Alaska Railroad 2011 Program of Projects

Established in 1923, the Alaska Railroad Corporation (ARRC) is the last of the full-service railroads in the United States, offering both freight and passenger services. From tidewater at Whittier and Seward to the heart of Interior Alaska, our route covers more than 500 miles. ARRC is a state-owned corporation, but it does not receive state funding to operate. ARRC relies on passenger, freight and real estate revenues to operate its trains and maintain tracks and facilities. About $55.9 million is budgeted in new spending for capital improvements in 2011. Detailed project fact sheets are also available online at **www.AlaskaRailroad.com**.

Federally-funded Projects

ARRC receives federal grant funding for capital infrastructure improvements and rehabilitation. Funding has been received from the Department of Defense (DOD), Federal Railroad Administration (FRA), Federal Transit Administration (FTA), Federal Highway Administration (FHWA), Transportation Security Administration (TSA), Federal Emergency Management Agency (FEMA), U.S. Forest Service (USFS) as well as other federal funding, such as "Stimulus" money from the American Recovery & Reinvestment Act of 2009. Most FTA, FHWA and FEMA funded projects require 9% to 25% matching funds from the Alaska Railroad. Although ARRC receives no direct funding from the state for capital or operating expenses, ARRC provides support to the Matanuska-Susitna Borough, City of Seward and Fairbanks North Star Borough to execute State of Alaska funded capital projects.

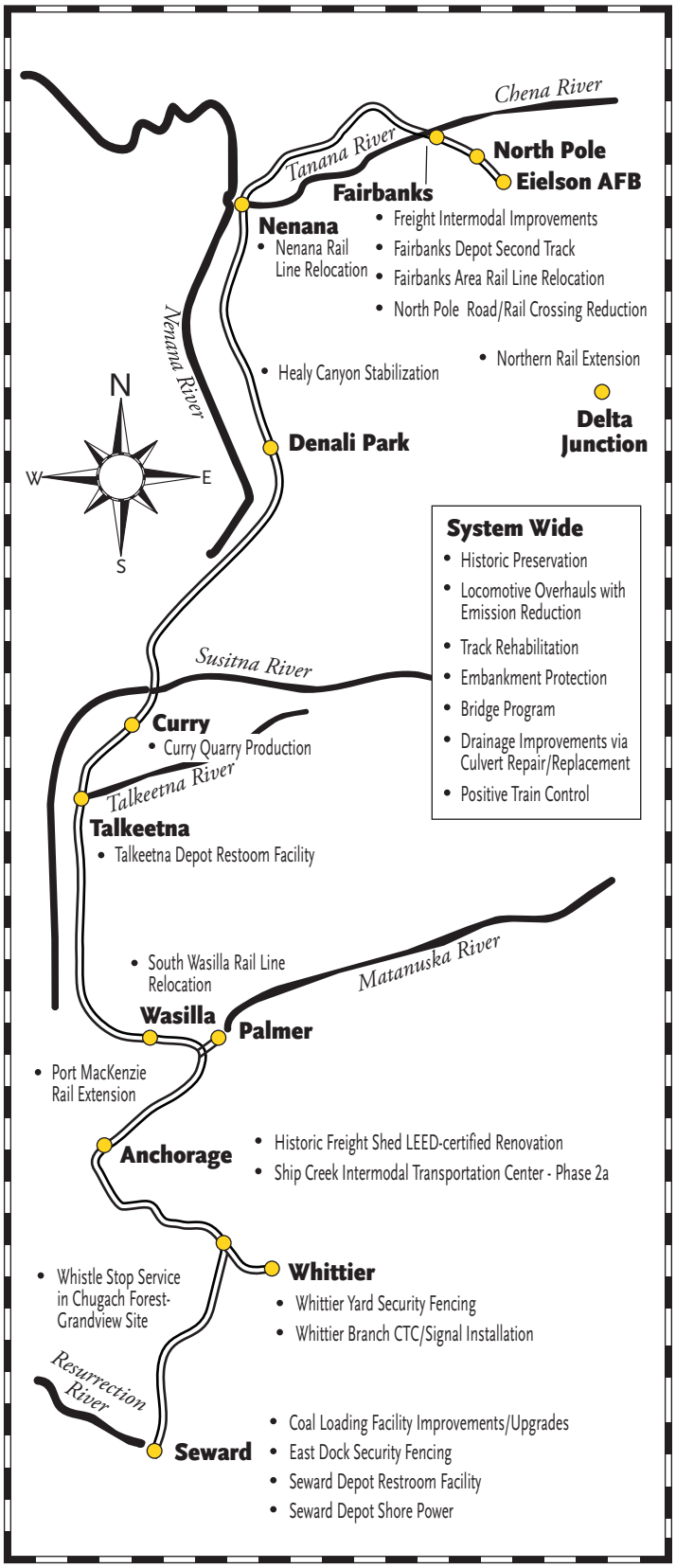
In 2011, ARRC expects to receive continuing FTA formula funding grants totaling $13.8 million (ARRC will contribute 9% of this amount). Other federal funds for 2011 include $2.93 million in FEMA-administered grants and a $1.38 million Stimulus-funded grant.

