



Idaho Transportation Department

# Freight Summit 2016

**Freight – Building Idaho's  
Economy**

# ITD Welcome

**Jim Carpenter**  
**Chief Operations Officer**  
**Idaho Transportation Department**



# Transportation Board Welcome

# Jerry Whitehead

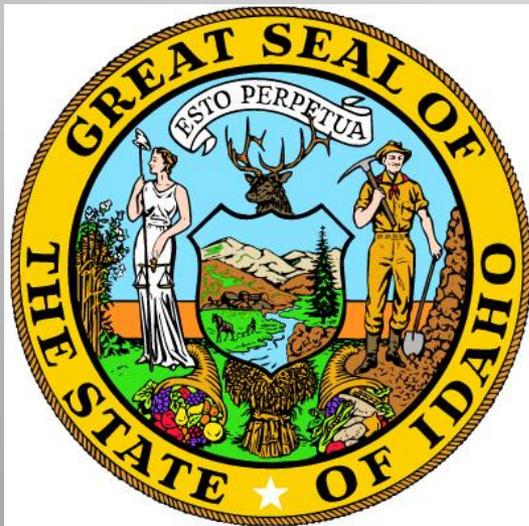
Chairman, Idaho Transportation Board



# State of Idaho

# Brad Little

## Lieutenant Governor





Idaho Transportation Department

# Freight Program and the FAST Act

Jeff Marker

Freight Program Manager

# Freight Program

- ❖ Statewide Freight Strategic Plan
- ❖ Freight Advisory Committee
- ❖ Outreach



# Statewide Freight Strategic Plan

- ❖ Freight Study
- ❖ Multimodal Perspective
- ❖ Plan 40% Complete
  - MAP-21/FAST Act Compliant
  - Relationship to Idaho's Economy – Complete
  - Network Analysis – Complete
  - Safety, Policy Analysis – On-going
  - 5/10/20 Year Infrastructure Improvement Plans – February Start
  - Performance Measures



# Freight Advisory Committee

## ❖ Committee Structure

## ❖ MAP-21 – State Freight Advisory Committee Role:

- Advise on priorities, issues, projects, and funding needs
- Forum for discussion for State transportation decisions affecting freight mobility
- Communicate and coordinate regional priorities
- Promote private and public information sharing
- Participate in the development of the state freight plan

# FAST Act

- ❖ Fixing America's Surface Transportation Act
- ❖ Signed December 4, 2015
- ❖ 5 year (2016-2020), \$305 billion in funding
- ❖ Generally maintains direction established under previous funding authorization (MAP-21)

One Hundred Fourteenth Congress  
of the  
United States of America

AT THE FIRST SESSION

*Began and held at the City of Washington on Tuesday,  
the sixth day of January, two thousand and fifteen*

An Act

To authorize funds for Federal-aid highways, highway safety programs, and transit programs, and for other purposes.

*Be it enacted by the Senate and House of Representatives of  
the United States of America in Congress assembled,*

**SECTION 1. SHORT TITLE; TABLE OF CONTENTS.**

(a) SHORT TITLE.—This Act may be cited as the “Fixing America’s Surface Transportation Act” or the “FAST Act”.

(b) TABLE OF CONTENTS.—The table of contents for this Act is as follows:

# FAST Act

## ❖ Discretionary

- Grants
- \$4.5B over five years
- For projects over \$100M
- \$500M to Intermodal Freight Rail
- \$500M in set asides
  - 10% for smaller projects
  - 25% for rural projects

## ❖ Formula

- Primary Highway Freight System
- Idaho's portion  $\approx 1.3\%$  (draft)
- 10% can be spent on intermodal, port or freight rail
- Eligible Roadways:
  - All interstates
  - Critical Urban Freight Corridors
  - Critical Rural Freight Corridors
- Freight Plan Required

# Other FAST Act Components

- ❖ Creates a National Multimodal Freight Policy and National Multimodal Freight Network-US DOT will develop a national strategic freight plan.



