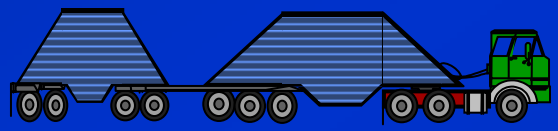
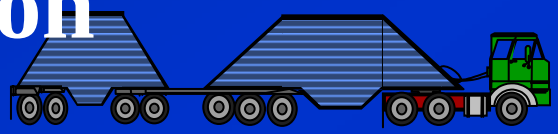


Western Uniformity Scenario

Analysis, Results, and Conclusions

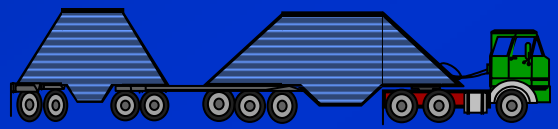
July 21, 2004

Western Governors' Association Request



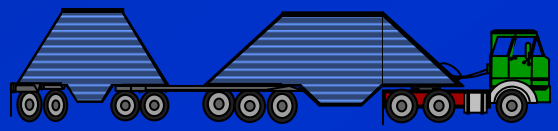
- As part of the Comprehensive Truck Size and Weight Study, analyze a regional scenario under which Western States that currently allow LCVs could modify LCV size and weight limits to achieve greater uniformity throughout the region.
- Accurately portray the equipment actually in use in the Western States and the economic and safety issues surrounding LCV use.

Truck Size and Weight Federal Limits (1956-1975)



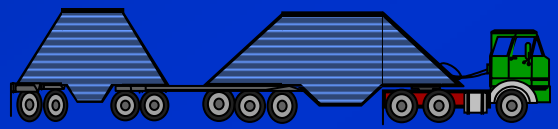
- TS&W Regulations and Enforcement was a State Function Until 1956
- Established Federal TS&W Limits in 1956
- Protect the Interstate System
  - 73,280 GVW
  - 18,000 Single Axle
  - 32,000 Tandem
- Grandfather Provisions
- Increased TS&W In 1975
  - 80,000 GVW
  - 20,000 Single
  - 34,000 Tandem
- Still Grandfather Provisions

Truck Size and Weight (1982-1991)



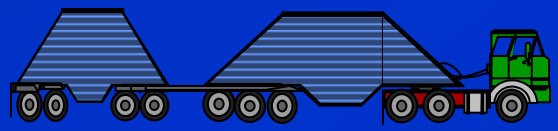
- Surface Transportation Assistance Act
  - Required States to Adopt Minimum Limits
  - Interstate System & National Network
- STAA Vehicles
  - 48-foot semi-trailer
  - Twin 28’ trailers
- STAA
  - Increased Federal Fuel Tax
  - Increased User Fees on Heavy Trucks

Truck Size and Weight (1991 to Present)



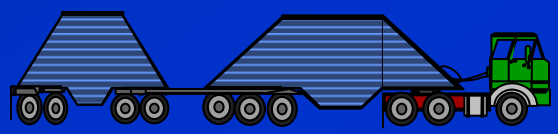
- ISTEA 1991
  - Freeze on LCVs
  - Prohibits LCV expansion
- Continued in TEA21
  - States Reported Allowed Vehicles (Grandfathered)
  - Federal Highway Administration Defines Allowable Vehicles and Truck Size and Weight

Truck Size and Weight Studies (In General)



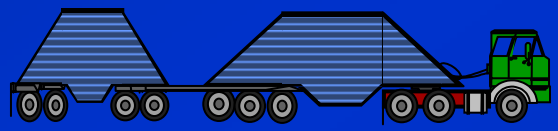
- Numerous Studies Have Been Done
  - TRB
  - Others
- Increase Truck Size and Weight Limits
- Common Themes
  - Increased Productivity and Reduced Shipper Costs
  - Reduced Congestion
  - Higher Infrastructure Costs (Bridges)
  - Safety Concerns
  - Rail Impacts

Outreach and Coordination Western Uniformity Scenario



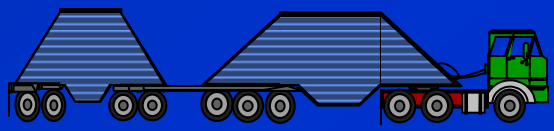
- Met early in study with WASHTO representatives to discuss scenario assumptions
- Met with motor carriers operating in Western States to learn more about current LCV use
- Subsequent meetings with States and industry to refine networks, vehicle configurations, and operational assumptions
- Emphasized that this was just an illustrative scenario like others done for the CTS&W Study and that scenario assumptions significantly influence estimated impacts

