South Central Alaska Commuter Rail Concept of Operations

1 Introduction

The purpose of this appendix is to describe a conceptual operating plan for a Matanuska-Susitna Valley (Mat-Su) - Anchorage weekday commuter rail service. Included in the description are ridership estimates, a schedule for the service start-up, description of the type of rolling stock or equipment that the service would use, and the conceptual costs to build and sustain the service into the future. Governance concepts for sponsoring the commuter rail service, potential service operators, and next steps are also discussed.

Public commentary during development of the Alaska State Rail Plan (ASRP) indicated a substantial interest in commuter rail service between the residential communities in the Mat-Su Valley and job centers in Anchorage. This conceptual operating plan has been assembled in response to the interest expressed in commuter rail during the development of the ASRP.

2 Background

The concept of a commuter rail service linking the Mat-Su with Anchorage has been studied several times. The first analysis was the *Feasibility Analysis of Upgraded Passenger Rail in the Anchorage, Alaska Region* prepared by Allen M. Voorhees & Associates for the Municipality of Anchorage and the Alaska Department of Transportation & Public Facilities (DOT&PF) in 1979. The next analysis was the *Anchorage Commuter Rail* study prepared in 1988, sponsored by the Municipality of Anchorage with the Matanuska-Susitna Borough (MSB) and the Alaska Railroad Corporation (ARRC). This was followed by the *Girdwood Rail Service Feasibility Assessment* done for the Municipality of Anchorage in 1994, and the *Market Analysis for ARRC Anchorage International Airport Rail Station* completed in 1999. In 2000 the *Knik Arm Study* also explored commuter rail and ferry alternatives.

In 2002, the ARRC sponsored the *South Central Rail Network Commuter Study and Operation Plan*. In addition to service between Mat-Su and Anchorage, this study explored service between Girdwood and Anchorage. The effort's ridership analysis relied on quantification of the universe of weekday commuter trips to Anchorage. Modal splits typical of commuter rail elsewhere in the United States were then applied to the trip total to generate an estimate of potential commuter rail ridership. The analysis was supported by findings of a telephone survey and focus groups of Mat-Su - Anchorage commuters and was aimed at understanding commuter behavior and preferences. The survey/focus group findings confirmed strong interest in commuter rail.

The ridership element of that study was updated in 2009 with the *Wasilla-Anchorage Commuter Rail Concept of Operations*, a technical memorandum prepared for ARRC. Similar to the 2002 study, the update identified the universe of work trips that could be attracted to commuter rail between any pairing of origins and destinations along the route. This was done using the travel demand model developed for the Knik Arm Crossing project, a tool that did not exist in 2002. This universe of work trips was then reduced by updated commuter rail mode split information.

3 Ridership Forecast

The 2009 ridership study looked at five alternative ridership scenarios. Each scenario assumed two and three southbound morning trains with the reverse in the afternoon. The scenarios varied from one another in the number of stations used. Assumptions of stations ranged from two—Wasilla and Anchorage—to as many as nine. For two commute period round trips, the various scenarios estimated a range of between 600 and 1,200 riders per weekday in 2020. For three commute period round trips, the range was between 900 and 1,600 riders per weekday in that year. The scenario with the highest ridership included three commute round trips with nine stations (1,600 riders per weekday):

- Wasilla
- Matanuska (Glenn Highway/Parks Highway Interchange)
- Eklutna
- Birchwood
- Eagle River
- Elmendorf
- Anchorage
- Spenard
- Ted Stevens Anchorage International Airport (AIA)

This scenario also had the longest transit time of 1 hour and 18 minutes from end to end, and 1 hour and 8 minutes between Wasilla and a Ship Creek station in Anchorage. The latter was the same run time for the seven-station scenario, which excluded the two more southern stations of Spenard and AIA. The scenario with the lowest ridership was for service between just two stations: Matanuska and Ship Creek. It also had the shortest run time of 45 minutes.

However, another scenario combining a 60-minute run time and a three-station stopping pattern, generated a 2020 ridership forecast of 1,000 to 1,500 riders for two and three commute period round trips, respectively. The three stations were Wasilla, Matanuska, and Ship Creek. It is a variation of this scenario that is used for the conceptual operating plan and cost estimate described below. The ridership forecast for the scenario appears in Table 1. The base year for the forecast was 2005.