- ❖ National Multimodal Freight Network (NMFN)
  - NHFN
  - Class I railroads
  - Public ports with high trade volumes
  - Inland, intracoastal waterways and marine highways
  - Top 50 airports by annual landed weight
  - Other strategic freight assets (intermodal and other freight rail)
  - States may seek additional assets with input of freight stakeholders (includes rural freight assets)

# Other FAST Act Components

- ❖ Establishes new High Priority Corridors on National Highway System (U.S. 95 and CANAMEX Corridor/I-15 already included)- no new funding
- ❖ Study to examine the Interstate system- \$5 million
- ❖ Motor Carrier Safety Grant Consolidation and Changes
- ❖ Surface Transportation Block Grant Program
- ❖ Port Performance Freight Statistics Program

## FAST Act Apportioned Funding for Idaho: 2016-2020 (\$ Millions)

National Freight Program	National Highway Performance Program	Surface Transportation Block Grant Program	STBGP Set-Aside for TAP Equivalent	Highway Safety Improvement Program	Rail-Highway Grade Crossings	Congestion Mitigation and Air Quality Program	Metropolitan Planning Program
\$45.8	\$866.3	\$404.7	\$19.7	\$85.5	\$9.4	\$66.5	\$8.4



# Why a Freight Plan

- ❖ State freight plans are **REQUIRED** in order to receive funding via formula
- ❖ Identify freight needs/issues, bottlenecks
- ❖ Identify projects and performance measures- FAST Act requires progress towards freight-related performance measure targets within 2 years
- ❖ Consider how needs/issues change as trends change
- ❖ Suggest policy and regulatory changes to address needs and issues

# ITD Freight Program

---

**Questions**

# Freight Summit

---

**Break**

# Statewide Freight Strategic Plan Update

# Statewide Freight Strategic Plan Team



- Idaho Transportation Department
  - » Jeff Marker, Project Manager
  
- Cambridge Systematics
  - » Dike Ahanotu, Project Manager
  - » Brian Stewart
  
- DKS Associates
  - » Bill Loudon
  - » Deena Platman

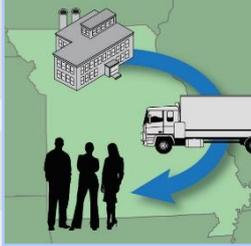
# Freight Planning Framework



## Economic Structure

*Type of Businesses, Number of Households...*

- *What drives Idaho's economy ?*
- *How competitive is the region with neighboring states?*



## Industry Logistics Patterns

*Supply Chain, Distribution Networks...*

- *What are Idaho's key industries and their supply chains?*
- *Where do goods move to/from?*



## Commodity/Vehicle Traffic Flows

*Trucks, Planes, Rail Cars...*

- *What commodities, in what quantities use the freight system?*
- *What modes are best suited for these movements?*



## Freight Infrastructure

*Highway, Rail Lanes, Ports, Access Roads...*

- *What are Idaho's key multimodal freight corridors?*
- *What is their condition, performance and safety?*

## Organization/Public Policy

*Ownership, Regulation, Price...*

- *What policies / regulations impact goods movement?*
- *How is the private sector engaged?*

# Tasks and Work Schedule

- Task 1 – Project Management (on going)
- Task 2 – Freight's Relationship to the Idaho Economy (complete)
- Task 3 – Freight Network Analysis (complete)
- Task 4 – Freight Safety Analysis (Feb. 2016)
- Task 5 – Freight Policy Analysis (Feb. 2016)
- Task 6 – 5/10/20 Year Infrastructure Improvement Plan (July 2016)
- Task 7 – Idaho Strategic Freight System Plan (Sept. 2016)



# Summary of Idaho Needs Assessment

Need	Section	Rating	Rating Explanation	Opportunity
<b>Truck Congestion</b>	Highway Congestion		Limited areas of congestion concern. Boise (I-84) and slow traffic flow due to geometric and geography constraints.	
<b>Overweight and oversize Routes</b>	Highway Access		105,500 on all state routes is a benefit. 129k routes are expanding but network is still disjointed. New federal legislation authorizes Idaho to allow 129K pound trucks on interstates; however, at this time it has not been implemented in the Idaho legislature.	In addition to existing 129k state network, new federal legislation authorizes Idaho to allow 129K pound trucks on interstates. However, at this time it has not been implemented by the Idaho legislature.
<b>Size and Weight Harmonization</b>	Highway Access		Idaho has the same weight limits as OR/WA , lower than MT/UT/NV/WY	Work with neighboring states through WASHTO to harmonize regulations and permitting.
<b>Truck Driver Shortage</b>	Workforce		Severe shortage of drivers. High turnover in the industry.	Promote and fund training opportunities at technical and community colleges.
<b>Highway Safety</b>	Highway Conditions and Safety		Truck related crashes = 12% of total crashes, trucks = 15% of total volume. Proportion of truck-related crashes involving a fatality is twice as high as the proportion for all	