Internally-funded Projects

In addition to the match for federal funds, ARRC internal funds (funds generated by corporate freight, passenger and real estate revenues) support ARRC's ongoing expense activities as well as an annual capital program. In 2011, internal funds will provide $23.7 million toward capital improvements and capital rehabilitation activities.

Bond-funded Projects

In 2006, ARRC sold $76.1 million in revenue bonds with another $89 million bond sale in 2007. These funds are primarily used to accelerate track rehabilitation efforts. About $14.1 million will be spent in 2011. Bonds are repaid with FTA formula fund appropriations.



Frequently used acronyms:

- ARRC = Alaska Railroad Corporation
- ARRA = American Recovery & Reinvestment Act
- FEMA = Federal Emergency Management Agency
- FTA = Federal Transit Administration
- FRA = Federal Railroad Administration
- FHWA = Federal Highway Administration
- DOD = Department of Defense
- EA = Environmental Assessment
- EIS = Environmental Impact Study
- STB = Surface Transportation Board

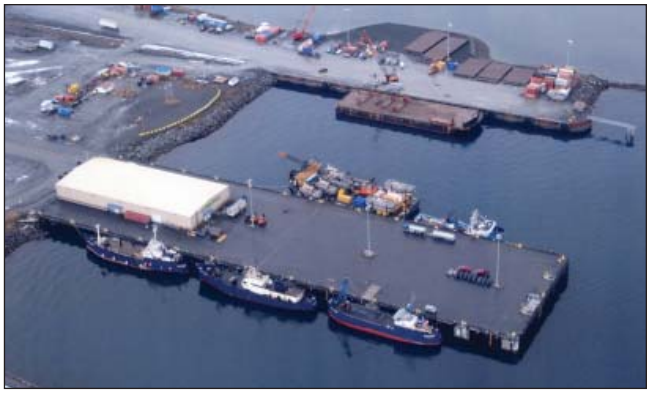
Seward Coal Loading Facility

ARRC acquired the Seward Coal Loading Facility in 2003 and made subsequent improvements in order to increase facility efficiency, driving down the cost of operation, thus making Alaska's coal resources more competitive in the global market. ARRC completed an EA of proposed improvements and upgrades in 2004. FRA provided the original $9.54 million grant, with $8.3 million spent on acquisition and associated studies and $1.24 million used for inspections, repairs and improvements. ARRC is underwriting ongoing maintenance and capital improvements. In response to community concerns over coal dust problems resulting from unusual dry, windy weather in early 2007, ARRC and facility operator Aurora Energy Services (AES) modified operations and ARRC hired industry experts to analyze and recommend future capital improvements. Since 2007, ARRC and AES have spent more than $1 million on safety, operations and environmental improvements. $540,000 is budgeted for 2011.

A coal ship docks at the Seward Coal Loading Facility.

Seward Depot Improvements

Construction of a new restroom facility next to the Seward Depot will be complete in 2011. The 24.5-by-26-foot building houses separate men's and women's facilities. Also, a power hook-up was installed beside the track near the depot, allowing trains to plug-in to support onboard food and beverage service. This eliminates the need for locomotives to run their engines to supply power to a parked train. The $750,000 budget is funded 100% by ARRA Stimulus money via FTA.



ARRC's West (left) and East docks in Seward.

Seward East and West Dock Investments

ARRC built a new East Dock in Seward in 2000, and a section of the 640-by-200-foot East dock was expanded to 320 feet wide in 2007. Begining in 2001, the West Dock and terminal building have been substantially improved to support intermodal passenger activity. In 2010-2011 a 2,000-foot security fence is being installed around the East Dock, with $162,400 funded by ARRA Stimulus money. State revenues from the Cruise Ship Tax funded dredging around the docks in 2010 to accommodate larger ships.

