



# Deploying Resources to High Risk Areas



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# Presentation Overview

- Potential high risks – review.
- Resource allocation.
  - ❖ Washington UTC
  - ❖ Iowa DOT
  - ❖ California PUC





## Potential High Risks - review

1. Ever increasing crude oil unit train traffic
2. Crude oil routes
3. New crude oil facilities coming online
4. New or rehab track projects for crude facilities
5. Monitoring unit trains
6. Railroad bridges
7. Other local safety hazards





# 1. Increasing crude oil traffic

Total CBR movements in the United States and between the United States and Canada were more than 1 million barrels per day (bbl/d) in 2014, up from 55,000 bbl/d in 2010. The regional distribution of these movements has also changed over this period.

## 2010

- The Williston Basin in North Dakota was the primary origin of 55,000 bbl/d of CBR shipments in 2010, with most shipments remaining in the Midwest region.
- Rail tank cars were used mainly to move Bakken crude oil to the [Cushing, Oklahoma, storage and pipeline hub](#).
- The remaining volumes of Bakken CBR shipments went to Gulf Coast and East Coast refineries (**PADDs 3 and 1**, respectively).

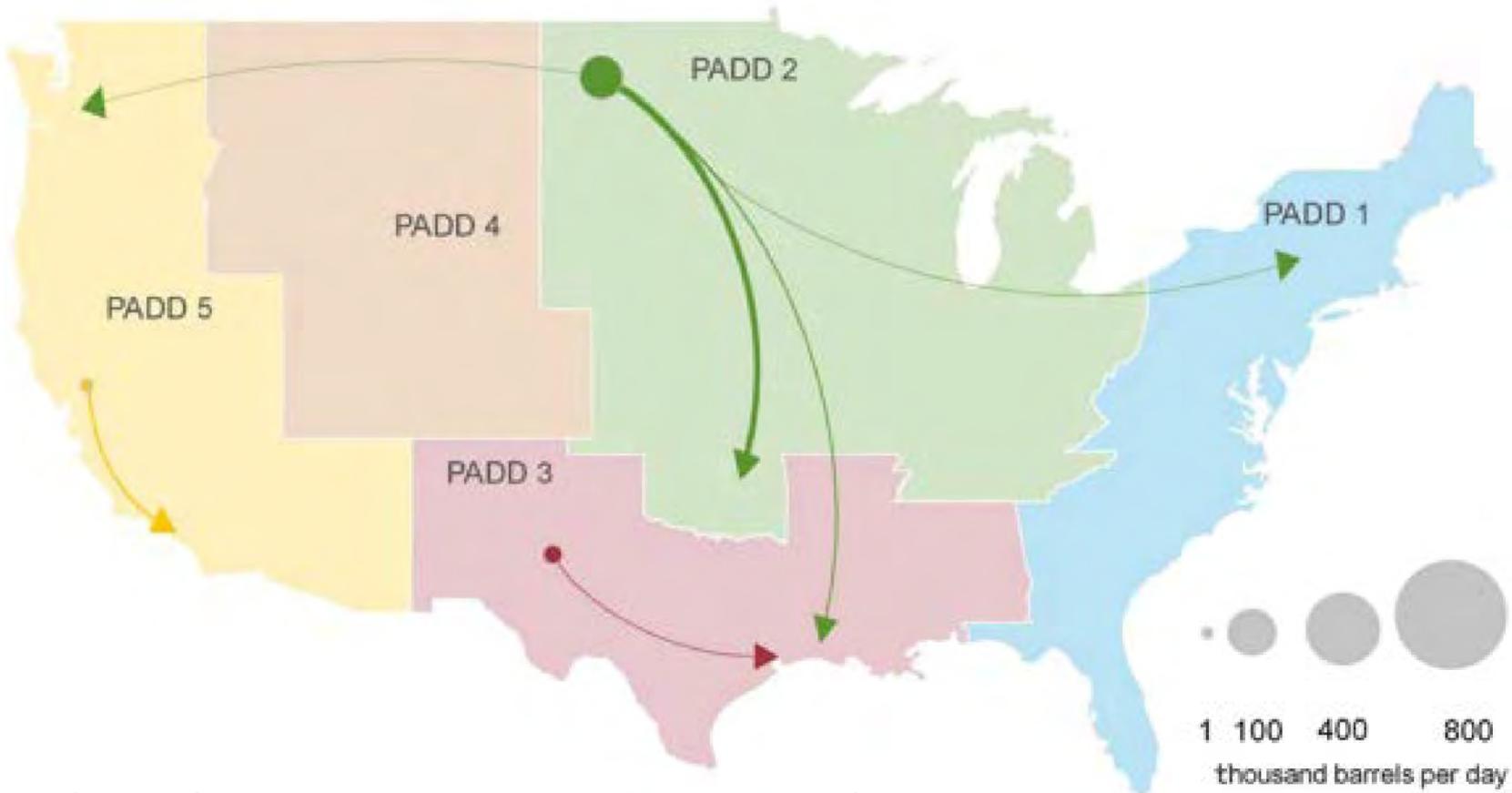




# Crude-by-rail movements (2010)



Canada



**Source:** U.S. Energy Information Administration based on data from the Surface Transportation Board and other information

**Note:** Crude-by-rail movements greater than 1,000 barrels per day are represented on the map; short-distance movements between rail yards within a region are excluded.