<b>Pavement Conditions</b>	Highway Conditions and Safety		86% good/fair. Green rating from IID.	
<b>Impact to Main Street</b>	Highway Conditions and Safety		129k trucks currently restricted to using state routes instead of highway system. Lack of truck routes to direct local truck traffic.	Develop truck routes at municipal level to reduce impact on main streets and guide expansion of 129k system.
<b>Intermodal Connectivity</b>	Rail Access		Idaho lacks a rail-truck intermodal terminal. Limited container-on-barge service at Port of Lewiston restricts water shipping options.	Explore expanded transload/intermodal options. Growth potential at Port of Lewiston.
<b>Class I Congestion</b>	Rail Access		Variable, dependent on Bakken crude. Easily disrupted, but generally acceptable currently based on industry interviews. Bottleneck at Lake Pend Oreille crossing.	
<b>Rail Safety</b>	Rail Access		89 incidents between 2010-2014 (11 fatalities). 29 involved a truck/truck-trailer (2 fatalities). 6 occurred on a state/U.S. highway (2 fatalities).	Continue to remove at-grade crossings in dangerous areas. Explore upgrading at-grade crossing safety devices.
<b>Shortline Needs</b>	Rail Access		Lack of North-South route in state. Some routes not capable of 286k. Some business growth opportunity (City of Boise).	Explore development of a shortline funding program similar to WA.
<b>Ports and Waterways</b>	Ports		Return of limited container-on-barge in December. Infrastructure in very good condition.	Work with OR and WA to promote container-on-barge service. Coordinate with USACE on waterway maintenance needs.
<b>Aviation</b>	Aviation		Limited air cargo use in state, BOI has capacity to grow. Airports in good condition.	Collect data on air cargo use and needs beyond BOI.
<b>Pipeline</b>	Pipeline		No noted capacity constraints or issues. Limited in-state production/refining capabilities.	

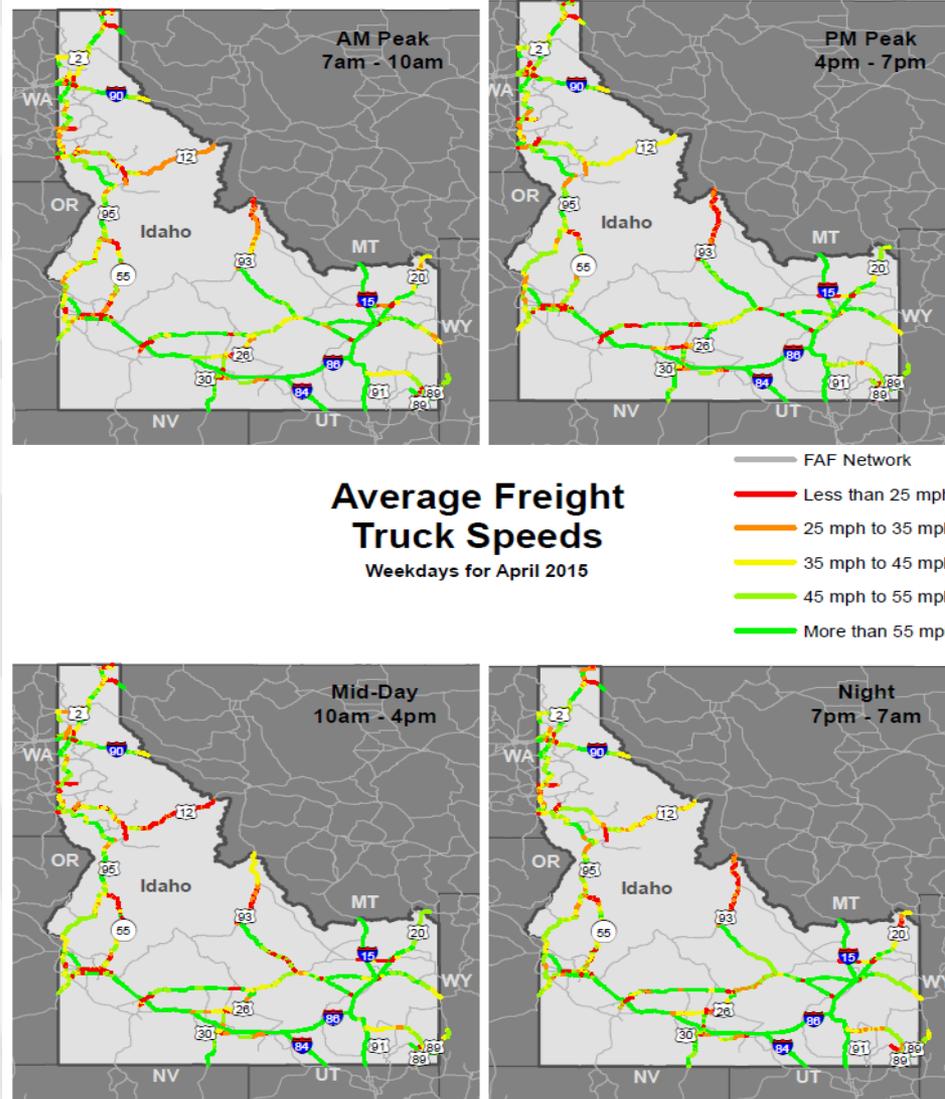
# Highway System Needs and Issues

Overall good conditions:

