

Draft Meeting Summary

NDOT
Nevada State Freight Plan



NOVEMBER FOCUS GROUP MEETINGS

LAS VEGAS: 11/18/15, 9-11AM

WEBINAR: 11/18/15, 1-3 PM

RENO: 11/19/15, 9-11AM

The below summary of discussion notes are a collection of comments from all three meetings: in Las Vegas, at the Webinar, and in Reno. Attendees/Participants for each meeting are listed in Appendix A.

INTRODUCTION

- **Draft Deliverables:** *Please visit the freight plan website to look at the documents we have completed thus far and you will have the ability to comment on them directly on the website – we appreciate any feedback that you have.*
<http://www.nevadafreightplan.com/documents.html>
- **Meeting Purpose:** To get your input on the strategies, projects, programs, and policies included in our preliminary list of solutions and to get your recommendations on any that we may have missed in order to compile a comprehensive list for further consideration and inclusion within the plan. We want to capture as many suggestions as possible to target Nevada's needs and available resources to meet those needs. The comprehensive list will be prioritized and presented to the Freight Advisory Committee in January.
- **Vision:** Nevada's freight system provides a significant competitive advantage to businesses within the state and an incentive for businesses to relocate to Nevada.
- **Framework:** This freight plan has economic competitiveness as its primary focus. It will present more than the sum of incremental improvements relating to each mode. The plan aims to be multimodal and transformative, to improve and sustain an intermodal system that will elevate Nevada's position as a location for commerce within the Western grid. It recommends a long-term approach that will:
 - o Change metropolitan Las Vegas and Reno from stops along two directional east-west corridors into crossroad hubs that provide multi-directional access to the expanded national international market;
 - o Help reconfigure fragmented, inefficient, and conflicting modal network elements into integrated and highly efficient freight distribution and delivery systems; and
 - o Improve the overall capacity and performance of the service network for a growing and diversified business base.
- **Prioritization of Goals:** Working with the Freight Advisory Committee (FAC), we began a prioritization exercise to determine which goals are of greater relative

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importance – economic competitiveness and sustainable levels of funding are *sine qua non* – the former as the essential vision of the plan which our other priorities support and the latter is the essential resource required to advance each priority and ensure overall success. The other goals that were prioritized by the FAC are, in order: safety and security; mobility and reliability; infrastructure preservation; collaboration, land use and community values; innovative technology; and environmental sustainability.

PRELIMINARY SOLUTIONS: Strategies, Projects, Programs, and Policies

**Please review the slides to view the preliminary solutions brought forth by the Consultant team, which were organized by goal although we recognize that many will contribute to multiple goals.*
Note: All stakeholder comments are shown in italics.

Economic Competitiveness

- The plan will have both long- and short-term components. Typical freight plans focus on incremental improvements projects, work that must be done immediately. For example, to reduce congestion and improve safety. We will include these projects as well as policies and long-term projects that give the state a framework within which to guide future transformational changes in the freight system that result in robust and sustainable economic competitiveness.
- Nevada's close proximity and strong connections to the large, successful, and growing regional economies of Los Angeles and San Francisco brings development opportunities and supportive freight systems improvements that will result in a greater role for Nevada businesses and carriers in the Western U.S.
- Propose that I-11 be extended as a highway and rail corridor connecting Las Vegas and Reno eventually to Mexico and Canada to foster crossroads hub development in Nevada. Ultimately the Western States could be served by an NAFTA corridor that would add capacity and market reach, parallel to I-5 and north-south rail elements.
- Recommend that a policy and physical study of Nevada's pre-existing rail connections be completed to determine the feasibility of utilizing these beds for re-development in an I-11 corridor rail strategy. An investigation of historic rail maps reveals that there were several rail connections in Nevada, including a connection between Reno and Las Vegas as recent as 1947.
- Improve modal integration at major distribution hubs based on inland port and freight village development concepts. Stakeholder input suggests that TRIC in Northern Nevada and Southern Nevada between Las Vegas and California are well located for prospective development along these lines.
- **Discussions re: Economic Competitiveness**
 - o *The economic competitiveness of Nevada's urban clusters is impacted by its climate and the availability of required resources. The Reno area, for example, is mostly unpopulated desert and has limited availability of water and basic infrastructure connections. These limitations need to be taken into account in weighing the impact that pursuit of a crossroads strategy would have on economic development. San Francisco Bay area is zoning out industrial uses, including manufacturing and freight distribution. This will impact growth opportunities in Northern Nevada.*

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- Agreed. Environmental sustainability will be an important planning factor as will Nevada's focus on ways to diversify its economy. We believe that with careful planning (e.g. using inland port concepts), Nevada's two urban areas have the capability to sustain substantial freight-related economic growth.
- o *How will Nevada's neighbors in Salt Lake City react to the I-11 concept? Will they see it as an effort to replace the I-15 as a north-south corridor?*
 - This issue could be addressed through our Western States Freight Coalition discussions. However, I-11's role as a NAFTA corridor relates more as an alternative to I-5 and the impact on freight flows closer to coastal gateways.
- o *Port competitiveness was discussed at the recent Council for Supply Management Professionals (CSCMP) Meeting. It highlighted many of the competitive issues facing the port industry, including the upcoming Panama Canal expansion and Suez Canal access to the East Coast. Currently, there is an oversupply of ships in the Asian-US trade and all these factors are resulting in lower costs for all water shipments to the East Coast when compared to mini-land bridge services from the West Coast. Are these short-term or ongoing trends that will hurt the competitiveness of California ports?*
 - We are in a period of industry flux and there is no clear-cut answer as to how US ports will be impacted over the long-term. The best answer is to wait and see. It is true that some California cargo has migrated to the East Coast initially in response to the West Coast recent labor disputes and operational difficulties impacting larger ports.
 - How competitiveness will play out over the long run will have a lot to do with the toll levels set by the Panama and Suez canals, whether or not the Western railroads will lower land bridge costs to retain their Midwest market share, and the ability of all ports to meet future capacity and operational needs.
 - In sum, continued increases of trade between Asia and the United States are predicted going forward and it seems likely the impact on West Coast ports may be measured in small percentage losses of potential growth, but there will not be a catastrophic shift away from California and other West Coast port gateways.
- o *I'm a fan of the inland port idea, but we haven't been able to get funding for looking at these things, at least through NDOT— is there any opportunity in the future to get funding to look at these operations?*
 - Infrastructure funding options are fundamental to the projects development and will be addressed later in this presentation.
 - The Multi-year authorization bills being considered propose two things that may be more freight friendly to freight projects than current legislation.

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- Restoration of the National Cooperative Freight Research Program is in the Senate bill and if it passes, it will add resources for research and model project planning.
- The intermodal and freight friendly TIGER grant program has strong support and is likely to provide “frosting on the cake” Federal monies for projects that have strong local public- private sector partnerships.
- o *Market research indicates that there is a strong demand for large Nevada sites in corridors between Las Vegas and California, especially at locations that can be accessed without going through downtown Las Vegas. However, BLM restrictions on site development reduce the inventory that would be available to meet demand-- and these limitations affect properties in northern Nevada as well.*
 - We agree that it is useful to discuss these and other freight plan issues with the Bureau of Land Management.
- o *We need to look at our transportation and development policies more holistically to make sure that when we make billions of dollars in infrastructure investments, they are supporting development of target industries.*
- o *Sites good for large-scale development, such as Apex and Ivanpah, require significant investment in transportation infrastructure that some expect the state to bear. Yet there are limitations on available public funding and issues regarding how these limitations are to be overcome. Should developers that benefit from being at a Nevada location share in access costs through development fees?*
 - Such matters will be raised and discussed in the financing elements.
- o *Identifying the location of the historic but abandoned rights-of-way is a useful endeavor. In many instances, old railroad beds may be in place to be built upon. The Class I Railroads can be good development partners when projected development costs and estimated volume numbers are right. Creating a rail connection to the southern end of Hawthorne and its lithium mine may make sense.*
 - Further state exploration of these historic rights-of-way is one of our proposed competitiveness recommendations.

Safety and Security; Mobility and Reliability

- The presentation used regional maps that highlighted average daily truck traffic speeds, employment centers, chokepoints and fatal truck crash locations as well as programmed and recommended highway and interchange improvements currently identified within MPO and NDOT programs. The areas covered included the Las Vegas Metro area, the Reno-Sparks Metro area, and the Reno-Sparks-Carson City CSA as well as the remainder of the state.
- All meeting and webinar participants are invited to give the material further review and email their comments to the study team.

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- **Discussions re: Safety & Security, Mobility & Reliability**

- o *The programed improvements review raised issues concerning chokepoints that slow traffic moving through central Las Vegas. These ranged from observations that CC-215 should become a focal point as reliever route for I-15 and that the difficulty getting trucks through the Valley impacts potential distribution center and manufacturing site development. This was seen as especially true concerning locations that would serve the growing California – southern Nevada market at sites such as Ivanpah to the south and Apex in North Las Vegas.*
- o *In Northern Nevada, I-80 should be widened at the narrowing that occurs along I-80 east of the Spaghetti bowl through Sparks and the Truckee River Canyon. We have a highway configuration problem, not just safety and congestion. How is the system configured and how do we want it to be figured for the future?*
- o *The freight plan should take into account the need to get trucks around Las Vegas without going through Las Vegas. It was noted that St. George, Utah is building a highway around the city center 3 miles out of town, that serves as an alternate to I-15.*
- o *How will development sites in southern Nevada connect to the proposed I-11?*
 - All of these suggestions point to the need for an analysis that links market demand, land and services availability, freight, accessibility, and environmental sustainability.
- o *To preserve access for over dimensional vehicles, it was suggested that bridge clearance be raised from 16.5 feet to 18ft. wherever possible on new construction and major renovations.*
- o *The US395/US50 Carson interchange is very important*
- o *Lander County is beginning to do an economic development and logistics study and the Freight Plan will be a really important resource. Projection of the path of a future I-11, if it will go past Winnemucca is of prime importance to us. The county is beginning to attract some spillover growth from Elko (benefitting from their economic growth and serving the same trucking and mining interests) and has attracted an out of state firm. Do we know anything more about the potential I-11 right-of-way north of Reno?*
 - No; Discussion of a proposed route is still early in the preliminary planning stage.
- o *Has a location been selected for a consolidated marshaling yard to serve the Las Vegas convention area?*
 - No. There are currently multiple marshaling yards, often temporarily available vacant lots. The convention companies are looking within a 3- to 5-mile radius of this area to better handle the hundreds of trucks that shuttle in and out of here, as well as looking at improvements to the road networks to separate taxis from cars and trucks to get things to run more smoothly. The convention companies need to take the

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lead on developing a consolidated marshaling yard, and if they do, then transportation agencies can support the initiative with appropriate transportation network improvements.

