

Federal Railroad Administration

Rail Policy, Development, and Delivery Update



Standing Committee on Rail Transportation (SCORT)
Washington Meeting
February 19, 2013



U.S. Department of Transportation
Federal Railroad Administration

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Rail Policy & Development

Paul Nissenbaum, FRA

Project Delivery

Corey Hill, FRA

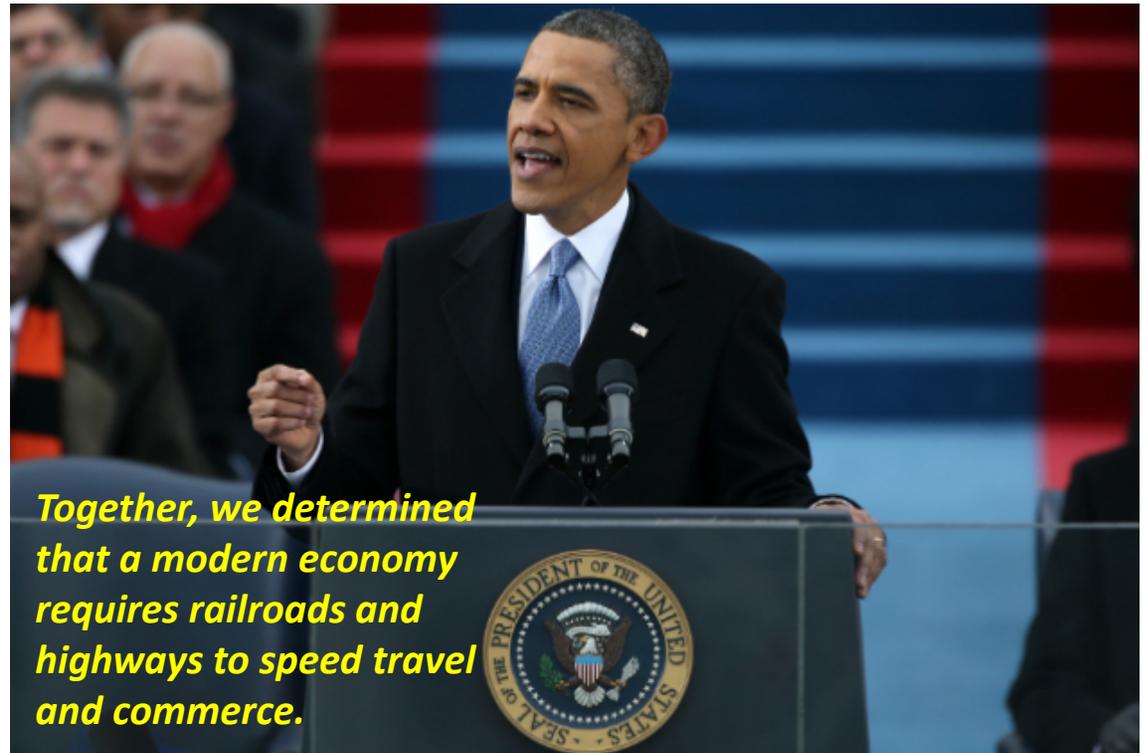
Managing Implementation Risk

Ed Campbell, Parsons Brinkerhoff



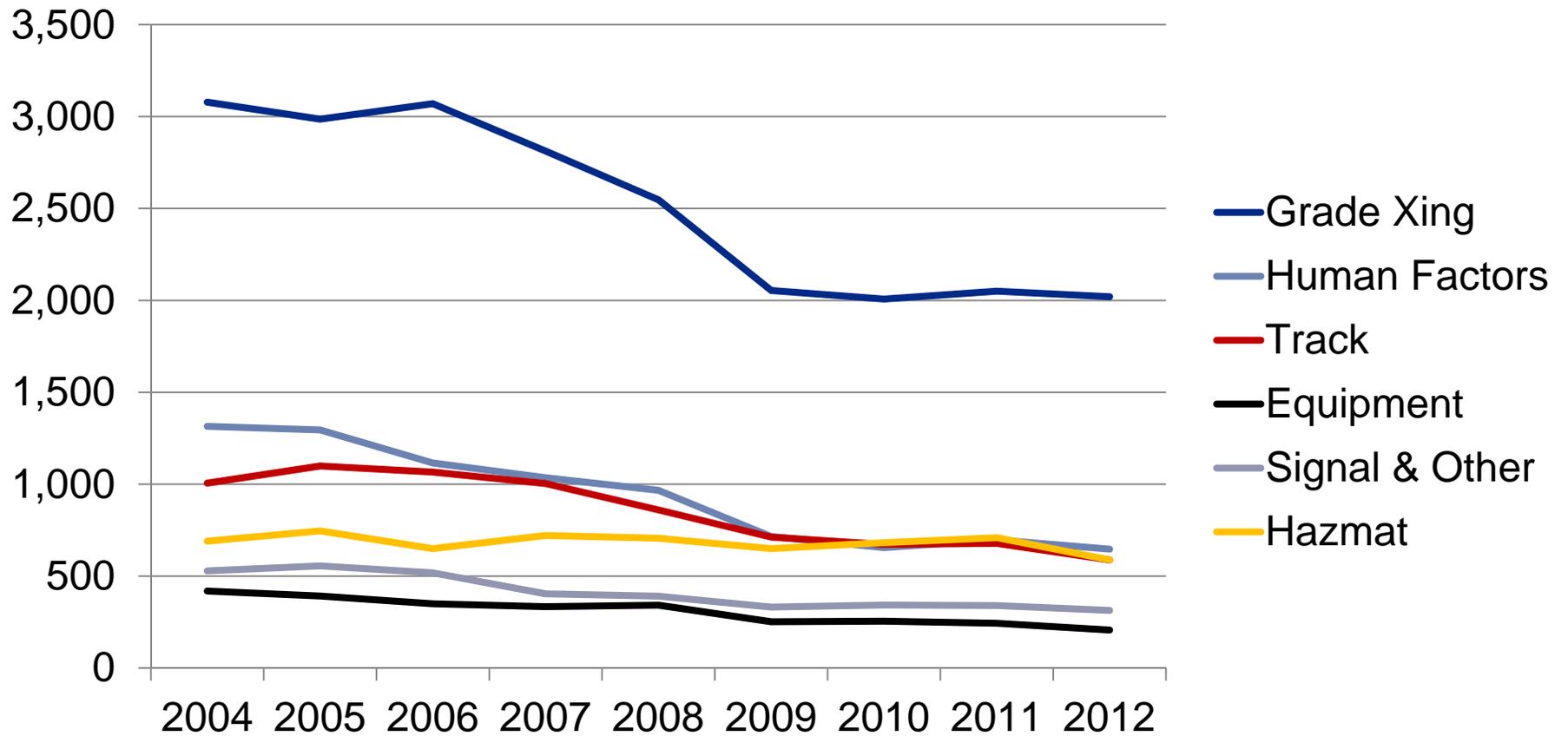
Paul Nissenbaum, Associate Administrator for Railroad Policy and Development

- 1. 2012 Year in Review**
- 2. Update on FRA's Freight & Passenger Rail Activities**



2012 – most successful year for rail in a generation

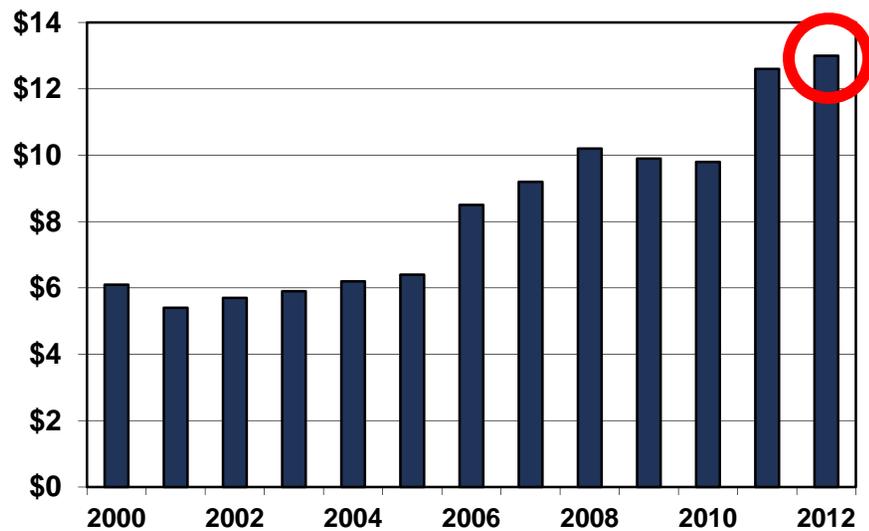
Safety – decreasing accidents/incidents/NARs* across several categories



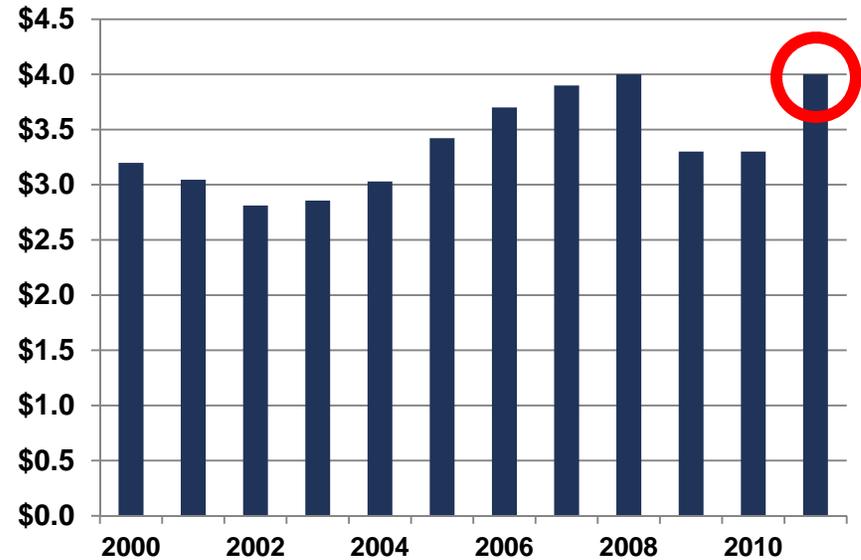
2012 – most successful year for rail in a generation

