



TRAIN



TRUCK



SHIP



PLANE



PIPELINE

# NEVADA STATE FREIGHT PLAN

## Draft Master Plan

### Transportation Board Meeting

August 8, 2016



# INDUSTRY DRIVEN TO SUPPORT THE NEW NEVADA

## Freight Advisory Committee (FAC)

- Contributed to development of Vision, Goals, and Performance Measures
- Reviewed and commented on technical reports and Draft NSFP
- Provided feedback on findings and recommendations
- Provided valuable insight into industry needs and local concerns

## Focus Groups

- Provided additional input on specific topics and at key milestones
- Provided additional opportunity for wider participation and interaction between industry and public stakeholders

## One-on-one Interviews

- Provided opportunity to gain insight into operational needs of key industry stakeholders/sectors
- Included interviews with Port Authorities and academics involved in freight and logistics research

# FREIGHT ADVISORY COMMITTEE (FAC)

- Barrick Gold
- BNSF Railway
- Carson MPO
- CBRE (Commercial Real Estate)
- Clark County Department of Aviation
- Elko Regional Airport
- FedEx
- GOED
- ITS Logistics
- Land Development Associates
- LVCVA
- NAI Alliance
- Nevada Department of Public Safety
- Nevada Institute of Autonomous Systems
- Nevada Mining Association
- Nevada Trucking Association
- Now Foods
- NV Energy
- Ohlin Chlor Alkali
- Panattoni
- Peppermill
- Reno-Tahoe Airport Authority
- RTCSNV
- RTCWC
- Union Pacific Railroad

# FOCUS GROUP/INTERVIEW PARTICIPANTS

- Apex Logistics
- Churchill County
- City of Henderson
- Clark County
- DeLong Heavy Haul
- Divine Intermodal
- Dielco Crane Service
- EDAWN
- FHWA
- Griffin Company
- GSC Logistics
- Henderson Chamber of Commerce
- Lander County Economic Authority
- Las Vegas Global Economic Alliance
- Majestic Realty
- METRANS
- NAOIP
- Nellis AFB
- Nevada Contractors Association
- Nevada State Bank
- Owner-Operator Independent Drivers Association
- Port of Long Beach
- Port of Oakland
- RC Willey
- Silver Springs Airport
- Southern California Association of Governments
- Storey County
- Tahoe Transportation District
- Total Transportation Services, Inc
- UNLV
- University of Southern California
- Western Nevada Development District
- WIS-DOM Information Systems

# WESTERN STATES FREIGHT COALITION

- **Arizona** Department of Transportation
- **California** Caltrans
- **Colorado** Department of Transportation
- **Idaho** Transportation Department
- **Montana** Department of Transportation
- **Nevada** Department of Transportation
- **New Mexico** Department of Transportation
- **Oregon** Department of Transportation
- **Utah** Department of Transportation
- **Washington** Department of Transportation
- **Wyoming** Department of Transportation



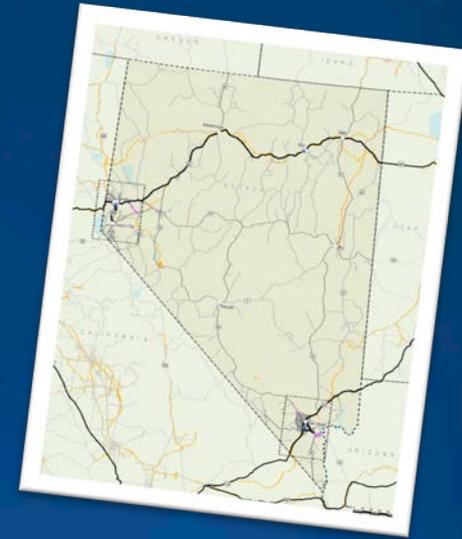
# Vision for Nevada's Freight System

*Establish a competitive advantage by creating crossroads of national commerce within a multimodal system of superior safety, condition, and performance.*



# 1 For Nevada:

The reliable, cost effective, and safe movement of goods and products across the State of Nevada and to its producers and customers is an important foundation to sustain and grow Nevada's economy.



