Alaska Railroad Update

Presentation to
Joint House & Senate Transportation Committee

Bill O'Leary
President & CEO

Clark Hopp
Vice President
Engineering

Eileen Reilly
Vice President
Advanced Train Control Systems and Technology

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Alaska Railroad Quick Facts

Organization (following State purchase)

- Independent corporation owned by State
- Managed by a seven-member board of directors appointed by Governor
- Mandated to be self-sustaining, responsible for financial and legal obligations

Operating Data

- 656 Total miles of track
- 1,381 Freight cars (owned & leased)
- 45 Passenger cars
- 51 Locomotives

Operating Statistics (Jan - Dec 2013)

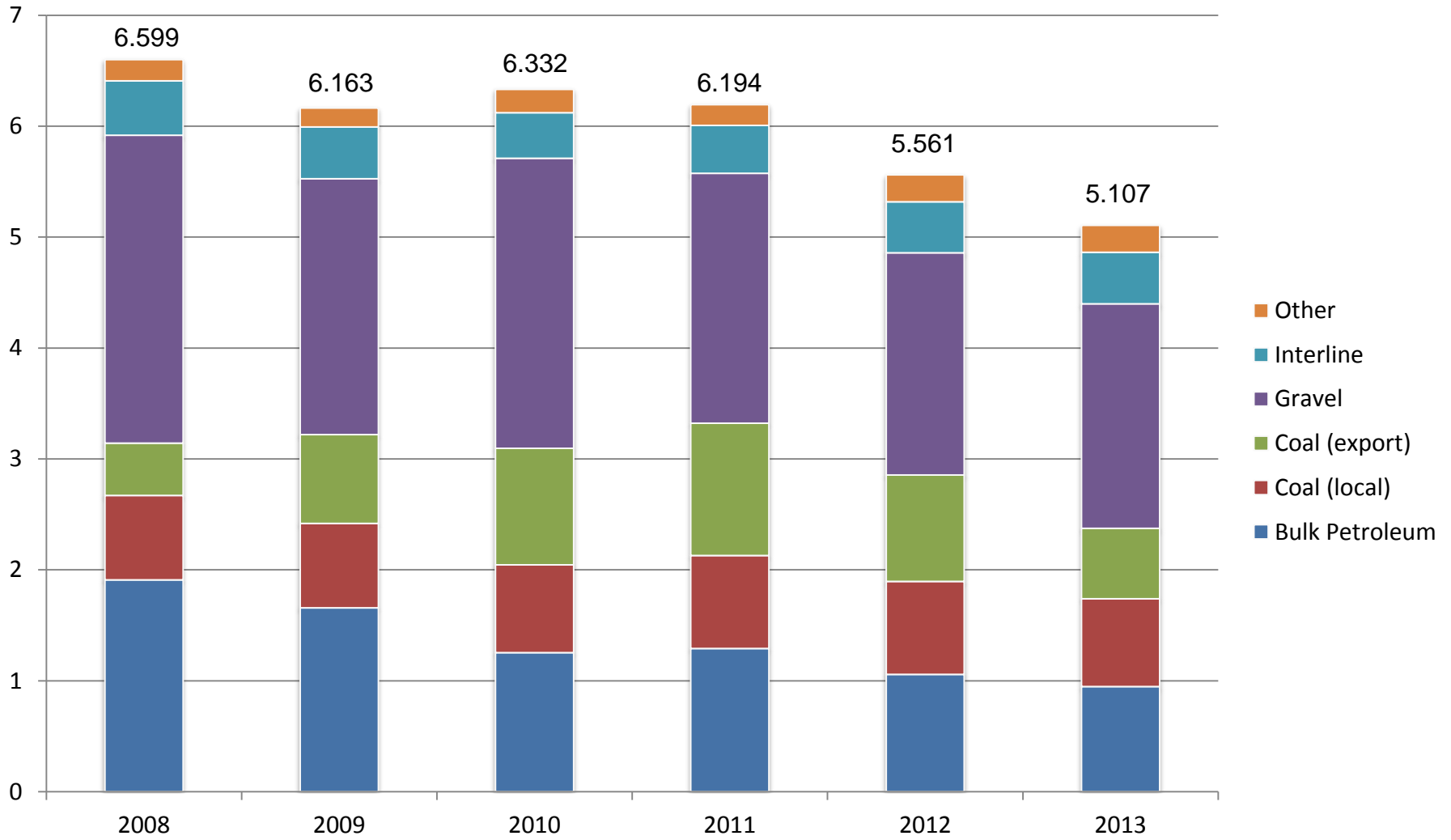- 489,620 passengers
- 5.11 million tons of freight

Employees (January 2014)