Freight Rail – *stronger than ever*

Class I Railroad Capital Expenditures (\$B)



Class II and III Railroad Revenues (\$B)

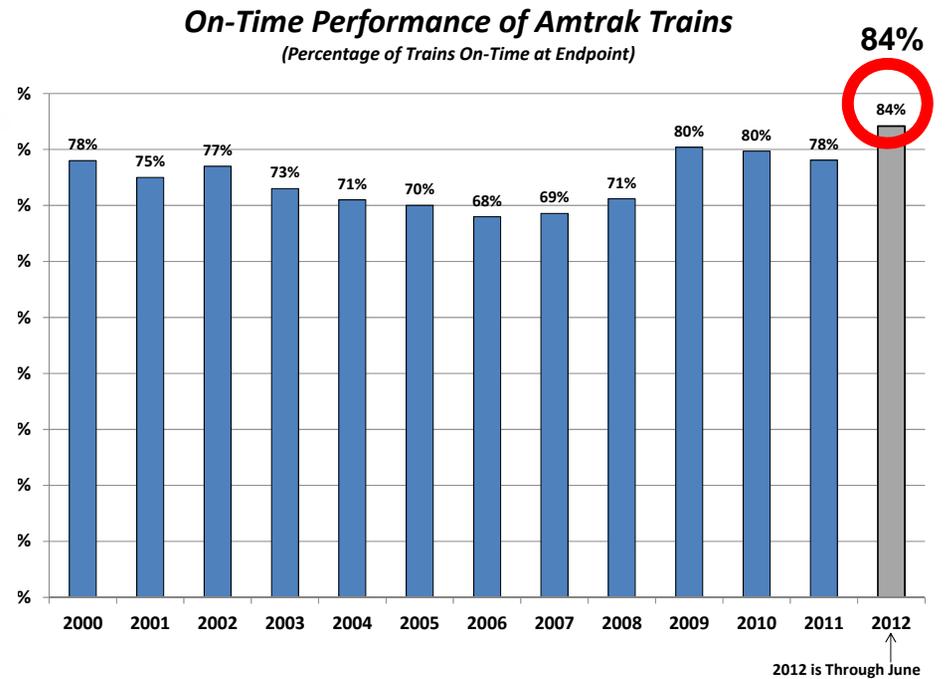
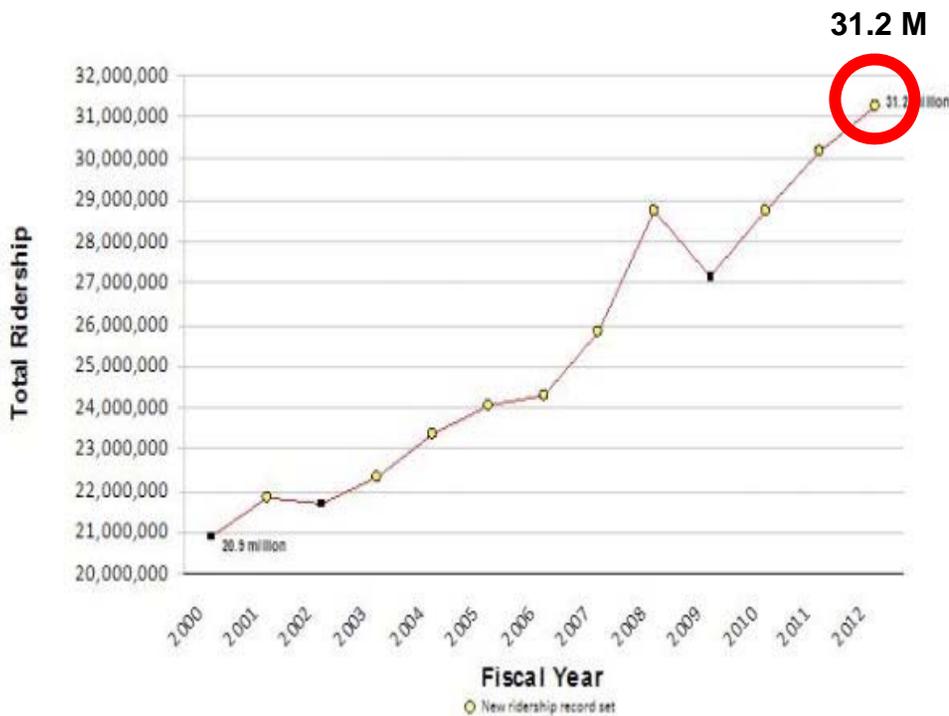


Source: Association of American Railroads



2012 – most successful year for rail in a generation

Passenger Rail – *record ridership, record reliability*



2012 – most successful year for rail in a generation

Passenger Rail – *nearly \$19 billion since 2009 to build, improve, or create...*