Table 1: 2009 Ridership Forecast for a Two-Station Service Scenario

Year	Weekday Passenger Trips	
	2 Round Trips	3 Round Trips
2005	600	900
2012	700	1,000
2020	1,000	1,500

If one round trip in the off-peak period were offered, it would be reasonable to add 10 percent to the figures stated above.[1] For example, with an estimate of 1,500 riders for three round trips, a mid-day round trip would add another 150 riders, providing for a total weekday ridership of 1,650 riders.

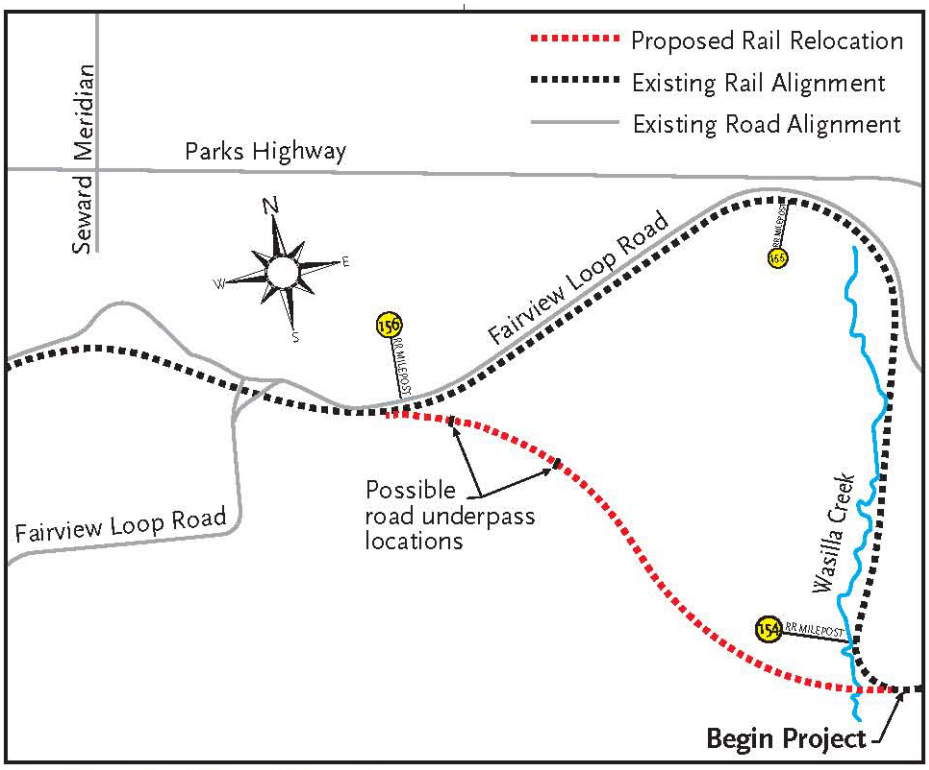
[1] Off-peak ridership is typically a small fraction of total weekday ridership. Caltrain, the commuter rail service on the San Francisco Peninsula, has off-peak ridership totaling about 12 percent of total weekday ridership. The 10 percent figure used in this analysis reflects a mid-day ridership that could be expected with a more modest mid-day service level (one round trip) versus Caltrain (eight round trips).

4 Operating Plan – Start-up System

The operating plan for a Wasilla - Anchorage commuter rail service details how such a system would work. It specifies a schedule, stations and amenities, equipment, maintenance of equipment, fare and fare collection, crewing, and integration with local transit. It is likely that ARRC would operate the service as the host railroad, provide crews, and maintain the trainsets. Alternatively, an outside contractor could operate the service. The service sponsor would be a public agency, responsible for all costs related to implementing and continuing operations.

For the three-station concept, the 2009 commuter rail ridership update assumed a one-hour run-time from Wasilla to Ship Creek, based on comments from ARRC. This operating plan assumes a faster run time, enabled by completion of the South Wasilla Rail Line Relocation, which potentially saves up to six minutes. The relocation project is shown in Figure 1.

Figure 1: South Wasilla Rail Line Relocation Concept



Source: Alaska Railroad Corporation, Project Facts, August 1, 2013

The purpose of the realignment is to replace two miles of circuitous, slow speed track with one mile of straighter, faster track. The ARRC has completed design and purchase of right-of-way. The estimated cost to complete the project is $37 million.

This plan is labeled as "start-up" because it is intended to provide a viable first phase in commuter rail service that could be expanded to add more stations and serve other points that have been suggested in previous analyses (e.g., AIA, Dimond Transit Center, or Girdwood). At the same time, it is important that the initial system be attractive enough for riders even if no expansion takes place.