# 2 Globally:

Positioning the state and major metro hubs within the global and national trade network strengthens Nevada's role in the 21st Century US freight network.



# How will this Plan establish a Competitive Advantage for Nevada?

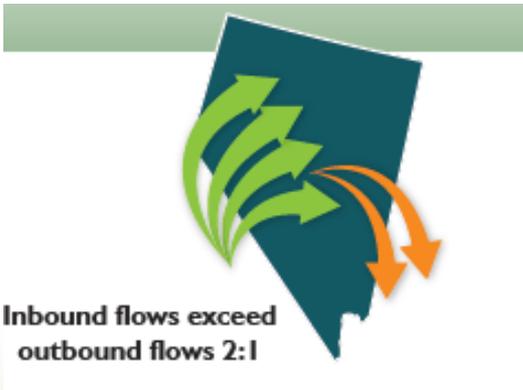


# COMMODITY FLOWS

Nevada's economy is dependent on the daily distribution of millions of tons of goods shipped by a multimodal network of highways, railways, airports, ports, and pipelines.



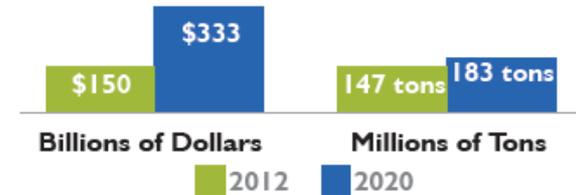
Today, Nevada is primarily a consuming economy.



Population factors will drive freight demand for consumer goods, creating opportunities for trade, transportation, and freight logistics industries in Nevada.

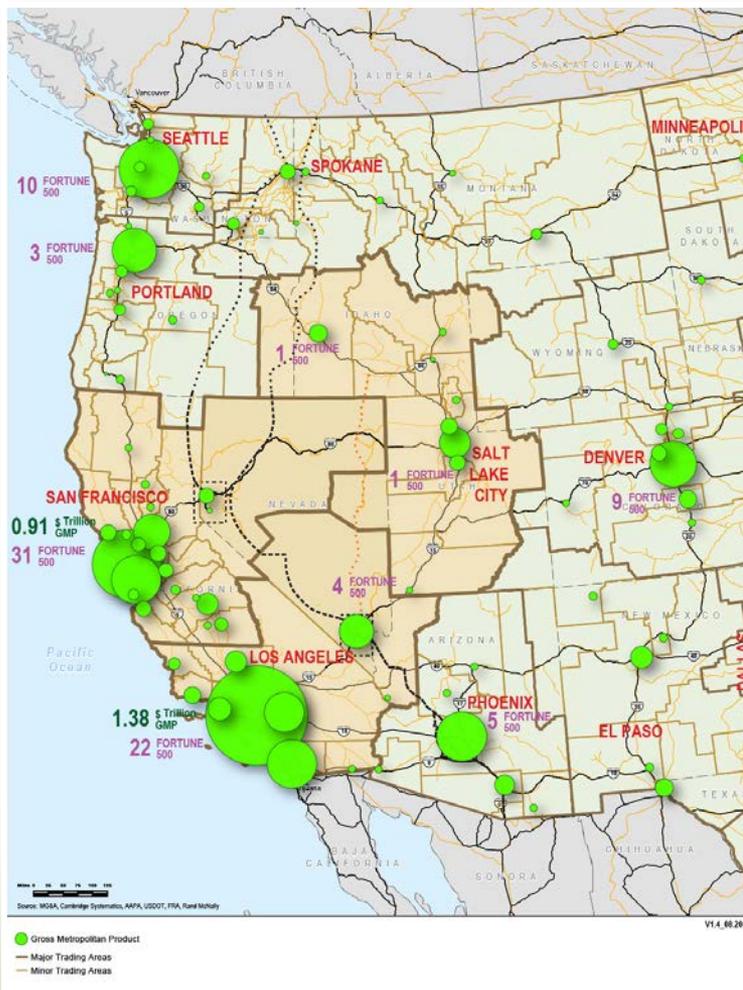
Implementing freight infrastructure improvements can help Nevada become a major Western freight hub for the distribution of goods across the US and create the framework to attract more export oriented industries.