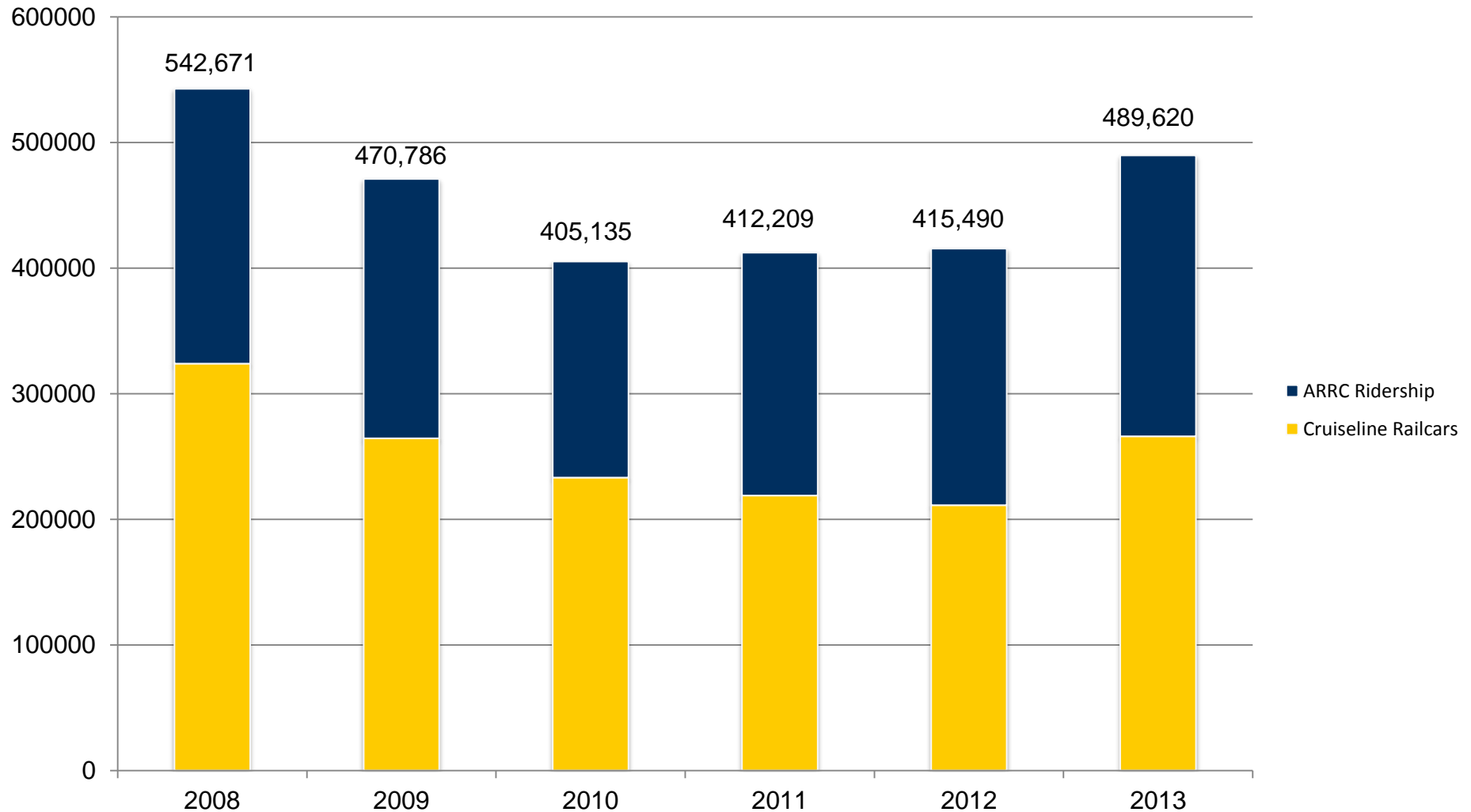- 586 year-round employees
- 429 members of 5 unions

ARRC Freight
(in million tons)

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ARRC Passenger Service

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FTA Formula Funds

- Financial Shortfall

- Provided to ARRC for our year-round regularly-scheduled passenger service.

- Significant reduction for 2013 and moving forward (MAP-21)

- Cut was only to Alaska Railroad and did not reduce federal budget.

- Part of the reason behind the cut was ill will towards Senator Stevens' legacy.

- Will be up again in 2014

Reducing Costs

- 54 Positions eliminated – 8% of ARRC work force

    – 25 unfilled due to Nov 2012 hiring freeze

    – 29 individuals let go

- 20 management positions – 12% of management

    – 37% of total cuts

    – 2 Vice President and 5 Director positions eliminated

- 300 positions cut since 2008

- Streamline Operations

- Ensure the Railroad doesn't look different from the outside

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ARRC Net Income

(in $ millions)