- o *Are you going to look at a cargo land ferry system for use on the I-80 corridor and a future I-11 corridor? It doesn't make sense for rail to provide this service because intermodal rail service is not practicable for distances less than 500 miles.*
 - This technology would be recommended for further research under proposed state innovative technologies program. The Eastern railroads are starting to collapse their intermodal service range to under 500 miles where rail volumes between points are high and the highway alternative is congested. These conditions may or may not develop here. Emissions and congestion concerns in California may favor Ports to Nevada hubs shuttles to avoid heavy congestion developing outward along I-80 and I-15 and intersecting routes.
- o *The Reno-Sparks improvements map needs to include Amazon's facility north of Reno as well as other recent development in the North Valleys area.*
 - The study team is aware that Amazon's recent move from Fernley to Reno is not reflected in the DETR employment data used to create the current mapping. This and other recent changes identified are being taken into consideration in our analyses and will also be reflected in the map exhibits incorporated into the final plan.
- o *There is concern over the adequacy of US Parkway to meet development needs at TRIC in order to design the road appropriately. NDOT needs more information as soon as possible on the surrounding property and whether or not a proposed roundabout is sufficient to handle the turning radius of large trucks. We need to come up with a solution for the needed infrastructure before projects are built.*
 - The consulting team will reach out with the state as soon as possible to learn more about the anticipated needs of Tesla and other TRIC tenants.

There is concern regarding the impact US Parkway will have on I-80 operations, it is felt that the interchanges that provide access to TRIC are will be functionally inadequate to effectively/efficiently handle the anticipated growth and projected truck volumes and may cause travel time delays and safety issues on I-80 in this area if not addressed.
- o *US 95 through Fernley and Fallon is terrible. Traffic flows well enough through Tonopah.*
- o *US 93 around Alamo is also bad, especially south of Alamo around Pahranaagat Lake.*
- o *US 93 at Oakhill Summit needs truck climbing lanes*
- o *SR 319 east of Panaca received excessive traffic when I-15 was closed due to the Moapa flooding and is in need of maintenance. You might want to consider a stronger pavement base since it serves as a bypass to I-15 through the Virgin River Gorge.*
- o *California needs to add a lane to I-15 south of Primm to help relieve Sunday*

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congestion from visitors returning to California.

Collaboration, Land Use and Community Values

- For the private sector, the aim of multimodal, logistics, supply chain is to improve collaboration among its modal and shipper participants for the benefit of their customer, which ultimately is the individual consumer.
- For the public sector, transportation planning and project development too is a series of partnerships between state and local governments, and as well as with federal partners and transportation agencies in nearby states. Their taxpayer/citizens are the ultimate customer for governments.
- Since citizens and consumers are one of the same – cooperation between the public and private sector to best utilize their shared resources for common beneficiaries is both logical and necessary.
- Following is a preliminary list of committees and coalitions that bring the public and private sector, either separately or in concert, together to improve freight planning and program delivery.
 - The Nevada Freight Advisory Committee as an ongoing body of public and private sector stakeholders that on a regular basis will advise the state on freight policy and program matters;
 - The Western States Coalition as a vehicle for contiguous western states to share plans and solutions to better integrate and improve their freight networks;
 - The State of Nevada Interdepartmental Strategy Group as a cabinet level workforce to integrate related economic development, finance, environmental and workforce development issues associated with proposed transportation policy and project improvements.
 - Freight Focused Workforce Development Program which works with the private sector to ensure a well-trained and available Nevada workforce with emphasis on STEM education and in addressing a nationwide truck driver shortage. It was also noted that transportation and land-use planners are difficult to recruit and the state university system does not currently offer programs in this area of study.
- **Discussions re: Collaboration, Land Use, and Community Values**
 - *Truck drivers prefer shorter routes. Efforts to develop Uber type systems that would allow available drivers to be linked more efficiently with available loads. Will you give attention to this approach?*
 - Yes; these types of load-matching strategies are being increasingly used by trucking companies and more research on ways to make them more effective is in the state's interest.
 - *The state does not have jurisdiction over projects approved by Nevada cities and counties – and changes are often made to these plans at meetings that NDOT is not aware of until after it is approved. This has a big impact on the system – we need a better way to coordinate among jurisdictions without overreaching state responsibilities.*

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- Coordination models from other states can be explored as part of finding ways to more efficiently deliver projects
- o *The state and local jurisdictions should consider providing incentives to encourage development in locations where infrastructure already exists and/or would minimize impacts and need for additional facilities*
- o *Need to better coordinate to determine anticipated impacts of local land use decisions on existing infrastructure and how to more equitably share/allocate costs of mitigating these impacts.*
- o *RTC Washoe has a process for coordinating with local land use planning efforts that may be a useful template for developing a coordinated planning process between state and local government entities.*

Innovative Technology

- The proposal recommends Nevada strategic research initiatives to evaluate freight related technologies that will have large impacts on the delivery of goods. These involve tools to solve existing problems (ITS systems, alternate fuels) and tools that drastically change the way things are being done (3D printing, driverless trucks and drones).
- Nevada has shown leadership with driverless trucks and drones and should work to turn these efforts into a competitive advantage.
- 3D printing can be a game changer – with goods templates rather than finished product moving between manufactures and customers. Nevada may benefit as the source of the raw materials which the templates would turn into finished product.
- **Discussions re: Innovative Technology**
 - o *An MIT exercise last year emphasized what major changes will take place on how goods are moved around – especially with drones and 3D printers; one motor company is already printing 3D cars. I am pleased to see that such technologies are highlighted.*
 - o *Automated freight trains research should include automated freight loading.*
 - Port operators mostly in Europe and Asia have developed systems that help move containers off ship into holding areas and then directly onto trains. The ports of Norfolk, PONYNJ, and Long Beach are advancing automated freight loading in this country.
 - o *Technological innovations (e.g. vehicle and roadway design and ITS management systems) can contribute to safety and security.*
 - We agree that these items should occupy an important place in the state's future transportation research agenda.
 - o *Advanced manufacturing such as 3D printing is the tip of the iceberg. It produces manufacturing output that attracts freight services for itself and shippers. Innovations here rely on innovation in other areas such as software development. Thus, advanced manufacturing builds the economic base far beyond just its simple output.*
 - o *Nevada should create a permanent entity, a dedicated office, to look at technologies and their potential impacts. The transportation board is calling*

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for an improved research agenda that explores innovative transportation solutions.

Environmental Sustainability and Livability

- The focus here is to improve the environment quality at major freight centers and regarding freight movement throughout the state.
- Initial action recommendations include: evaluating the potential impact of California's zero emissions policy on freight movements to and from Nevada; investigating the establishment of alternate fuel service stations for hydrogen cell LNG and other clean burning fuels and creating a comprehensive climate change and environmental disaster risk assessment and analysis for Nevada's infrastructure in freight systems.

Sustainable Funding

- Recommendations here cover actions that can be taken to help fully fund the operations, maintenance, renewal and expansion of Nevada's freight transportation system. They recognize that there is no one resource available to meet all transportation needs and that federal funding in general, much less funding focusing on freight, is not expanding.
- Solutions lie in a diverse number of actions such as aggressively pursuing federal funding under freight categorical programs and programs specifically designed for freight infrastructure finance (RIFF, TIFIA etc.), expanding, state and local funding resources from fuel tax indexing and the application of tolls, as well as identifying public-private partnership opportunities and a means to obtain revenues to recover transportation expenses that support major economic development at specific sites.
- The most important step here involves generating large-scale public support for freight investments by making the business case that these investments demonstrate economic/non-economic benefits to non-freight users.
- **Discussions re: Sustainable Funding**
 - o *Multiple commentators approved of an aggressive approach to identifying ways utilize tools in federal legislation that can help finance public-private and private sector projects as well as advancing fuel tax indexing as a permanent statewide resource and in giving tax breaks for investments in Nevada's infrastructure.*
 - o *We don't have enough money, and not just by little – it's astronomical.*
 - o *We need to introduce more strategic investment concepts that show where development may create congestion and safety problems and identify options to mitigate related issues before and not after they arise and, where necessary, assess a fee to cover extraordinary costs.*
 - o *More coordination between jurisdictions within the state is needed to avoid one jurisdiction capturing the economic benefits and another being left with the congestion.*
 - o *If we can get more state and local funding we can pursue projects that benefit freight and non-freight users alike – e.g. widening a freeway in a congested area serves everyone at the table, residents and commercial entities alike.*

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Other Final Discussions:

o What are some game changer projects/programs, etc.?

- *Infrastructure is critical to bring new industries into the state – including the Apex project to attract the zero emissions, motor vehicles manufacturing firm Faraday into the state.*
- *There is a need for a state approved freight systems development approach that can be used to foster support for freight development from such key groups as the BLM - Nevada homebuilders, LVGEA;*
- *Ivanpah could be an ideal location to create a southern Nevada freight village dedicated to surface transportation and industrial development focusing on service by rail and truck and tied to the California Nevada transportation corridor.*
- *Henderson is starting to see a lot of industrial development, because it is south of the Las Vegas city center and allows for turnaround in an 8-hour shift for many California and Nevada runs. Opportunity there and at Ivanpah will need to address environmental sustainability issues.*

Key Takeaways

- There is growing interest in Nevada as a site for manufacturing and distribution tied to access to California markets, which could be accelerated and realized by concerted development planning highlighting improvements in transportation assets.
- Specifically, there is demand in southern Nevada for a large-scale distribution center to serve growing California and Nevada markets provided that: issues involving land availability, access, congestion, and environmental sustainability are addressed.
- There are similar freight opportunities in the Reno area – tied to Tesla's growth at TRIC.
- The necessity for railroad systems improvement is generally accepted; we need to strengthen railroad recommendations to provide a pathway for their development.
- Addressing financing issues is paramount to success and involves greater cooperation and coordination with the private sector and state, local, and federal government.

