

BYU-Idaho, based in Rexburg, Idaho, currently enrolls over 16,000 students each trimester. One of their goals is to create a walking campus that would encourage students to leave their cars at home. Parking on campus is an issue with the year over year increase in enrollment. The University recently became a partner with Enterprise Rental Car and the WeCar program. This allows students to join the [We Car](#) group and participate in car sharing. Jessica Sorenson, Contract & Supplier Relationship Manager with BYU-I provided information about the car share program and reiterated the need to get more public transportation available to the campus. Phil Packer, University Counsel, BYU-Idaho also shared some anecdotal comments. When asked if they had the option of a rail diesel car or other modes of public transportation would faculty, staff and/or students view this as a viable option, the answer was “If this option is more economical than a car, which we guess it would be, people would take advantage of this option. It would also help with flexibility by adding more transportation options overall.” It was also mentioned that if more public transportation were available, faculty, staff and students would benefit. It would also seem to be in line with the goal of creating a walking campus.

Several attempts were made to get feedback from [Melaleuca](#) at either their Rexburg or South Idaho Falls locations. Not only do they have facilities in two towns along the proposed track, the Idaho Falls location is near the existing tracks and the Rexburg location is within less than ½ mile from existing tracks. They have employees living in Rexburg working in Idaho Falls and vice versa.

### **Conclusion and Recommendations**

At this juncture, starting a Rail Diesel Car service between Ashton and Idaho Falls, Idaho, does not appear feasible due to these variables:

Track use would be limited to between 2:00 AM to 8:00 AM. The main use of tracks are the from the agriculture sector. Potato warehouses along this route have been built near the tracks as the main means of transportation to market.

Depot and transfer station infrastructure does not currently exist. This would need to be built into the cities’ planning for the future. Location and procurement of real estate would need to be completed for the transfer stations and/or depots. It was recommended by Stephen Bonina that if/when this starts, the ground around the depot 3-4 acres, should also be purchased to allow basic shops to be set up to help sustain and possibly pay for the depots.

The relative cost of RDC travel needs to be compared against other public transportation modes to determine the most efficient use of funds. It is possible that use of the railroad right-of-way for dedicated buses or autonomous vehicles might be more cost-effective.

Pursuit of any passenger rail or rail right-of-way use in Eastern Idaho would best be coordinated with the Idaho Department of Transportation that has recently issued a State Rail Plan (April 2013).

Although mostly focused on freight, there are a number of recommendations that direct the agency to continue its long-range planning for viable use of rail infrastructure and property for other uses:

#### **Local Land Use Rail Planning Assistance Program**

- 1) Identify available land use planning resources.
- 2) Work with rail owners/operators to disseminate policies regarding land use/transportation policies along rail right-of-way

#### **Idaho Rail Preservation Program**

- 1) Annually assess rail volume reports (from IPUC) for trends.
- 2) Conduct benefit/cost analysis on individual lines showing decreasing volumes over time, including potential for new industries.
- 3) Identify economic development partnerships/investments.
- 4) Develop partnerships between state/local jurisdictions and rail line owners/operators to apply for funding for rail line preservation and/or to apply for other funding for corridor preservation (including using the corridor for alternate means).

#### **Interstate Rail Partnership Program**

- 1) Expand existing partnerships with adjacent states and private railroads.
- 2) Monitor rail network improvements for impact on Idaho's economic competitiveness.
- 3) Use the Freight Advisory Committee and existing partnerships to increase awareness of enhancements.

#### **Commuter Rail Corridor Preservation Program**

Identify funding to acquire rail corridor right-of-way for commuter rail operation.

#### **Heritage Tourism Rail Projects**

Evaluate abandoned rail lines for potential heritage tourism (partner with State Historic Preservation Office).

#### **Amtrak Pioneer Route Feasibility Study**

Coordinate/communicate with adjoining states on future studies to evaluate the restoration or replacement of the line that Amtrak terminated in 1997 along UP line.

#### **Commuter Rail Service Feasibility Study**

Evaluate potential support/demand and potential locations for commuter rail service

Based on research and discussions, it is apparent that there are many voids in the public transportation system across the four counties involved in this study. Many who were interviewed agreed with the need for more alternatives, but felt that the rail diesel car would not be the next logical step in improving public transportation. The final Regional Plan for Sustainable Development should include use of the Rail Diesel Car as one of the overall transportation options for the future, but only in the context of long-range alternatives and in coordination with adjacent states with rail lines.

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