\*Limited congestion

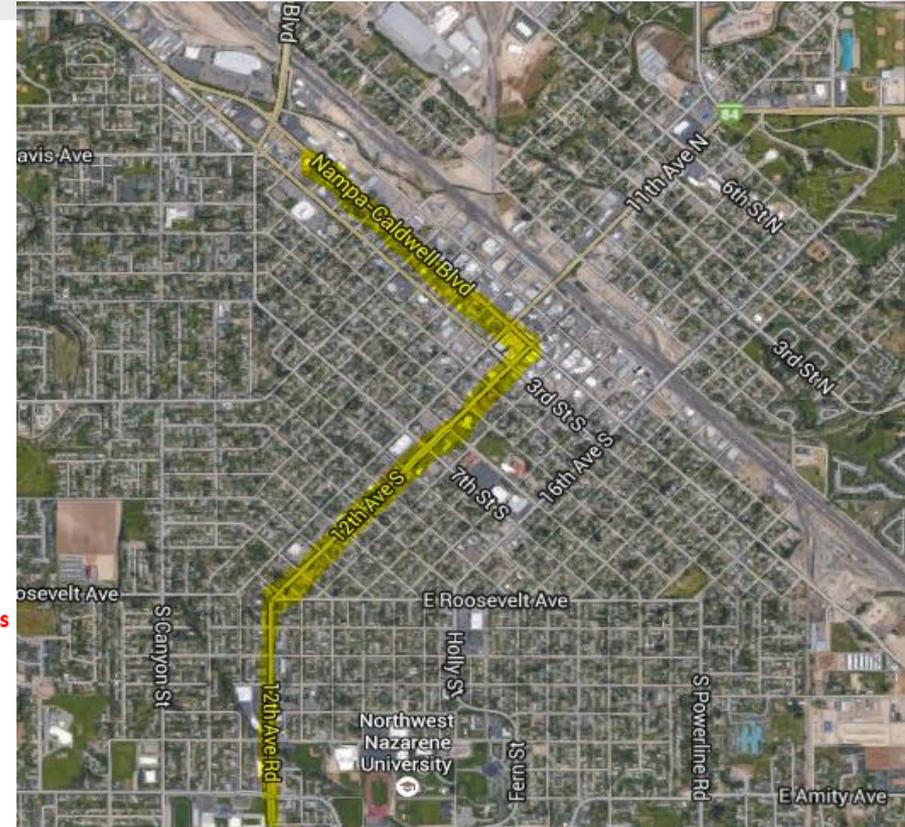
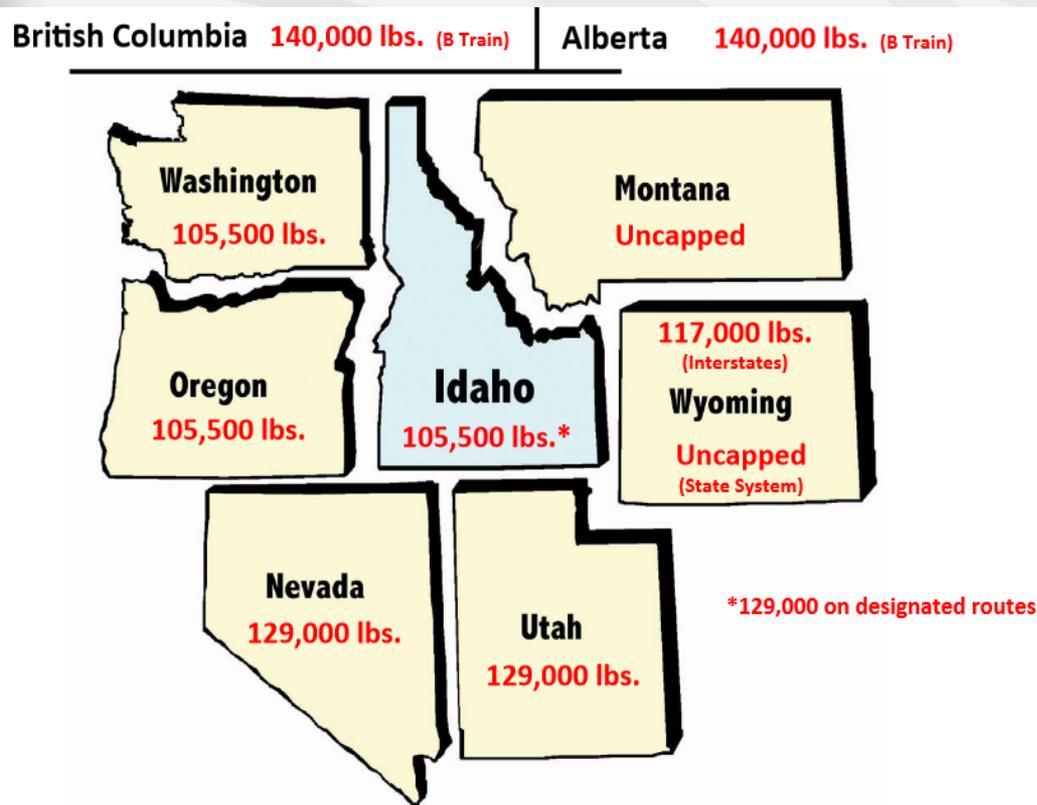
\*86% of pavement in “good” or “fair” condition