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APPENDIX A: ATTENDANCE

LAS VEGAS: 11/18/15, 9-11AM

- Pat Alexander, University of Nevada, Las Vegas
- Dan Andersen, CH2M HILL
- Paul DeLong, DeLong Heavy Haul
- David Dieleman, Dielco Crane Service, Inc.
- Cleveland Dudley, NDOT
- Michael Gallis, Michael Gallis & Associates
- Kevin Gullette, Clark County
- Bob James, Michael Gallis & Associates
- Brad Miller, RC Willey
- Bardia Nezhati, CH2M HILL
- Eric Reimschiessel, American Pavement Preservation
- Victor Rodriquez, Nellis Air Force Base
- Sean Stewart, Nevada Contractors Association
- Amber Stidham, Henderson Chamber of Commerce
- Bill Thompson, NDOT
- Rush Wickers, RTC of Southern Nevada
- Bruce Williams, Olin Chlor Alkali

WEBINAR: 11/18/15, 1-3 PM

- Dan Andersen, CH2M HILL
- Lissa Butterfield, Reno-Tahoe Airport Authority
- Chelsea Capurro, Griffin Company
- Laura Chris, Michael Gallis & Associates
- Rachel Dahl, Churchill County
- Sallie Doebler, NAIOP
- Michael Gallis, Michael Gallis & Associates
- Dirk Goering, Carson MPO
- Bob James, Michael Gallis & Associates
- Paul Marcinko, Union Pacific Railroad
- Steve Merrill, NDOT
- Jan Morrison, Lander County Economic Development Authority
- Alysia Rodriquez, City of Henderson
- Bill Thompson, NDOT

RENO: 11/19/15, 9-11AM

- Dan Andersen, CH2M HILL
- Kay Bennett, Silver Springs Airport
- Amy Cummings, RTC of Washoe County
- Seth Daniels, NDOT
- Jim Emme, Now Foods
- Mark Gallegos, CH2M HILL
- Michael Gallis, Michael Gallis & Associates
- Bennie Gamble, Devine Intermodal
- Debra Goodwin, RTC of Washoe County

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APPENDIX A: ATTENDANCE

RENO (Continued)

- Jaron Hildebrand, Nevada Trucking Association
- Bob James, Michael Gallis & Associates
- Christina Leach, FHWA Nevada Division
- Marco Lucich, Silver Springs Airport
- Derek Morse, Morse Associates Consulting
- Sondra Rosenberg, NDOT
- Bill Thompson, NDOT
- Jason VanHavel, Storey County



NEVADA STATE FREIGHT PLAN

FOCUS GROUP MEETINGS

Las Vegas: November 18, 2015 @ 9 am

Webinar: November 18, 2015 @ 1 pm

Reno: November 19, 2015 @ 9 am

DRAFT DELIVERABLES

- § Performance Measures and Analysis
- § Forecast Freight Flows
- § Competitive Market Analysis
- § Existing Freight Flows
- § Statewide Assessment
- § Preliminary Natural Disaster Risk Management assessment
- § Public Involvement Plan
- § Literature Review Reference Document

All documents are available at <http://www.nevadafreightplan.com/documents.html>

Your review and feedback are greatly appreciated!

AGENDA

- § Purpose of this Meeting
- § Vision, Framework, & Prioritized Goals
- § Preliminary List of Solutions (Strategies, Projects, Policies, & Programs)
- § Supply Chain Analysis Preview
- § Next Steps



MEETING PURPOSE

To *get your input* on the strategies, projects, programs, and policies included in our preliminary list of solutions *and recommendations* on any we may have missed in order to *compile a comprehensive list* for further consideration and inclusion in the plan.





VISION, FRAMEWORK, & PRIORITIZED GOALS

VISION

Nevada's freight system provides a *significant competitive advantage to businesses within the state* and an *incentive for businesses to relocate* to Nevada.



FRAMEWORK

BACKGROUND:

This is Nevada's first opportunity to define an intentional freight plan that will create a competitive advantage for the state.

Incremental improvements to the freight system within the state will improve various aspects of the system, but will not create the significant competitive advantage necessary to transform Nevada's desirability and reposition the state within the Western grid.

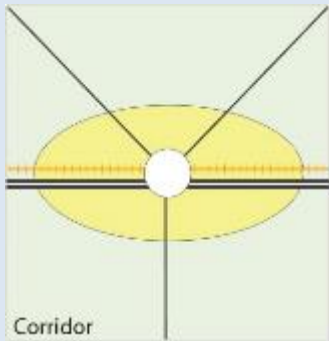
RATIONALE:

Northern and Southern Nevada are currently stops along corridors with freight infrastructure that has grown incrementally in response to local demand. They are not functionally connected to each other or to the NAFTA corridors.

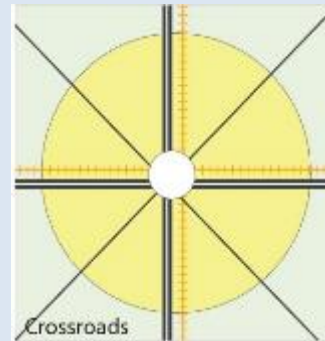
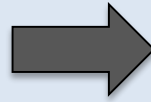
Urban growth and economic activity in Nevada along with its close relationship to the increasingly congested gateway hubs in California is transforming the state and its potential for a new relationship to domestic and global trading networks.

FRAMEWORK

1. FROM CORRIDORS TO CROSSROADS: RENO & LAS VEGAS

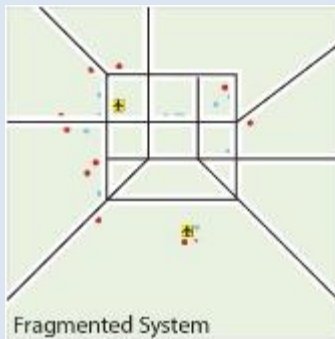


Corridors provide access in only two directions, limiting market access

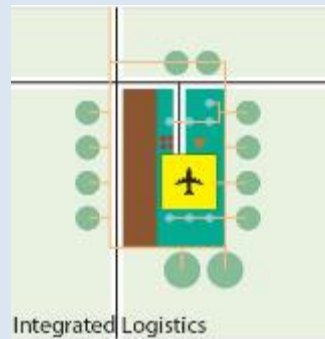
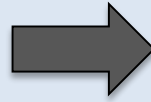


Crossroads provide multidirectional access to a larger market space

2. FROM FRAGMENTATION TO INTEGRATION



Fragmented modal configurations cause increased conflicts and inefficiencies



Integrated modal configurations lead to highly efficient freight systems

3. IMPROVE CAPACITY & PERFORMANCE

PRIORITIZATION OF GOALS

CONSENSUS WEIGHTING

ECONOMIC

COMPETITIVENESS

ENVIRONMENTAL SUSTAINABILITY [65]

INNOVATIVE TECHNOLOGY [75]

COLLABORATION, LAND USE, & COMMUNITY VALUES [76]

INFRASTRUCTURE PRESERVATION [81]

MOBILITY & RELIABILITY [96]

SAFETY & SECURITY [100]

SUSTAINABLE FUNDING



PRELIMINARY SOLUTIONS














STRATEGIES, PROJECTS, PROGRAMS, POLICIES

ECONOMIC COMPETITIVENESS

THE OPPORTUNITY

GOAL: *Improve the contribution of the freight transportation system to economic efficiency, productivity, and competitiveness*

OPPORTUNITY: *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.*

-  Gross Metropolitan Product
-  Major Trading Areas
-  Minor Trading Areas
-  Port (by TEU)
-  Proposed Port
-  Waterborne Freight
-  Truck Flows (tons)
-  Rail Flows (tons)
-  Proposed I-11
-  Possible I-11 continuation
-  Proposed I-11 Rail Connection
-  New NAFTA Crossroads
-  New NAFTA Corridor