corridor miles



stations



passenger cars

locomotives

trainsets



engineering/

enviro

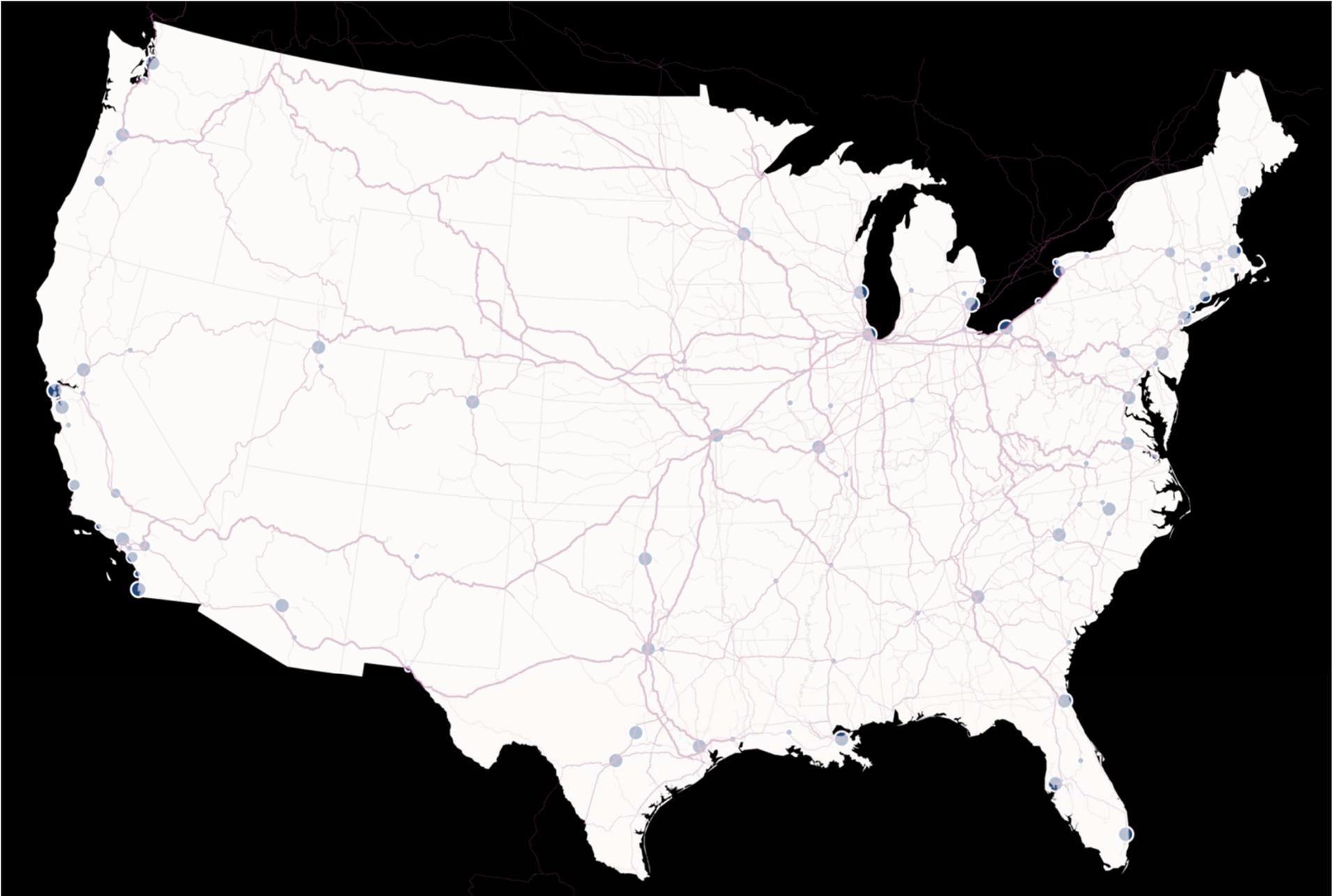
studies



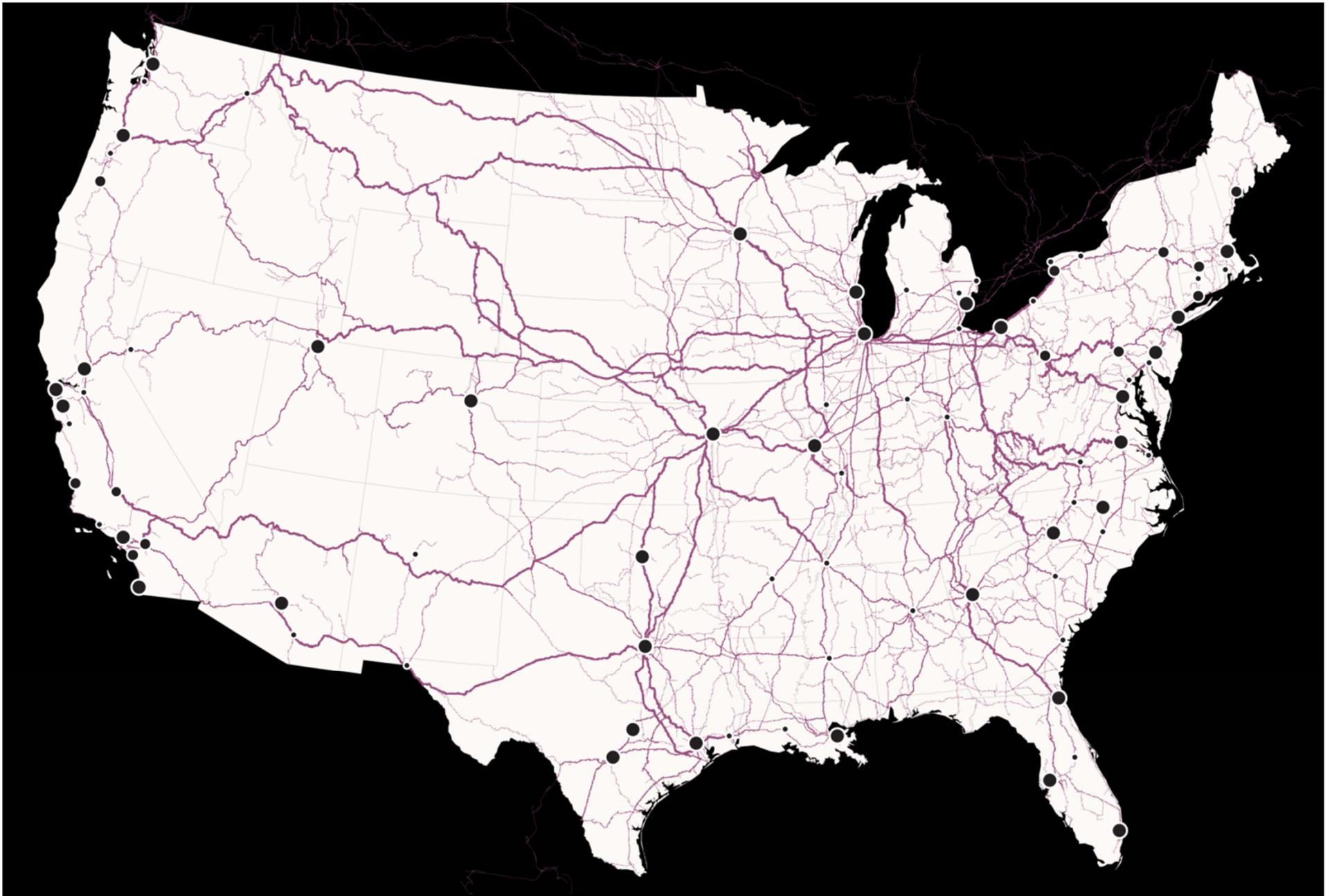
state rail plans & service

development plans

- Historic equipment procurements – Buy America
- New service – Virginia, Maine
- 110mph in Illinois
- First NEC planning/ NEPA since Carter Administration



U.S. Rail Update



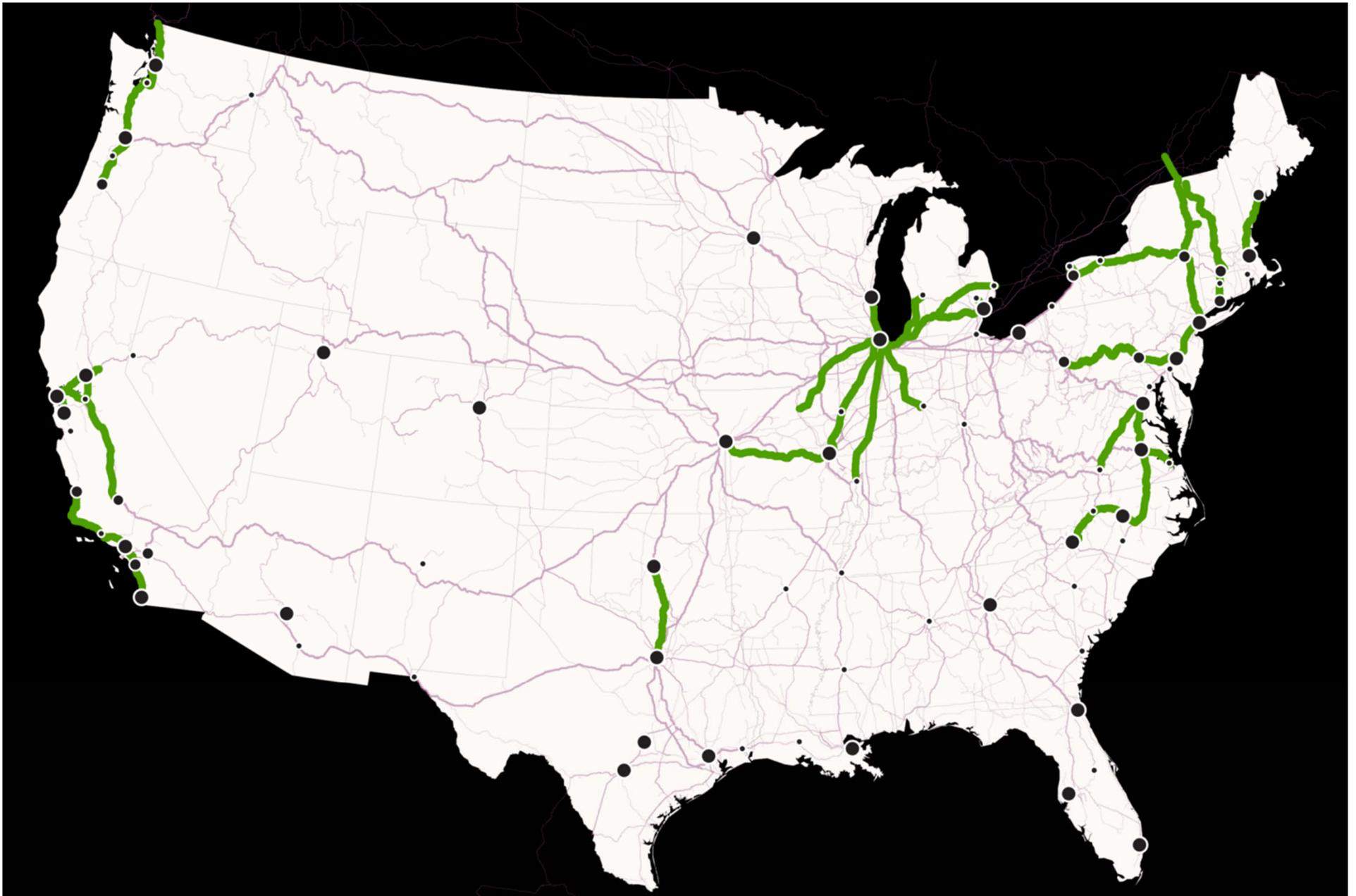
FREIGHT

Freight Policy Council, National Freight Strategic Plan, etc.