4.1 Schedule

The following illustrative schedule, shown in Table 2, is modified from the one assumed for the 2009 ridership forecast update.

Table 2: Schedule for Three Peak Period Round Trips with a Mid-day Option

Southbound						Northbound				
Read Down										Read Up
C1	C3	C5	C7	*Denali Star*	Location	*Denali Star*	C2	C4	C6	C8
6:00	6:30	7:00	13:00	19:10	Wasilla	9:15	11:49	17:49	18:19	18:49
6:09	6:39	7:09	13:09	--	Matanuska	--	11:45	17:45	18:15	18:45
6:54	7:24	7:54	13:54	20:10	Anchorage	8:15	11:00	17:00	17:30	18:00

The commuter schedule calls for a 54-minute run time between Wasilla and Anchorage (Ship Creek) and a 45-minute run time between Matanuska and Anchorage. There would be three southbound peak period trips in the morning and the reverse in the afternoon/early evening. There would also be one mid-day round trip, providing the commuter a way to get home to Wasilla without having to wait for a late afternoon train.

As of 2014, the track distance between Ship Creek and Matanuska is 36.4 miles and between Ship Creek and Wasilla is 45.5 miles. If the South Wasilla Rail Line Realignment project is constructed, the track length to Wasilla will be reduced to 44.5 miles. However, a new station for Wasilla in the vicinity of the Wasilla Airport would add three miles to the distance. Thus, the total station-to-station distance would be 47.5 miles.

ARRC has advised that the commuter trains could be authorized for faster track speeds than are presently allowed for regular ARRC trains, passenger or freight. Existing maximum allowable passenger speeds on the route range between 20 and 60 miles per hour (mph).

The 54-minute schedule discussed above calls for an average train speed of 53 mph between Wasilla and Anchorage, a function of assumptions that include the South Wasilla Rail Line Realignment and higher maximum speeds allowed for commuter trains on sections of the route south of Matanuska. The average speed is higher than commuter rail services typically are able to achieve. However, the start-up service would only have one intermediate station (Matanuska), thus allowing for a faster average speed.

With the start-up of commuter rail service, it is possible that the run time of the *Denali Star* could be improved between Wasilla and Anchorage. The schedule above includes a one-hour run time for the *Denali Star*, with no conflicts with opposing commuter trains.

4.2 Stations and Amenities

The 2002 commuter rail operation plan assumed a Wasilla Station located near the Wasilla Airport, approximately three miles west of the current station in downtown Wasilla. A station in that location

would be convenient for both downtown residents as well as for commuters coming from points west and northwest of Wasilla. The plan assumed use of city land, thus saving on land acquisition cost.

Station amenities would include a parking lot with a 300-vehicle capacity. The station would also accommodate local transit and passenger drop-off/pick-up commonly known as "kiss-and-ride." The parking lot and station platform would be lighted. There would be an enclosed waiting room and an electronic Ticket Vending Machine (TVM) to dispense single tickets and add value to electronic fare cards (see Section 4.7). Access would have to be built for motorized and non-motorized (bicycle and pedestrian) traffic.

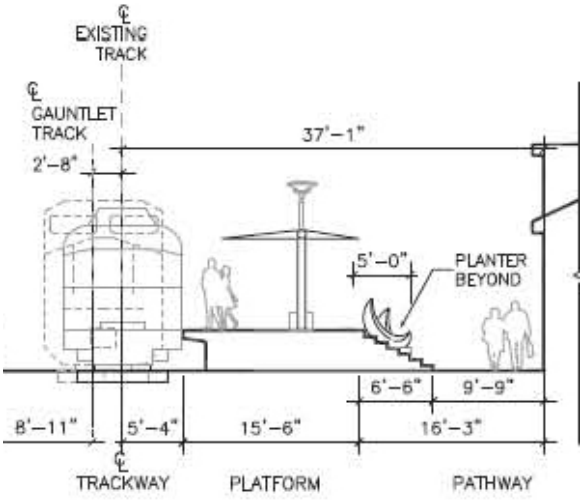
The cost estimate for this facility was $1.6 million in 2002. Adjusting for inflation (estimated at 2 percent per year), the cost in 2013 would be $2 million. However, given the 2009 ridership forecast, the station would need to have at least 500 parking spaces, a two-thirds increase, by 2020. Accordingly, a more appropriate station conceptual cost would be $3.3 million in 2013 dollars.