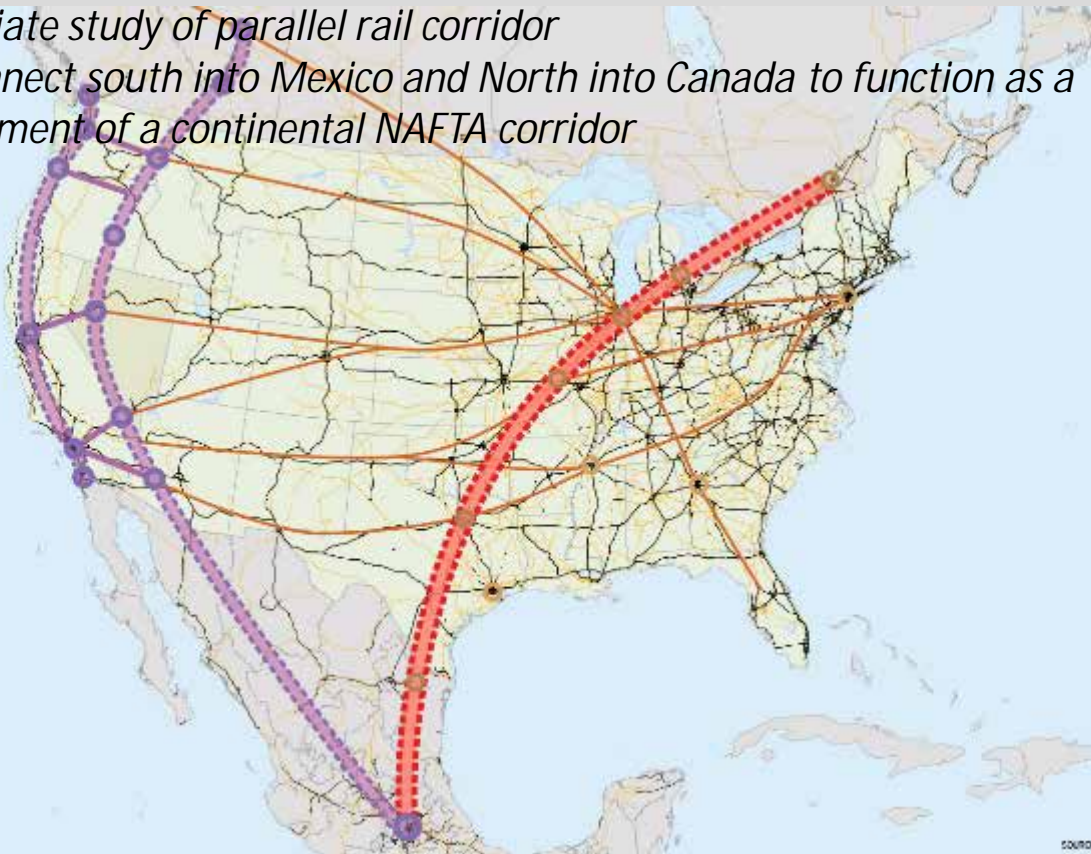
ECONOMIC COMPETITIVENESS

THE SOLUTIONS – PRELIMINARY LIST

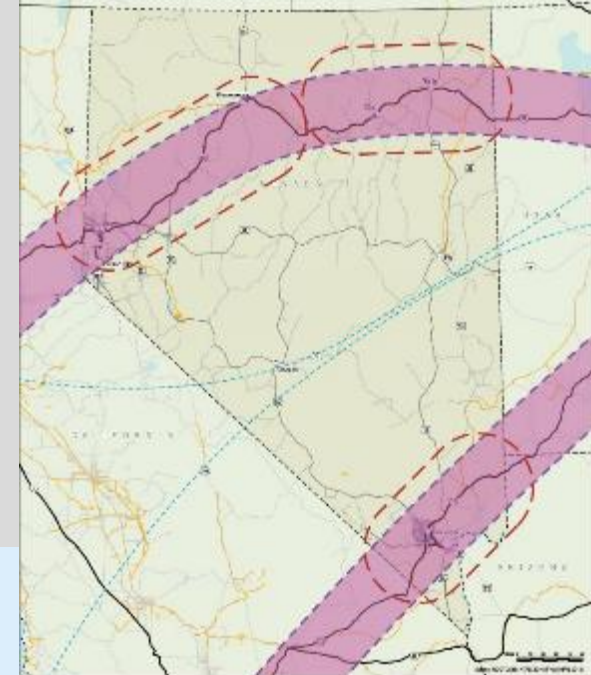
CREATE CROSSROAD

I-11 & CANAMEX

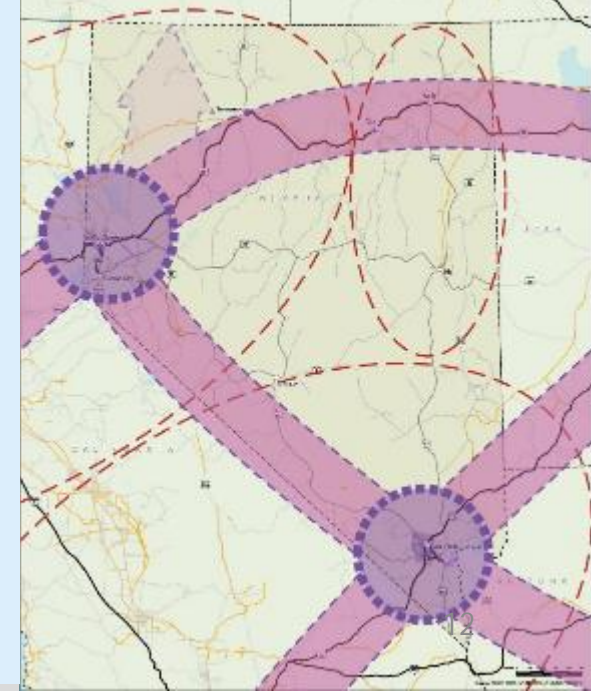
- *Create a road and rail corridor connecting Las Vegas and Reno in a structure parallel to the I-5, 99 corridor in California*
- *Further study the I-11 interstate corridor alignment: a) around Las Vegas; b) Las Vegas to Reno*
- *Initiate study of parallel rail corridor*
- *Connect south into Mexico and North into Canada to function as a segment of a continental NAFTA corridor*



NEVADA 2015



NEVADA 2045



ECONOMIC COMPETITIVENESS

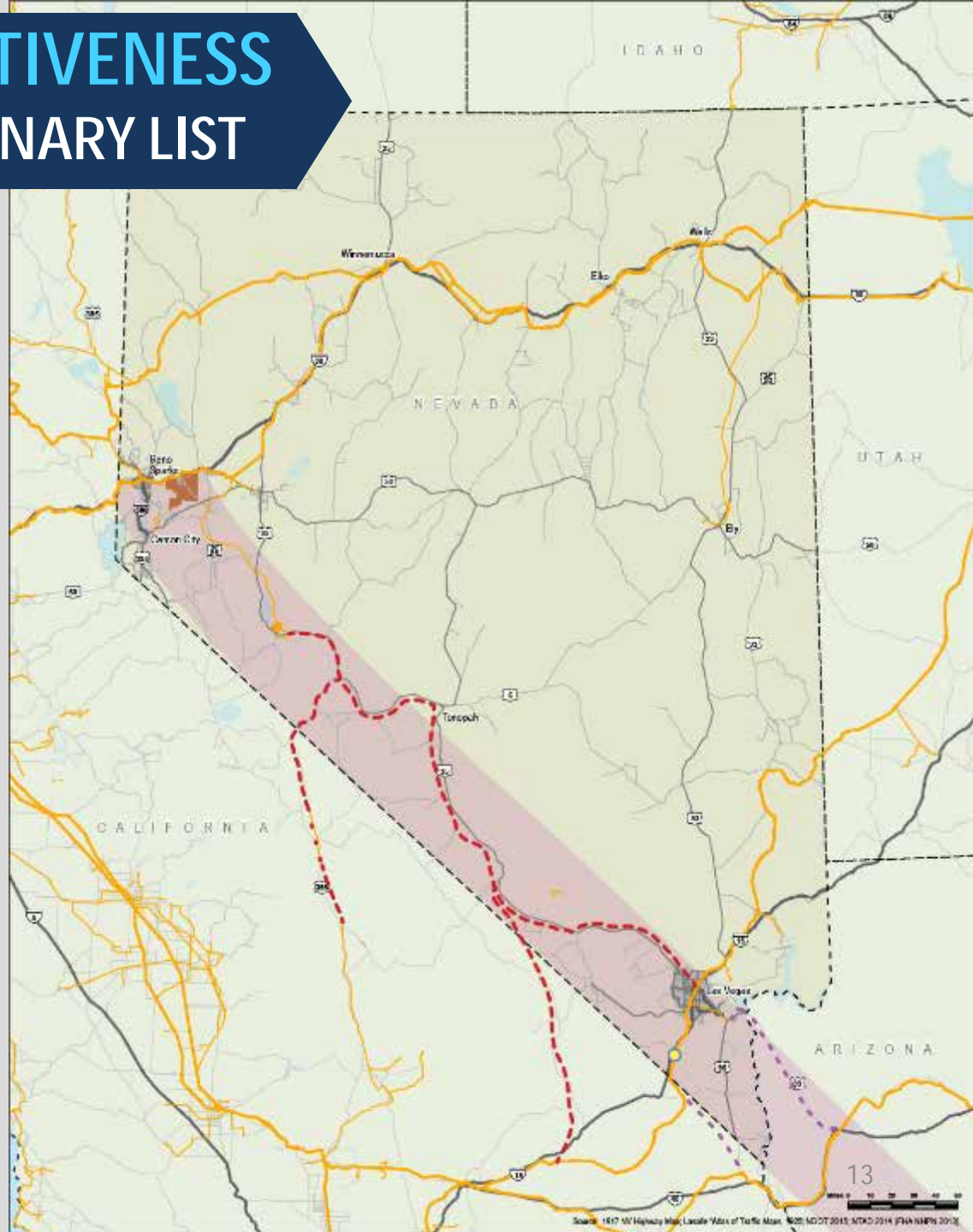
THE SOLUTIONS – PRELIMINARY LIST

EXAMINE EXISTING RAIL BEDS POLICY & PHYSICAL STUDY

- *There have been active rail connections between Reno and Las Vegas as recently as 1946/7*
- *Investigate traditional rail ROWs to determine their: a) legal; and b) physical status, to determine the potential for re-activating these lines as part of a NAFTA corridor strategy (e.g. current ownership, statutes, weight limits, widths, condition of beds, etc.)*

EXISTING RAIL LINES AND HISTORIC RAIL ROUTES

- Existing Rail Main Line
- Other Existing Rail Line
- - - Historic Reno/Las Vegas/California Rail Routes
- - - Possible Rail Connector
- Tahoe Reno Industrial Park
- Proposed Ivanpah Airport



