

Nevada's Freight Transportation System Performance Management & Goals

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.



Strategic Goals of the Freight Plan



Economic Competitiveness

Improve the contribution of the freight transportation system to economic efficiency, productivity, and competitiveness.



Safety

Improve the safety of the freight transportation system.



Advanced Innovative Technology

Use advanced technology, innovation, competition, and accountability in operating and maintaining the freight transportation system.



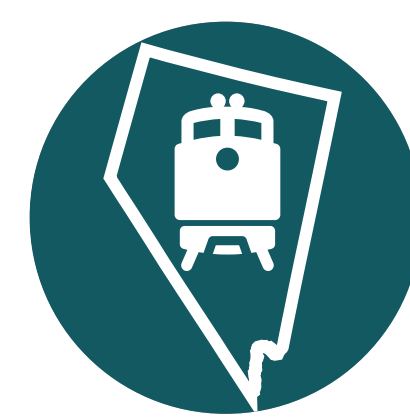
Sustainable Funding

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



Mobility & Reliability

Provide an efficient and reliable multimodal freight transportation system for shippers and receivers across the state.



Infrastructure Preservation

Maintain and improve essential multimodal infrastructure within the state.



Environmental Sustainability & Livability

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



Collaboration, Land Use, and Community Values

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

Objectives with performance measures and targets are identified for each goal. Accomplishment of these objectives will make concrete, measurable progress toward the attainment of the freight transportation system goals and ultimate realization of our shared vision for Nevada's freight transportation system.



Mobility & Reliability

Objective:

Choke Points on Major Truck

Routes: Reduce the number of locations where the average truck speed is below 40 mph.

Measure: Truck speeds on I-15, I-80, I-580, US 395, US 93, US 95, I-215/CC-215

Baseline

2015 Conditions: 42 locations with speeds below 40 mph

Target: \geq 10% reduction by 2021

Score:

Analysis: Travel speeds during afternoon peak periods (4 to 6 pm) on the major truck routes were evaluated to identify some of the chokepoints on major truck corridors. During July 2015, there were 42 locations where the average truck speed during the afternoon peak period dropped below 40 mph.

Infrastructure Preservation

Objective:

Pavement Condition: Maintain a minimum 95% of state-maintained pavements in fair or better condition on NDOT's roadway prioritization categories 1, 2, and 3.

Measure: Percentage of state-maintained roadways in fair or better condition

Baseline

Roadways in Fair/Better Condition: 75%

Target: \geq 80% by 2021

Score:

Analysis: At the current annual average expenditure for pavement rehabilitation, it is projected that the state-maintained roadway network will deteriorate from 75% to less than 50% of roads in fair or better condition by 2027.

Objective

Bridge Conditions: Ensure that less than 5% of state-maintained bridges are structurally deficient or functionally obsolete.

Measure: Percentage of state-maintained bridges that are structurally deficient or functionally obsolete

Baseline

Functionally Obsolete Bridges:
189 bridges (16.4%)

Target: \leq 12% by 2021

Score:

Baseline

Structurally Deficient Bridges:
15 bridges (1.3%)

Target: \leq 1% by 2021

Score:

Analysis: Bridge preservation funding for the 2015-2017 biennium is expected to be decreased by over 30% as compared to 2013-2014 expenditures. Under the current funding plan, the bridge preservation backlog is expected to increase by nearly 300% by 2027.

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Safety

Objective

Highway Safety: Improve daily highway system operations management to eliminate freight-associated motor vehicle fatalities.

Measure: Number of fatal motor-vehicle crashes involving trucks

Baseline

2009-2013 Statewide Average: 13.8 fatalities

Target: < 10 fatalities by 2021

Score:

Analysis: While total highway fatalities in Nevada have been trending downward, truck-involved motor vehicle crash fatalities remained relatively flat from 2009 through 2013.

Advanced Innovative Technology

Objective

Freight-related R&D: Support research and development of innovative freight-related technologies that can advance improvements and measure system performance.

Measure: Number of freight-related research tasks completed annually by the Research Division

Baseline

2014 Freight-Specific Research: None

2015 Freight-Specific Research: TBD

Target: ≥ 2 per year

Score:

Analysis: While there were no recent research programs directly related to freight-specific technologies initiated in 2013-2014, the NDOT Research Section's primary mission is the advancement of innovations in transportation; therefore, many research programs initiated benefit the freight transportation system either directly or indirectly.

Collaboration, Land Use, and Community Values

Objective

Collaboration: Establish inclusive, long-term relationships and processes between and within the public sector, private sector, communities, agencies, and other transportation stakeholders regarding freight transportation.