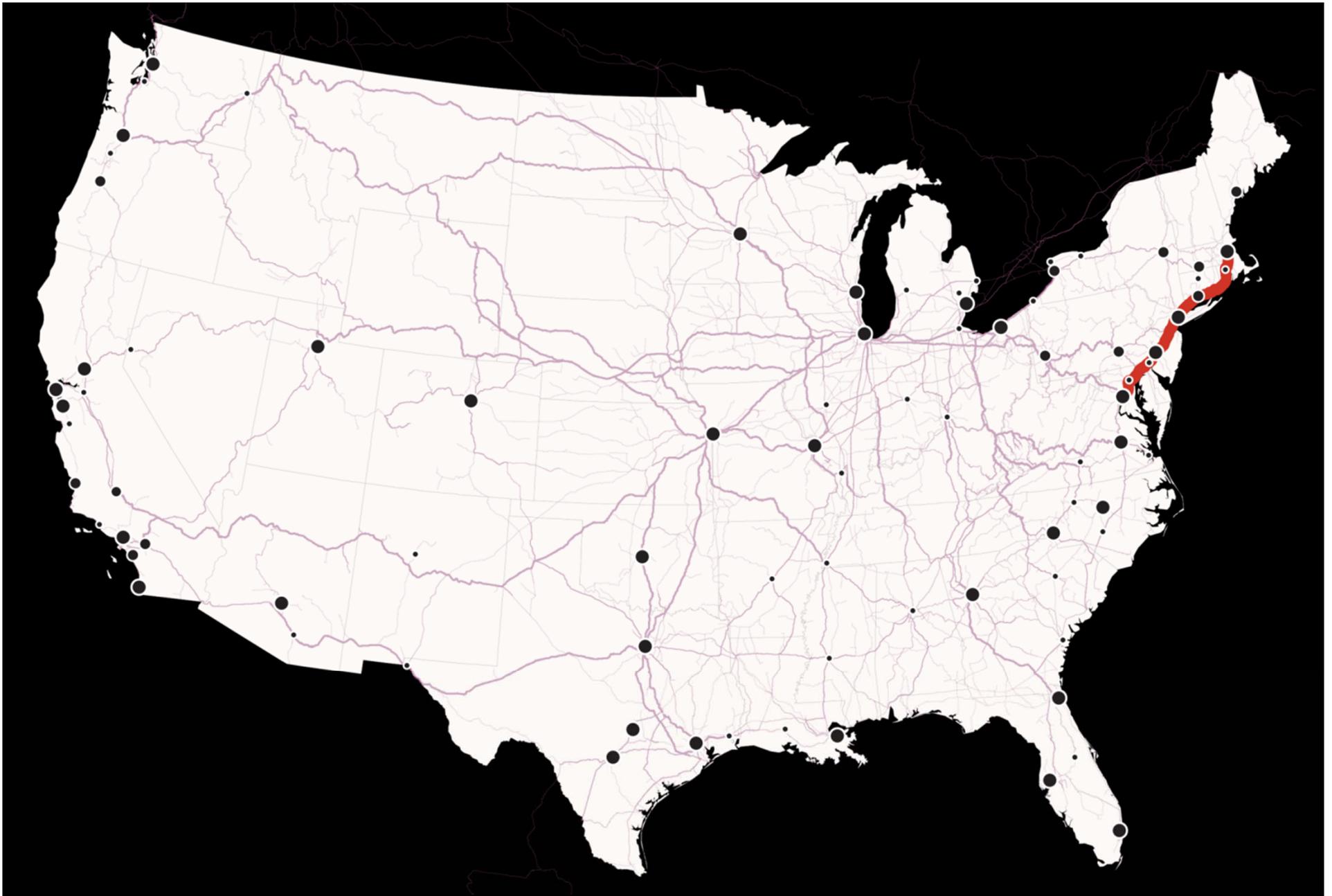
LONG-DISTANCE

performance monitoring

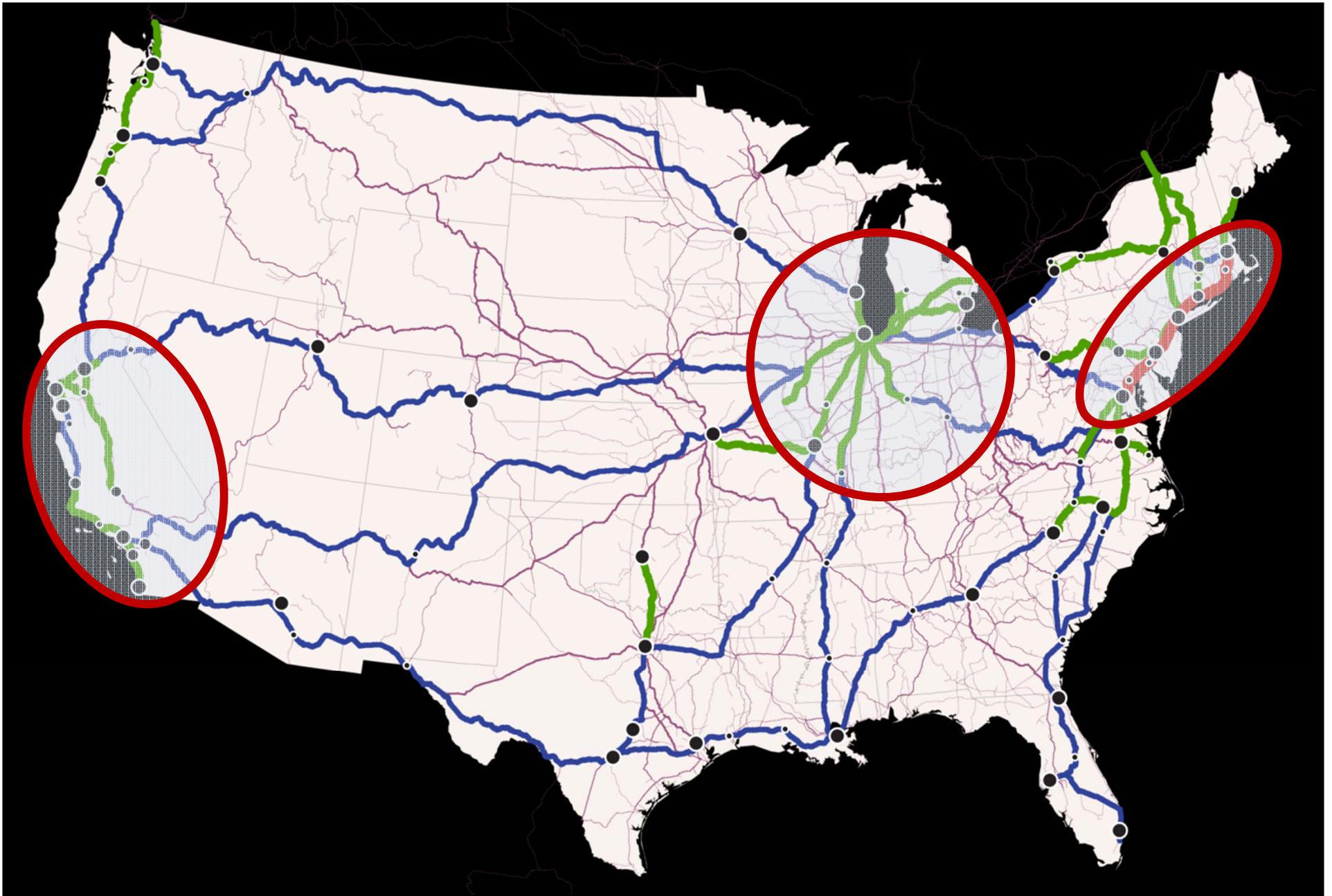


STATE CORRIDORS

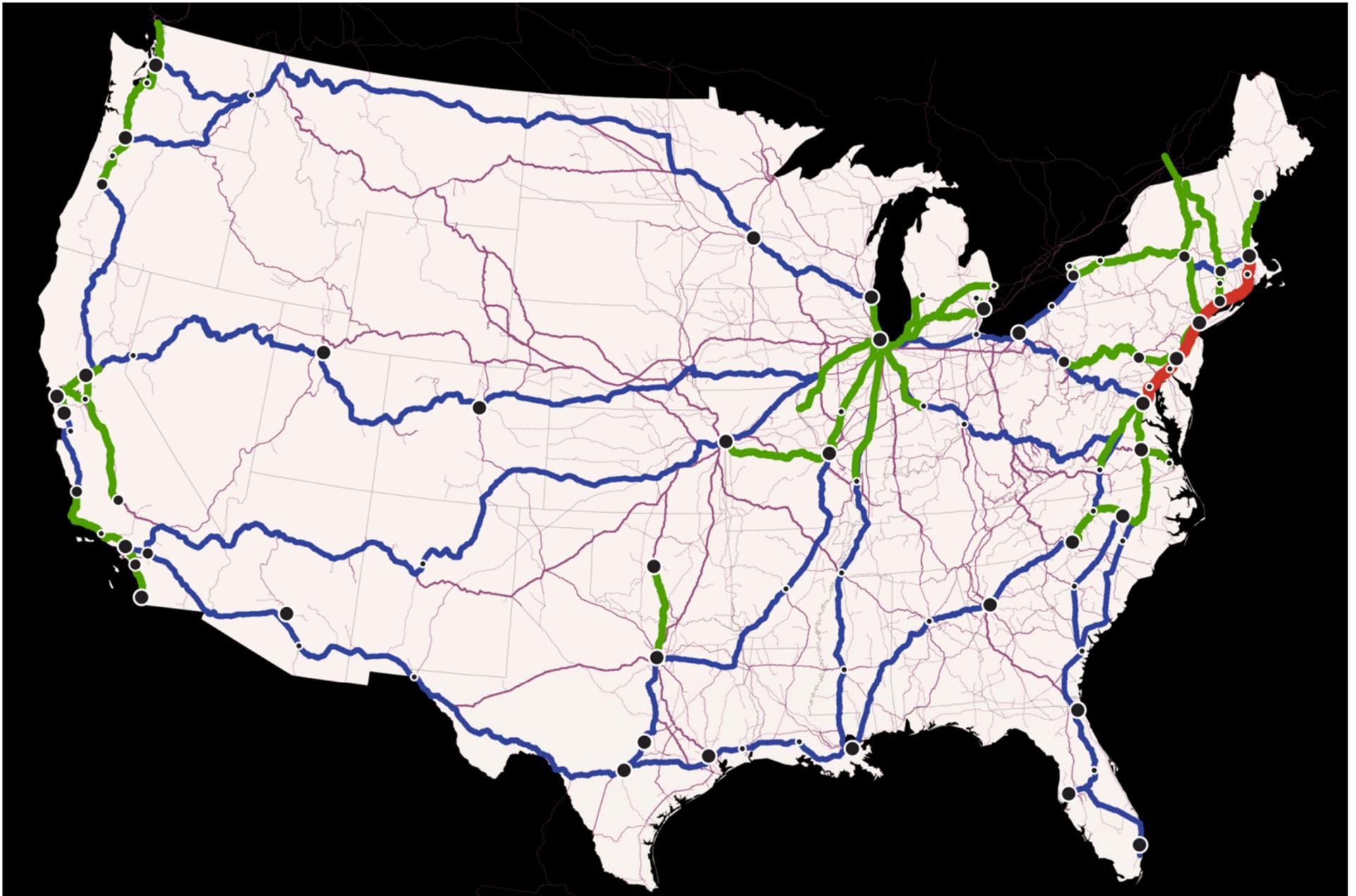
corridor performance management, Sec. 209



NORTHEAST CORRIDOR NEC FUTURE, NEC Commission



EQUIPMENT historic procurements, integrated management strategies



PLANNING & RESEARCH multi-state planning, NCRRP

Corey Hill, *Director of Passenger and Freight Programs*

- 1. Federal Programs Update**
- 2. 2013: Big Season for Construction**
- 3. Key to Success: Proactive Project Management**



Ask any CEO where they'd rather locate and hire: a country with deteriorating roads and bridges, or one with high-speed rail ...

Office of Passenger and Freight Programs

FRA programs have been funded for nearly \$20 billion in the past five fiscal years.