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Northern Rail Extension

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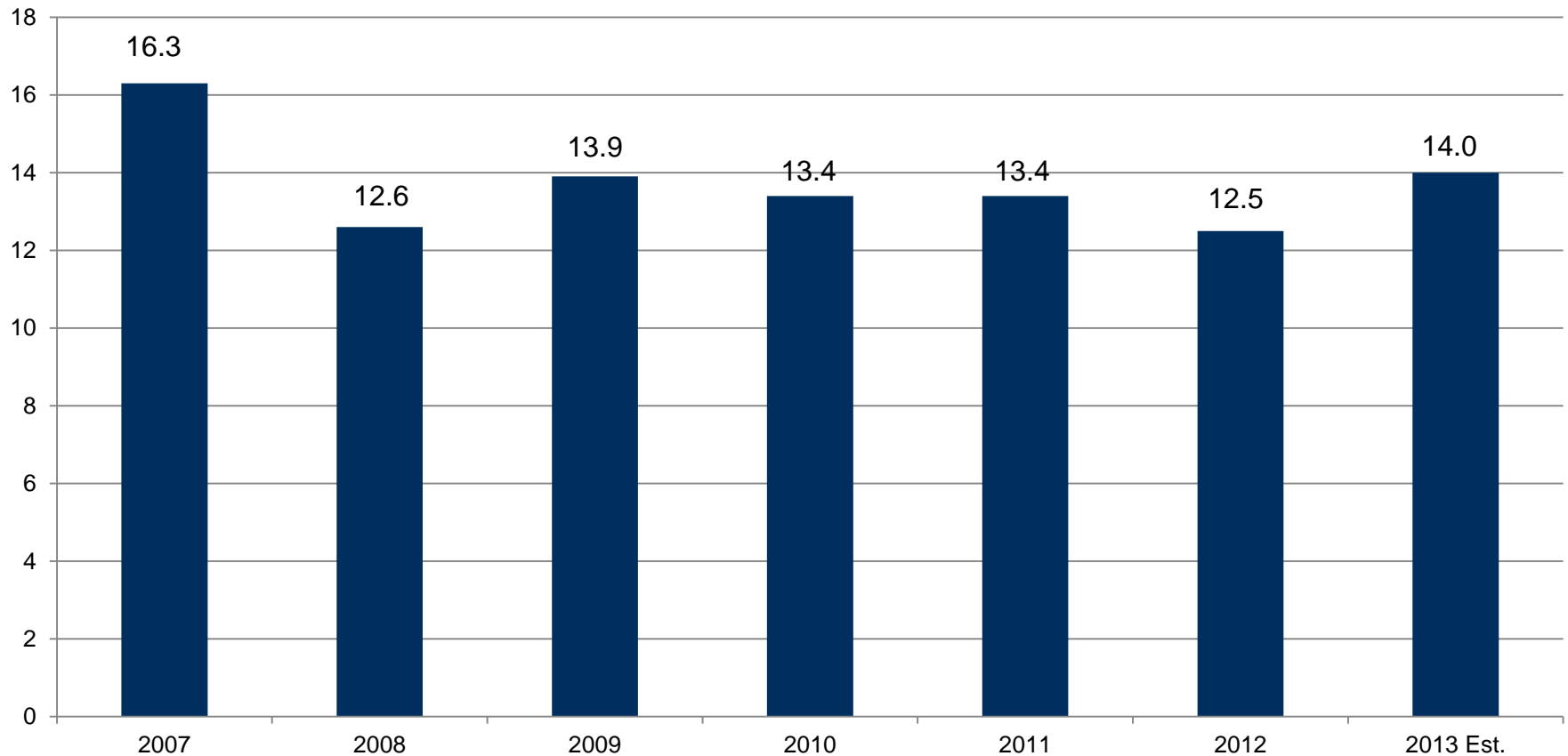
Northern Rail Extension
# 4 Phase Project

- 80+ miles of rail from North Pole to Delta Junction

  - **Phase 1 : Bridge over Tanana River, approach road and levee near Salcha**

  - Phase 2 : 13 miles of rail from Moose Creek / Eielson AFB to Tanana River Crossing

  - Phase 3 : 30 miles of rail from Tanana River Crossing to Donnelly Training Area

  - Phase 4 : 38 miles of rail from Donnelly Training Area to Delta Junction
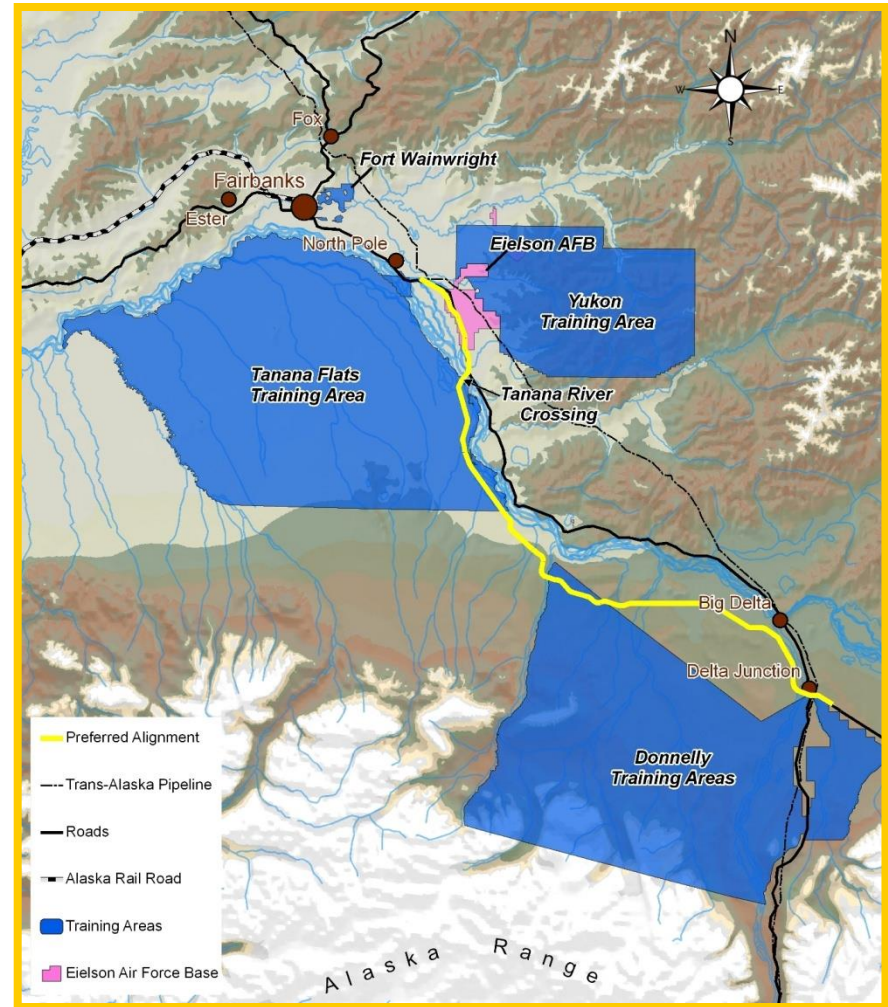
Northern Rail Extension Project Benefits