ECONOMIC COMPETITIVENESS

THE SOLUTIONS – PRELIMINARY LIST

RAIL INTERMODAL FREIGHT FLOWS & INLAND PORT LOCATIONS



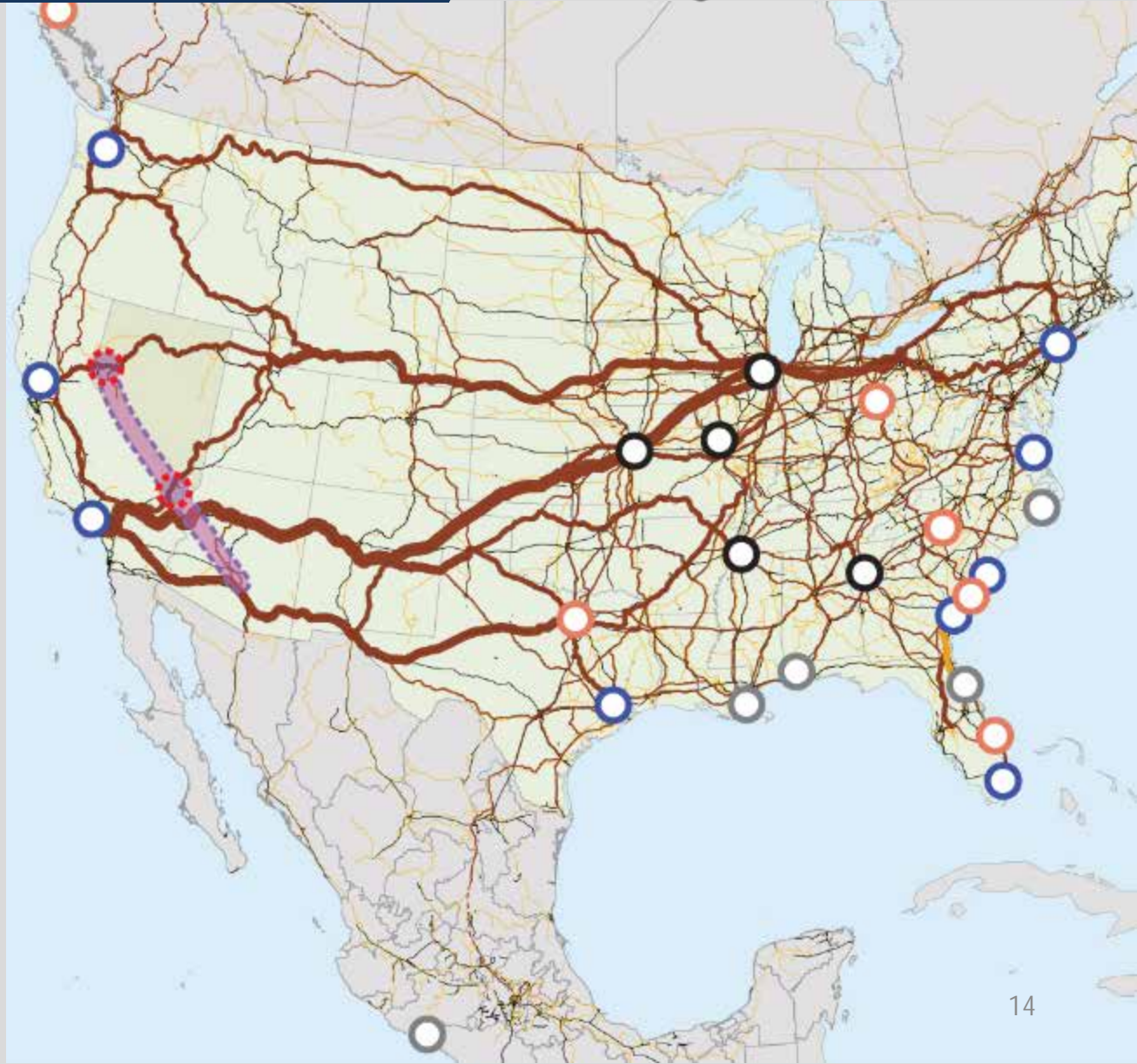
INLAND PORTS/FREIGHT VILLAGES

IMPROVE MODAL INTEGRATION

- Create major Nevada transfer points, accessing West Coast ports in transcontinental intermodal markets
- Greater integration between air, road, and rail
- Maximize intermodal accessibility to development sites

VALUE-ADDED DISTRIBUTION FUNCTIONS

- Consolidate warehousing, packaging, decomposition, and other freight handling functions
- Identify sites for an integrated logistics center in Southern Nevada (e.g. Ivanpah, other?)
- Continue to assess feasibility of new hub concepts (e.g. NDOT/UNLV Land Ferry & Sister Ports)



SAFETY & SECURITY

THE OPPORTUNITY

GOAL: *Improve the safety and security of the freight transportation system.*

OPPORTUNITY: *To create a safer system and position Nevada as a leader in freight safety and security.*



MOBILITY & RELIABILITY

THE OPPORTUNITY

GOAL: *Provide an efficient and reliable multimodal freight transportation system for shippers and receivers across the State.*

OPPORTUNITY: *To ensure that Nevada develops a competitive advantage in the Western US for freight activities by maintaining a high level of freight accessibility and mobility*

RENO-SPARKS METRO AREA PROGRAMMED IMPROVEMENTS

Average Daily Truck Traffic

- Data not available
- 1 - 500 Trucks
- 501 - 1,500 Trucks
- 1,501 - 5,000 Trucks
- 5,001 - 10,000 Trucks
- 10,001 - 22,000 Trucks

Employers with greater than 100 employees

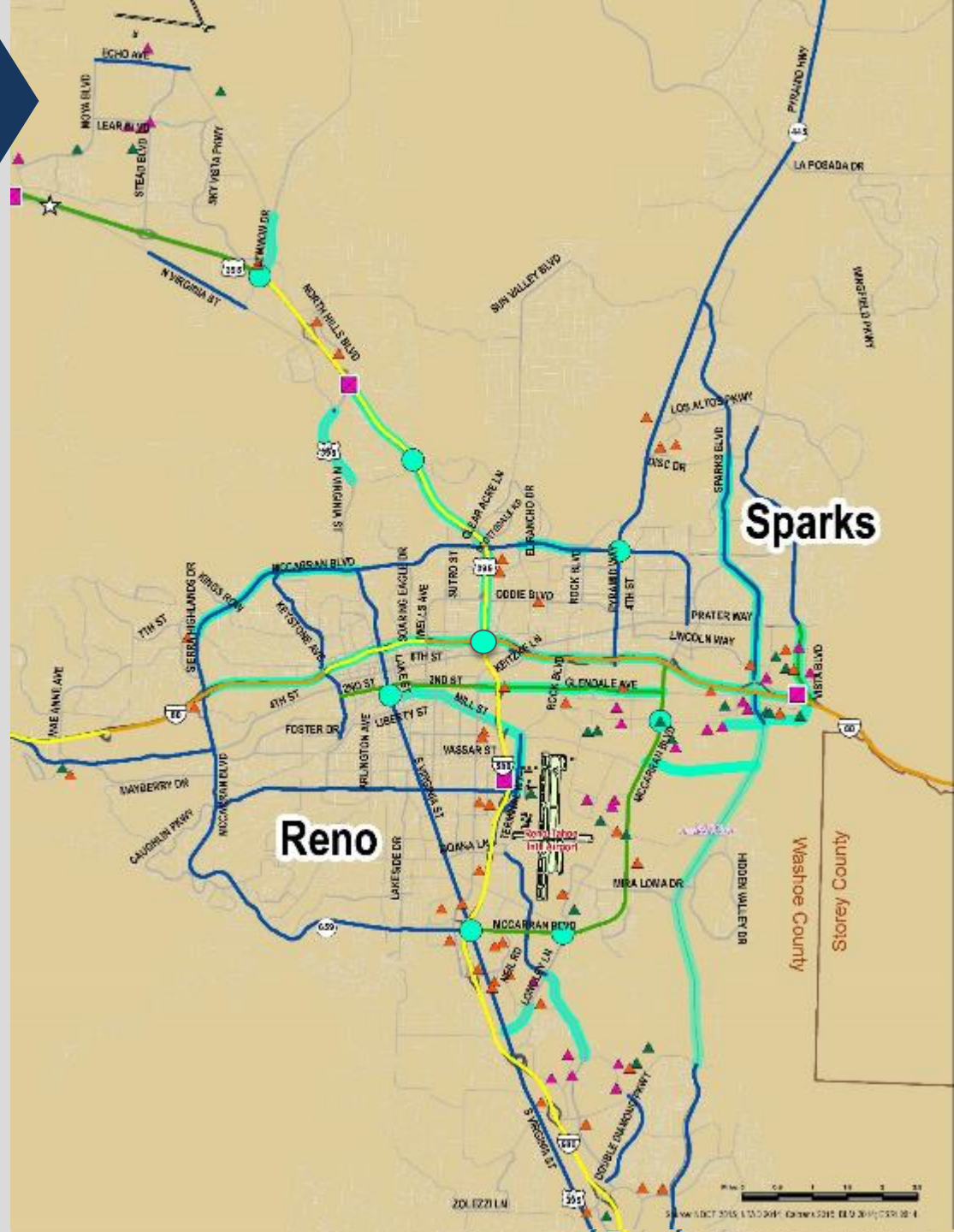
- Manufacturing
- Transportation/Warehousing
- Retail/wholesale/fulfillment
- Mining

Chokepoint

Fatal crash location

Programmed intersection/interchange improvements

Programmed roadway improvements



RENO - SPARKS - CARSON CITY CSA PROGRAMMED IMPROVEMENTS

Average Daily Truck Traffic

- Data not available
- 1 - 500 Trucks
- 501 - 1,500 Trucks
- 1,501 - 5,000 Trucks
- 5,001 - 10,000 Trucks
- 10,001 - 22,000 Trucks

Employers with greater than 100 employees

- Manufacturing
- Transportation/Warehousing
- Retail/wholesale/fulfillment
- Mining