\*7% of bridges with Sufficiency Rating below 50



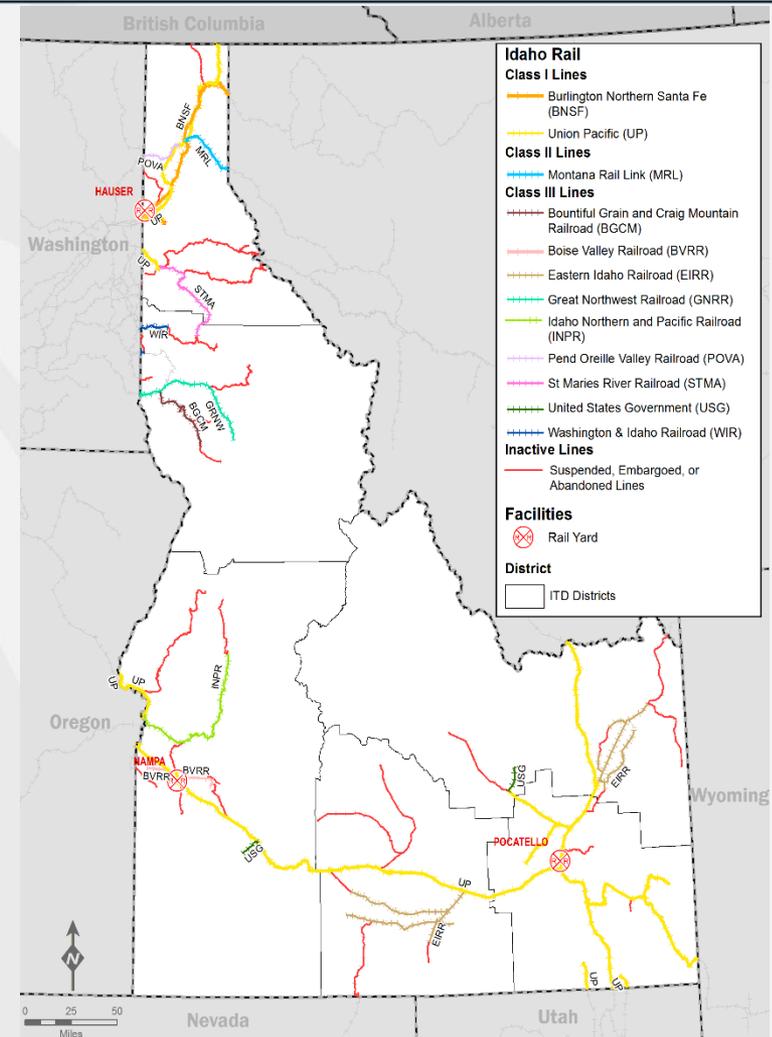
# Highway System Needs and Issues Ctd.

## Size/Weight Harmonization, 129k system, and impacts to Main Streets



# Rail System Needs and Issues

- Intermodal Access
- Class I Capacity – Bakken Crude and Lake Pend Oreille Bridge
- Shortline Infrastructure
- Rail-Highway crossings: 89 incidents 2010-2014



# Port and Waterway Needs and Issues

- ① Limited Container-on-Barge service restored at Port of Lewiston in December 2015
- ① Waterway and Dock/Port conditions are good
- ① U.S. Route 12 Injunction limits ability to move OS/OW



# Airport Needs and Issues

● Air- Boise Airport is main freight hub in Idaho. Has capacity to grow (2012 volume 14% below 2000).

● Need for data!