- Commercial freight and passenger service supporting communities

- Transportation alternative to Richardson Highway

- Connects military at JBER, Wainwright, Eielson, Clear and Delta Junction by rail to each other and to 3 Alaska ports

- Support regional tourism

- Economic and Resource Development Potential
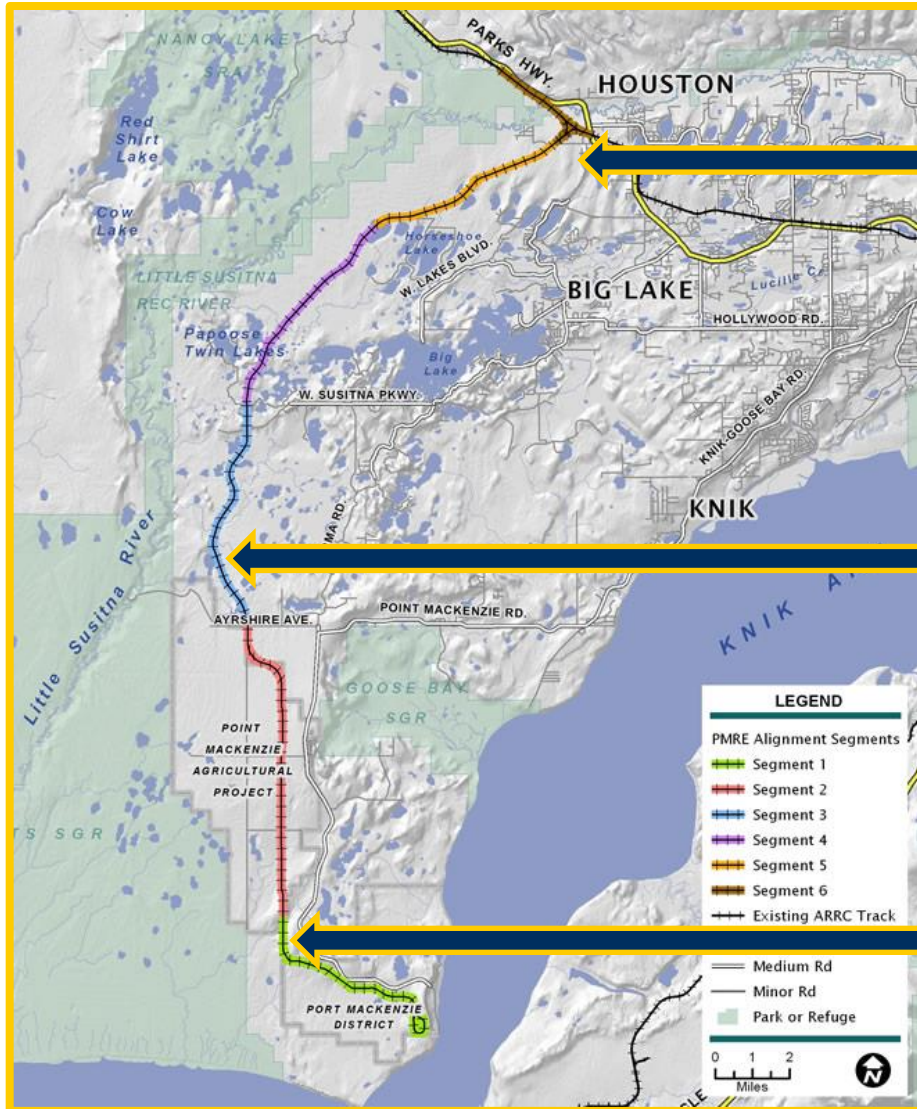
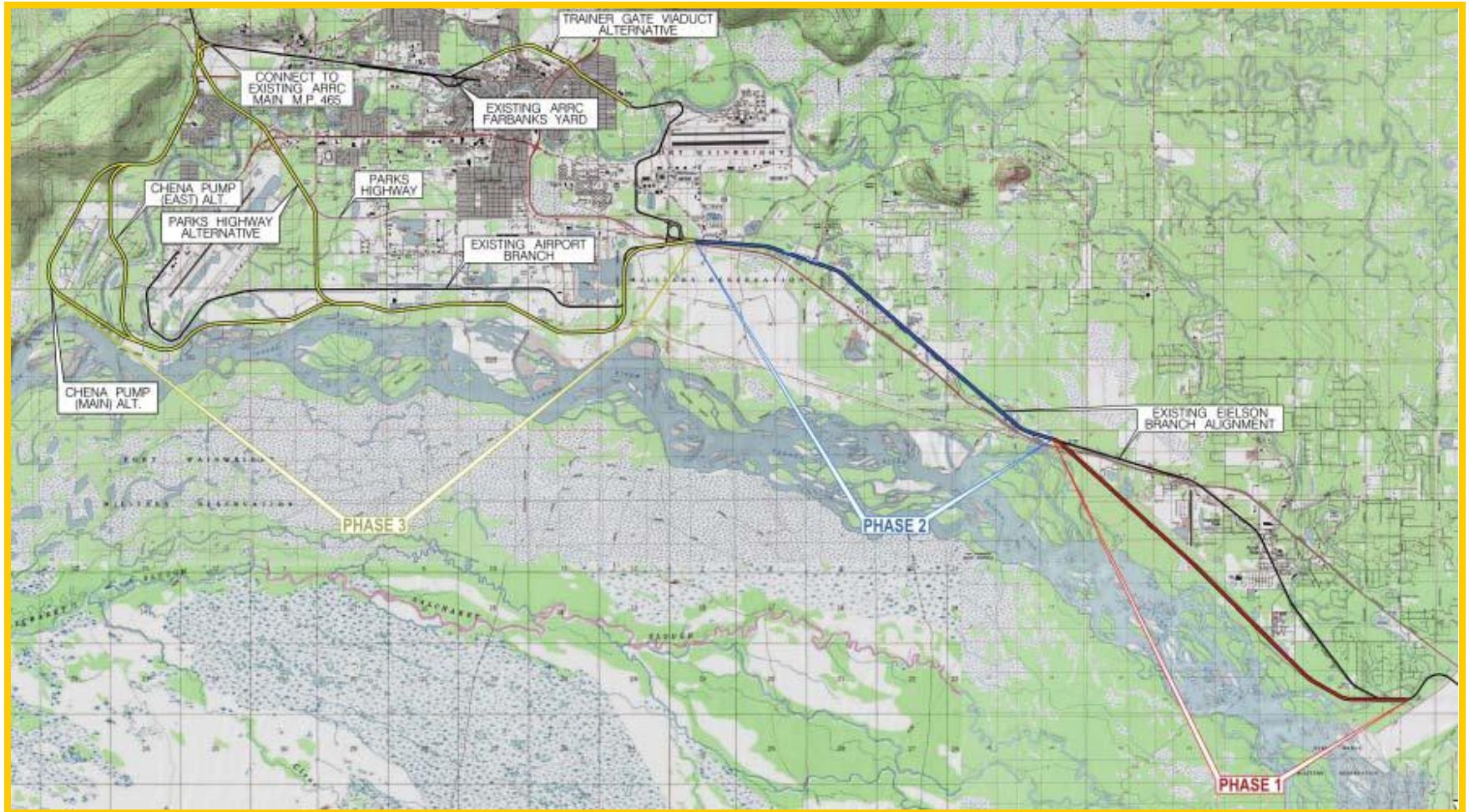- Future Canadian Connection?
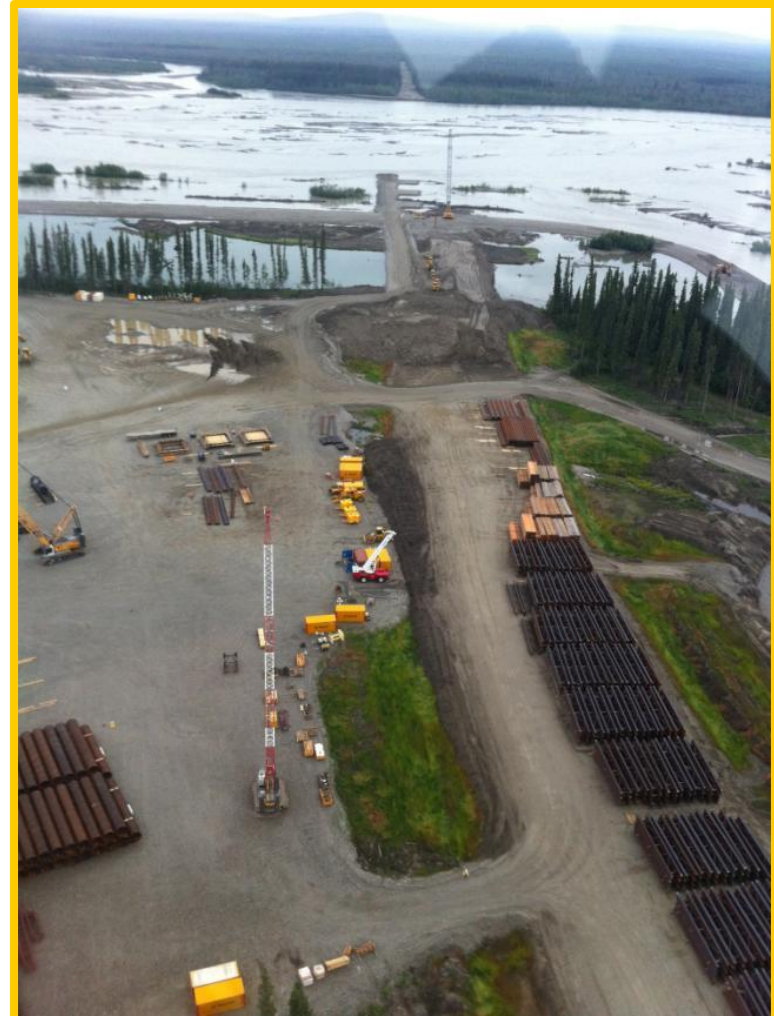
Phase 1 – Tanana River Crossing