One strategy to mitigate station construction costs would be to include residential and commercial mixed-use transit-oriented development (TOD) into the station design. TOD can help defray public outlays for station construction.

The operating plan assumes that the cost of the Wasilla Station will be paid for by the City of Wasilla. As an example, cities served by the Metrolink commuter rail service in the Los Angeles area covered the costs of station construction.

The rolling stock assumed for this commuter service are self-propelled rail cars known as Diesel Multiple Units (DMUs; see Section 4.3). These rail cars have level boarding, which was not assumed in the previous cost estimates. Level boarding requires platforms be raised to the level of the car doors. The advantage of level boarding is that it enables passengers to walk into rail cars, rather than step up into cars, speeding the boarding process and minimizing station dwell time. A challenge is that level boarding platforms have to be configured so they do not foul the clearance envelope for freight trains. Fixes for this issue include freight train gauntlet tracks, or even bypass tracks, to shift freight trains further from the platform. The following schematic, shown in Figure 2, shows the clearance envelope for a diesel-electric freight locomotive on a gauntlet track and a DMU at a level boarding platform.

Figure 2: Clearance Envelopes for Locomotive and Self-propelled Rail Car at Station



Source: SMART DMU Presentation, December 15, 2010

A lump sum estimate of $1 million per station would be reasonable to provide for level boarding at a station, plus track work modifications preventing fouling of the freight train envelope. Thus, the total for the Wasilla Station would be $4.3 million. Level boarding and alighting of passengers on/off the *Denali Star* could be accommodated, depending on the car type. Alternatively, *Denali Star* boarding and alighting could occur at a conventional step-up platform along the gauntlet track opposite the level boarding platform.

Figure 3 shows a freight car on a gauntlet track passing at a level boarding platform under construction.

Figure 3: Freight Car on Gauntlet Track Passing Level Boarding Platform

Source: SMART DMU Presentation, December 15, 2010

For Matanuska, the 2002 plan called for parking space for 100 vehicles, a lighted parking lot and platform, and an enclosed shelter. The Matanuska station would serve both Palmer residents and residents from the eastern environs of Wasilla. Ideally, it would be constructed on publically owned land to minimize land acquisition costs. Its 2013 cost estimate is $1.4 million. However, given the ridership forecast for 2020, the station would need to have at least 300 parking spaces. Accordingly, a more appropriate station cost would be $2 million. With the assumption of a level boarding platform and related track improvements, the station cost is $3 million.

The 2002 plan assumed a new Anchorage Intermodal Station for commuter service, rather than the existing, historic Anchorage Station. However, the ARRC expects that the historic depot could host commuter rail service. The addition of a level boarding platform and related track improvements, estimated at $1 million, would be needed.

4.3 Equipment

The 2002 study explored use of self-propelled rail cars. Figure 4 includes an image of a trainset consisting of these cars. This vehicle type is currently being constructed for the Sonoma-Marin Area Rail Transit (SMART) commuter rail start-up in northern California by Sumitomo Corporation of America. A two-car train set, which could accommodate 158 seated passengers, would cost around $6.3 million.

Figure 4: Two-car Self-propelled Trainset for SMART

Source: Railway Gazette, December 21, 2010

However, a two-car trainset would not be adequate for handling the ridership projected for a three-round trip commute period rail operating pattern in year 2020. The solution, providing for more seated capacity and resulting in fewer passengers potentially having to stand, would be a three-car trainset, at a cost of approximately $9.5 million. A three-car version of the Sumitomo DMU appears as in Figure 5.

Figure 5: A Three-car Self-propelled Trainset

Three trainsets would be required to support the three commute period round trips and the mid-day round trip. One spare set would be required to allow for federally mandated inspections of the equipment. Accordingly, the estimate for the purchase of four sets of equipment would be $38 million.

An alternative would be to use ARRC locomotives and trailing coaches as well as other existing equipment, although the operating cost of conventional equipment would likely be higher than the self-propelled rail car option. In addition, ARRC has its own passenger equipment needs, particularly during the summer months. Thus, it would be preferable to have an equipment fleet dedicated to the regularly scheduled commuter rail service.

4.4 Transit Integration

While it is likely that most commuters will drive to their boarding stations in Mat-Su, transit service to the Wasilla and Matanuska Stations could be provided by Mat-Su Community Transit, also known as MASCOT.