Airport Origin/Destination	UPS to BOI (lbs)	FedEx to BOI (lbs)	UPS out of BOI (lbs)	FedEx out of BOI (lbs)	Total (lbs)
Salt Lake City	20,995,241	26,881,576	20,756,387	26,439,521	95,072,725
Denver	102,699	ND	77,727	ND	180,426
Las Vegas	ND	ND	ND	ND	0
Seattle-Tacoma	ND	107,348	ND	493,314	600,662
Louisville	2,259,414	ND	3,125,215	ND	5,384,629
Memphis	ND	29,155,416	ND	32,949,911	62,105,327
<b>TOTAL</b>	<b>23,357,354</b>	<b>56,144,340</b>	<b>23,959,329</b>	<b>59,882,746</b>	<b>163,343,769</b>



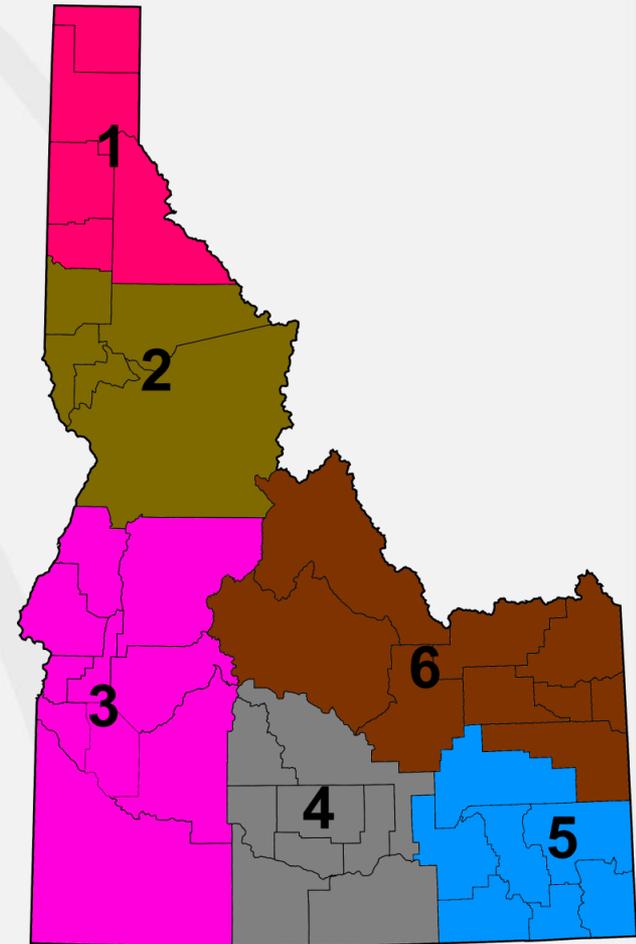
# Safety Analysis - Coverage and Data

## System Coverage

- » Made up of six districts
- » Roadway defined by an ICAPS Class
  - Interstate (~600 mi), State (~550 mi), Regional (~1600 mi), District (~1700 mi)

## Data Sources

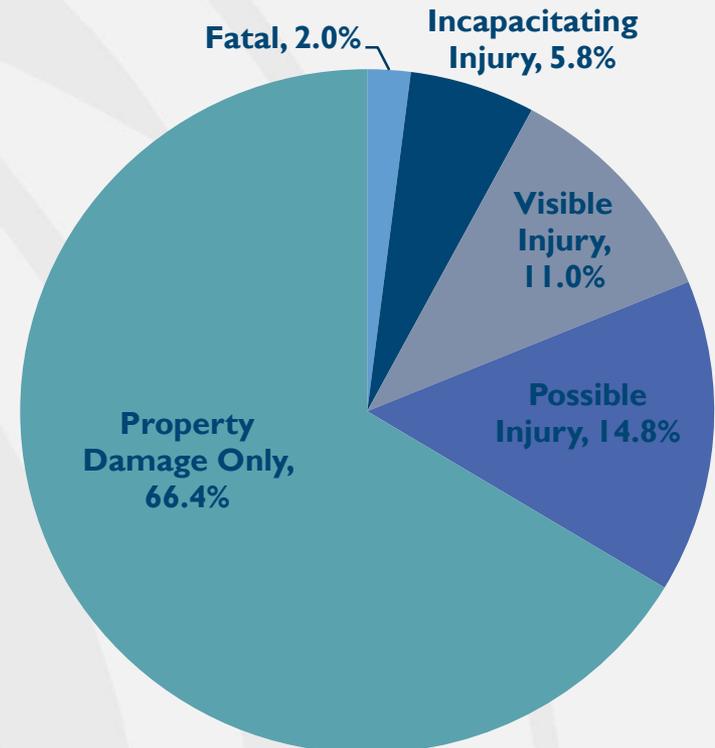
- » WebCARS – 2010-2014
- » TAMS – Volume and Roadway Classification
- » Pathweb Video Logs
- » GIS Warehouse
  - Improvements and Crash Reduction