Chugach National Forest Whistle Stop Service

ARRC and the U.S. Forest Service (USFS) are partners in developing a whistle stop service in the Chugach National Forest. Plans call for five recreational sites between Portage and Moose Pass that will be accessible by rail and interconnected by trail. Sites include a passenger rail platform, passenger shelter, toilets and interpretive signage. Other features may include picnic, camping and wildlife viewing facilities. The project purchased a self-propelled diesel multiple unit (DMU) rail car, which arrived spring 2009. The first stop site at Spencer was completed late summer 2007. The USFS recently completed preliminary design and engineering for the Grandview stop site and construction is scheduled in 2011. $1.8 million for Spencer funded by USFS and ARRC. The $5.35 million DMU was funded $4.7 million by USFS and $648,000 by FTA and ARRC. Construction of a pedestrian bridge over Placer River at Spencer ($1.6 million), and the Grandview site ($1.2 million) is scheduled for 2011 and funded by ARRA grants obtained by the USFS. Estimated $14 million is needed to complete all five site facilities.

The bi-level self-propelled "DMU" railcar is delivered in 2009.

Whittier Infrastructure & Master Planning

ARRC is pursuing a Whittier Master Plan to improve railroad infrastructure. Recent projects: **1)** built a pedestrian underpass (2002); **2)** built an equipment maintenance facility (2002); **3)** improved Delong Dock (2002); **4)** built barge slip side-loading structures (2002); **5)** demolished the old transit shed (2003); **6)** built a cruiseship passenger spur and platform (2004); **7)** improved security with a yard office at the entrance, seasonal yard fence and video cameras (2006/07); and **8)** demolished the marginal wharf (2008). Barge Slip major modification began in 2009 with a $870,000 ramp extension and track/ground work funded by ARRC. The stern (front) unloading area was replaced in 2010 with the $4 million cost split between ARRC and Lynden. A security fence around the Whittier Yard will be installed in 2011 with a $311,224 Homeland Security grant and $82,000 from ARRC. Future actions recommended by the Master Plan include: **a)** construction of improved intermodal passenger and public use facilities; **b)** rail yard reconfiguration and track improvements to separate freight and passenger activity; and **c)** additional security measures including lighting and detection equipment for passenger facilities.

The Whittier barge slip stern (front) is replaced. The towers were removed and replaced by hydraulic devices to lower/raise the slip.

Whittier Branch CTC / Signal Installation

ARRC is incorporating the 12-mile Whittier Branch into the Centralized Traffic Control (CTC) network. Signals will be installed at sidings near Portage and at the west end of Portage Tunnel. Remote controlled power switches will be installed at the turn-around wye in Portage. $1.11 million project funded 91% by FTA and 9% by ARRC.

Ship Creek Intermodal Transportation Center

ARRC is pursuing an Intermodal Transportation Center (ITC) and associated improvements (pedestrian amenities, transit infrastructure, parking, track modifications, etc.) in the Ship Creek area. The ITC will facilitate connections from one transportation mode to another — rail, public transit, air, marine, bus, taxi, private vehicle, bicycle and pedestrian — and improve links to Anchorage's downtown business district to meet passenger transit needs over the next 30 years. Phase One, completed 2007-2009, included utility relocation, new track and passenger platform construction, and track rehabilitation. Part of Phase Two (2a) began in 2010 to include Anchorage Historic Depot exterior improvements, electrical upgrades and boiler replacement. Phase 2a wraps up in 2011. Future phases will construct a service / office building, a new departure lounge over the tracks and an elevated covered walkway connecting to downtown. Approximately $23 million for conceptual and environmental work, preliminary design, and Phase One was funded 91% by the FTA and 9% by ARRC. Phase 2a cost of $7.94 million is funded by ARRA Stimulus money. ARRA Stimulus money also funded $300,000 in 2009-2010 to install an additional 1,000 feet of security fencing east of the depot. Total cost is estimated at $78 million.

Phase One of the Ship Creek ITC constructs two new tracks and a pedestrian platform next to the Anchorage Historic Depot.

Historic Freight Shed LEED-certified Renovation

The Alaska Railroad (ARRC) is renovating a historic freight shed in Anchorage's Ship Creek District. It is Alaska's first historic building to be reconstructed with the high environmental standards established by Leadership in Energy and Environmental Design (LEED) criteria. Originally built in 1941, the 36,000-square-foot heavy timber facility offers a "green" commercial office space in lower downtown, featuring a raised heated walkway and ample parking. The building core-and-shell was completed late 2009 and site construction wrapped up in summer 2010. ARRC signed leases with two tenants in 2010 for 93% occupancy by the end of 2011. The overall facility renovation cost $10.1 million and tenant space renovations are estimated at $2 million, funded by ARRC.

The Historic Freight Shed renovation nears completion.