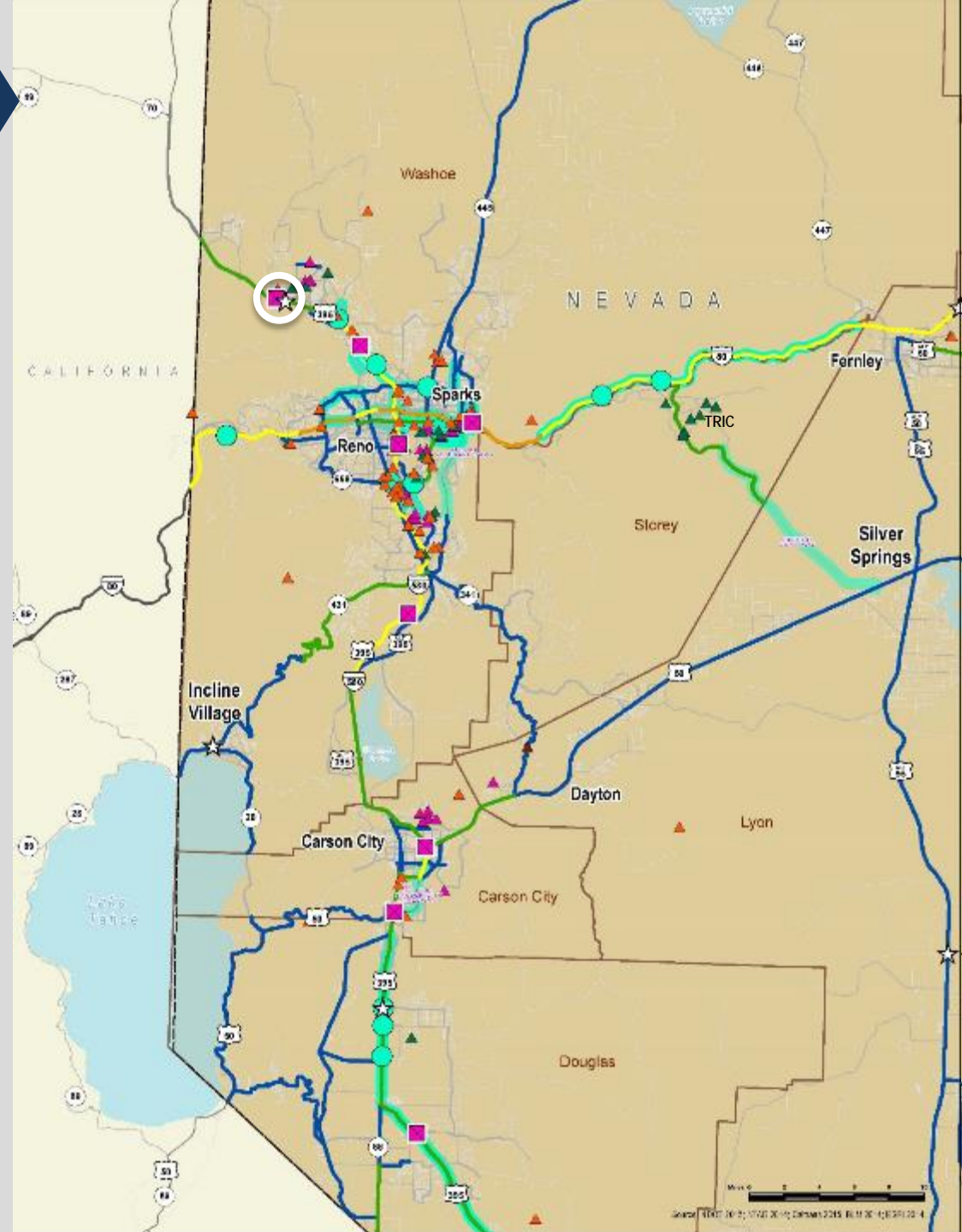
Chokepoint

Fatal crash location

Programmed intersection/interchange improvements

Programmed roadway improvements

Additional project need?



STATEWIDE PROGRAMMED IMPROVEMENTS

Average Daily Truck Traffic

- Data not available
- 1 - 500 Trucks
- 501 - 1,500 Trucks
- 1,501 - 5,000 Trucks
- 5,001 - 10,000 Trucks
- 10,001 - 22,000 Trucks

Employers with greater than 100 employees

- ▲ Manufacturing
- ▲ Transportation/Warehousing
- ▲ Retail/wholesale/fulfillment
- ▲ Mining

☒ Chokepoint

★ Fatal crash location

● Programmed intersection/interchange improvements

▬ Programmed roadway improvements

○ Additional project need?



LAS VEGAS METRO AREA PROGRAMMED IMPROVEMENTS

Average Daily Truck Traffic

- Data not available
- 1 - 500 Trucks
- 501 - 1,500 Trucks
- 1,501 - 5,000 Trucks
- 5,001 - 10,000 Trucks
- 10,001 - 22,000 Trucks

Employers with greater than 100 employees

- Manufacturing
- Transportation/Warehousing
- Retail/wholesale/fulfillment
- Mining

Chokepoint

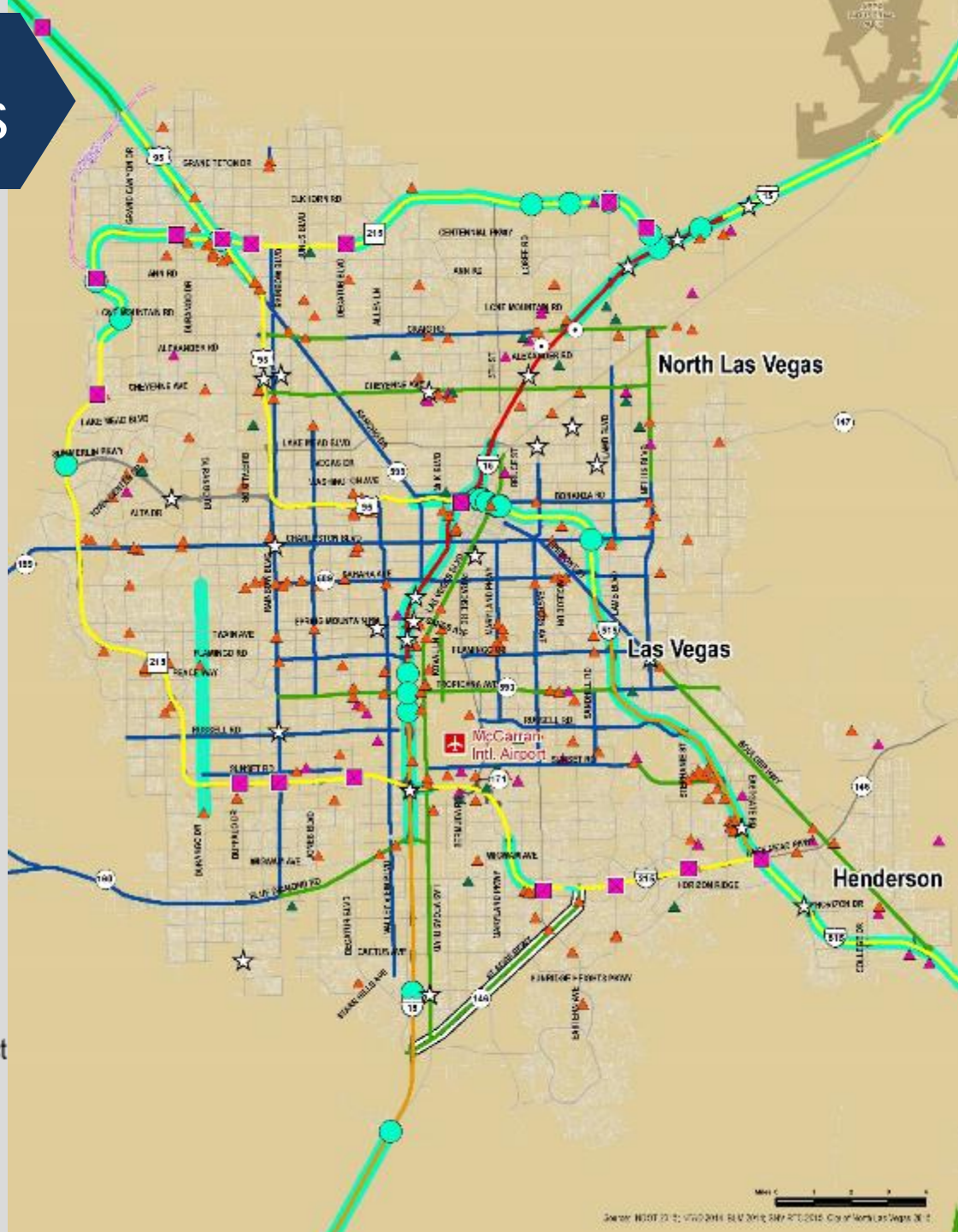
Fatal crash location

Programmed intersection/interchange improvements

Programmed roadway improvements

Las Vegas Goods Movement Study recommended project

Las Vegas Goods Movement Study
Non-programed recommended project



MOBILITY & RELIABILITY

THE SOLUTIONS – PRELIMINARY LIST

Consolidated Convention Marshalling Yard

- *Develop a freight staging area in the vicinity of the major convention facilities to organize freight deliveries. Designate freight routes from the Consolidated Marshalling Yard to all convention centers.*

Access Time Coordination

- *Create a forum for shippers and receivers along the Las Vegas Resort Corridor to work together to identify optimum delivery times, in coordination with workforce shift changes, to minimize roadway congestion, delivery travel time, and dock wait time; and to improve delivery reliability for receivers.*

Preserve Access for Over-Dimensional Vehicles

- *Require that an 18-foot-0-inch bridge clearance for all new construction be considered, and implemented when feasible.*