- Longest bridge in Alaska
  - 3300 Feet
- Levee to direct river flow
- $188.2 million total cost
  - $84.0 million State of Alaska
  - $104.2 million Department of Defense
- Provide US Military with year round vehicle access to Joint Pacific Area Range Complex

Port MacKenzie Rail Extension

Fairbanks/North Pole Realignment

Positive Train Control

Office Systems

Track Database
Speed Restrictions
Work Zones
Train Consist
Movement Authorities

GPS

Initialization

Predictive Braking

Braking Curve

Warning Curve

Work Zones

Speed Restrictions

- Unfunded Federal Mandate
- ARRC already spent $63.8 million
- Unattainable deadline Dec. 2015
- $17 million+/year to 2018 for construction
- $5 million+/year for maintenance
- Would prohibit passenger service if not implemented
- Received $19.1 million from state for FY14
- Still need additional $70 million

How PTC Works

Office Systems

Track Database

Speed Restrictions

Work Zones

Train Consist

Movement Authorities

GPS

Initialization

Predictive Braking

Warning Curve

Braking Curve

Work Zones

Speed Restrictions

- Before a train leaves its originating terminal on-board computer is initialized.

- GPS works in conjunction with geographic track data base to determine the train location on the track and to ensure adherence to train movement information.

- As the train moves the on-board computer constantly calculates a warning and braking curve.

- As the train moves down the track the on-board computer pings wayside devices checking for broken rails, proper switch alignment, and signal aspects.

Why Mandatory PTC Regulations?

continued

- **Chatsworth, 9/12/2008:** A *Metrolink* train passed a "red" signal while the engineer was texting, entering a single main track where a UP freight train was authorized to operate. The trains collided. Fatalities – 25; Injuries - 130+ serious; Cost - $200 million, met the federal passenger rail liability cap.

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2008 Rail Safety Improvement Act: Who must implement PTC?

Act mandates a PTC Implementation Plan with a December 31, 2015 implementation for:

1) Class I railroad carriers; and
2) each entity providing regularly scheduled intercity or commuter rail passenger transportation (i.e. ARRC)

And the PTC must govern operations on:

a. Mainline used for passenger/commuter rail transport
b. Mainline used by hazmat freight transport
c. Other tracks prescribed by regulation or order

Why PTC for ARRC?

Large number of passengers per train moving through curvy, remote territory.

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2010 PTC Regulation Requirements

2010 regulations require PTC systems to reliably and functionally prevent:
1) Train-to-train collisions by enforcing authority limits
2) Overspeed derailments
3) Incursions into established work zone limits
4) Train movement through a main line improper position.

December 1, 2013 Accident

National Transportation Safety Board (NTSB) :

- Added PTC to the "Most Wanted List" in 2012 due to number of train accidents
- NTSB wants railroads to do more to implement PTC.

4 killed, 63 injured in the Bronx, NY on Metro-North Passenger train that was going 82 MPH in a 30 MPH curve. Nodding off is suspected, investigation underway.

Items PTC Does Not Address

PTC is NOT designed to protect against derailments caused by, among other things:

- **equipment failures** such as broken wheels, pulled drawbars and seized journals;

- **infrastructure conditions** such as washouts, rock slides and some broken rails and heat kinks; and

- **external factors** such as grade crossing accidents or deliberate vandalism.

What if ARRC Does Not Comply?

Federal law provides penalties for non-compliance:

- FRA authority to fine 61 different PTC-related violations

- Maximum FRA fine is $16,000 per day per violation and $25,000 per day for each "willful" violation.

- FRA rail safety law compliance pertains to "persons" so both the corporation and individuals are on the hook.
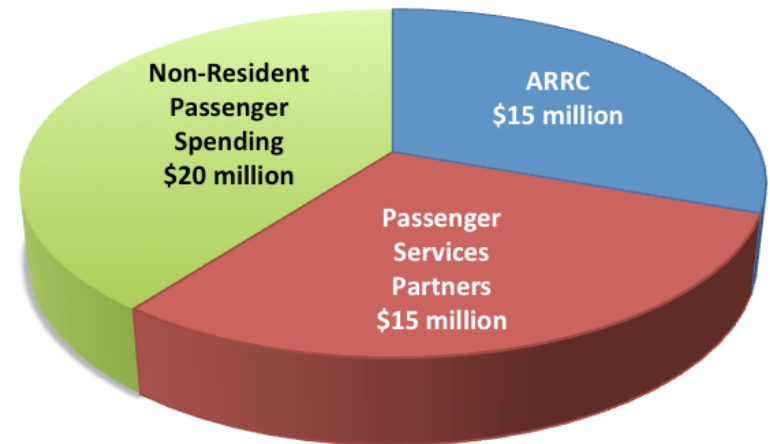
- Prohibit passenger service

Loss of Passenger Service

A total of just under 2,000 jobs are connected in some way to Alaska Railroad's passenger services.