## Forecasted Growth in Freight



# ECONOMIC ENGINE

Nevada is part of three of the most successful economic regions in the US: Los Angeles, San Francisco, and Salt Lake City.



- Nevada's close proximity to these three very large and diverse concentrations of economic activity provides it with an opportunity and competitive advantage in attracting industry to the state.
  - Northern Nevada has a competitive advantage over any of the Northern California sub-markets with the lowest average lease rates.
  - Southern Nevada has 8.3% of the total employment in the Los Angeles region, which has the largest GMP and the second greatest concentration of Fortune 500 headquarters.
- But, inadequate north-south transportation access limit opportunities to serve markets north and south.

# CONGESTED GATEWAYS

Growing congestion at West Coast deep-water ports is driving new development further inland.



- Developing infrastructure and distribution space can be a pull factor that draws economic activity from California.
- Improved intermodal relationships provide a competitive advantage over surrounding hubs.



# FRAMEWORK FOR TRANSFORMATION

1



From Corridors to **Crossroads**

2



From Fragmentation to **Integration**

3



Improve **Capacity** and **Performance**

1



# From Corridors to Crossroads

Corridors provide access in only two directions, limiting market access, while crossroads provide multidirectional access, making the region more attractive to freight-related industries and businesses.

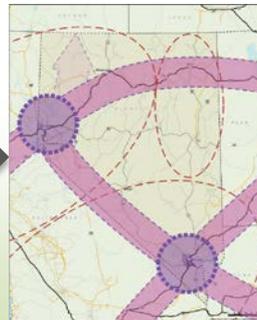
*Transform Nevada's major metros from stops with single corridor access into hubs with multidirectional access by road and rail to large California and continental markets.*



**NEVADA 2016**



**FUTURE NEVADA**



# 2



## From Fragmentation to Integration

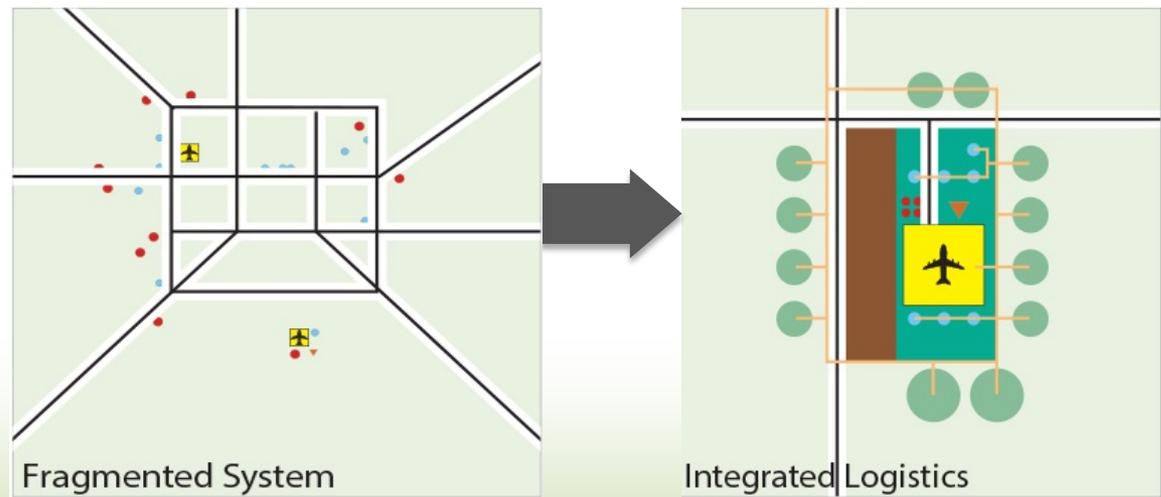
Disconnected modal networks cause inefficiencies; intermodal configurations allow increased reliability, safety, and reductions in cost and environmental impacts.

### INTERMODAL TRANSPORT HOW DOES IT WORKS?

In the past, shipping by train required rail access, which could be costly. With **intermodal transportation**, a truck brings a trailer to your loading dock and delivers the trailer to the rail ramp for loading. Your product never leaves the trailer or is touched by anyone.