INFRASTRUCTURE PRESERVATION

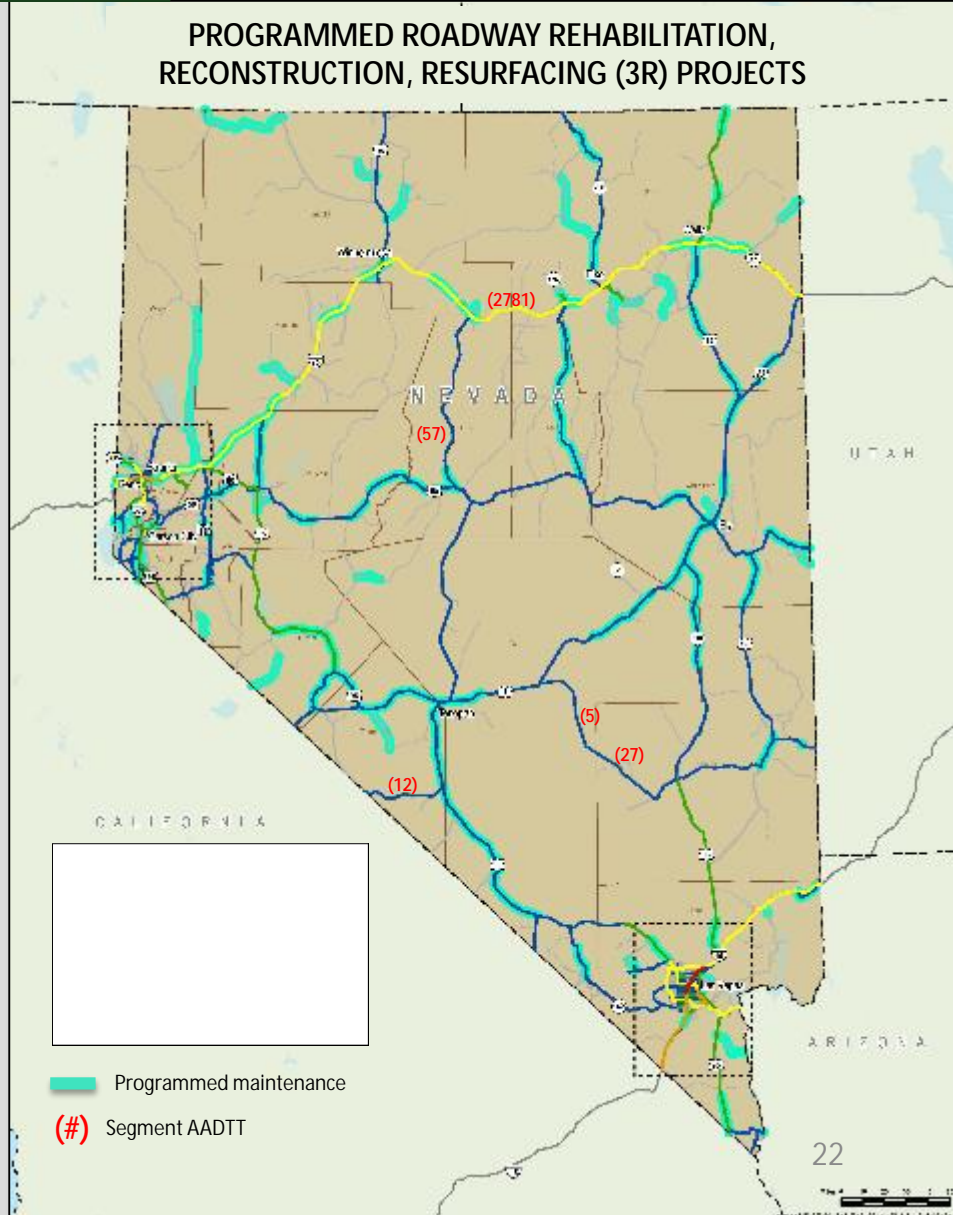
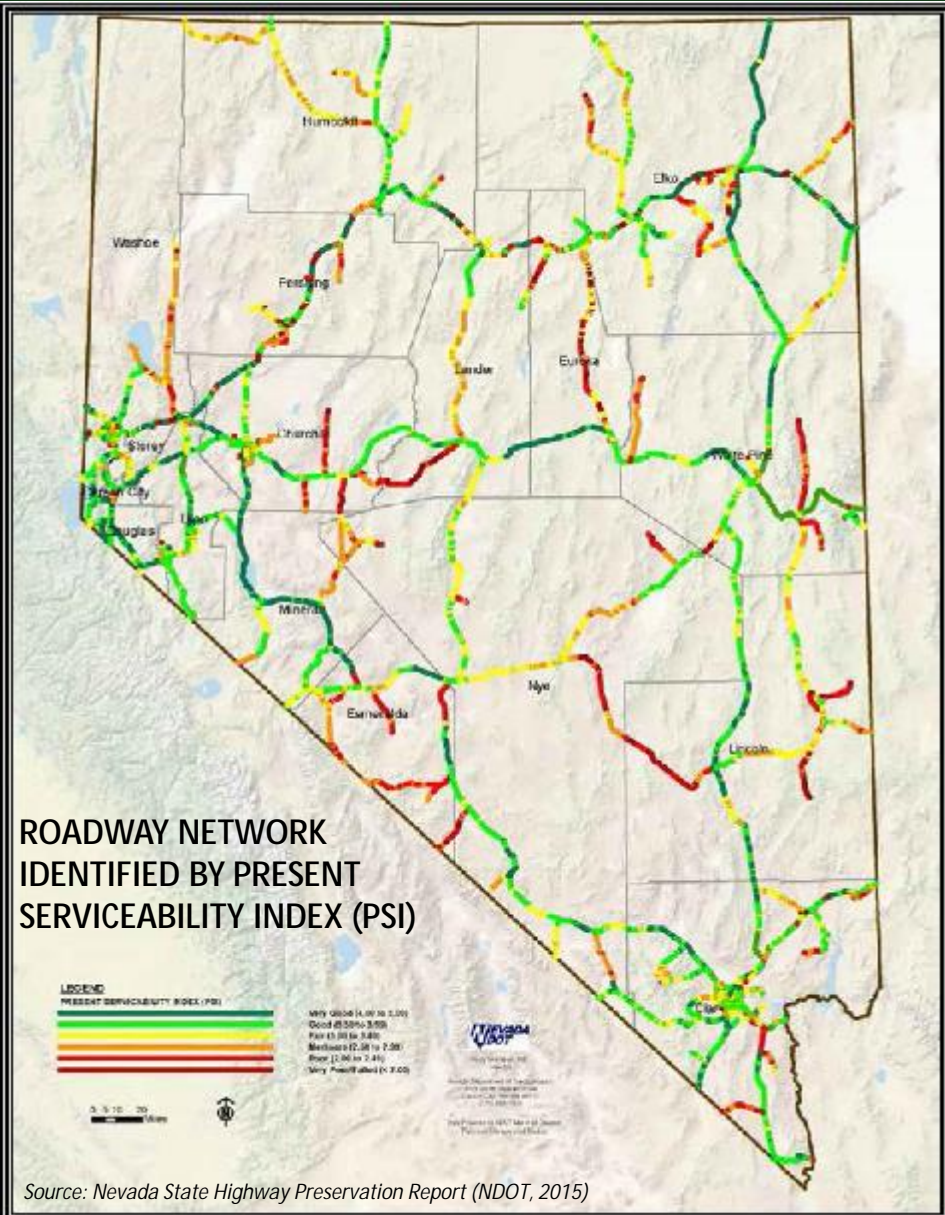
THE OPPORTUNITY

GOAL: *Maintain and improve essential multimodal infrastructure within the State.*

OPPORTUNITY: *To increase the competitiveness of Nevada's freight system and its ability to attract new business to Nevada.*



INFRASTRUCTURE PRESERVATION THE OPPORTUNITY



INFRASTRUCTURE PRESERVATION

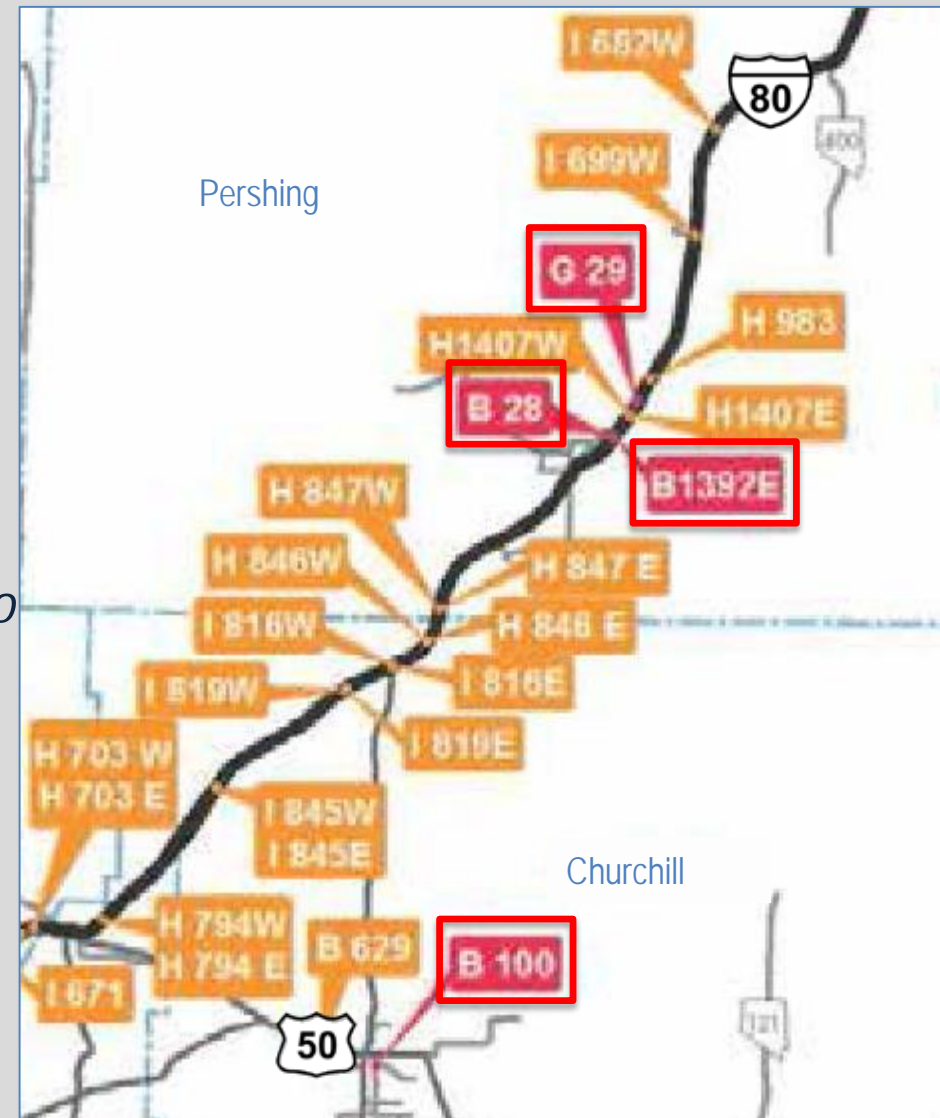
HIGH-PRIORITY BRIDGES

Structurally Deficient (SD) Bridges

- While bridges classified as Structurally Deficient may not be considered unsafe, decreased load carrying capacity could impact freight movement efficiency
- Consider increased frequency of load rating evaluation for SD structures on major trucking and mining routes
- Rehabilitate or replace if load carrying capacity is reduced by more than XX% to minimize need for implementing load restrictions