# Safety Analysis – Overview of Truck-Involved Crashes (2010 – 2014)

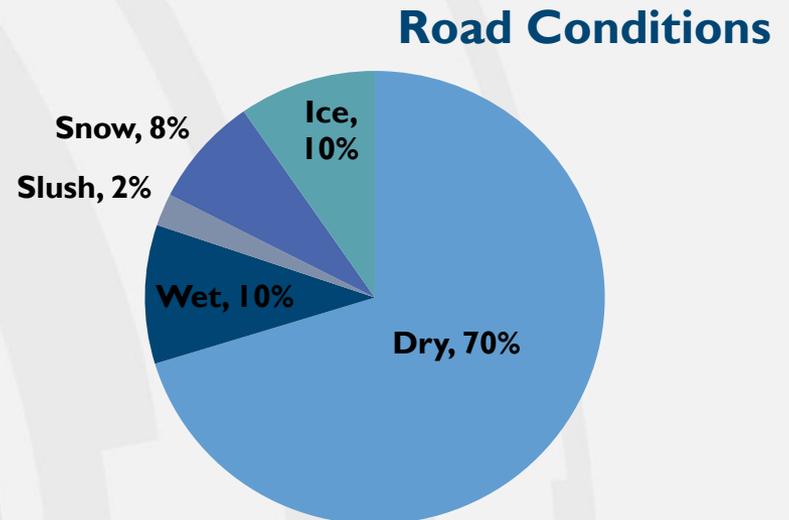
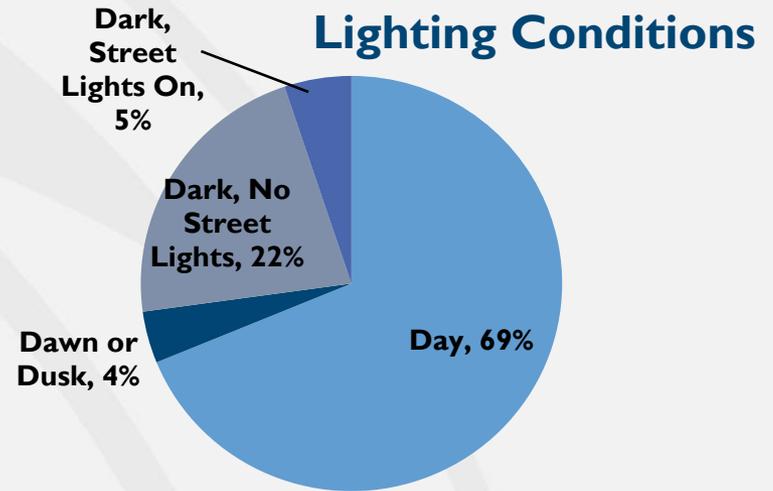
- 2,958 truck-involved crashes
  - » Approximately two truck-involved crashes per day
  - » 12% of all crashes
- 59% of crashes had a truck driver contributing circumstance
- 2.0% of truck-involved crashes result in a fatality
  - » 1% for all vehicle crashes

Severity of Truck-Involved Crashes

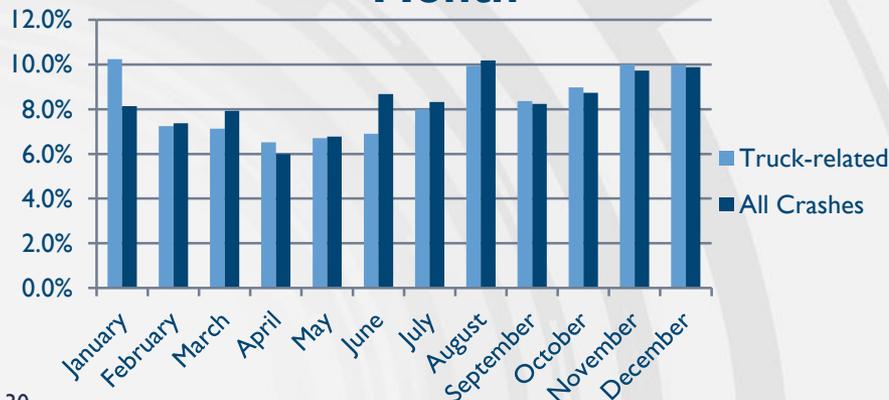


# Safety Analysis - Characteristics of Freight Crashes (2010-2014)

- Majority of truck-related crashes are during the day on dry roads
- November to January has highest proportion of crashes