South Wasilla Rail Line Relocation

ARRC plans to straighten curves along the main line track in South Wasilla, between ARRC MP 154 and 158. The track relocation would eliminate five at-grade crossings, reduce derailment risk, reduce operational and maintenance costs, and allow for faster train speeds. An EA of alternative relocation routes was completed in 2005. Land acquisition should be complete in 2011. $246,000 for conceptual engineering and the EA and $2.72 million for preliminary engineering and land acquisition, funded by 91% FTA and 9% by ARRC. $2.5 million to continue right-of-way land acquisition funded 91% by FHWA and 9% by ARRC. Total cost for construction of Phase One (MP 154 to 156) is estimated at $37 million.

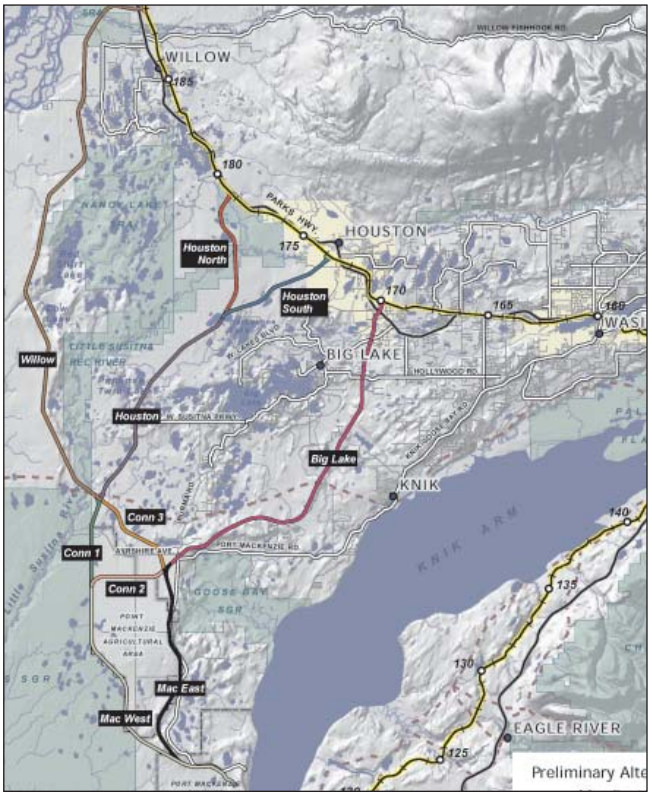
A large curve in the track slows train speeds in south Wasilla.

Port MacKenzie Rail Extension

The Mat-Su Borough and ARRC are partners in proposing a new rail line connecting Port MacKenzie to the existing main track at a point between Meadow Lakes and north of Willow. Three main routes were developed in 2007, ranging from 30 to 45 miles long, depending on a connection near Big Lake, Houston or Willow. Extensive public involvement activities were conducted in summer and fall 2007 to obtain citizen and agency input. In early 2008, ARRC submitted an application to the STB, the federal agency with authority over rail extensions in the United States. STB is conducting the environmental impact study (EIS) as required by the National Environmental Policy Act (NEPA). STB hired a third party contractor (ICF International) to begin the EIS in early 2008; completion is expected in 2011. The State of Alaska appropriated $27.5 million (2007/2008) to support the NEPA process and $37 million (2010) to pursue design and construction. Depending on the route selected, an additional $170 to $240 million is needed to complete design and construction.

Talkeetna Depot Restoom Facility

In 2011, construction will be completed on a 26-by-24.5-foot restroom facility about 20 feet from the existing Talkeetna Depot. The building houses separate men's and women's restrooms for passengers and employees. With modern plumbing and electrical systems, the new facility will eliminate the need to rent port-a-potties. The $500,000 budget is funded by ARRA Stimulus money.



Potential Port MacKenzie Rail Extension routes.

Curry Quarry Ballast & Riprap Production

The Alaska Railroad's track rehabilitation, embankment protection and other construction activities are supported by rock material production at the Curry Quarry. The quarry was developed 2005-2007, and a three-year production contract for ballast and riprap followed in 2007-2009. The quarry was dormant in 2010. Production resumes spring 2011.