*Streamline the freight transportation system by developing freight villages and intermodal hubs to produce more efficient freight movement, as well as foster clustered freight-related industrial development.*



# 3

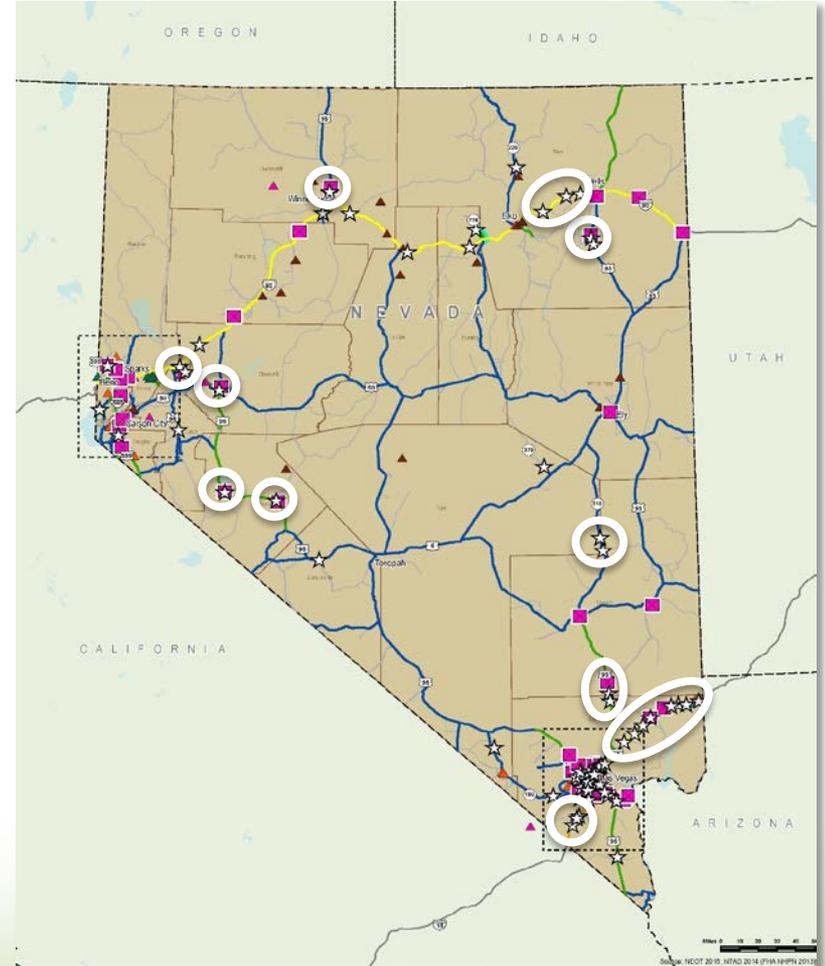


## Improve Capacity and Performance

Network improvements can reduce congestion and traffic incidents, improving the efficiency, reliability, and safety of freight movement.



*Analyze freight dependent businesses, truck routes, choke points, congestion, crash incidents, and areas of concern to identify projects, programs, and policies for achieving goals.*



# GOALS: *Drive strategies and actions*

ECONOMIC COMPETITIVENESS

ENVIRONMENTAL SUSTAINABILITY

INNOVATIVE TECHNOLOGY

COLLABORATION, LAND USE, & COMMUNITY VALUES

INFRASTRUCTURE PRESERVATION

MOBILITY & RELIABILITY

SAFETY & SECURITY

SUSTAINABLE FUNDING

# MEASURING PERFORMANCE

The Nevada State Freight Plan is a performance-based plan, in compliance with Title 23, Highways, of the United States Code, that defines performance measures and targets for each goal and objective as a method of tracking the state's performance against the objectives, revealing trends over time.



***The vision, goals, and performance measures were developed in collaboration with private industry and public agency stakeholders.***

# BASELINE PERFORMANCE

Each goal includes one or more objectives and key performance measures. Accomplishment of these objectives will make concrete, measureable progress toward the attainment of the freight transportation system goals and ultimate realization of our shared vision for Nevada's freight transportation system.