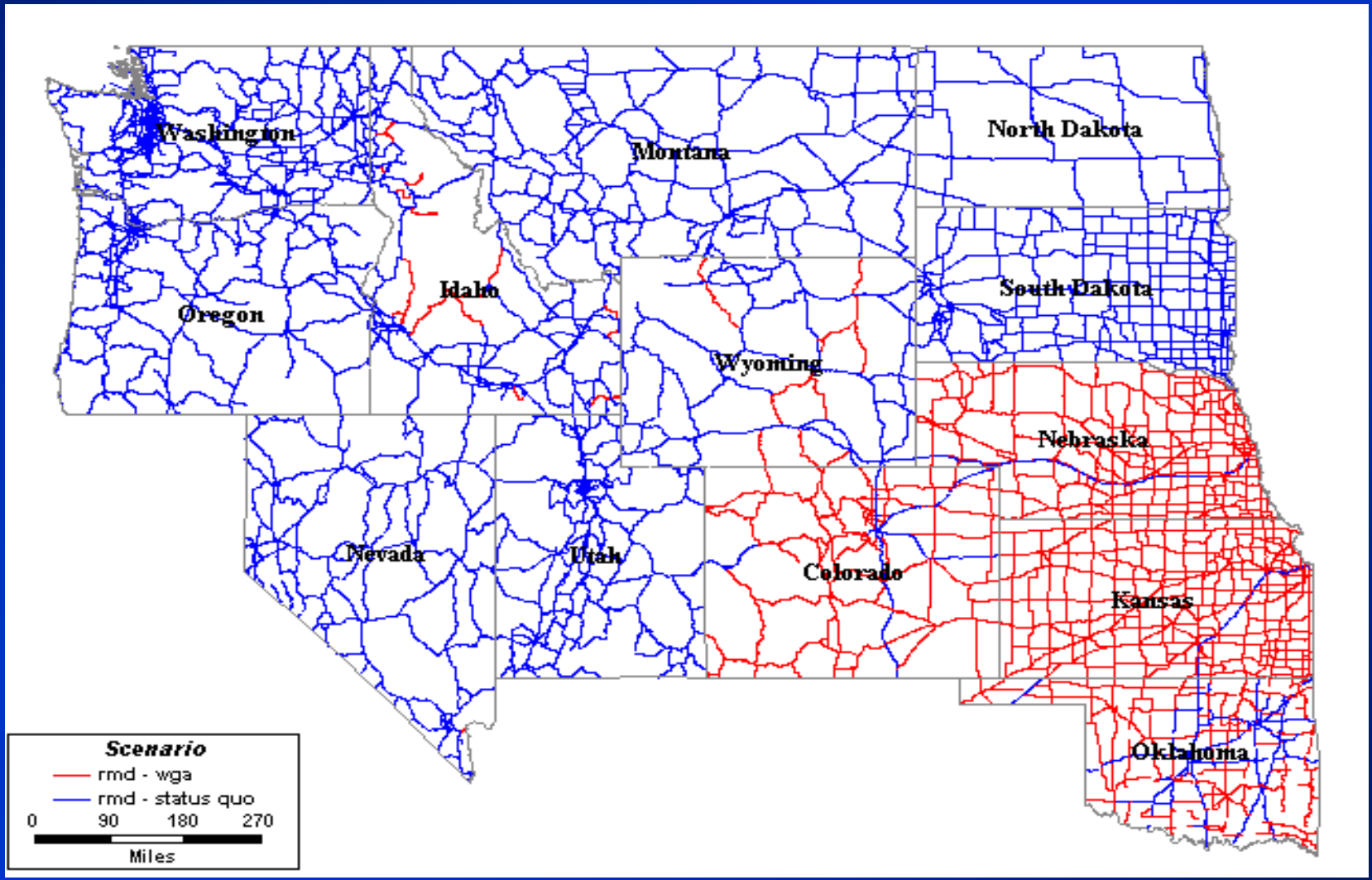
Scenario Analysis



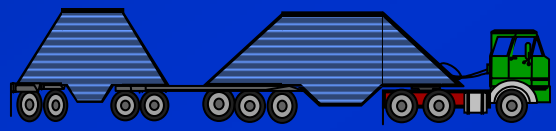
- Rocky Mountain Doubles
- Turnpike Doubles
- Triple Trailer Combinations
- Two Scenarios
  - “Low Cube”
  - “High Cube”
- Impacts of Expanded LCV Operations
  - Federal Axle Load Limits
  - Maximum GVW of 129,000 Pounds
  - Federal Bridge Formula