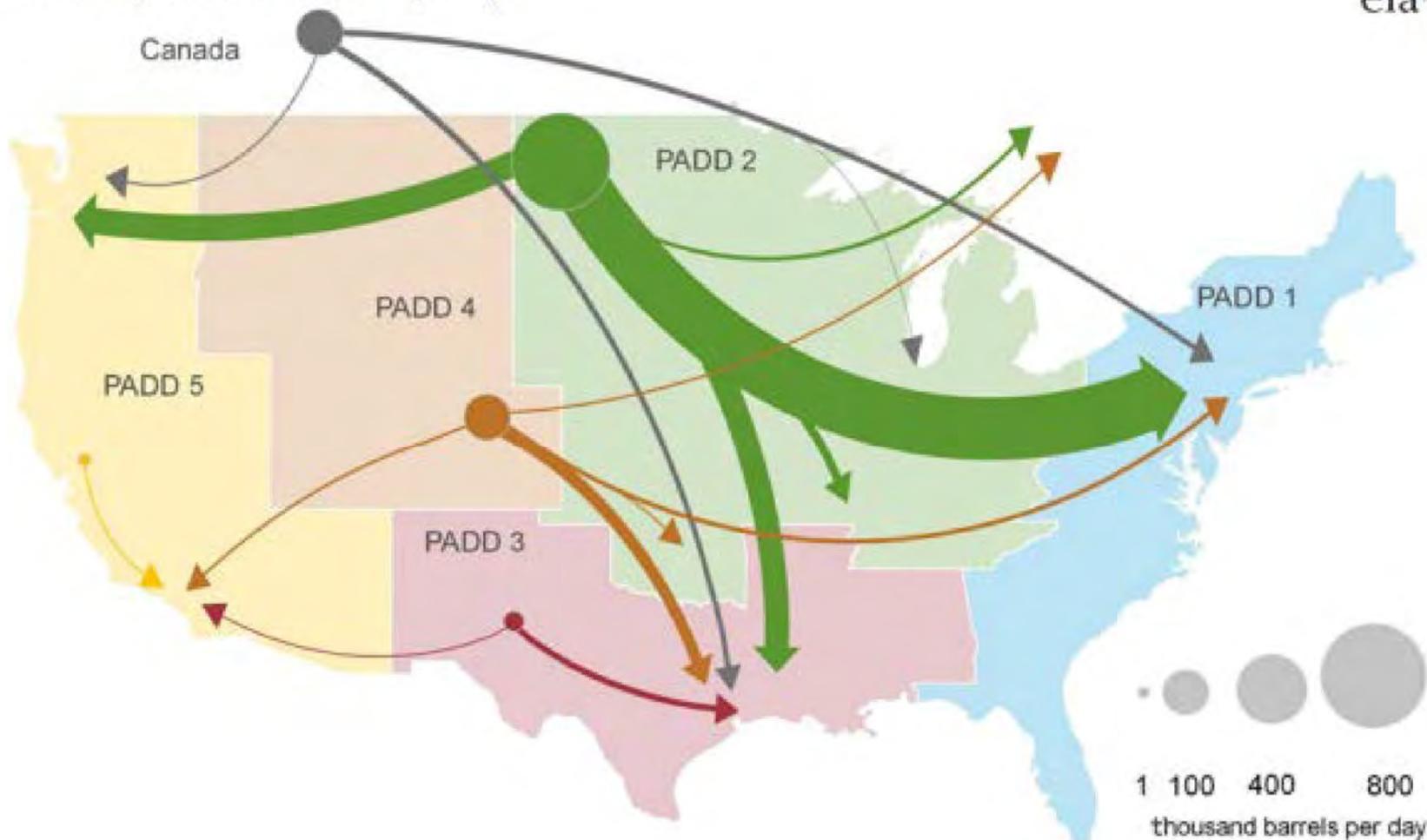
# 2014

- Growth in total CBR movements slowed in 2014, but the average CBR volume exceeded 1 million bbl/d.
- Bakken crude from **PADD 2** continued to dominate flows, making up 70% of CBR volumes.
- Niobrara crude from **PADD 4** grew in importance as the second-largest origin for rail shipments.
- East Coast refineries (**PADD 1**) were the primary destination for CBR receipts in 2014.