Federal Funding for FRA Programs (FY09–13)

Rail Program	Federal Funding (\$M)	% Obligated*	% Outlaid
HSIPR	\$10,190	99%	11%
Amtrak Capital & Operating	\$7,943	100%	98%
RRIF**	\$980	N/A	N/A
TIGER	\$328	63%	13%
Sandy Relief	\$118	0%	0%
Rail Line Relocation	\$70	56%	23%
Railroad Safety Technology	\$50	100%	50%
Disaster Assistance	\$20	100%	78%
TOTAL	\$19,699		

* % Obligated does not include award & oversight takedown

** Includes all RRIF loans closed since FY 2009



HSIPR projects – completed

25 projects completed for \$202 million

5 Station Upgrades



California



2 Engineering Designs



7 Service & Operational Improvements

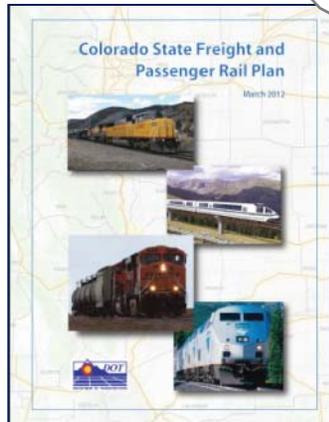


Morning Sentinel

November 1, 2012
Downeaster arrives in Brunswick
 The expansion of the Boston-to-Portland service to Free Brunswick fulfills the original vision of the passenger rail launched in 2001.
 By Tom Bell (tbell@mainetoday.com)
 Staff Writer
BRUNSWICK — The Amtrak Downeaster arrived at Brunswick Station at marking the beginning of passenger train service to communities north of Missouri & Maine

4 State Rail Plans

Colorado



7 Corridor Plans

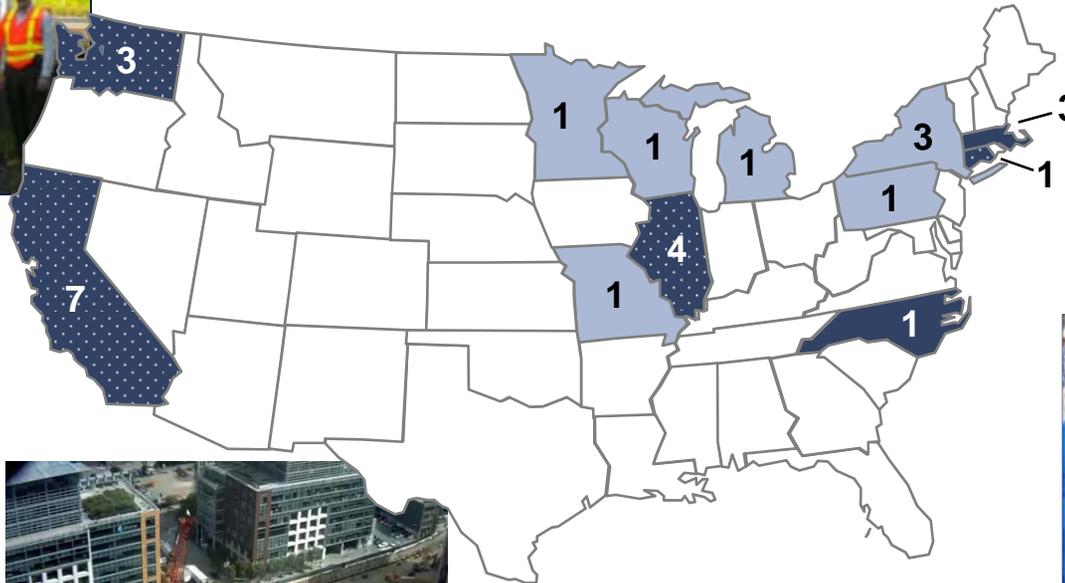
Georgia

HSIPR projects – *construction underway*

27 projects under construction for \$1.7 billion



Washington: Rerouting to permit 79 mph top speeds



Connecticut: Recently-initiated work to install double track on the New Haven-Springfield corridor

California: Major construction on new landmark Transbay Terminal Center in San Francisco



Illinois: Englewood Flyover groundbreaking



U.S. Department of Transportation
Federal Railroad Administration

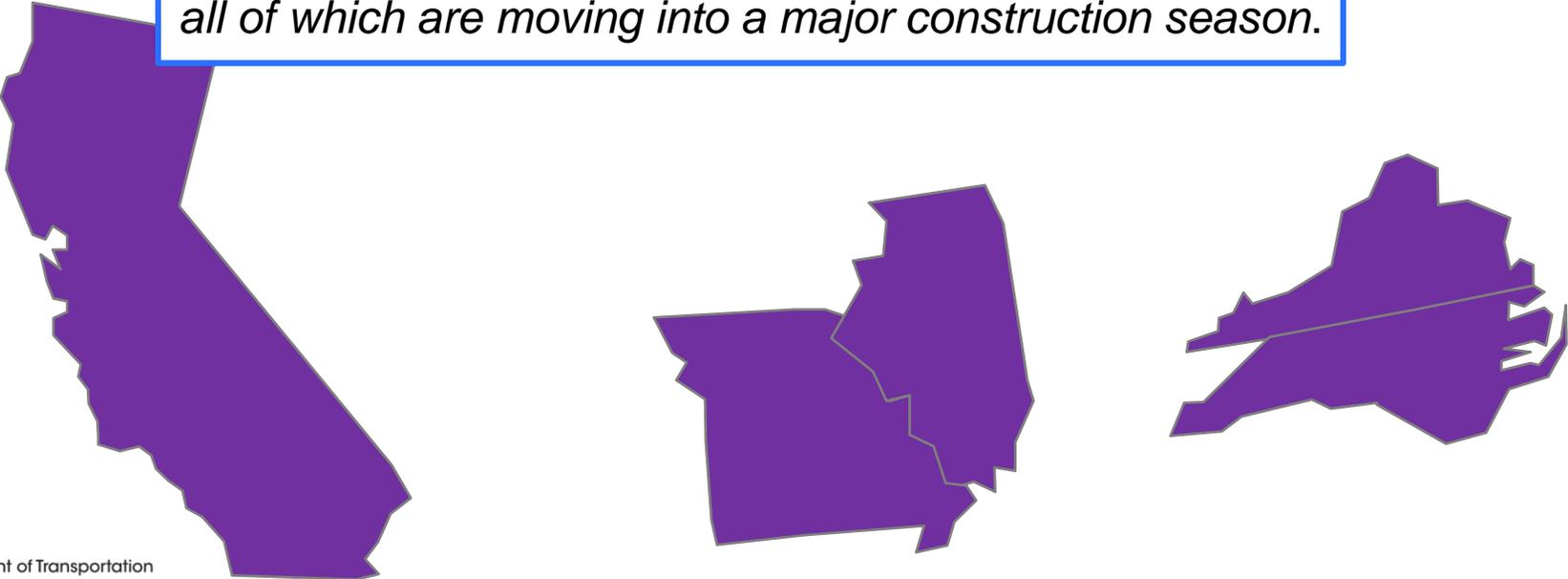
Individual project(s)
 Corridor program(s)
 Corridor program(s) and individual projects

Status based on grantee reports as of January 2013

HSIPR projects – 2013 will be the biggest construction season yet



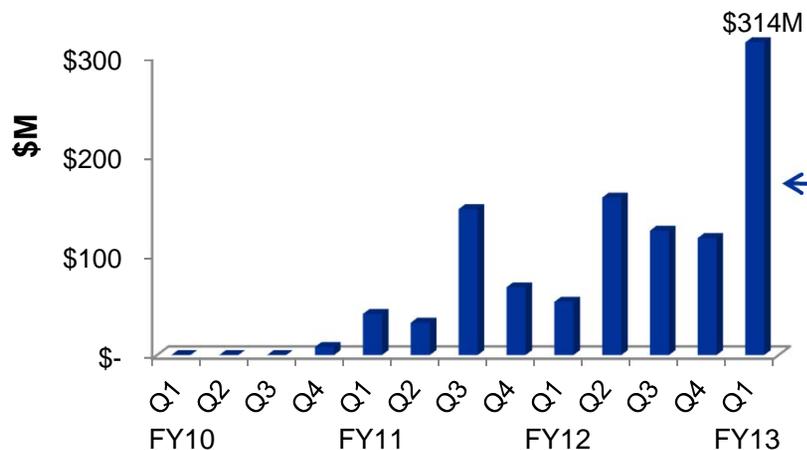
85% of funding is in 6 key corridors—
all of which are moving into a major construction season.



On the brink of major jobs and spending

Work is picking up, and Summer 2013 will be the busiest construction season yet.

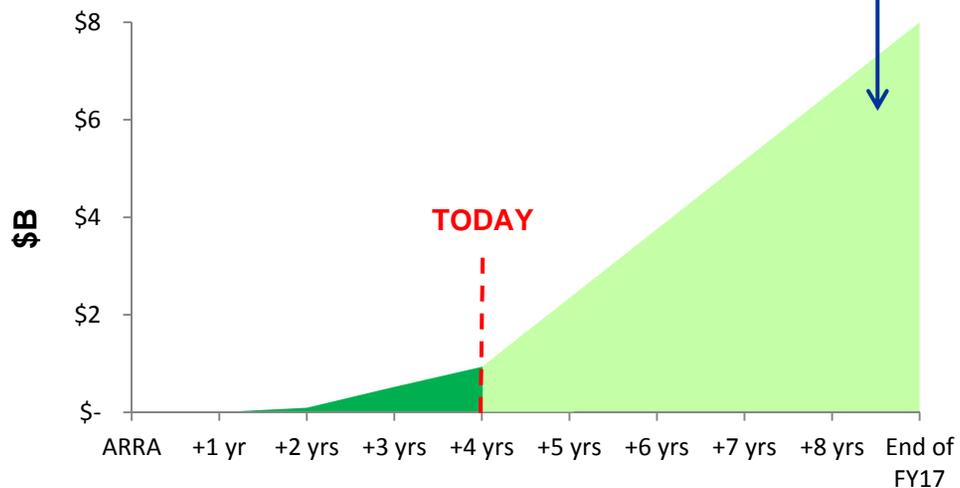
HSIPR Reimbursements by Quarter



Outlays At a Glance

Avg. Outlays since FY11	\$1.5M / business day
FY13 Q1 Avg.	\$4.8M / business day
To Meet ARRA Deadline	\$5.9M / business day

ARRA Reimbursements



Key to success: proactive project management

4 steps to successfully navigating a very busy construction season:

- 1 **Manage schedules** – work plans and deliverable deadlines drive resourcing plans for both of us...we need to stick to them
- 2 **Manage financials** – invoice often... \$6M in expenses per day stacks up quickly!
- 3 **Manage communications** – between questions from the press, Congress, and oversight agencies, we all need to report regularly on our projects so let's share information about metrics, milestones, and successes
- 4 **Manage risk** – all projects carry risk... predicting, catching and correcting issues early reduces budget and schedule impacts



Key to success: proactive project management

4 steps to successfully navigating a very busy construction season:

- 1 **Manage schedules** – work plans and deliverable deadlines drive resourcing plans for both of us...we need to stick to them

Tools:

1. Detailed work plans
2. Deliverable deadlines
3. Deliverable review timelines

What other tools are needed to successfully manage each other's expectations and deliver on time?