In Anchorage, People Mover buses could meet trains at the Anchorage Depot and ferry riders to work centers. Private or subscription shuttles services provided by major employers in Anchorage would also be an option to move commuters beyond Ship Creek.

4.5 Support Facilities

The commuter rail equipment could be maintained at the ARRC's maintenance facility in Ship Creek. Federally mandated inspections of the equipment would occur there.

A layover facility would be required for the three three-car trainsets just west of the planned Wasilla Station, off the ARRC main line. The layover facility would require approximately 800 track feet to accommodate the three overnighting trainsets. The facility would be fenced and have an overhead cover to keep the rolling stock free of snow accumulation and to facilitate end-of-run light cleaning. It would also have standby power to prevent equipment from freezing up in winter. The facility would also have a secure shelter for crews reporting for duty in the mornings and ending their duty in the evenings. It would have limited parking for crews and an access road. Assuming the facility was built on city owned land (like the station), a lump sum estimate for such a facility would be $2 million.

4.6 Crewing

It is technically feasible that the self-propelled rail cars could be run solely with a locomotive engineer. However, the rail cars will be operating in an environment where freight trains, longer distance ARRC passenger trains, and commuter trains would share track. Because of the inherent complexity of a shared-use facility, the operating plan assumes a conductor for each trainset, in addition to the

engineer, to ensure operational and passenger safety. The conductor could also spot check fare payment, as noted below.

4.7 Fare Instruments and Collection

This operating plan assumes that most fares would be collected by an electronic fare recognition system, using a fare card or even a smart phone. A typical commuter would swipe a fare card/phone at an electronic reader at the boarding station and again at the destination station (sometimes called a "tag-on/tag-off" system).

As noted in Section 4.2, the three stations would also be equipped with TVMs that can dispense paper tickets for occasional riders and those riders who forget to bring their electronic fare cards. TVMs will replenish the cash value of electronic fare cards.

A conductor, equipped with a hand-held reader, can spot check riders to confirm that they swiped their cards when boarding or that they possess TVM-purchased paper tickets.

Ideally fare cards would be accepted on connecting transit, along with paper tickets. As such, more discussion about the integration of fare cards and tickets with MASCOT and People Mover would be appropriate.

4.8 Fares

An illustrative average one-way fare from either Matanuska or Wasilla to Ship Creek would be $6.50. The fare calculation assumes a commuter fare of about $0.14 per mile, a ballpark figure based on a review of fares offered by the Caltrain commuter rail service on the San Francisco Peninsula. Total fare revenues for 1,650 riders per day (year 2020 estimate for three commuter round trips plus one mid-day round trip) would total $10,725. Assuming 254 work weekdays per year, total annual fare revenue would equal approximately $2.7 million.

4.9 Operating Costs, Operating Subsidy, and Fare Box Recovery

An end-to-end journey from the new Wasilla station to Anchorage would be just less than 48 miles. Eight trips or four round trips would equal 384 train-miles per weekday[2] and 97,536 train-miles per year. Assuming a typical commuter rail operating cost of $65 per train mile, annual operating costs would equal $6.3 million per year. The resulting operating subsidy (operating costs less fare revenue) would be $3.6 million per year.

Although $6.50 each way may initially strike some commuters as expensive, in reality it is roughly one-fourth the cost of commuting by private auto, as Table 3 illustrates. In comparison, the Valley Mover bus fare is S7.00 one-way or $10.00 for a one-day Mat-Su – Anchorage round trip.

[2] The 384-mile figure accounts for shuttling some equipment between Anchorage Station and Ship Creek shops for maintenance. Some light cleaning and minor repair can be accomplished during the day at the Anchorage Station.

Table 3: Comparison of Commuting Cost - Auto Versus Rail

Item	Daily		Monthly[a]	
	Rail	Auto	Rail	Auto
Rail/bus Round Trip	$17.00[b]		$374.00	
Auto cost, 60.8 cents/mile at 100 mile round trip[c]		$60.80		$1,337.60
Parking in Anchorage		$5.00		$110.00
Totals	$17.00	$65.80	$374.00	$1,447.60

[a] *Assumes an average of 22 Work days per month.*

[b] *Assumes $6.50 each way for the train and $2.00 each way for connecting buses.*

[c] *From the American Automobile Association; cost in 2013 for an average sedan.*

Fare revenue divided by operating costs equals fare box recovery, a common measure of the financial success of a public transit mode. Given the projected revenues and operating costs outlined above, the fare box recovery of Wasilla-Matanuska-Anchorage commuter rail service in 2020 would be 43 percent. This fare box recovery ratio is similar to those achieved by Caltrain in the San Francisco Bay Area and Metrolink in Southern California.