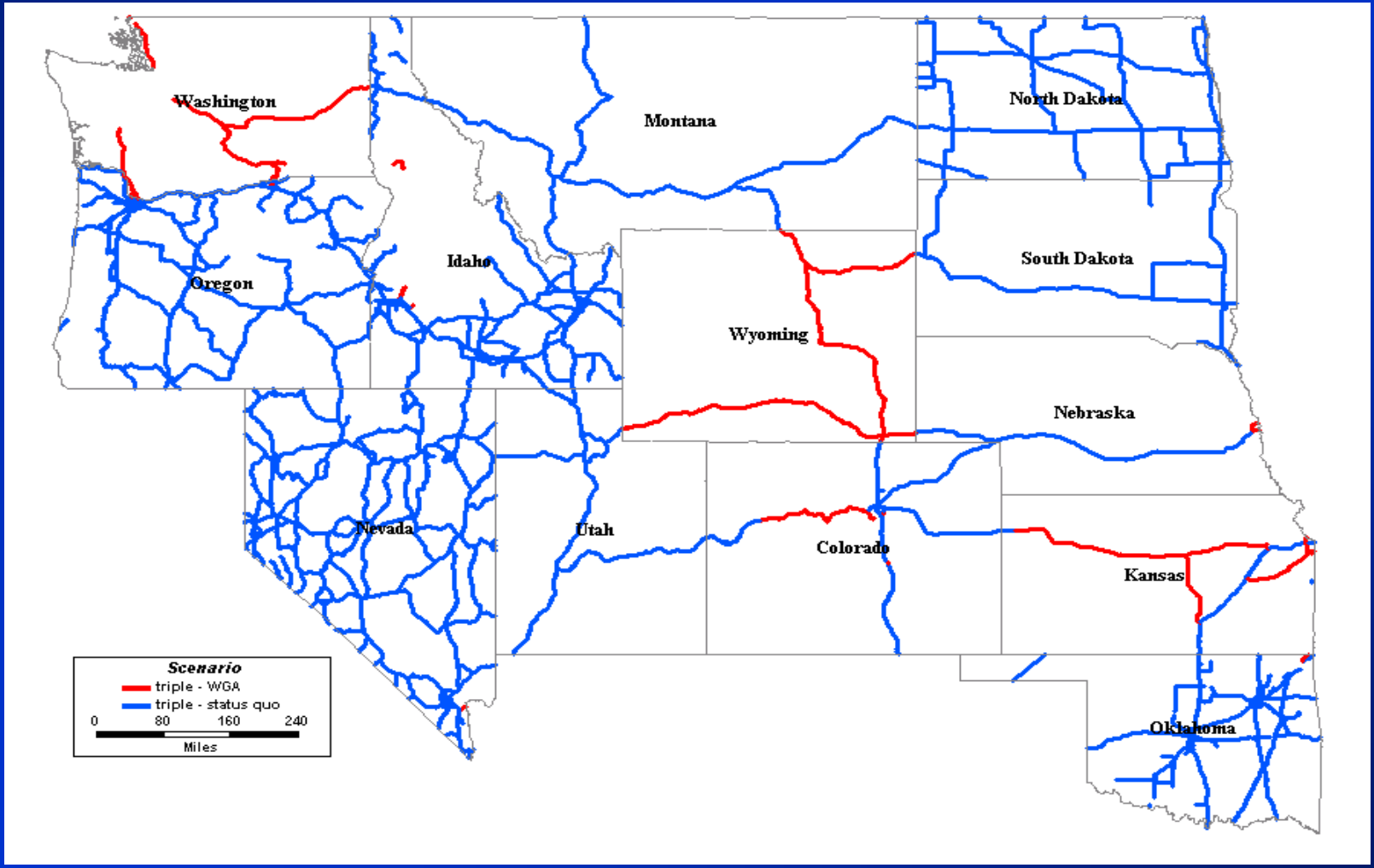
Network Assumptions
Intermediate Length Doubles