## Sustainable Funding

- Pavement Funding:
- Bridge Funding:



## Safety

- Highway Safety:



## Mobility & Reliability

- Choke Points on Major Truck Routes:



## Infrastructure Preservation

- Pavement Condition:
- Bridge Condition:



## Advanced Innovative Technology

- Freight-related R&D:



## Environmental Sustainability & Livability

- Vehicular Emissions > 2015 Trucks:
- Vehicular Emissions > 2015 Conditions:



## Economic Competitiveness

- Freight transportation that provides a competitive advantage:



## Collaboration, Land Use, and Community Values

- Collaboration:



Maintain or Needs Some Improvement



Needs More Improvement



Needs Significant Improvement



Not Yet Scored

# PERFORMANCE PLAN

A series of strategies and implementation actions provide the steps for achieving our vision and goals.



# FUNDING THE PROJECTS

- The National Freight Program provides up to approx. \$60 million in dedicated funds to Nevada during the next 5-year period to help fund smaller freight-related projects
- The new discretionary grant FASTLANE Program—may help to fund some of the larger and multistate projects (\$4.5 billion available nation-wide)
- Majority of the projects will be funded from our normal Federal, State and local transportation sources which are not dedicated specifically to freight projects
- Virtually all freight improvements benefit other transportation system users
- Need to explore more sustainable revenue sources



# Las Vegas



Miles 0 1 2 3 4

# Reno-Sparks



**LEGEND**

**National Highway Freight Network**

- Primary Highway Freight System (PHFS)
- Critical Urban Freight Corridor
- Critical Rural Freight Corridor
- Other Interstates not on PHFS

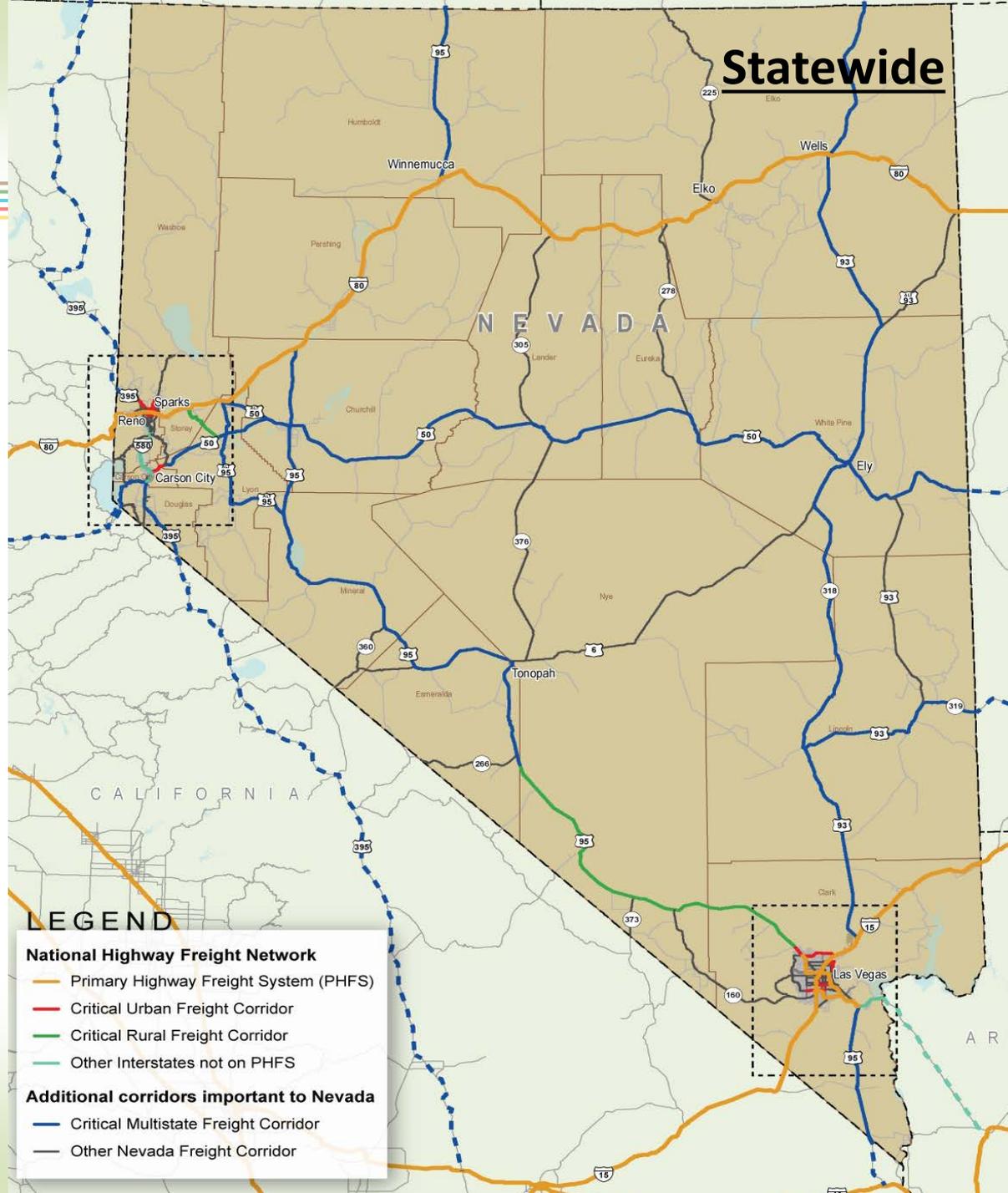
**Additional corridors important to Nevada**