4.10 Track Improvements

The operating plan assumes that regularly scheduled commuter rail service can be operated without any major track improvements other than the South Wasilla Rail Line Realignment discussed above in this section. Any future planning work in advance of service implementation will confirm the physical improvements required to start commuter rail operations.

It is worth noting that there are various sidings between Wasilla and Anchorage, providing opportunities for freight trains to clear the way for the opposing, regularly scheduled commuter trains that will hold to the main line. These sidings are roughly every 6 to 9 miles, and have switches operated by a remote dispatcher using Centralized Traffic Control (CTC). They are, from north to south:

- Matanuska, Milepost (MP) 151.5-150.5
- Eklutna, MP 142-141
- Birchwood, MP 136-135
- Reeves, MP 129-128
- Elmendorf, MP 121-115.5 (the southern section of the siding is uncontrolled)

Any peak period northbound freight train longer than the shortest of these sidings will have to wait until the inbound commuter trains arrive in Anchorage before beginning their own trip.

Per the schedule in Table 2, the inbound commuter trains will reach Anchorage before the northbound *Denali Star's* departure at 8:15 AM and would provide no conflict for that train. Likewise, the southbound *Denali Star* would reach Wasilla after the last commuter train will have arrived there and moved onto the layover tracks, clear of the main line.

The operating plan assumes that South Wasilla Rail Line Realignment will be implemented by ARRC independently of a commuter rail start-up. Accordingly, it is not included in the cost estimate below.

5 Cost Summary

As noted in Section 4.9, the annual operating subsidy required to maintain the four round trips in 2020 would be $3.6 million.

The capital costs for initiating the commuter service areas are summarized in Table 4.

Table 4: Conceptual Capital Cost Projection

Capital Item	Station Cost	Item Cost
Stations		
Wasilla (with level boarding and a gauntlet track for freight trains)	$4.3 million	
Matanuska	$3.0 million	
Anchorage (with level boarding)	$1.0 million	
Total Station Costs		$8.3 million
Self-propelled Rail Car Equipment		$38.0 million
Wasilla Layover Facility		$2.0 million
Pre-Operations Testing		$0.5 million
TOTAL		**$48.8 million**

Table 4 includes a factor of pre-operations testing of all systems and facilities, excluding equipment. It is assumed that the self-propelled rail cars will be fully functional when delivered. The costs of pre-operations testing should be considered capital costs as they will be incurred in advance of opening the service to the public. They are assumed here to be 5 percent of station and layover facility costs. Pre-operations testing numbers vary widely for commuter rail systems, but a 5 percent allowance is within the range of what could be expected. Accordingly, total capital costs will be $48.8 million.

6 Governance

The operating plan assumes the establishment of a Regional Transportation Authority (RTA) by the Alaska Legislature to sponsor the commuter rail service. The agency will be responsible for covering the operating subsidy and capital costs for implementation, plus any further costs such as the additional rolling stock and stations. The RTA could sponsor all transit services in the Anchorage and Mat-Su areas, or it could sponsor just the commuter rail service and work with MASCOT and People Mover to transport riders to and from the commuter trains.

The RTA would be empowered to collect local revenues to support the transit services. An example of such an authority is Sound Transit in the central Puget Sound area, which sponsors and funds commuter rail (Sounder), light rail, and bus transit services.

Bills were introduced in the Alaska Legislature in 2009 and 2015 to allow the creation of a RTA in Alaska, but neither was enacted. Enabling legislation will be required to create a multi-jurisdictional agency that can fund and operate commuter service. The agency will need to be sufficiently independent to provide long-term continuity of service and fares.

At the same time, there are multiple examples of state sponsorship of commuter rail. One is Connecticut, whose Department of Transportation (ConnDOT) runs the Shore Line East commuter service between New London, New Haven, and Stamford. It will soon implement a new commuter rail service on the Amtrak Springfield Line between New Haven and Hartford, Connecticut and Springfield, Massachusetts. ConnDOT works with the Metro North service to run commuter trains between southern Connecticut and New York City.