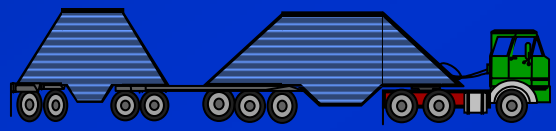


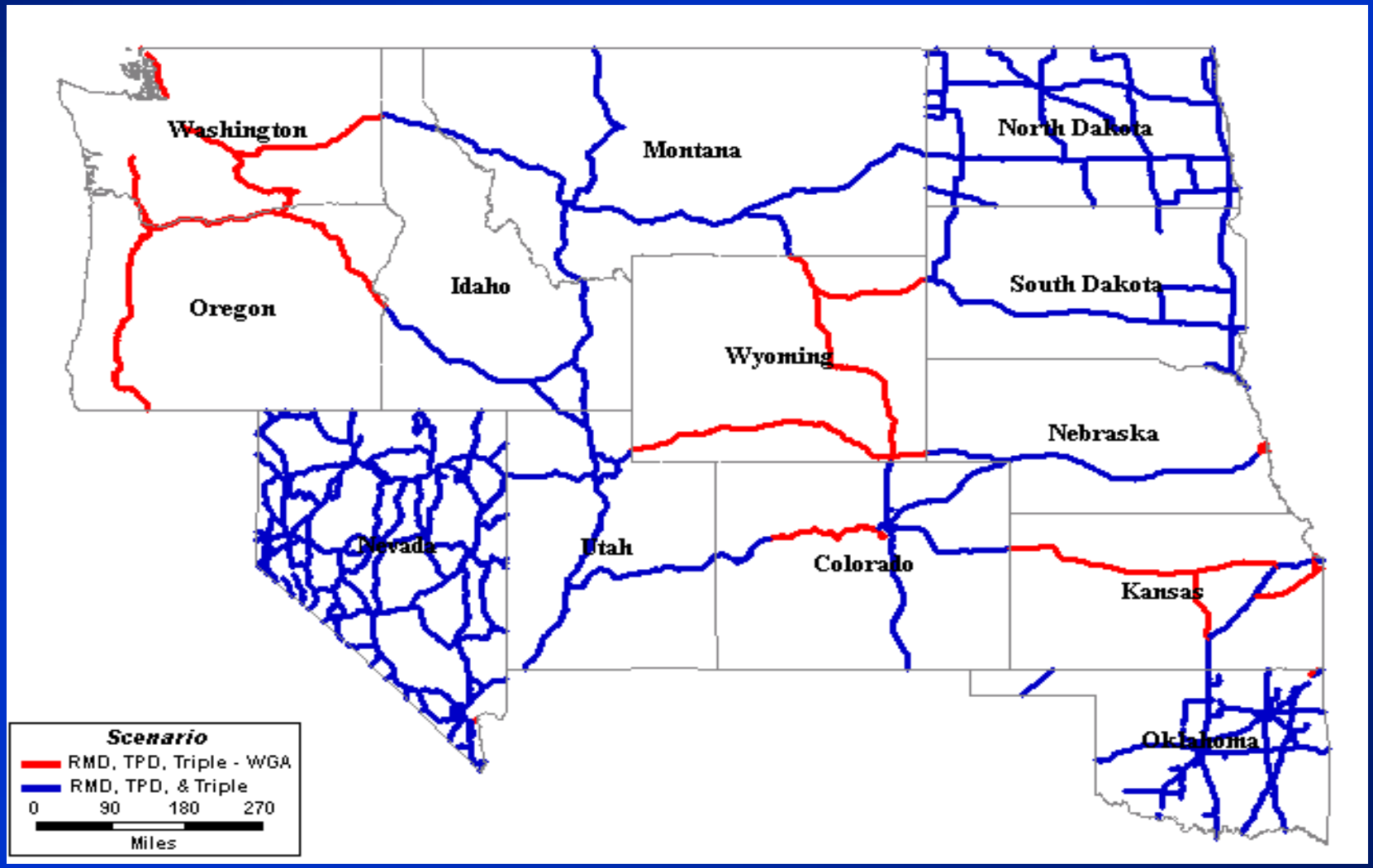
Network Assumptions
Triple Trailers



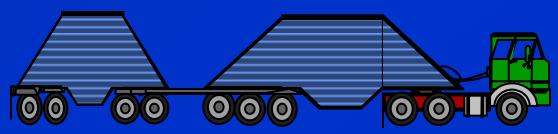


Network Assumptions
Long Doubles



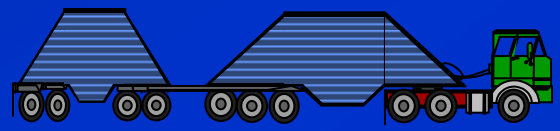


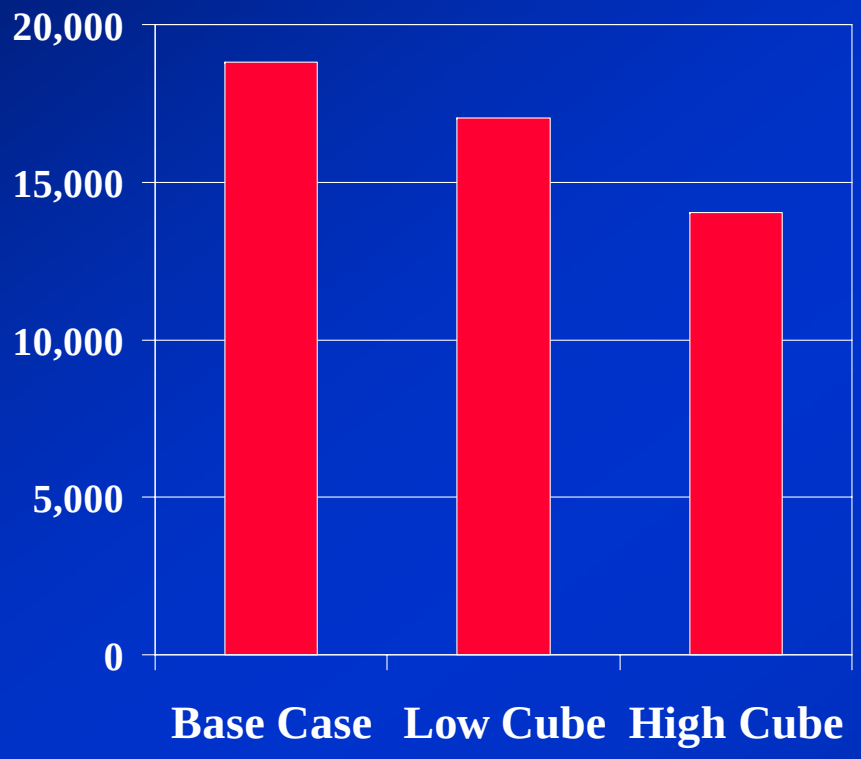
Truck Commodity Flow Data



- Used Freight Analysis Framework Data
  - County-to-County Flows for 397 Different Commodities
  - Major Improvement Over Data Used in CTS&W Study
- Commodity Movements Assigned to 5 Different Body Types and 6 Different Vehicle Types
- Base Case Vehicle Distribution Calibrated to Observed Distributions
- Shifts to More Productive Vehicles Based on Relative Costs of Using Different Vehicles

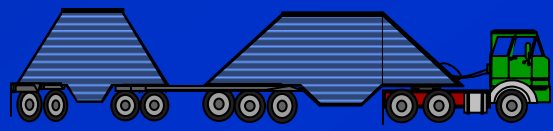
Study Vehicles
Vehicle Miles of Travel
(millions)





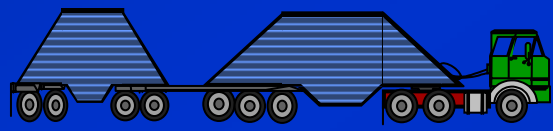
- **VMT declines by 10 percent in the low cube case. Intra-regional traffic declines the most.**
- **VMT declines by 25 percent in the high cube case. Intra-regional traffic is still the most affected, but substantial through traffic also switches to LCVs when traveling through the region.**

2010 Base Case & Scenario



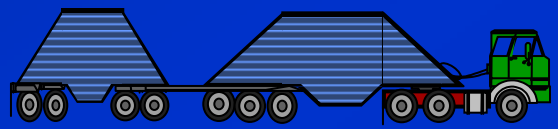
	Base Case Volume (Millions)	Scenario Volume (Millions)	Percent Change
Total truck (VMT)	18,823	14,028	-25.5%
Short Haul Truck	1,844	1,743	-5.5%
Long Haul Truck	16,978	12,285	-27.6%
Rail Carload (Ton-Miles)	785,399	785,181	-.03%
Rail Intermodal (Ton-Miles	202,168	201,993	-.09%