Approximately $50 million in labor income is related to Alaska Railroad's passenger services.
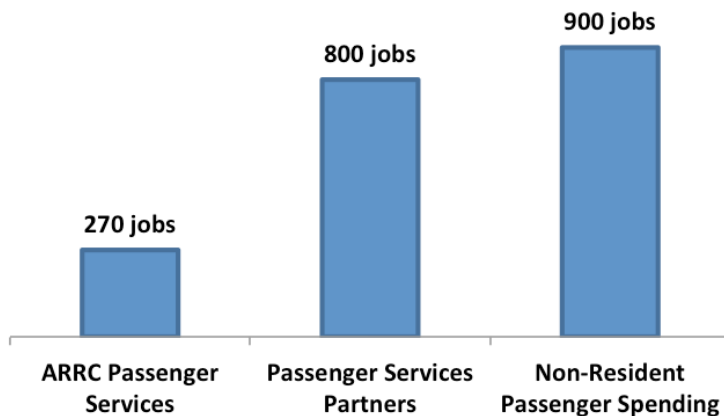
ARRC Passenger Services-
Related Employment, 2012

ARRC Passenger Services-
Related Labor Income, 2012

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Loss of Passenger Service

Discontinuation of Alaska Railroad's passenger services would have significant impacts not only on the Railroad, but on the Railbelt's visitor economy and infrastructure.

- Loss of all ARRC jobs and wages associated with providing passenger services.

- Loss of all ARRC passenger-related income, jobs, and wages in 275 businesses that provide goods and services to ARRC in support of its passenger operations.

- Unknown economic effects on ARRC's visitor industry partners, who would be challenged to replace the popular, scenic, high-amenity-value rail service with some other form of transportation with equal customer appeal.

- Loss of federal funding opportunities available to public transportation providers.

- Unknown, but certain redistribution of (and potential loss of) visitor spending in the region, as railroad passengers seek to replace their rail experience.

- Estimated 3,700 additional motorcoach trips along the Parks and Seward Highways and other areas served by the Railroad, with traffic congestion and highway maintenance impacts. There could also be increases in RV, van, rental vehicle, personal vehicle, and/or airplane usage as a large number of visitors will be forced to find alternative transportation methods.

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ARRC Facts

Territory to be covered by PTC:

- 525 Miles of track
- 54 Locomotives and cab cars
- 36 Signal Control Points
- 108 Switches to be monitored
- Commercial power not available in many locations that are required to be monitored

Large R&D Project

- Railroad supplier industry has limited capacity

PTC Operations at ARRC

PTC is used in conjunction with a railroad's current train operation controls, providing a safety overlay to eliminate human errors. ARRC's train operations include:

- **Centralized Traffic Control**
  Train movement based on signal remotely called by a dispatcher.

- **Track Warrant Control**
  Train movement based on dispatcher providing a movement authority and transmitting verbally the limits of the authority.

Origin of PTC at ARRC

ARRC began voluntary implementation of PTC in 1997.

- FRA no longer allows other track equipment to operate on "track car lineup".

- Method of Operation changed from train orders to industry standard Track Warrant Control to accommodate a Computer-aided Dispatch (CAD) – implemented in 1999. CAD was implemented to eliminate human-factor errors due to issuing conflicting authorities.

- UP and BNSF test Positive Train Separation System to/from Oregon to Washington.

- VP Transportation wanted to eliminate human-factor error that caused a near-miss between a NB freight and a SB loaded coal train near Montana Creek on June 30, 1995.
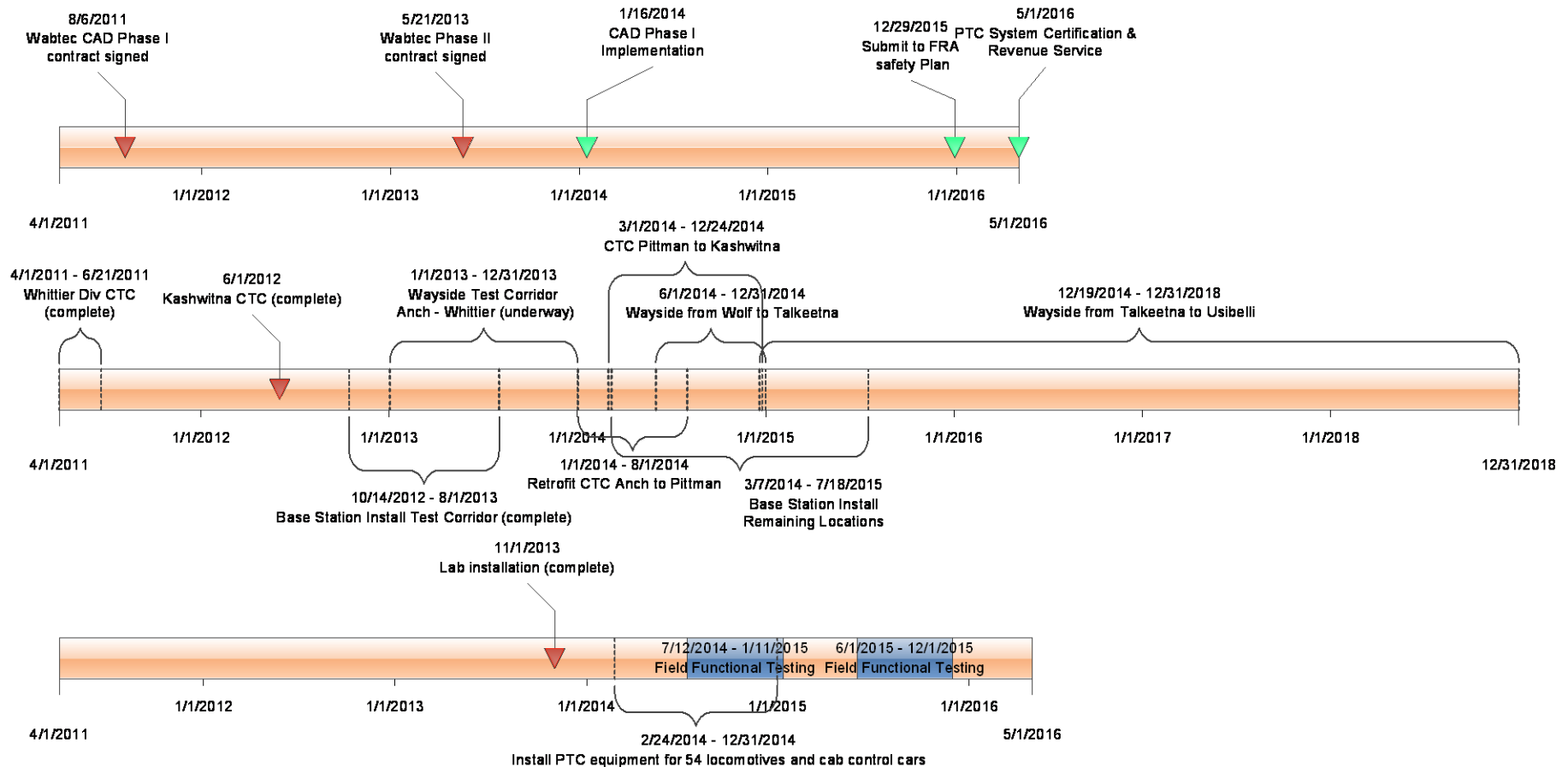
Current PTC Implementation Status