## Crude-by-rail movements (2014)



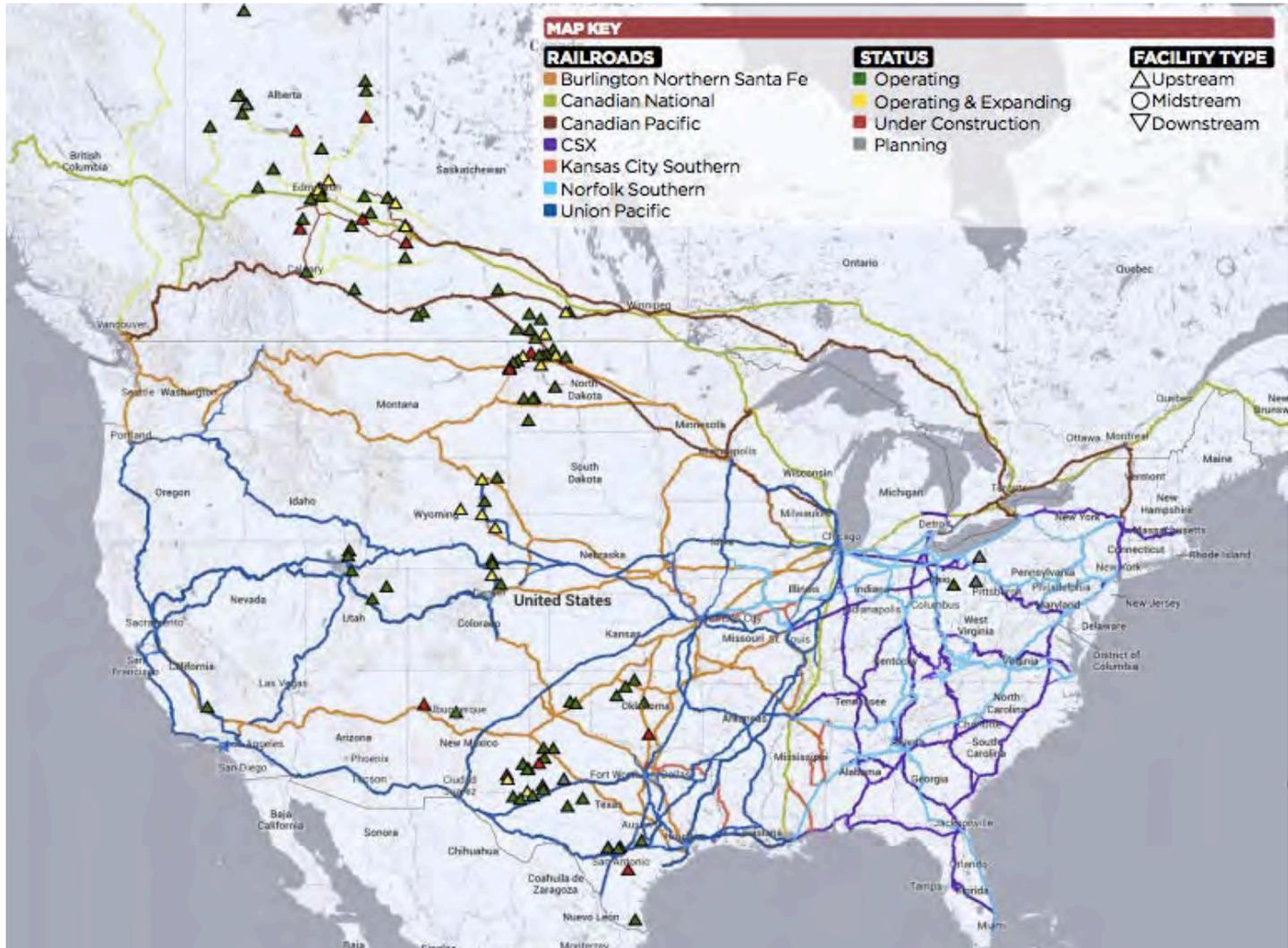
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# 2. Crude Oil Routes





## 3. Crude Oil Facilities

### Hazardous Materials:

- Facility tank car unloading procedures - competencies.
- Tank car shipment condition – arrival and departure.



### Track:

- Rehabilitation and new construction – competencies.
- Bridges, culverts - integrity.



### Railroad equipment:

- Equipment condition – inspection practices by railroads and shippers.





## Crude Oil Facilities (cont.)

### Train Operations:

- Railroad train handling operations - competencies.
- Coordination with other railroad traffic.
- Staging, switching procedures.
- Facility tank car handling operations and procedures.



### Signal:

- Grade crossing improvements - competencies.
- Grade crossing warning activation integrity.