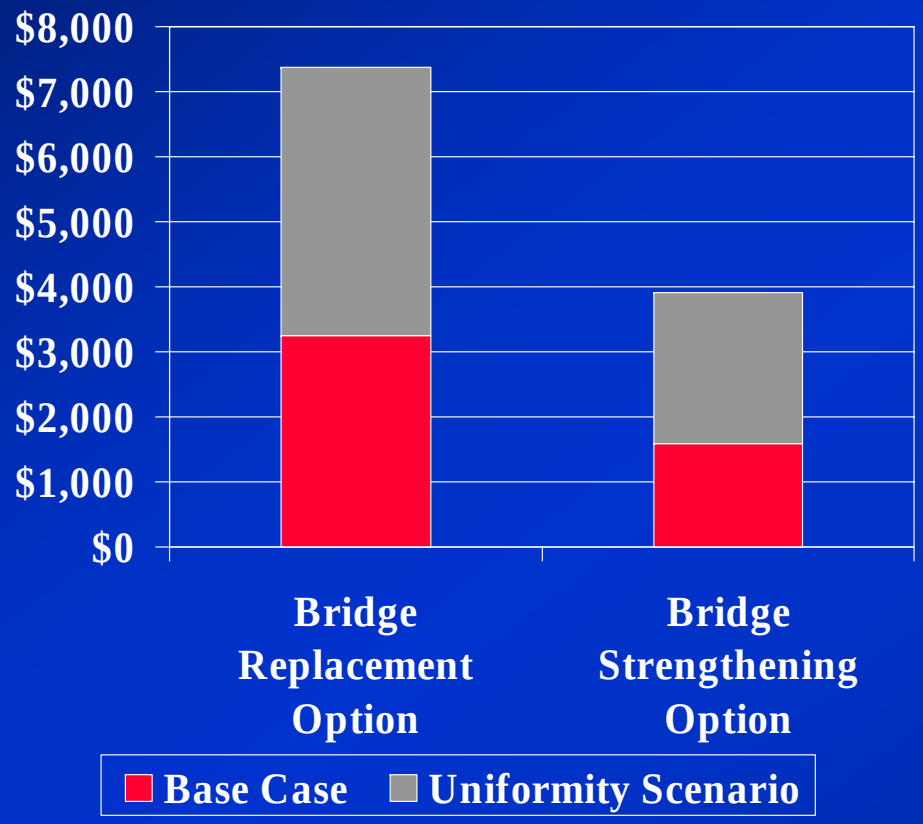
2010 Base Case Vs Scenario



Configuration	Base Case VMT millions	Scenario VMT millions	Percent Change
5-axle semi	14,476	3,442	-76%
6-axle	1,924	938	-51%
5-6 axle double	1,351	750	-44%
6-axle truck/trailer	626	607	-3%
7-axle double	188	2,190	+1,065%
8-axle+double	213	5,626	+2,541
Triples	45	473	+951%
Total	18,823	14,028	-25%

One-Time Bridge Cost
(millions of constant 2000 $)

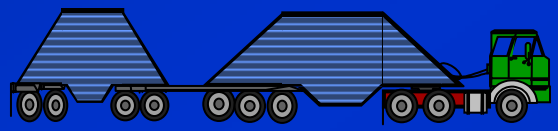


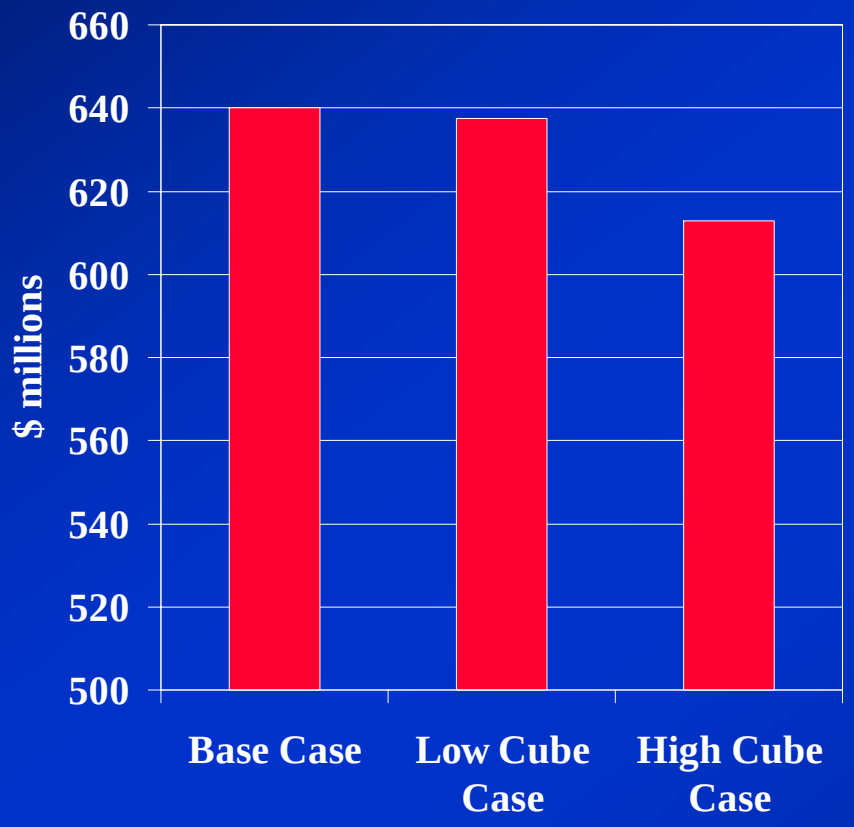


- Scenario vehicles increase replacement option costs by 127 percent over the base case
- Scenario vehicles increase strengthening option costs by 147 percent over the base case

Annual Pavement Costs

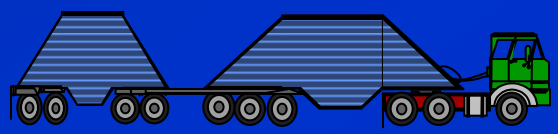
(millions of constant 2000 $)