### Proportion of Crashes by Month



# Safety Analysis – Locations, Causes and Countermeasures

## Identifying locations

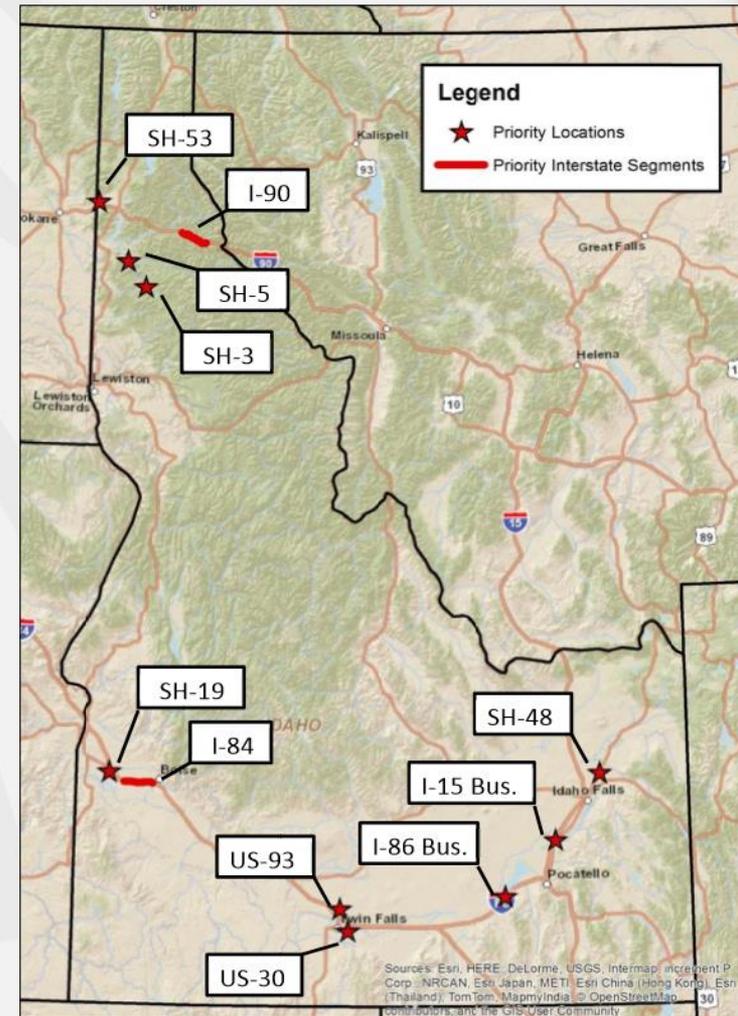
- » High crash rate, severity, and crashes
- » Identified in all districts and road types

## Causes of truck-related crashes

- » Lack of warning signage
- » Truck turning, driver behavior

## Countermeasures

- » Link crash and location
- » Identify design and environmental issues
- » Address causality that reduces crash rates



# SH-19 & Centennial Way Example

## Assessing Causality

- » Five truck-related crashes
  - No fatalities, 1 injury
- » Majority of crashes involved EB traffic with a truck turning left
- » Potentially insufficient room for simultaneous turning

## Potential Improvement Project

- » Addition of cat tracks (guideline)
- » Redesign of intersection for simultaneous turning



# SH-3 & SH-6 Example

## Assessing Causality

- » Five truck-related crashes
  - No fatalities, 3 injuries
  - 4 crashes while negotiating the curve, 3 overturned trucks, 3 travelling too fast, 2 snowy conditions
- » No curve warning sign

## Potential improvement project

- » Speed limit reduction/warning
- » Install curve warning sign
- » Increased winter maintenance



# Evaluating the Benefits and Costs of Safety Countermeasures

## Benefit Analysis

- » Identification of Crash Modification Factors for proposed improvement (CMF Warehouse).
- » Calculation of expected reduction of crashes and injuries/fatalities.
- » Benefit is calculated as the reduction in the expected annual cost of crashes.

## Cost Analysis

- » Identification of unit costs associated with the proposed improvement.
- » Identification of the expected improvement lifetime.
- » Cost is calculated as the total cost of the improvement annualized over the expected lifetime.

# Table Discussions

# Two Parts

---

- ① Specific Topics:
  - » Critical Urban and Rural Freight Corridors
  - » Infrastructure
  - » Safety
  - » Performance Measures
- ② If you have time remaining, General Topics:
  - » Freight Clusters
  - » Connectivity
  - » Congestion

# ITD Freight Program

---

**Way Ahead**

# ITD Freight Program

---

**Adjourned**