## 4. New or rehab track projects for crude facilities





## 5. Monitoring Unit Trains



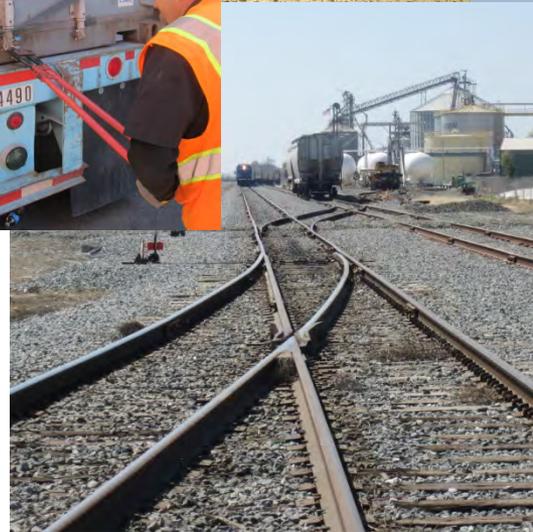


# 6. Railroad Bridges





## 7. Other Local Safety Hazards





## Local Safety Hazards

### Railroad Safety Act 1970:

#### SEC. 205. STATE REGULATION.

The Congress declares that laws, rules, regulations, orders, and standards relating to railroad safety shall be nationally uniform to the extent practicable. A State may adopt or continue in force any law, rule, regulation, order, or standard relating to railroad safety until such time as the Secretary has adopted a rule, regulation, order, or standard covering the subject matter of such State requirement. A State may adopt or continue in force an additional or more stringent law, rule, regulation, order, or standard relating to railroad safety when necessary to eliminate or **reduce an essentially local safety hazard**, and when not incompatible with any Federal law, rule, regulation, order, or standard, and when not creating an undue burden on interstate commerce.