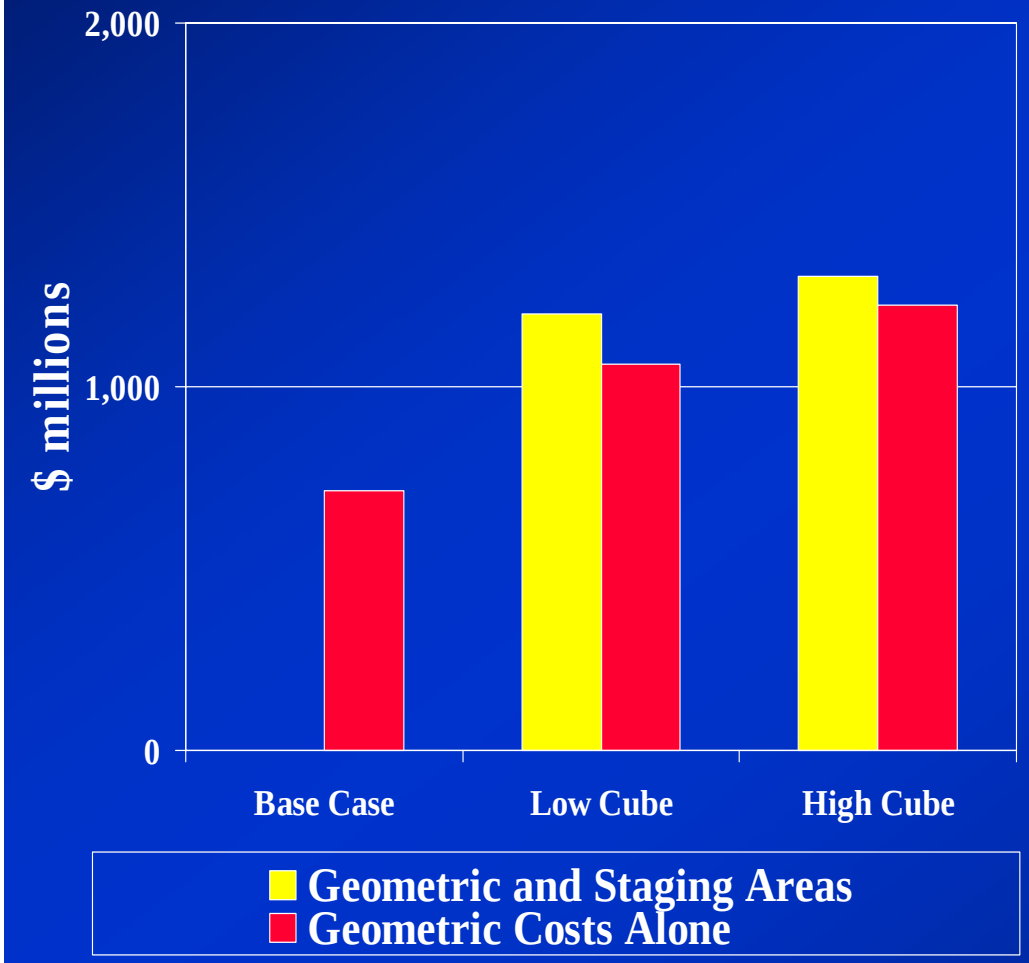




- **Pavement costs decline slightly in the Low Cube Case.**
- **Pavement costs decline by 4 percent, in the High Cube Case.**

Roadway Geometry Costs
(millions of constant 2000$)

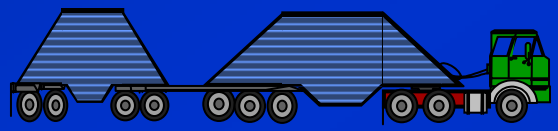




- Cost to upgrade curves, interchanges, and intersections to accommodate LCVs
- Two options examined:
  - Correct geometric deficiencies and provide staging areas
  - Correct geometric deficiencies but provide no staging areas.

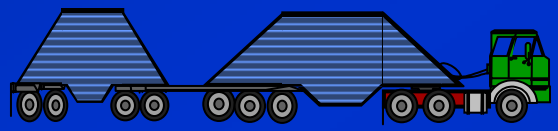
Fatal Involvement Rates for Scenario States