Healy Canyon Safety & Reliability Program

Healy Canyon lies between Denali Park Station and Healy. The tracks follow the Nenana River gorge on a narrow grade with two tunnels. The area has steep slopes and erosion-prone soil. ARRC proposed a series of projects to: **1)** stabilize the track bed in Healy Canyon; **2)** control the rock fall problems; **3)** "daylight" (remove the top of) Moody Tunnel; **4)** realign tracks around Garner Tunnel; and **5)** realign the tracks to straighten the corridor. Total cost is estimated at approximately $71 million. $2.9 million in FRA funds were used to address track realignment and the slide zone around Garner Tunnel in 2005. $5.2 million in FTA grants and FTA-backed revenue bonds were used to daylight Moody Tunnel, which was completed in 2009. About $5.86 million was spent in 2009/2010 to stabilize several areas (MPs 352.9, 354.1, 355.2 and 357) in the canyon, with a combination of funding from FEMA, FRA, ARRC and the Alaska Division of Emergency Services. ARRC continues to seek funding to pursue future stabilization projects, including completion of MP 352.9.

Nenana Rail Line Relocation

ARRC proposes to realign the railroad main track around downtown Nenana, following a route outside of the existing right-of-way, north of the airport and southeast of town, over the Parks Highway. The track structure through Nenana would be maintained to support port activities. ARRC completed an EA of three alternative realignment routes and a "no action" alternative in 2004. Right-of-way acquisition was complete in 2009. A hydrology study completed in 2010 will be used to pursue flood plain permits in 2011. $1 million budget for the EA funded 91% by the FTA and 9% by ARRC. $1.04 million for land acquisition funded by 91% FHWA (administered via FTA) and 9% ARRC. $350,000 for the hydrology study funded by ARRA Stimulus funding. Estimated $31 million budget for construction and land acquisition. Funding for construction has not yet been identified.

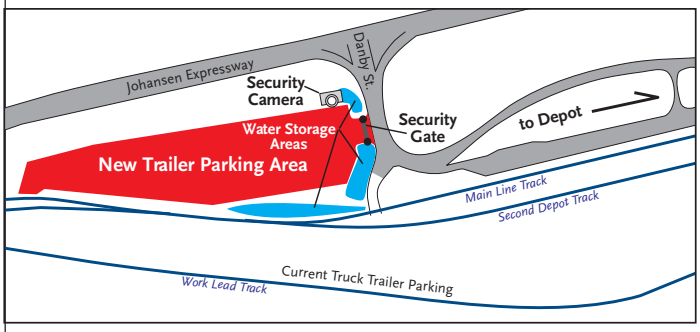
Fairbanks Depot Second Track

ARRC built a new depot in Fairbanks in 2005. Original plans called for two passenger tracks adjacent to the depot. The second track will be completed in 2011. The new 3,000-foot track will provide staging for passenger trains, improving operations efficiency and reducing equipment wear-and-tear. The second track cost of $1.2 million is funded by ARRA Stimulus money administered via an FTA grant.

A second track is constructed parallel to the existing track by the Fairbanks Depot.

Fairbanks Freight Intermodal Improvements

ARRC and ADOT/PF are improving the freight intermodal area of the ARRC Fairbanks Rail Yard to enable faster pick-up and drop-off by truck operators, and to enhance safety and security of train/truck operations. Improvements to Danby Street intersection area include: **a)** moving and improving at-grade crossings; **b)** constructing a centralized trailer parking area near the entrance and adjacent to Danby; **c)** paving Danby Street access; and **d)** improving drainage. Construction began in 2010 and will be complete in 2011. The $2 million budget is funded 91% by FHWA and 9% by ARRC. In 2011, the railroad also plans to install a rolling chain-link gate with ID card reader access and a video security camera at the entrance of the new trailer parking area, with funding from a FEMA-administered grant. Future improvements call for 100-foot high mast lighting to be added incrementally and funded annually by ARRC.