Washington Utilities and Transportation Commission

# Crude Oil by Rail Reducing Risk in Washington State

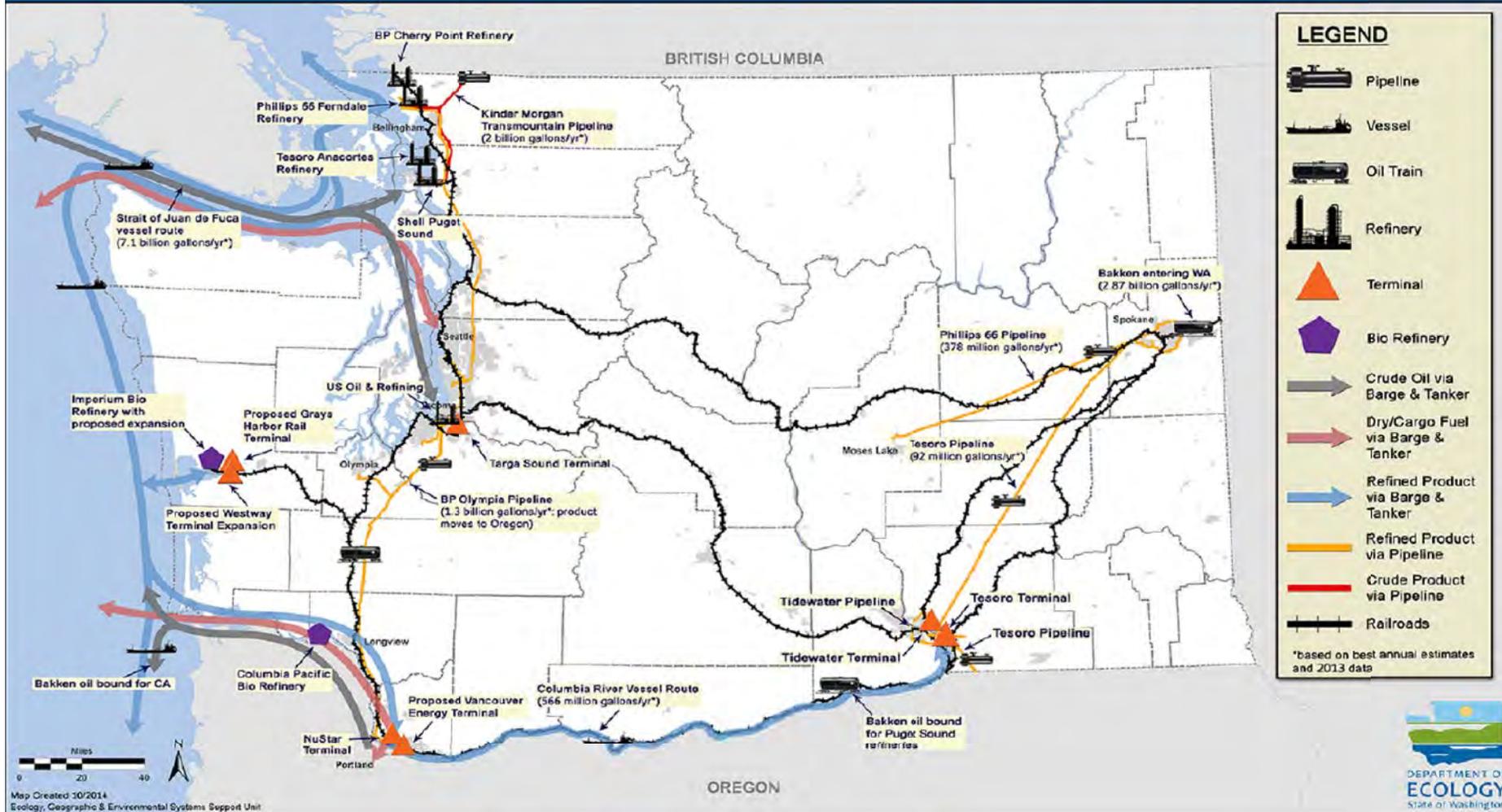


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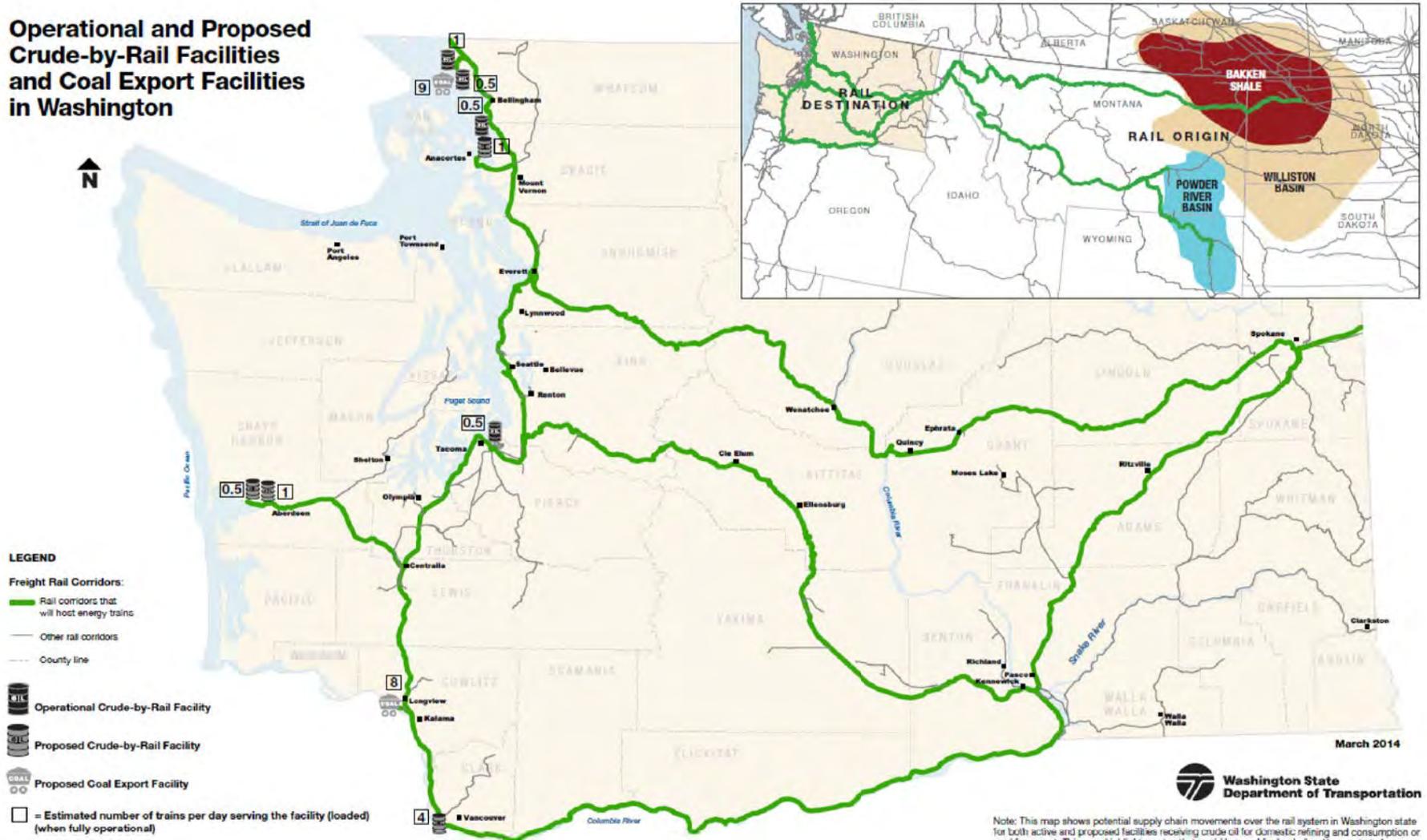


# Oil Movement In & Out of Washington State





## Operational and Proposed Crude-by-Rail Facilities and Coal Export Facilities in Washington



March 2014



Source: WSDOT Freight Systems Division.

Note: This map shows potential supply chain movements over the rail system in Washington state for both active and proposed facilities receiving crude oil for domestic refining and consumption or coal for export. This map highlights routes that could be used for loaded and/or empty train movements. Private companies own and operate the rail lines highlighted. Specific train movements are made at the sole discretion of the rail operator in accordance with undisclosed operating plans.



### Action at the State Level

- 2014 Marine and Rail Oil Transportation Study – Analyze the risks to the public health and safety, and the environmental impacts associated with the transport of oil in Washington state. (Final study completed March 1, 2015)
- Partnership between Department of Ecology, Utilities and Transportation Commission Emergency Management Department.
- Focus – Prevention, Preparedness and Response.
- Clearer understanding of the impacts of crude by rail in Washington.
- Impact on UTC:
  - Funding to expand program
  - Authorization to increase staffing levels and salary
  - Expanded regulatory authority at private shipper properties
  - Jurisdiction over private crossings along crude oil routes and in First Class cities
  - First Class cities may “opt in” to UTC crossing inspection program