Key to success: proactive project management

4 steps to successfully navigating a very busy construction season:

- 2 **Manage financials** – invoice often... \$6M in expenses per day stacks up quickly!

Trainings:

1. E-invoicing training completed
2. Additional invoicing training planned for April

What other support is needed to manage project budgets and keep expenditures and invoices on track?



Key to success: proactive project management

4 steps to successfully navigating a very busy construction season:

- 3 Manage communications** – between questions from the press, Congress, and oversight agencies, we all need to report regularly on our projects so let's share information about metrics, milestones, and successes

Methods of communication:

1. Quarterly progress reports (follow-up training planned for late summer)
2. FRA/Grantee project status calls
3. Quarterly meetings with FRA management
4. Monitoring
5. AASHTO calls

What other communications needs do you have?

What information about your projects are we not hearing?



Key to success: proactive project management

4 steps to successfully navigating a very busy construction season:

- 4 **Manage risk** – all projects carry risk... predicting, catching and correcting issues early reduces budget and schedule impacts

Risk reduction techniques:

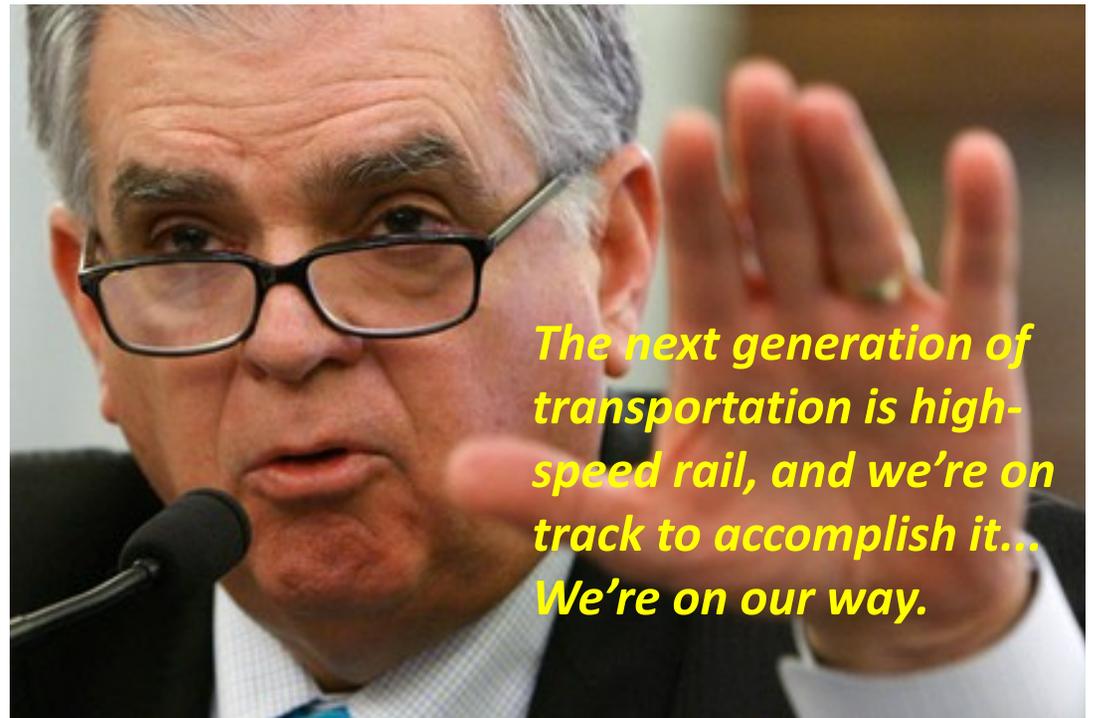
1. Risk management process
2. Monitoring and oversight

What risks to delivery are you seeing?

How can we support you in addressing those?



- 1. Risk Management – Concept to Implementation**
- 2. Overview of Design & Construction Risks**
- 3. Risk Management Process & Approaches**



The next generation of transportation is high-speed rail, and we're on track to accomplish it... We're on our way.

Risk Management – Concept to Implementation

Risks exist from initial concept through implementation / operations:



Risk Management – 2013 – Design and Construction Risks

Typical Risks identified early by Size of Project / Program :

- 1 Procurement Strategy** – Design / Construction Contracts – Plan to avoid overlap among contractors / ensure proper level of Quality Reviews, analyze schedule and cost impacts
- 2 Utility Agreements** – Ownership, relocation responsibility – Contact early, identify responsibility for relocation, design requirements, analyze schedule and cost impacts
- 3 Stakeholder Agreements** – Owner, Operator, Intergovernmental, Class I Freights – Initiate early, identify roles – operator, security, design review, design, construction
- 4 Right-of-Way** – Temporary and Permanent Needs – Coordinate with Procurement Strategy, analyze schedule and cost impacts
- 5 Staffing** – Experience, Quantity, Availability – Outsource to address Project/Program Peak and/or position to add additional governmental staff –Design, Construction, Others.



Risk Management – 2013 – Design and Construction Risks

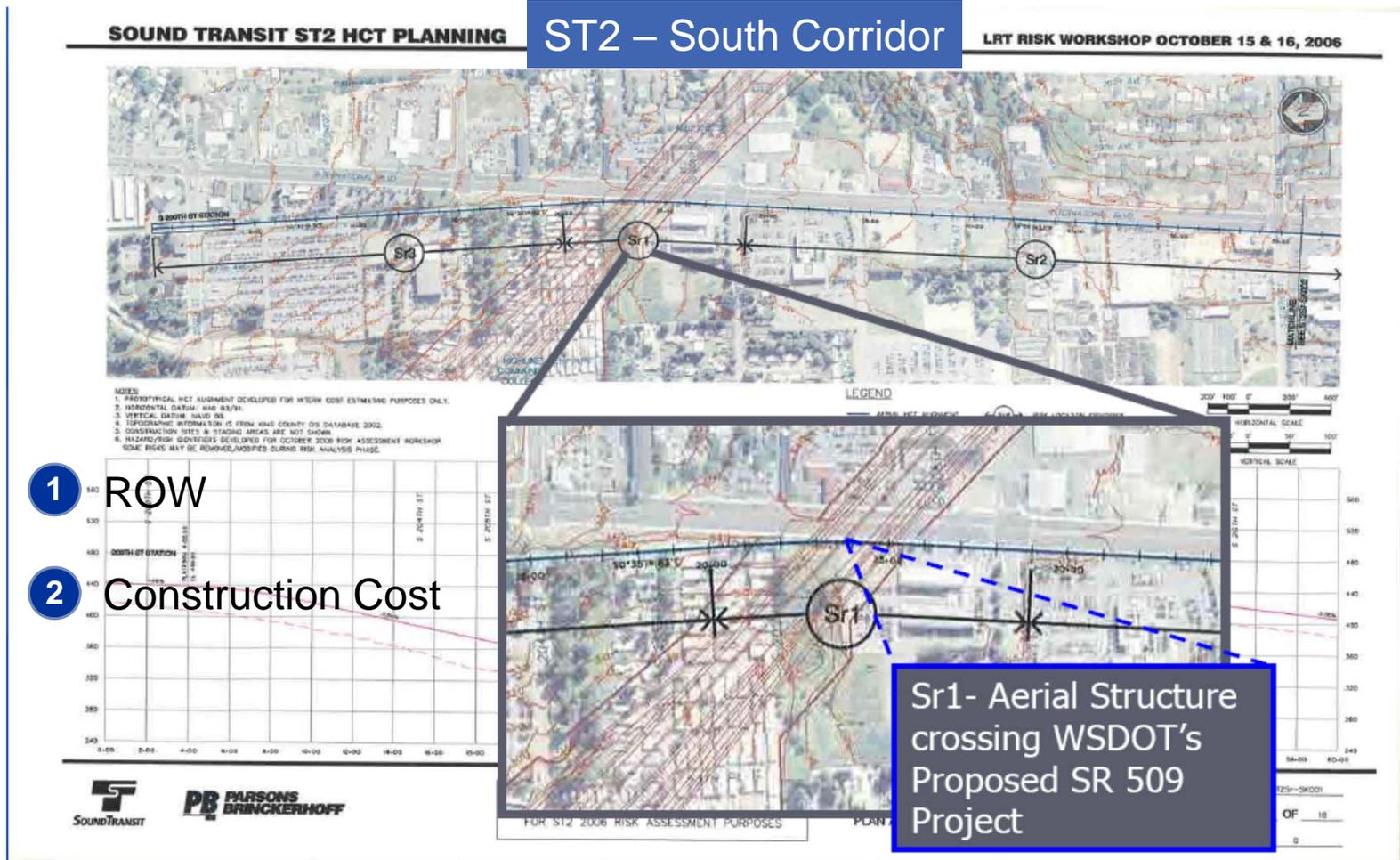
Typical Risks in transition from Design to Construction:

- 1 Final Design Checks** – Stand Alone / Interdependent Separate Designs– Cross Design Checks to avoid inflated bids, ensure specific scope per procurement plan
- 2 Bid Letting** – Right-of-Way, Utility Agreements – ensure in place to avoid early Claims, analyze schedule and cost impacts
- 3 Unforeseen Existing Conditions**– inadequate suitable fill, HAZMAT, unsuitable Soils – Plan based on Geotechnical Reports / Borings, know your site, analyze for schedule / cost impacts
- 4 Technical**– e.g. more retaining walls, more bridge deck etc. – Conduct Final Design Checks to avoid future changes / claims
- 5 Workload** – corridor program – many projects advancing to construction at same time
- Adapt Staffing Levels - Pay Request Reviews, CEI Services, Contract Administration....