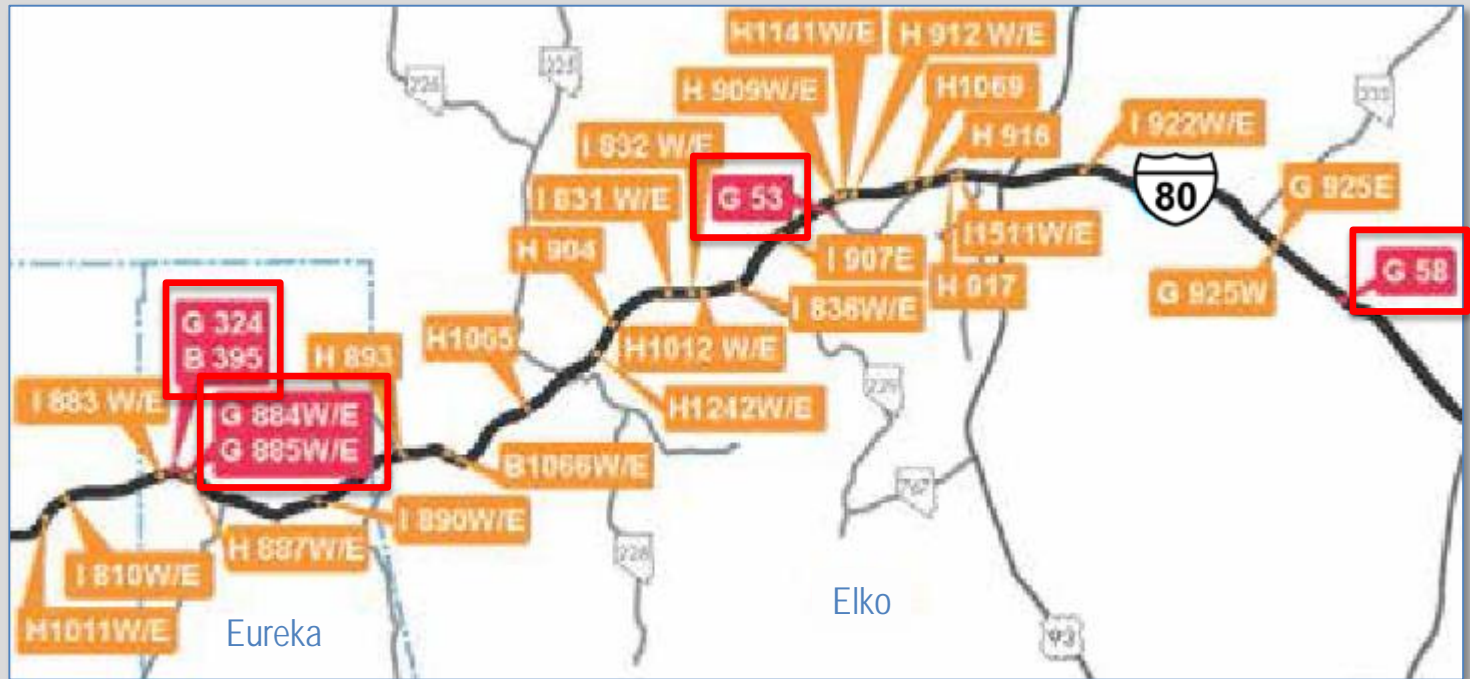
Structurally Deficient Bridges

Bridge No.	Route	County	Project ID
B28	I-80	Pershing	N/A
B1392E	I-80	Pershing	N/A
G29	I-80	Pershing	PE20110001
B100	US 50	Churchill	N/A



INFRASTRUCTURE PRESERVATION

HIGH-PRIORITY BRIDGES



Source: Nevada State Highway Preservation Report (NDOT, 2015)

Structurally Deficient Bridges (cont.)

Bridge No.	Route	County	Project ID
G324	I-80	Eureka	N/A
B395	I-80	Eureka	N/A
G884 W/E	I-80	Eureka	N/A
G885 W/E	I-80	Eureka	N/A
G53	I-80	Elko	N/A
G58	I-80	Elko	N/A

COLLABORATION, LAND USE, & COMMUNITY VALUES THE OPPORTUNITY

GOAL: *Establish an ongoing freight planning process to coordinate the freight transportation system and ensure consistency with local land use decisions and community values*

OPPORTUNITY: *To produce a more efficient and cost-effective freight system that will reduce the negative impacts of freight on communities and increase the positive effects.*



COLLABORATION, LAND USE, & COMMUNITY VALUES THE SOLUTIONS – PRELIMINARY LIST

- Freight Advisory Committee
- Western States Freight Coalition
- State of Nevada Interdepartmental Strategy Group
- Freight-focused Workforce Development Program
 - Stem Programs
 - Address Truck Driver Shortage

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



Jones Long LaSalle, 2013

EFFECT OF 3-D PRINTING ON SUPPLY CHAINS

INNOVATIVE TECHNOLOGY

THE SOLUTIONS – PRELIMINARY LIST

- **Strategic research initiative to evaluate freight-related technologies**
 - Emerging concepts/technologies/ITS
 - Driverless trucks
 - Alternative fuel vehicles
 - Automated freight trains
 - Drones
 - 3-D printing
 - Real-time information (e.g. Parking availability)
 - Inland port concepts/models

ENVIRONMENTAL SUSTAINABILITY & LIVABILITY

THE OPPORTUNITY

GOAL: *Reduce adverse environmental and community impacts of the freight transportation system.*

OPPORTUNITY: *To improve the environment and quality of life in the major freight centers and throughout the State wherever freight is moved.*



ENVIRONMENTAL SUSTAINABILITY & LIVABILITY

THE SOLUTIONS – PRELIMINARY LIST

- Evaluate the potential impact of California's zero emission policies
- Alternate fueling stations (e.g. Hydrogen cell, LNG)
- Comprehensive Environmental Disaster Risk Assessment and Analysis

SUSTAINABLE FUNDING

THE OPPORTUNITY

GOAL: *Fully fund the operations, maintenance, renewal, and expansion of the freight transportation system.*

OPPORTUNITY: *To develop a more robust and multi-dimensional freight system that can attract a broader and more diverse range of economic activity to the state.*



SUSTAINABLE FUNDING

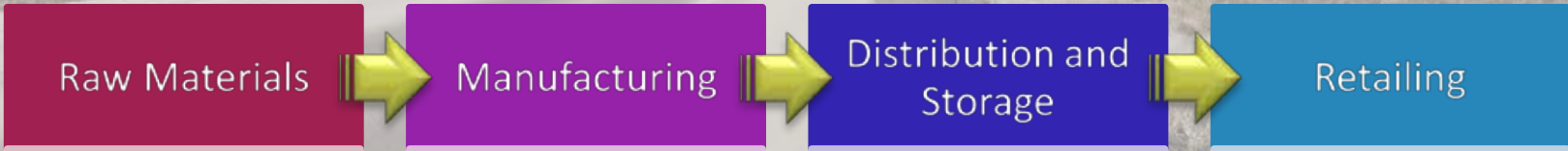
THE SOLUTIONS-PRELIMINARY LIST

- Aggressively pursue funding under Federal freight and other appropriate programs
- Make a business case for freight investments that demonstrates the economic/non-economic benefits to non-freight users
- Expand state and local transportation funding (e.g. Fuel tax indexing, tolls, etc.)
- Pursue projects that benefit and can be funded by freight and non-freight users
- Identify and pursue public-private partnership (P3) opportunities (finance mechanism)
- Initiate and/or collaborate on access to Federal transportation financing programs (FRA RRIF, TIFIA, etc.)



PRELIMINARY SOLUTIONS

DISCUSSION



SUPPLY CHAIN ANALYSIS

A PREVIEW

SUPPLY CHAIN ANALYSIS

2013 KEY GOODS MOVEMENT INDUSTRIES IN NEVADA

Food and Allied Manufacturing



193 establishments employing approx. 5,400 jobs at an average pay of about \$36,900; 85% of the firms are smaller than 50 employees; Contributed \$0.5 billion to GSP; National I-O accounts indicate: 1\$ output -> \$0.60 GDP contribution

Advanced Durable Manufacturing



896 establishments employing approx. 20,900 jobs at an average pay of about \$59,900; 91% of the firms are smaller than 50 employees, Contributed \$4.0 billion dollars to GSP; National I-O accounts indicate: 1\$ output -> \$0.42 GDP contribution

Mining and Allied Activities



209 establishments employing approx. 14,500 jobs at an average pay of about \$89,100; 84% of the firms are smaller than 50 employees; Contributed \$6.2 billion dollars to GSP; National I-O accounts indicate: 1\$ output -> \$0.62 GDP contribution

Freight Transpn. and Warehousing



1,516 establishments employing approx. 41,300 jobs at an average pay of about \$44,700; 91% of the firms are smaller than 50 employees; Contributed \$3.8 billion dollars to GSP; National I-O accounts indicate: 1\$ output -> \$0.36 GDP contribution

Wholesale and Retail Trade



8,289 establishments employing approx. 135,100 jobs at an average pay of about \$27,300, 93% of the firms are smaller than 50 employees; Contributed \$13.8 billion dollars to GSP; National I-O accounts indicate: 1\$ output -> \$0.73 GDP contribution

**THE ABOVE INDUSTRIES REPRESENT 18% OF TOTAL ESTABLISHMENTS,
21% OF TOTAL EMPLOYMENT,
AND 27% OF GROSS STATE PRODUCTION.**

SUPPLY CHAIN ANALYSIS

PRELIMINARY FINDINGS FROM INTERVIEWS

Food and Allied Manufacturing



193 establishments employing approx. 5,400 jobs at an average pay of about \$36,900; 85% of the firms are smaller than 50 employees; Contributed \$0.5 billion to GSP; National I-O accounts indicate: 1\$ output -> \$0.60 GDP contribution

- Nevada has a business friendly climate
- Nevada's leadership has a 'can do' attitude
- Asian importers prefer that manufacturers locate distribution facilities in the West
- Increasing rail services would make movements more economical
 - from/to the ports in California
 - Between distribution centers (DCs) in the east and the west
- Some manufacturing plants like to locate DCs very near to the plant because it helps them lower inventory and stock-out costs
- Some processed food industries use International services such as FedEx & UPS for air cargo and on-the-road trucking
- Industries see improving labor skills as critical to advancement of manufacturing in Nevada
- Truck services are often outsourced, so manufacturers are not always aware of the on-the-road issues

SUPPLY CHAIN ANALYSIS

PRELIMINARY FINDINGS FROM INTERVIEWS

Mining and Allied Activities



209 establishments employing approx. 14,500 jobs at an average pay of about \$89,100; 84% of the firms are smaller than 50 employees; Contributed \$6.2 billion dollars to GSP; National I-O accounts indicate: 1\$ output -> \$0.62 GDP contribution

- 16% of all U.S. mining production occurs in Nevada
- Due to high quality of ores, mining is large-scale and involves frequent movement of heavy trucks over steep roadways
- Mineral exports are strongly tied to port of Oakland
- Market price of gold is most critical determining factor of production
- Other minerals such as Vanadium have important applications in high-tech production, such as electric vehicles and solar energy storage
- Limited use of rail currently, but having more services and more rail spurs in the state would improve safety and convenience for this industry
- Safety can also be improved by adding additional climbing lanes on passes
- Although it would be good to locate a refinery to purify ores within Nevada, there are two limiting factors: poor quality of air blowing from the west and required land acquisition from the BLM



NEXT STEPS

NEVADA STATE FREIGHT PLAN

NEXT STEPS

- § Reports
 - Supply Chain Analysis
- § Refine & Evaluate Suite of Strategies
- § Upcoming Outreach
 - Nevada Board of Transportation Public Meeting
 - Western States Freight Coalition
 - FAC Meeting: Strategies