Measure: Establish and meet regularly with the FAC

Baseline: The FAC has been established as an early action item during the NSFP development

Target: Meet quarterly

Score:

Analysis: State, local, and regional agencies and key private industry stakeholders have been invited to provide representatives to serve on the FAC. The FAC will help to guide the development of the Freight Plan and provide recommendations regarding projects, policies, and services to be presented to the Nevada State Transportation Board for further consideration. Upon completion of the Freight Plan, NDOT will continue to engage the FAC in ongoing freight planning efforts.

Objectives with performance measures and targets are identified for each goal. 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.



Environmental Sustainability & Livability

Objective:

Vehicular Emissions: Reduce vehicular emissions by reducing congestion, deploying technologies that improve the fuel-efficiency of commercial vehicles, and providing better mode-choice and integration to encourage utilization of the most sustainable options.

Measure: Percentage of trucks registered within the state having an engine model-year of 2010 or newer

Baseline

2015 Trucks registered in Nevada with MY2010 or newer engines: 22%

Target: ≥ 4% new trucks registered per year

Score: ▼

Analysis: A majority of Nevada-based trucking fleets operate within California and are required to meet the CARB GHG emissions standards, providing a direct benefit to Nevada. As a result, there has been a steady increase of approximately 4% per year of newer vehicles (14% in 2013 to 18% in 2014), a trend that is expected to continue through 2023 as fleets continue to be upgraded.

Measure: Utilization of longer combination vehicles (LCVs) as a percentage of total AADTT

Baseline

2014 Utilization of LCVs as a percentage of total AADTT: 5.1%

Target: ≥ 7% by 2021

Score: ▼

Analysis: Nevada is one of 21 states that allows the operation of LCVs on its roadways. LCVs are more fuel efficient on a ton-mile basis, resulting in up to a 21% reduction in fuel consumption (USEPA, 2014). Greater load capacity also has the potential to reduce truck VMT, thereby reducing associated highway congestion and GHG emissions.

Measure: Truck speeds on I-15, I-80, I-580, US 395, US 93, US 95, I-215/CC-215

Baseline

2015 Conditions: 42 locations with speeds below 40 mph

Target: 10% reduction by 2021

Score: ◆

Analysis: Travel speeds during afternoon peak periods (4 to 6 pm) on the major truck routes were evaluated to identify some of the chokepoints on major truck corridors. During July 2015, there were 42 locations where the average truck speed during the afternoon peak period dropped below 40 mph.

Objectives with performance measures and targets are identified for each goal. Accomplishment of these objectives will make concrete, measurable 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

Objective:

Pavement Funding: Provide consistent and adequate sources of funding to support the state's pavement preservation goal.

Measure: Percentage of available funding to full funding required to meet state's pavement preservation needs

Target: Fund 60% of capital needs by 2021

Score:

Analysis: The only dedicated revenue source for transportation infrastructure in Nevada is the fuel tax, which was last increased in 1992. This funding stream has been stretched as a result of increased demands being placed on the freight transportation system, decreased purchasing power due to inflation, and declining revenues as new technologies and tougher federal standards have led to the development of more fuel efficient vehicles. Additional funding sources will need to be identified to adequately meet the preservation and capital improvement needs of the freight transportation system.

Objective:

Bridge Funding: Provide consistent and adequate sources of funding to support the state's bridge preservation goal.

Measure: Percentage of available funding to full funding required to meet state's bridge preservation needs

Target: Fund 75% of capital needs

Score:

Economic Competitiveness

Objective:

Freight transportation that provides a competitive advantage: Support and enhance the state's economic competitiveness through transportation investments that improve and sustain the following critical factors of the state's freight transportation system: mobility and reliability; safety; infrastructure preservation; advanced innovative technology; environmental sustainability and livability; collaboration land use and community values; and sustainable funding.

Measure: Composite indicator reflective attainment in critical factor objectives

Baseline: Current trends of critical factor objectives

Chokepoints on major truck routes	Highway safety	Pavement conditions
Bridge conditions	Freight-related R&D	Collaboration
Vehicular emissions	Funding	

Target: ≥75% of critical factor objectives have positive trends towards meeting their performance targets by 2021

Score: Progress on about 45% of critical factor objectives are trending positive.

Analysis: The vision for the Nevada State Freight System is that it will provide the state with a competitive advantage. The combined impacts of improvements in the critical factors of freight transportation will create this advantage. Tracking our overall progress towards achieving the established performance targets for the objectives established for the critical factors provides a measure to ascertain progress toward achieving this competitive advantage.

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.