Another example of a state sponsoring commuter rail service is the Utah Transit Authority (UTA), an agency of the State of Utah, which operates the FrontRunner commuter rail service between Ogden, Salt Lake City, and Provo.

7 Service Operator

It is likely that the ARRC would operate the commuter rail service, host the trains and provide crews, maintain equipment services, collect revenue, provide security, and dispatch trains. At the same time, there are various examples of public agency sponsors of commuter rail service hiring third party operators to run trains on host freight railroads. One example is Altamont Commuter Express (ACE), which hired Herzog Transit Service to run its trains between Stockton, Pleasanton, and San Jose, California.

8 Next Steps

The basic concept of commuter rail service between Mat-Su and Anchorage has been studied several times. Ridership and revenue have been forecasted, capital and operating costs estimated, and operating subsidy calculated. By 2020, a four-round trip weekday service has the potential to generate nearly the same fare box recovery levels that mature commuter rail services on the West Coast achieve today.

8.1 Confirming Commuter Market Details with Mat-Su Officials

Ridership estimates are based on market research and analysis performed several years ago. Therefore, a logical next step would include discussions with Mat-Su planning officials to understand their thoughts on the attractiveness and sustainability of commuter service in light of recent demographic trends there.

8.2 Demonstration Service

Another near-term step, helpful in confirming the utility of commuter rail, would be establishing a demonstration service. This service would be operated by ARRC and use existing ARRC facilities and equipment during the winter. This initiative could show the potential for improving the quality of life for Mat-Su commuters. A demonstration service could be simply one trainset doing one round trip per weekday between Wasilla and Anchorage.

Assuming 100 round trip passengers (200 one-way trips) per weekday,[3] revenues for a six-month operation would be $165,100. Operating costs for this service could be $792,500[4], requiring a subsidy of $627,400.

The ARRC has one self-propelled rail car, with a seated capacity of 110 that could be deployed for this demonstration. When the DMU may not be available due to maintenance or federally mandated inspections, ARRC conventional rolling stock could be used. No additional rolling stock is needed for a demonstration service provided it is operated during the winter when the ARRC equipment is not needed for other ARRC services.

The major capital cost would include a temporary overnight layover facility west of the existing Wasilla Station. The facility would consist of a siding approximately 300 feet long, a powered switch and signalization for operation on and off the mainline, standby power to prevent motors and onboard equipment from freezing, and security fencing. Additional costs would include parking improvements sufficient for at least 100 vehicles as well as for pedestrian and bicycle access improvements and lighting at Wasilla.

A lump sum estimate for the layover facility, along with parking/access and lighting improvements, is $1.5 million. The layover facility assumption is key, as it would obviate the need to account for cost for deadheading (positioning) the equipment between Ship Creek and Wasilla before and after revenue service, which would almost double operating costs. It is assumed that no property acquisition would be required for the layover facility and additional parking.

8.3 Moving Forward with Regular Service

Assuming a successful result of the demonstration service, work could begin on establishing regularly scheduled commuter rail service with new self-propelled trainsets. Over time, new stations (e.g., Eagle River, etc.) could be considered. However, maximum operating speeds would need to be increased to add stations without impacting run times. Other service improvements could include more off-peak/mid-day service and service on weekends.

8.4 Establishing a Governance Structure

The identification of a sponsor for the service, whose mission it will be to secure the capital funding for implementation and ongoing financial assistance for continuing operations, would be fundamental to implementation of regular service. It will be important to assure a funding stream for commuter rail that does not displace existing transportation funding shares for the Anchorage and Mat-Su areas.

Two models for governance are discussed above which have proved to be successful in sustaining commuter railroads. These are: the formation of a RTA, such as Sound Transit in the Seattle area; and state sponsorship, similar to what Connecticut and Utah have done.

[3] The ridership estimate is less than half the 2012 estimate for two round trips (and less than a quarter of the 2012 estimate for three round trips), but it is realistic given the lower service level.

[4] A high-side estimate that assumes a $65 per train-mile operating cost for the single DMU, the same cost estimate for a three-car DMU trainset.

Once the public sponsor has been identified and empowered to implement commuter service, the sponsor would need to negotiate an operating agreement with ARRC. The operating agreement would specify the terms and conditions for commuter rail use of the ARRC facilities and other resources. This agreement also would specify whether ARRC or a third party operates the service. The public sponsor would also contract for the planning, engineering, and construction of physical improvements, including stations and related facilities, and the purchase of self-propelled equipment.