Risk Management – Example

Pre-workshop sessions identified project risks



Risk Management Process Benefit

The Purpose of Risk Management is to:

- 1 Third Party Evaluation** – Scope, Schedule, Cost Estimate
- 2 Identify Risks** – Clearly identify potential big ticket risks
- 3 Mitigate and Monitor Risks** – Through targeted mitigation plans
- 4 Provide Confidence** – To partners and stakeholders – finish within schedule / budget



The Risk Management Process



Risk Management Program Risk Matrix

Key Program Staff:

- 1 Qualitative Risk Prioritization
- 2 Determine Risk Levels
- 3 Prioritize Risk Mitigation Efforts

Probability Level	Very High	0	0	2	0	2
	High	0	0	1	1	0
	Moderate	1	10	15	12	7
	Low	0	0	0	0	1
	Very Low	0	0	0	0	0
		Very Low	Low	Medium	High	Very High
Threat Impact Level						

Probability Level	Very High	0	0	0	0	0
	High	0	0	0	0	0
	Moderate	0	0	0	0	0
	Low	0	0	0	0	0
	Very Low	0	0	0	0	0
		Very Low	Low	Medium	High	Very High
Opportunity Impact Level						

Risk Management Risk Identification

Assess identified risks for:

- 1 Probability of Occurrence
- 2 Impact to Cost / Schedule
- 3 Opportunities impact to cost/schedule
- 4 Use Impacts/Probabilities to assess risk

Threat Impact Level	Description	Cost Increase	Schedule Increase
Very High (5)	Increases to one or more of Program's cost, schedule or scope with the potential to lead to material termination of the Program	> \$ 100 M	6 Months and above
High (4)	Significant increases to one or more of Program's cost, schedule or scope changes that are likely unacceptable to Authority	\$ 50 M to \$ 100 M	4 to 6 Months
Medium (3)	Moderate increases to one or more of Program's cost, schedule or scope requiring Authority approval	\$ 10 M to \$ 50 M	2 to 4 Months
Low (2)	Minor, but noticeable increase in cost or schedule; minor areas of scope affected	\$ 1M to \$ 10 M	1 to 2 Months
Very Low (1)	Insignificant cost or schedule increase; change in scope is barely noticeable.	< \$ 1M	1 Week to 1 Month
Probability Level	Description	Probability of Occurrence	
Very High (5)	Highly likely to near certain to occur	90 - 99%	
High (4)	Likely to occur	65 - 89%	
Medium (3)	Equally likely to occur as not to occur	36 - 64 %	
Low (2)	Unlikely to occur	11 - 35 %	
Very Low (1)	Very unlikely to occur	1 - 10%	
Opportunity Impact Level	Description	Cost Reduction	Schedule Reduction
Very High (5)	Significant decreases to Program's cost or schedule, independent of scope reductions	> \$ 100 M	6 Months and above
High (4)	Significant decreases to Program's cost or schedule, independent of scope reductions	\$ 50 M to \$ 100 M	4 to 6 Months
Medium (3)	Moderate decreases to cost or schedule, independent of scope reductions	\$ 10 M to \$ 50 M	2 to 4 Months
Low (2)	Minor, but noticeable, decreases in cost or schedule, independent of scope reductions	\$ 1M to \$ 10 M	1 to 2 Months
Very Low (1)	Insignificant improvement to cost or schedule	< \$ 1M	1 Week to 1 Month



Risk Management Risk Register

Corridor: **South**

Hazard Location or Event	Ref./I.D	Risk	LRT Segment	Hazard/ Event	Assumed Impact (\$M)
	10	Guideway & Track			
	10.04	Aerial Structure			
S_r1	10.04-01		S28	Aerial Structure crossing the proposed SR 509 project: Full span as opposed to 2 spans, SR 509 project is a large WSDOT project, issues with how LRT structure would place columns?	\$3M
S_r2	10.04-02		S28	S 208th St to Kent-Des Moines Road: Column placement at intersections need special structures? To clear the intersections, is the cost estimate adequate for the level of design development?	\$6M

Corridor: **South**

Hazard Location or Event	Ref./I.D	Risk	LRT Segment	Hazard/ Event	Assumed Impact (\$M)
	60	ROW , Land, Existing Improvements			
	60.00	General			
S_r1	60-01		S28	ROW estimate assumes that the purchase of the majority of ROW will be by WSDOT. LRT alignment position influenced by the alignment of the proposed SR 509 project. ROW allowances for the staging areas, relocation of the mobile home park assumed will be carried out by WSDOT. Risk is ST has to purchase the ROW.	\$3M
S_r2	60-02		S28	S 208th St to Kent-Des Moines Road: Additional ROW requirements on property frontages	\$0M



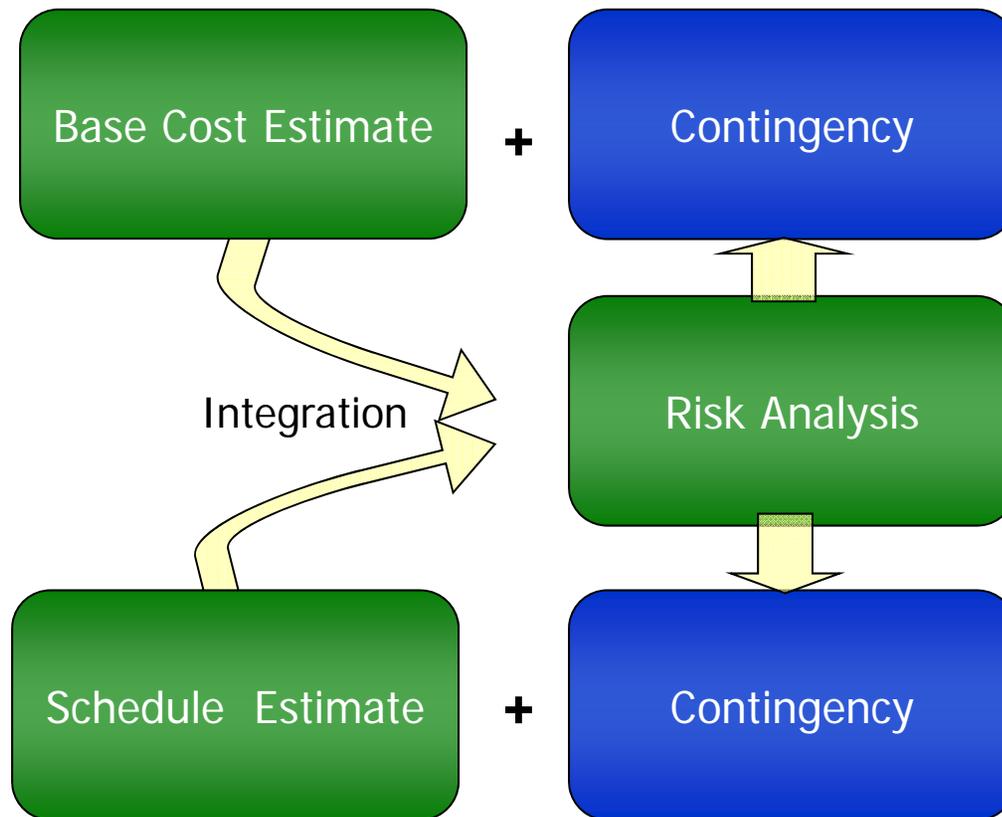
Adapt Risk Management Strategy to Project or Program

Programs and Projects differ in risk :

- 1 **NEW or Existing Operation**– Experience of Staff – introduction of new technologies
- 2 **MEGA Program**– Multi-Decade; Multi-Corridor, New Technology
- 3 **Corridor Program**– can be new and carry similar risks to a MEGA Program / can also be an expansion of existing established service.
- 4 **Project**– risk specific to the individual project