Fairbanks Freight Intermodal Site Plan

Fairbanks Area Rail Line Relocation

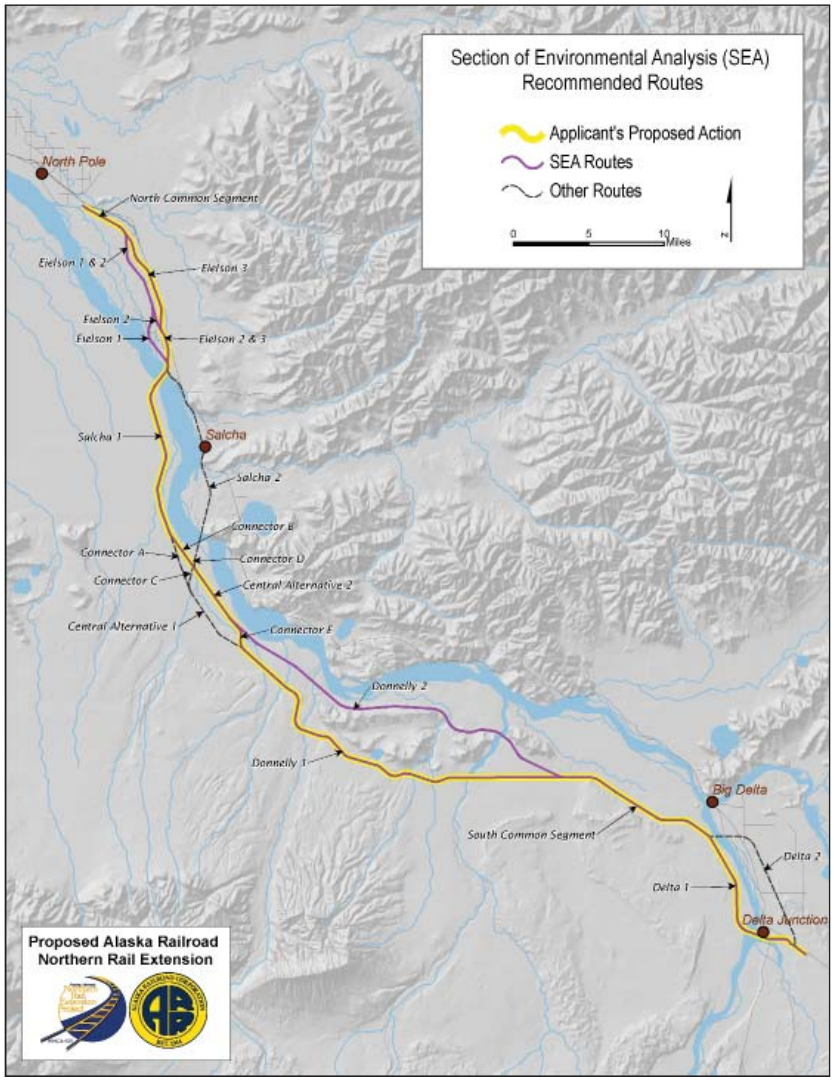
ARRC is analyzing options to: **a)** realign and improve safety of the main line and branch track, including potential realignments outside the more populated areas of Fairbanks and **b)** realign and improve the Eielson Branch, from the new Fairbanks depot to the end of the branch near Eielson AFB. The Fairbanks Area Rail Line Relocation will likely require an EIS. As a pre-cursor to the EIS, ARRC conducted an Alternatives Analysis (AA) in 2007-2008 that capitalizes on the findings of previous reconnaissance and engineering studies. The AA recommends a three-phased approach. ARRC also commissioned a *North End Rail Public Transportation Study and Operation Plan* to explore options for passenger rail and commuter service. Findings indicate low demand for Fairbanks-North Pole commuter service and results are inconclusive for Fairbanks-Denali service options. The AA and transportation study were funded by $450,000 in grants from FHWA and FTA with 9% from ARRC. Funding sources are being sought for NEPA environmental work to include an EIS.

North Pole Road/Rail Crossing Reduction

ARRC, in cooperation with the FRA, is initiating an EA and preliminary engineering for a proposed project to reduce at-grade road/rail crossings by realigning an 8-mile section of the Eielson Branch that currently runs through North Pole, between Richardson Hwy milepost 9 and the Chena River floodway. This project is essentially Phase One of the three-phased Fairbanks Area Rail Line Relocation. The EA is expected to be complete by the end of 2011. Funding of $1 million comes from FHWA funds reallocated by the Fairbanks Metropolitan Area Transportation System (FMATS) and the Alaska Department of Transportation & Public Facilities.

Northern Rail Extension

ARRC proposes to extend its main line track from North Pole / Eielson AFB, about 80 miles southeast to Delta Junction. The project would offer: **a)** commercial freight service supporting communities and commerce in the corridor; **b)** a passenger transportation alternative to the Richardson Hwy; **c)** support of military training; and **d)** support of regional tourism. ARRC initiated the conceptual development in 2004. The STB initiated an EIS in 2005. A draft EIS was released for public comment in December 2008. The final EIS was released in late 2009 and the STB approving a license to construct and operate a rail extension on January 5, 2010. Design of Phase One, Tanana River Crossing, got underway in 2010. Construction is scheduled to begin in 2011. The EIS, preliminary engineering and design was funded by $16.5 million in DOD appropriations, administered by the FRA. DOD appropriated another $44.2 million in 2007 and $60 million in 2008 for planning, engineering, environmental work, design and to begin construction on the first phase of the project. The State of Alaska appropriated $40 million toward Phase One in 2010. Entire rail line cost is estimated at $650 to $850 million; later phase funding is not yet identified.



Proposed and recommended routes identified in the Northern Rail Extension EIS.