- Critical Multistate Freight Corridor
- Other Nevada Freight Corridor



Source: NDOT 2015; NTAD 2014; Caltrans 2015; BLM 2014; ESRI 2014

# Statewide



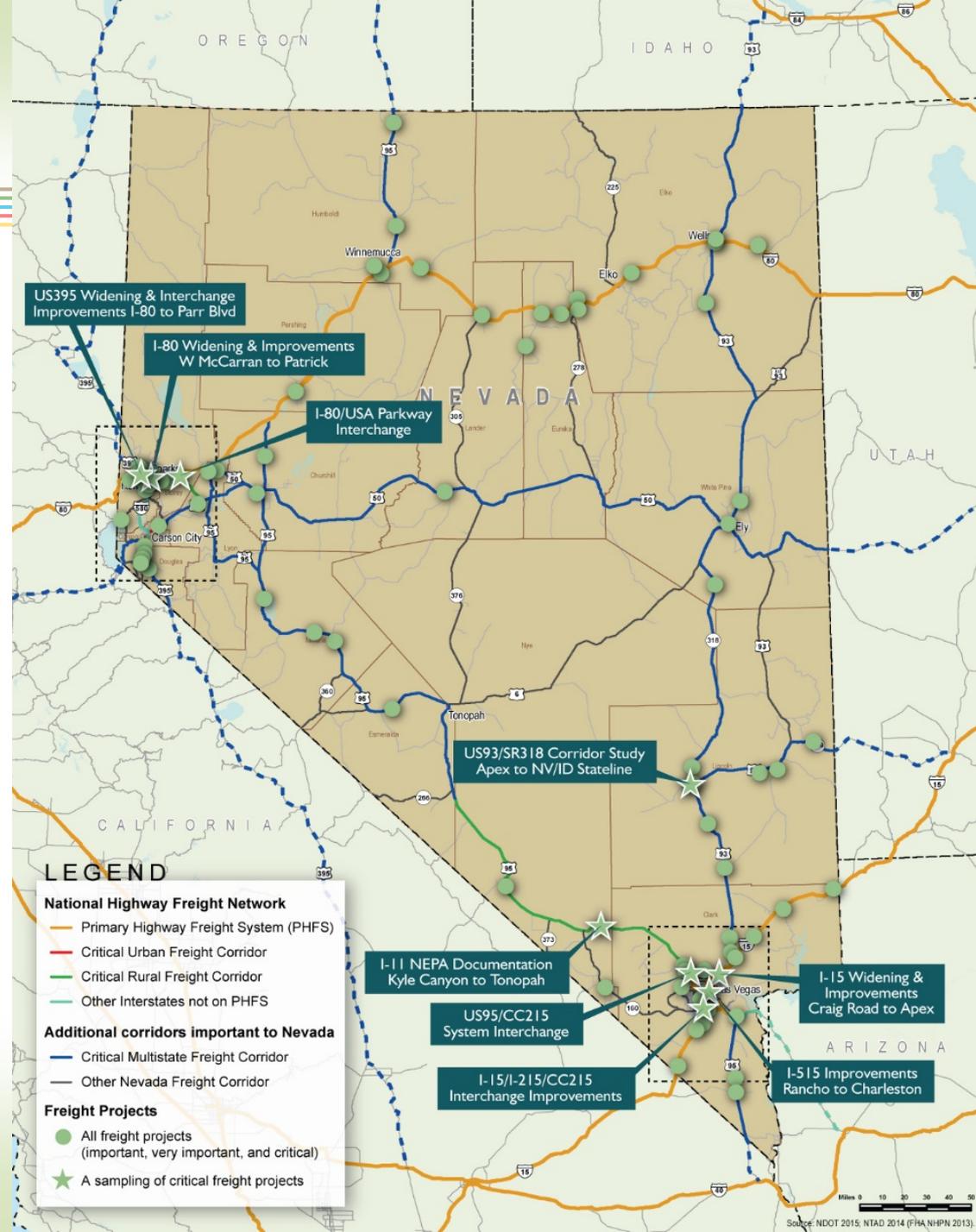
## LEGEND

- National Highway Freight Network**
  - Primary Highway Freight System (PHFS)
  - Critical Urban Freight Corridor
  - Critical Rural Freight Corridor
  - Other Interstates not on PHFS
- Additional corridors important to Nevada**
  - Critical Multistate Freight Corridor
  - Other Nevada Freight Corridor

# NEXT STEPS

- ❑ Deliver projects using National Highway Freight Program and other Federal, State and local funds
- ❑ Integrate with the Long-range Multimodal Transportation Plan and develop business case for investment
- ❑ Establish schedule and mechanisms for ongoing engagement of the FAC and WSFC
- ❑ Conduct wholesale update of Plan every 5 years

**This Plan is meant to be a living document: incrementally updated, accounting for completed improvements and evolving transportation needs.**