### UTC's Rail Safety program in Washington

- Increased the number of inspectors from four to twelve staff
- Currently eight inspectors, plans to add four additional inspectors in early 2016
- Staff located throughout the state in strategic locations
- Reorganized staff to maximize resources and cover increasing demands
- As of January 2016, expanded UTC's jurisdiction:
  - Develop and enforce minimum safety standards for private crossings along oil routes
  - Authority to conduct hazardous materials inspections on private shipper property
  - Higher salary ranges for FRA certified inspectors
  - Allows First Class cities to "opt in" to crossing inspection program and issue defects/take enforcement action
  - Increased regulatory fees to support expanded program
  - Audit bridge inspection records





## Refocusing the inspection program to areas of higher risk

### State Program Emphasis

- Increase frequency of inspections of public crossings on oil routes
- Inspect private crossings for compliance with minimum safety standards, to be determined through rulemaking
- Determine inspection frequency for private crossings after rules adopted
- Following up on crossings identified as “under protected” as a result of the 2014 State Rail and Marine Study
- Modify state rail database to accommodate information about private crossings
- Annually analyze risk at public crossings, take steps to improve safety



## Refocusing the inspection program to areas of higher risk

### Federal Program Emphasis

- Focus inspections on crude oil routes – half of inspector's time
- Partner with neighboring states to conduct joint inspections along the border
- Develop a multi-discipline safety emphasis team to conduct focused quarterly inspections
- Participate in FRA sponsored safety emphasis events in Washington and other states
- Increase knowledge of FRA risk reduction programs such as NIPS and SAM
- Meet with FRA regional staff to increase communication and coordination



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Washington Utilities and Transportation Commission  
Rail Safety

# Questions?

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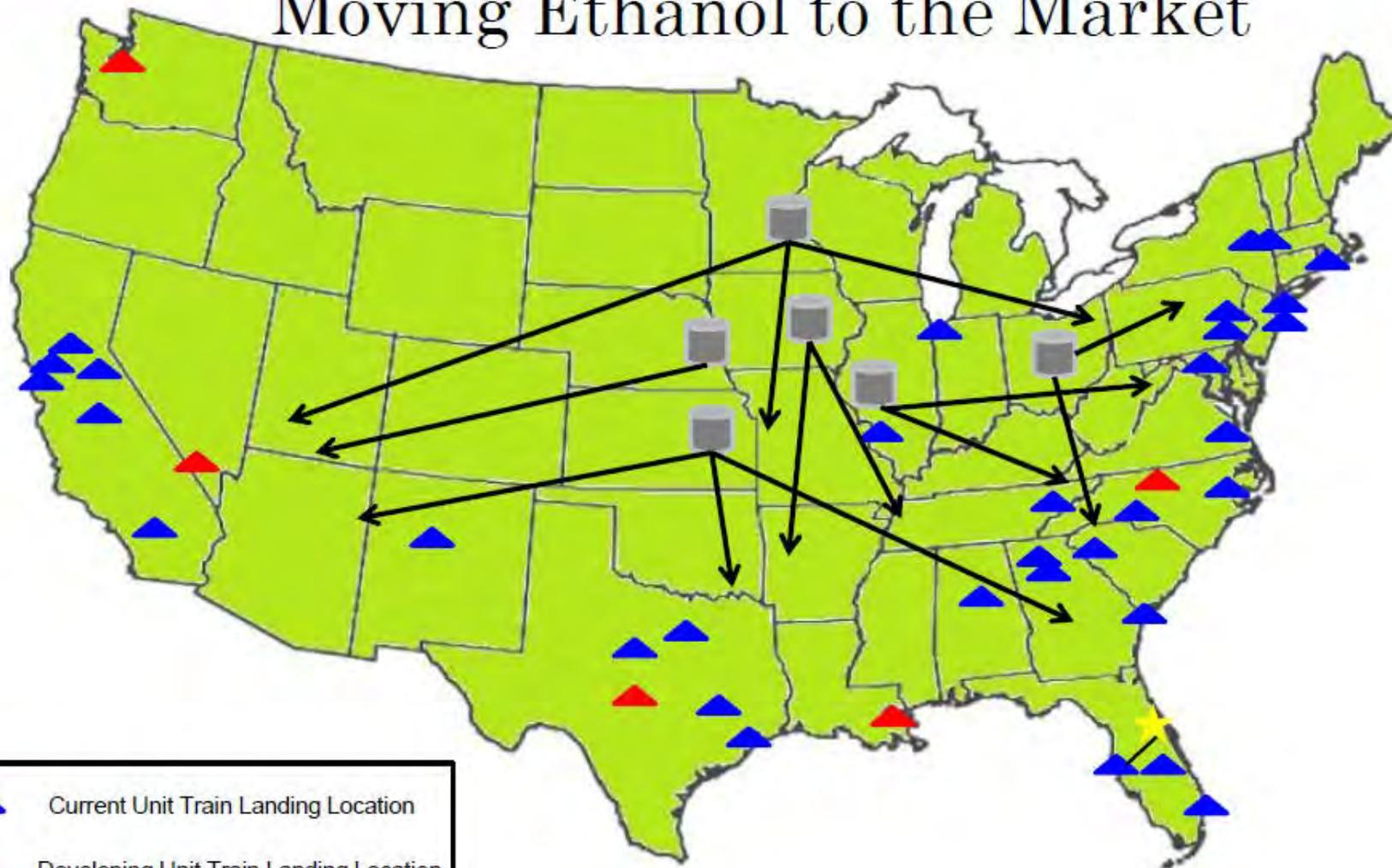