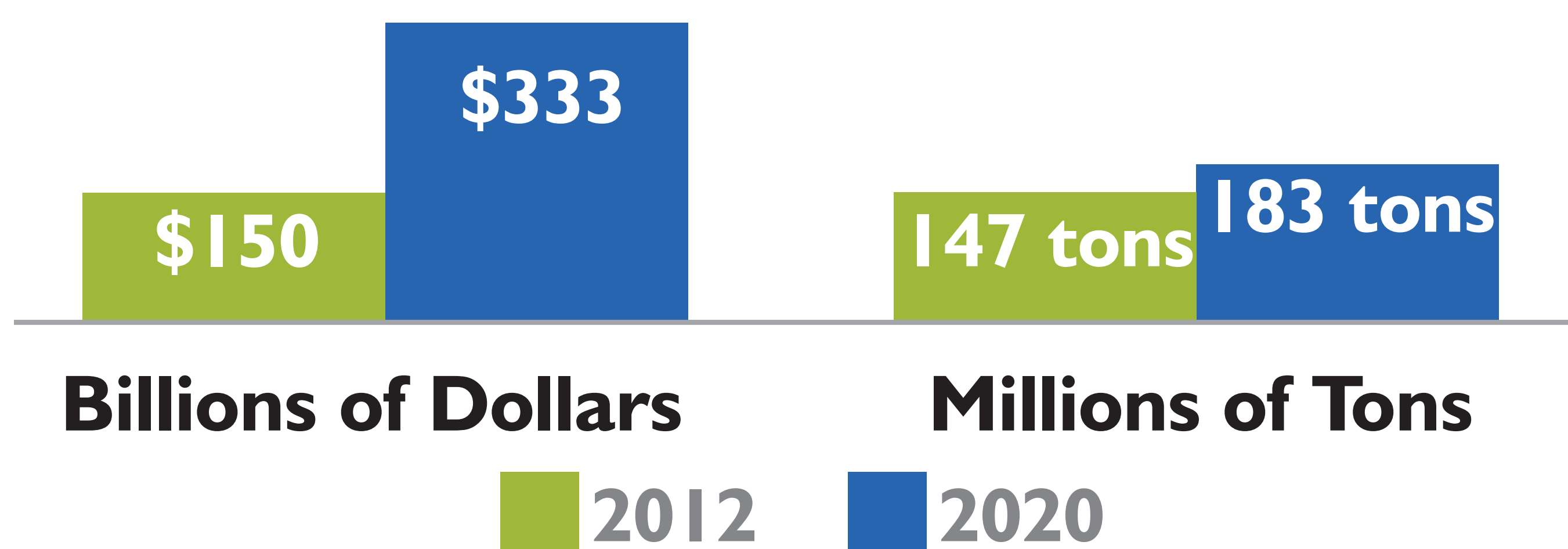
Existing Freight Flows

Currently, Nevada is primarily a consuming economy. Goods received from external sources (inbound flows) exceed the output of goods created or distributed (outbound flows) from within Nevada at a ratio of 2:1. The majority of top commodities by tonnage belong to resource-based industries (mining, construction) and are moved within the state, while the majority of top commodities by value belong to consumer goods industries and are inbound to the state.



**Inbound flows exceed
outbound flows 2:1**

Forecasted Growth in Freight



Population-related factors will drive growth in freight demand for consumer goods both nationally and at the state level, creating opportunities for investments in the trade, transportation, and freight logistics industry in Nevada. Forecasts indicate that freight demand in these industries will have rapid growth in Nevada's metros, while the freight demand in resource-based industries across Nevada will have slow growth. Through implementation of this Plan, Nevada could become a major Western freight hub for the distribution of consumer goods.

Supply Chains of Key Sectors

Supply chains of key sectors within the state of Nevada, including food and allied manufacturing, advanced manufacturing, and mining and allied activities, were analyzed to better understand how these key sectors use the transportation system and what types of transportation system improvements in the state may have positive effects on their businesses opportunities and future growth.

Category	Icon	Establishments	Jobs	Avg. Compensation	Smaller than 50 employees	GSP Contribution	National I-0 Contribution	Sector
KEY SECTORS		193	6,100	\$41,700	85%	\$0.6 billion	\$0.60 GDP	Food and Allied Manufacturing
		876	22,100	\$74,200	91%	\$4.0 billion	\$0.42 GDP	Advanced Manufacturing
		209	18,000	\$87,300	84%	\$6.4 billion	\$0.62 GDP	Mining and Allied Activities
SUPPORT SECTORS		1,207	41,000	\$47,400	91%	\$3.7 billion	\$0.36 GDP	Logistics
		11,247	201,000	\$35,900	93%	\$13.9 billion	\$0.73 GDP	Trade