- Replaced Ansaldo STS US (ASTS). Replacement CAD is by Wabtec Railway Electronics.

- Implementation of Data Radio System and wayside monitoring equipment for testing in the pilot corridor (Anchorage to Whittier) is underway.

- GIS data of railroad critical features is being prepared.

- Completed contract negotiations with Wabtec for locomotive equipment, additional office servers and associated software. Implementation has begun.

- Working with FRA on exemption for manual switch monitoring on low passenger density track through approval of PTC Implementation Plan.

PTC Implementation Schedule

PTC Major Milestones and Status Update

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PTC Deadline Extension Status

- A Moving Target: Regulations still being written by FRA affecting cost and implementation planning – ARRC's participation in FRA and Association of American Railroads (AAR) committees vital

- Most railroads will not make the 2015 deadline

- Organizations all support extension of the deadline to at least 2018.

- Alaska Railroad making "good faith effort" to implement PTC

Positive Train Control Funding 1997 - 2018

Pie chart segments:

- **Unfunded 2017 & 2018** $28,900,000 — 19%
- **ARRC & Federal Funding 1997-2013** $63,800,000 — 42%
- **FY2015 State Budget Request for 2015 & 2016** $40,800,000 — 27%
- **FY2014 State Funding** $19,100,000 — 13%

Legend:
- ARRC & Federal Funding 1997 - 2013
- FY2014 State Funding
- FY2015 State Budget Request for 2015 & 2016
- Unfunded 2017 - 2018 need

Graph does not include $5 million to $6 million on-going annual operational and maintenance cost of PTC that will be funded by ARRC.

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PTC Spending
1997 - 2013

through December 31, 2013	Federal Funds/ARRC	State FY14 Funds	Total
Overall PTC Integration and Management	$26,557,997	$4,181,500	$30,739,497
Office Segment	$17,591,965	$2,253,035	$19,845,000
Locomotive Segment	$3,663,749	$3,813,210	$7,476,959
Communications Segment	$7,803,271	$3,815,220	$11,618,491
Wayside Device Monitoring	$8,197,729	$5,037,035	$13,234,764
Total	$63,814,711	$19,100,000	$82,914,711
Funds Committed	100%	72%	
Funds Spent	94%	8%	

ARRC 2015 – 2018 PTC Unfunded Budget

	2015	2016	2017	2018	Total
Office, Comm and Locomotive Segments	$ 10,784,110	$ 7,717,322	$ 5,756,240	$ 4,556,240	$ 28,813,912
Overall PTC Integration and Management	$ 4,759,697	$ 4,267,322	$ 3,106,240	$ 2,906,240	$ 15,039,499
Locomotive Segment	$ 3,420,509	$ 800,000	$ 1,300,000	$ 300,000	$ 5,820,509
Communications Segment	$ 1,483,904	$ 1,300,000	$ 300,000	$ 300,000	$ 3,383,904
Office Segment	$ 1,120,000	$ 1,350,000	$ 1,050,000	$ 1,050,000	$ 4,570,000
Wayside Segment	$ 9,414,400	$ 12,911,600	$ 10,467,000	$ 8,102,600	$ 40,895,600
Monitoring CTC Signal and Switches	$ 2,000,000				$ 2,000,000
Dark Territory Manual Switch Monitoring	$ 7,414,400	$ 12,911,600	$ 10,467,000	$ 8,102,600	$ 38,895,600
Total Funds Required	$ 20,198,510	$ 20,628,922	$ 16,223,240	$12,658,840	$69,709,512

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