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***Transportation***

# Crude Oil and Ethanol by Rail: Reducing Risk and Improving Emergency Response



# Moving Ethanol to the Market



-  Current Unit Train Landing Location
-  Developing Unit Train Landing Location
-  Unit Train Origin
-  KinderMorgan Pipeline – Orlando to Tampa

Source: Renewable Fuels Association (RFA) April 2013



IOWA ETHANOL AND CRUDE OIL RAIL ROUTES



- Iowa's Plan: Understand both Rail and Emergency Response Systems

**Prevent**

**Plan**

**Respond**

**Recover**





## Track Inspection

- Improve railroad safety by track inspection activities.
- Develop a positive and professional working relationship with railroad supervisors and employees.

### General Inspection Principals:

Inspect to assess the overall condition of the railroad's track and roadbed.

Prioritize inspections based on criteria such as compliance history, accident history, hazardous materials, passenger trains, maximum operating speeds and annual tonnage on subdivisions.

Re-inspection of all violations written by Iowa DOT inspectors.





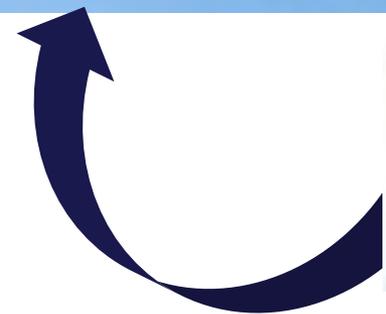
Prevention



# Highway-Railroad Crossing Safety Program

# Highway Surface Repair Program

# Railroad Revolving Loan and Grant Program





## Crude and Biofuels Rail Study

### •Why

Public and political attention on recent incidents

### •Focus

Rail transportation of crude oil and ethanol in Iowa

### •Schedule

Commenced in August, draft report in January 2016

### •Stakeholders

Railroads, state and local agencies, first responders, shippers

### •Study consultant team

HDR Engineering, Inc., and Witt O'Brien's

### •Goal

An actionable strategy to reduce risk and improve emergency response



## Who owns this problem?

- “It’s a railroad problem”
- “It’s a federal regulation problem”
- “It’s a carbon-dependency problem”
- “It’s a first responder’s problem”

## Iowa’s Questions:

- How much risk do we have of an incident?
- How do we reduce risk?
- Are emergency preparedness programs adequate?
- How, where, and what do we do to improve our emergency response?
- How can our railroads and emergency responders improve their communication, planning, and response?



## Iowa's Study – Rail Components:

- Identify frequency and routes
- Assess the risks
- Document current programs and efforts related to rail incident prevention and management
- Understand what each railroad's plans and procedures are
- Understand shipper's plans and procedures

## Iowa's Study – Emergency Response

- Realistic risk assessment (requires information sharing between local government/EM and railroads)
- GIS mapping of routes and risk factors
- Assess hazmat response capabilities
- Plans, procedures, and coordination



## Initial findings:

- State agencies, railroads, local first responders and shippers must improve their partnership
- Improved knowledge of railroads – where, what, how – by emergency management system
- Training and resources flow to key areas
- Public awareness of improvements
- Need for updated risk assessment and leveraging of capabilities to protect human health, property and infrastructure
- Increase communication between railroads and between railroads and shippers when interchanging cars





# Questions?

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# California Public Utilities Commission

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*Safety Enforcement Division (SED)*

*California Public Utilities Commission*





# Resource Allocation





## So...what to do?

- How do you stay on top of these issues with limited resources?
- How do you account or prove (to politicians and/or media) for time spent by staff on these concerns?
- How can this spent time be more precisely documented, beyond just a comment on an FRA 6180.96 report?





## Some ideas that may help...

In California, I created specifically focused projects/programs to address concerns:

- Railroad Bridge Evaluation Program (RBEP)
- Crude Oil Recon Team (CORT)
- Positive Train Control Team (PTCT)
- Risk Management Status Report (RMSR)





## Crude Oil Recon Team (CORT)

Initiated to proactively monitor crude oil projects before they come online by:

- identifying and seeking remediation on all regulated and non regulated potential, perceived and existing risks;
- provide guidance to the railroads, crude oil facilities and their respective contractors to mitigate identified risks and non-compliant issues.