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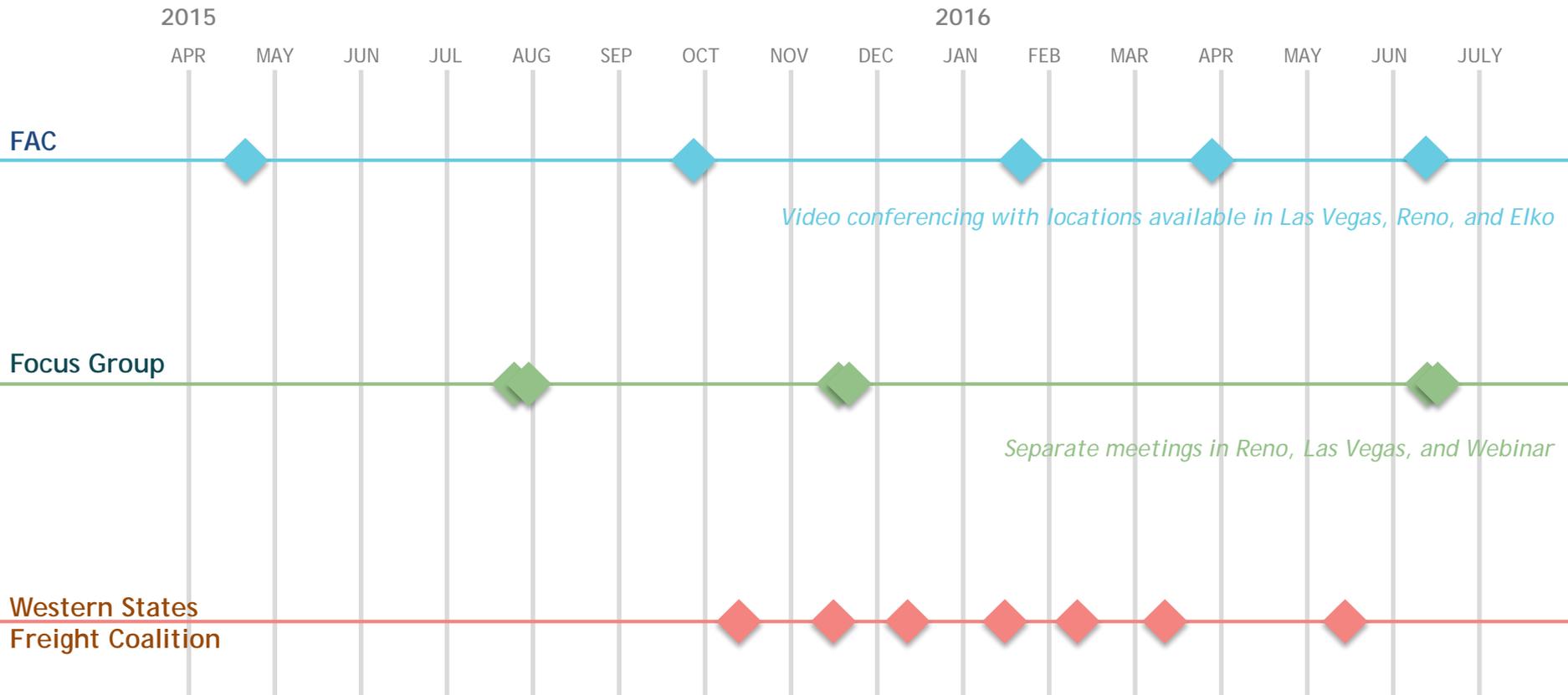
**Bill Thompson**  
**NDOT Freight Program Manager**  
**775-888-7354**  
**[bthompson@dot.state.nv.us](mailto:bthompson@dot.state.nv.us)**

**<http://nevadafreightplan.com/documents.html>**



# ADDITIONAL SLIDES

# OUTREACH MEETINGS



Numerous one-on-one interviews and briefings with industry and public agency stakeholders.

# INNOVATIVE TECHNOLOGY THE OPPORTUNITY

**GOAL:** *Use advanced technology, innovation, competition, and accountability in operating and maintaining the freight transportation system*

**OPPORTUNITY:** *to develop a cutting edge freight transportation system by implementing new freight technologies and concepts to increase reliability, improve safety, and reduce cost*



Nadeau, 2013

ITS



DRONES FOR DELIVERY

Scott, 2014



# INNOVATIVE TECHNOLOGY

## THE FUTURE

### HOW THE HYPERLOOP WORKS

Elon Musk said that if the Concorde, a railgun and an air-hockey table had a three-way, the hyperloop would be the love child. Here's a look inside Hyperloop Tech's high-speed cargo pod.