Passenger Rail Cars and Locomotives

ARRC has 45 passenger-related railcars, including 30 coaches, six diners, six baggage cars, two business cars (charters) and one DMU. ARRC also has 53 locomotives: 28 SD70MACs (12 equipped with head-end-power to supply electricity to passenger cars), 15 GP40s, eight GP38s and two cab/power cars. ARRC upgrades older equipment and buys newer equipment to meet current and future passenger demands. In 2011, several passenger cars will be upgraded with new lighting, public address systems, batteries, signs, carpeting, wall-covering, seat upholstery and restroom refurbishment, thanks to a $530,000 grant funded 91% by FTA and 9% by ARRC. Four GP40 locomotives will be overhauled to include installation of engine idle reduction systems, and installation of a Tier-0-plus kit to improve fuel efficiency and reduce emissions; funded by a $1.4 million FTA "TIGGER" (Stimulus-funded) grant and $328,000 by ARRC.

Left to Right: GP-38-2, GP 40-2 and SD70MAC locomotive.

Positive Train Control

ARRC is developing a multi-phased program to design, develop, and implement a communication-based train control system that uses data radio communications between train dispatchers and train crews, or dispatchers and roadway workers. The Positive Train Control (PTC) project is comprised of a Computer Aided Dispatch (CAD) system, an on-board computer system, VHF packet data radio technology, and GPS locator technology. The PTC will provide improved information for decision-making, and will also detect infrastructure failure and potential operations violations quickly, and intervene when necessary. The PTC is being accomplished in phases, each achieving incremental safety benefits. The total cost is estimated to be more than $70 million. To date, FRA has funded $15.74 million; $4.48 million has come from FTA-backed revenue bonds; and FTA grants (91% FTA and 9% ARRC) account for $29 million. An additional $2 million was provided in 2009-2010, funded by ARRA Stimulus funding.

Matanuska River Bridge is undergoing rehabilitation work.

Bridge Program

ARRC's 500-plus miles of main line track include about 160 bridges that cross barriers ranging from streams to gulches. ARRC's 2011 Bridge Program calls for major maintenance, overhaul and replacement needed to maintain railroad integrity, safety and efficiency. In 2011, ARRC plans to complete replacement of two aging bridges (Little Goldstream Creek at MP 432.1 and Ship Creek at MP 115.1) and to design replacement of three culverts at Indian Creek (MP 88.1). A new bridge may be constructed over Skookum Creek Drainage (MP 59.4, near Portage). Upgrades and rehabilitation are also planned for five other bridges. In addition, a "rock shed" will be installed at the tunnel about 50 miles north of Seward to protect against falling rock and ice. Funding includes $1.69 million by FTA, $1.25 million by ARRC and $1.19 by FEMA.

Drainage Improvement/Embankment Protection

ARRC will repair or replace up to nine culverts along the northern half of the rail corridor. Several culverts in this area are at risk of washout, collapse or clogging. ARRC also plans to install riprap and armor rock to fortify track embankment that is susceptible to high water events, including flooding. Culvert repair/replacement budget is $1.05 million funded by ARRC. Embankment protection work is supported by a $2.45 million grant funded 75% by FEMA and 25% by ARRC.

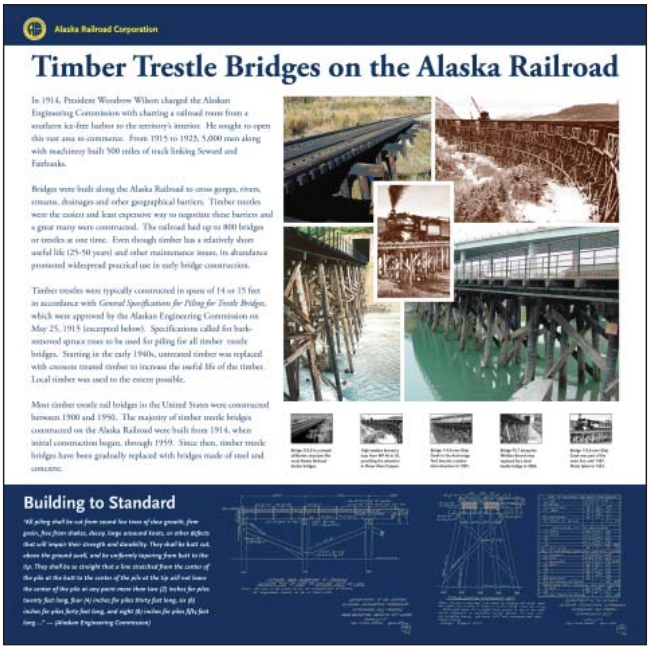
A culvert becomes clogged with ballast (track bed rock) leaking in.