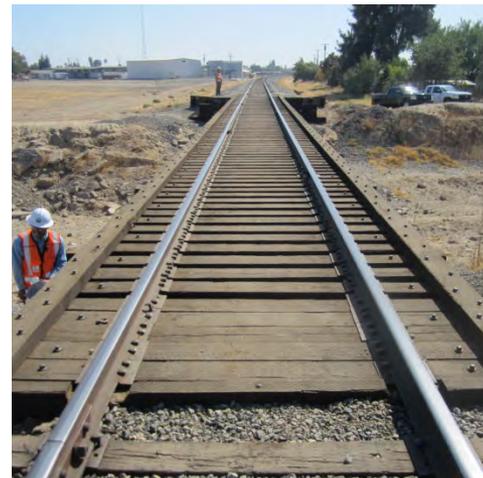
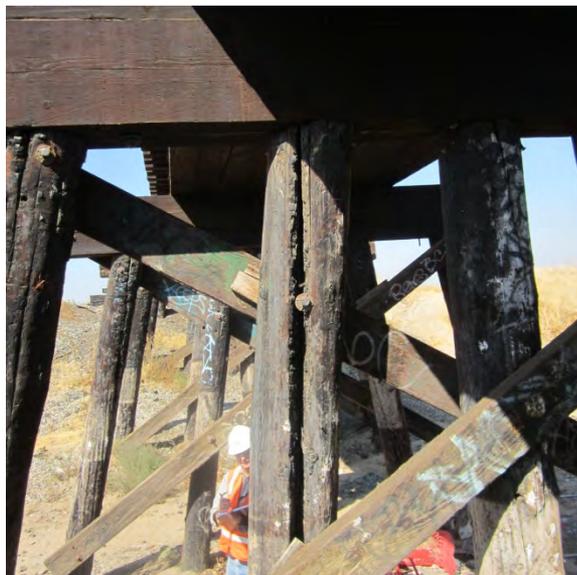




## Railroad Bridge Evaluation Program (RBEP)

ROSB now has two bridge inspectors to ensure that railroad bridge safety and maintenance practices by railroads are more closely monitored:

- The program mirrors the FRA bridge oversight program and works in concert with FRA at every opportunity.
- The intent is to enhance railroad bridge safety oversight in California.
- The railroad bridge inspectors work with our risk assessment program.
- Increasing high hazard commodity transportation prompts more oversight activity, stimulated by public interest.

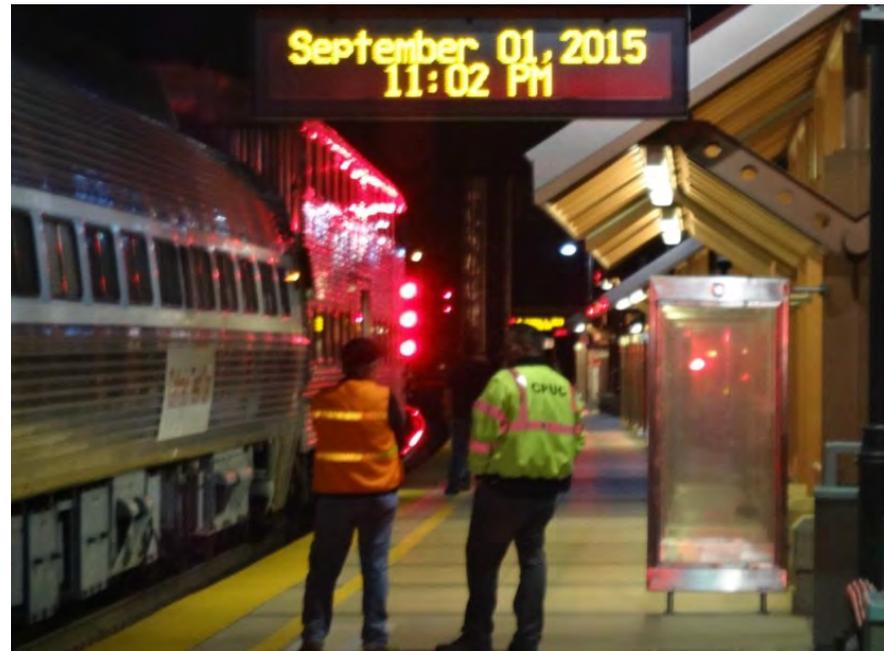




# Positive Train Control Team (PTCT)

## PTCT Mission Statement

To protect the public from accidents / incidents involving railroad positive train control systems by proactively carrying out oversight of positive train control methodology to identify risks before they create dangerous conditions; and seek effective mitigation of those identified risks.





# Risk Management Status Report (RMSR)

- Looks beyond the regulations.
- Single page document.
- Allows inspection staff to discuss any unsafe act, condition or situation with railroad managers, shippers or other entities, regardless of regulations.
- Very proactive risk management.
- Accounts for time actually spent.
- Achieves results.





## How does this help with limited resources?

- Each program/project has one lead person.
- Each program/project requires a monthly one page report illustrating activities and data.
- Each report can document routine inspection time, inspection time which incidentally incorporates these activities, into a separate focused report.
- Each program/project delegates responsibility.
- Such responsibility builds new leaders for the future.
- These new leaders help to improve esprit de corps within your staff.





# Questions?





# Happy Retirement, Paul!





**Thank you!**

**For additional information please contact me or visit our webpage:**

**<http://www.cpuc.ca.gov/PUC/safety/Rail/Railroad/railroadsafety.htm>**



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