**COMPRESSOR** Mounting a giant compressor fan on the front of the capsule is what makes the hyperloop possible, transferring huge volumes of air away from the nose. Without it, the pod would be pushing all the air in front of it, like a syringe, or you'd have to spend big bucks on a bigger tube. Respect the Kantrowitz limit—the top speed allowable given a tube-to-pod-area ratio.

**VACUUM TUBE** Capsules will travel in a near-vacuum to reduce drag significantly. Valves and pumps will keep internal air pressure at about 100 Pascals, or one-thousandth the air pressure at sea level. A little nitrogen may be injected into the tube as a desiccant.



**AIR BEARINGS** The capsule will ride on a cushion of air pumped from the bottom of lunch-tray-size sleds. Landing gear may need to be deployed as it comes to a stop.

**PAYLOAD** Hyperloop Tech's cargo capsule will be about 70 feet long, big enough to hold a standard 40-foot intermodal container. The capsule should weigh about 68,000 pounds and could theoretically accelerate from zero to 750mph in less than a minute.

**PROPULSION** The Hyperloop capsule speeds along a "magnetic river" propelled by linear induction motors spaced along the tube or installed as a continuous strip. Linear induction, used on maglev trains and the Toei Ōedo Line in Tokyo's subway, has no moving parts and low maintenance costs.