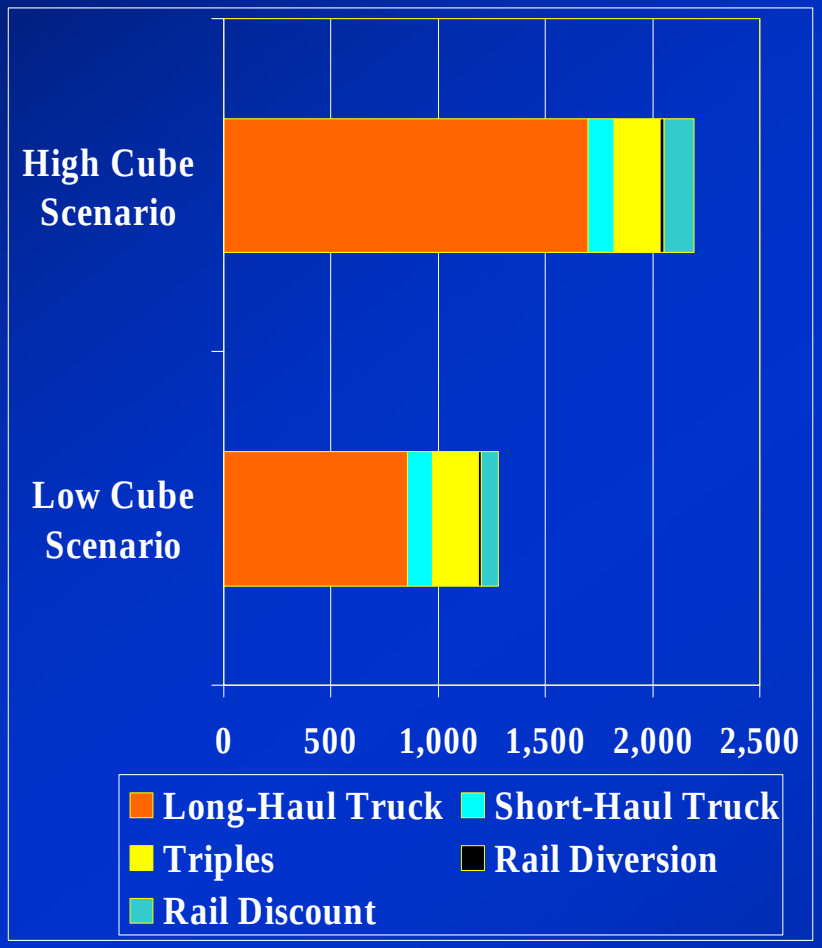
(per 100 million VMT)



	Single Trailer	Multi Trailer
Functional Class	**Fatal Crash Rate**	**Fatal Crash Rate**
Interstate Rural	1.50	1.83
Other Rural	4.73	6.36
Interstate Urban	2.01	1.39
Other Urban	2.84	2.13
Total	2.88	3.13

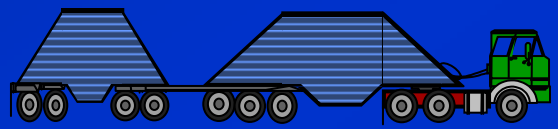
Annual Shipper Cost Savings (millions of constant 2000 $)





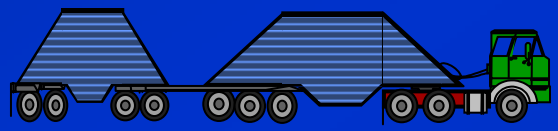
- Total annual savings to shippers in the low cube case is over $1 billion.
- High cube case annual savings are over $2 billion.
- Truck-to-truck diversion reduces total cost to truck shippers by about 2.3 percent in the low cube case and about 4.0 percent in the high cube case.
- Diversion from rail accounts for less than one-half of one percent of rail revenues.

Conclusions



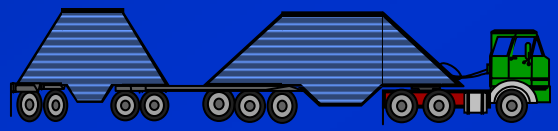
- **Substantial productivity gains could be realized if assumed LCV operations actually occurred.**
- **Infrastructure impacts would be relatively lower than estimated in the Comprehensive Study because many Western States already operate LCVs, and highway geometrics generally are better in the West.**
- **Rail impacts are estimated to be substantially less than were estimated in the Comprehensive Study.**
- **Still difficult to estimate safety impacts.**

Conclusions



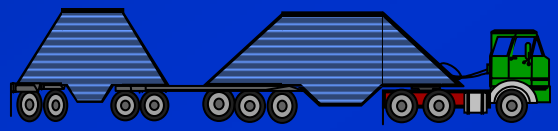
- **The Administration did not recommend any changes in truck size and weight limits in SAFETEA**
- **Nationwide, the Department believes an appropriate balance in truck size and weight limits has been struck and does not support changes in truck size and weight limits**

Conclusions



- **Before any change are considered, there should be strong support from Governors and State DOTs.**
- **Many States outside the region have strongly opposed changes in truck size and weight limits, but the Department has not heard equally strong endorsements for changes in truck size and weight limits from most States within the region**

Conclusions



- **The Transportation Research Board was probably correct when it focused its last truck size and weight study on institutional issues surrounding truck size and weight policy changes**
- **Existing State permit systems fall short of oversight recommended by TRB and fees in most States do not cover infrastructure costs of LCV operations**
- **Safety is still a major issue and we do not have sufficient data to answer safety questions.**