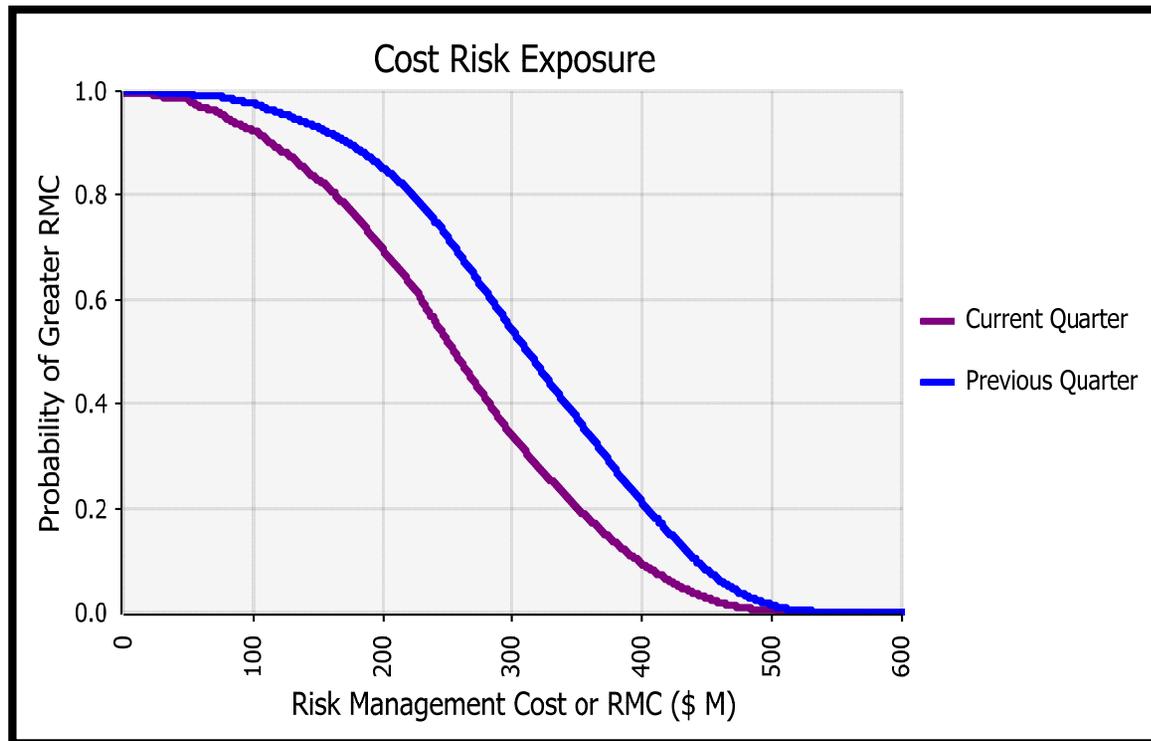


Risk Management Quantitative Analysis

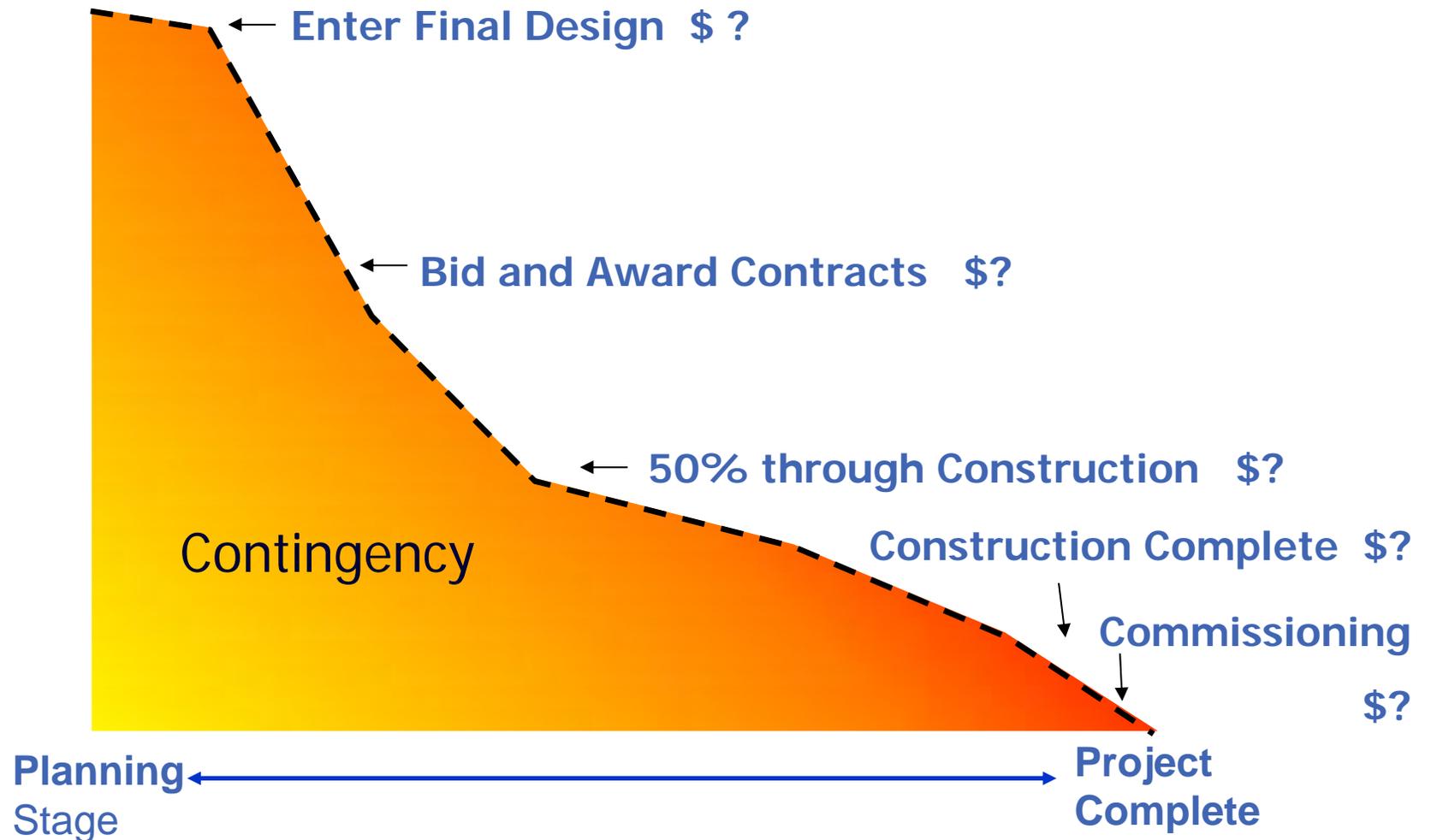


Risk Management – Cost Risk Analysis

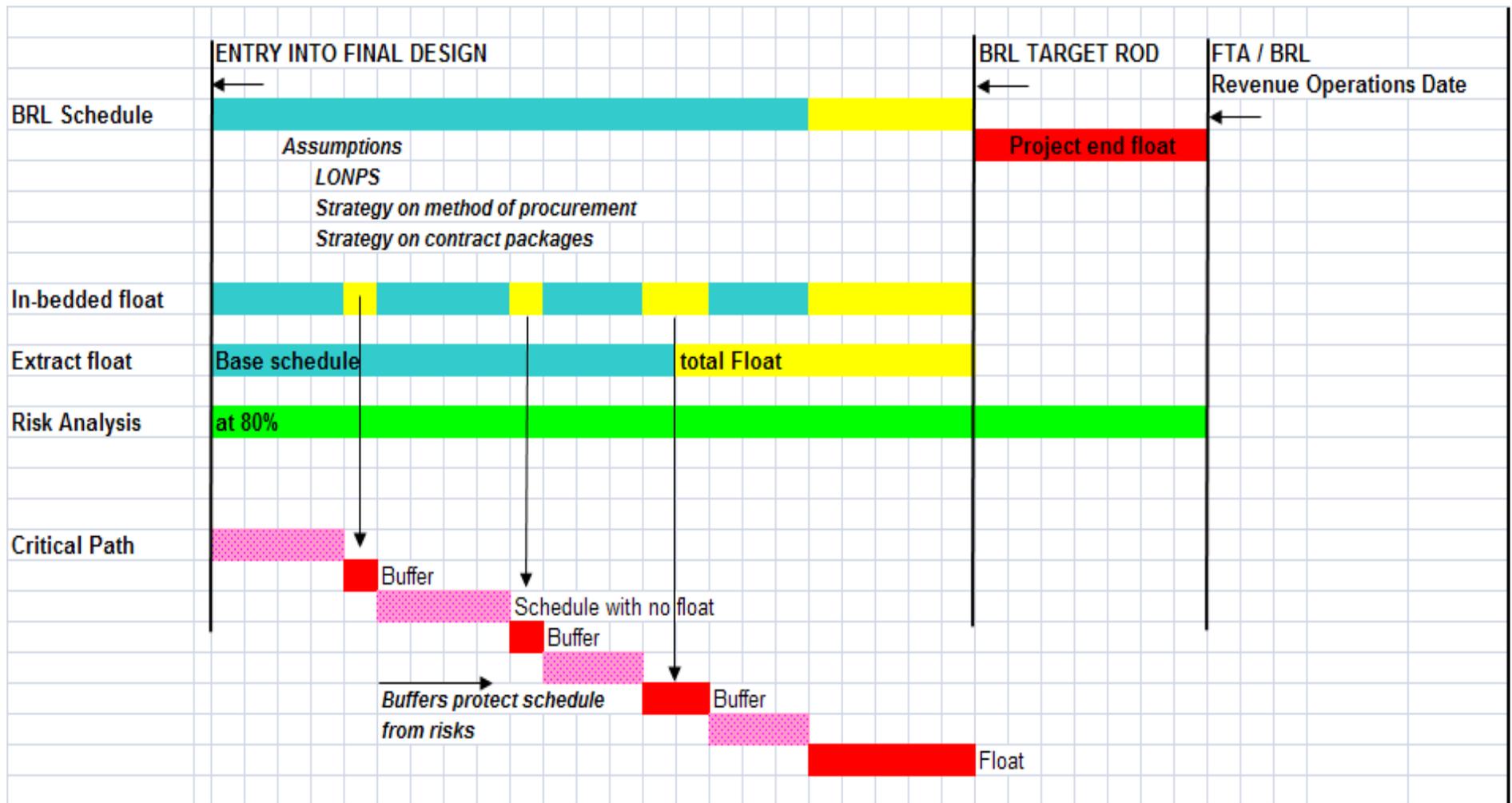
Replacing Single Point with ranges to address risk



Risk Management – Contingency Management



Risk Management – Example – Schedule Analysis



Questions?