Track Rehabilitation

ARRC continues an aggressive track rehabilitation program in 2011 that calls for replacement of rail, ties and ballast in areas of critical need. Each year, ARRC converts several miles of track into continuously welded rail, which dramatically decreases maintenance costs and improves ride quality. ARRC also replaces a portion of its nearly two million wooden ties (50,000 ties in 2011), and installs concrete ties along curves and other high-use stretches (none in 2011). ARRC also plans to resurface many miles of track using 70,000 tons of ballast rock. For 2011, $14.1 million is funded through the sale of ARRC revenue bonds backed by FTA formula funds; $8.3 million is funded by FTA grants (91% FTA; 9% ARRC); and $665,000 is funded by ARRC.

Historic Preservation

ARRC supports historic preservation efforts that are related to railroad assets and infrastructure. Some ARRC assets are historic properties and are listed on the National Register of Historic Places and more than 50 ARRC properties are eligible for listing on the National Register. ARRC often consults with state and federal historic preservation agencies to mitigate impacts from capital projects that may adversely impact historic assets. Mitigation often takes the form of educational materials, including brochures, interpretive signage, archived photos and documentation.



This interpretive sign will be posted in several common-use passenger railcars as part of a public education effort.

Integrated Vegetation Management Program

The Alaska Railroad pursues an integrated vegetation management program to protect the millions of dollars invested each year in its infrastructure. Uncontrolled weeds pose safety risks to ARRC operations and employees, including: **a)** vegetation makes track and train inspection difficult; **b)** plants hinder automated equipment operation; **c)** overgrown weeds hide walking hazards, contributing to slips, trips and falls; **d)** roots create uneven, heaving surfaces, again posing walking hazards for track workers; and **e)** vegetation accelerates rail and tie deterioration. Public safety is also impacted by uncontrolled weeds: **a)** overgrown bushes block line-of-sight; **b)** vegegation can obscure signs and signals that warn the public; **c)** plants cause heaving and slippery conditions at road/rail crossings; and **d)** dry vegetation can fuel brush fires.

The railroad has always, and wil continue to use mechanical and manual methods to clean the ballast, cut and clip brush, mow grass and weeds, saw roots and trim limbs, etc. Mechanical and manual methods achieve limited and temporary success. ARRC has also tested many alternative and experimental methods of controlling weeds (including steam, hot water, radient heat, abrasion, flaming and burning), with no lasting success. Herbicides provide an additional tool to help maintain safe operations and regulatory compliance, and to protect infrastructure investments. The railroad seeks to control vegetation with a combination of mechanical and chemical methods, using herbicides in the most critical and difficult areas.

In 2008, ARRC commissioned herbicide research to provide scientific information about use in Alaska's environment. Results indicate that herbicides behave the same as in other climates, and the glyphosate-based herbicide AquaMaster does not linger or migrate in the soil. In 2009, ARRC applied for a Department of Environmental Conservation (ADEC) permit to use herbicides in the Seward yard and along 30 miles between Seward and Indian. The permit was approved in spring 2010 and AquaMaster was applied selectively within the permitted area with good results. ARRC is currently applying for additional permits for herbicide use in the Anchorage Yard, Healy Yard, Fairbanks Yard and along the Eielson Branch.

Ineffective mechanical/manual control in Seward yard prior to herbicide application.

current as of 1/05/2011

Alaska Railroad Corporation 2011 Program of Projects

At the beginning of each calendar year, ARRC conducts project open house events in Anchorage, Fairbanks, the Mat-Su Valley and Seward to inform the public about the proposed Program of Projects (POP) for the year. While these events provide a good forum for residents to comment on any or all projects, the public is not limited to commenting at these events. Public input is accepted year-round, and in a variety of formats as outlined at the right. Detailed project descriptions are provided within fact sheets that are created for major federally-funded and internally-funded capital improvement efforts. These fact sheets are accessible at the Alaska Railroad web site **ww.AlaskaRailroad.com** (click on "Capital Projects").

Public Input:

Public comment on any or all of these projects may be submitted via:

- Mail to: Capital Projects
  Alaska Railroad Corporation
  P.O. Box 107500
  Anchorage, AK 99510-7500
- E-mail to *public_comment@akrr.com*
- Fax to (907) 265-2365
- Call Stephenie Wheeler at (907) 265-2671
  ARRC's TTY/TTD 265-2620
  or voice 265-2494 or Alaska Relay TTY
  800-770-8973 or voice 1-800-770-82555