NEVADA DOT
SAFE AND CONNECTED

NEVADA DEPARTMENT OF TRANSPORTATION

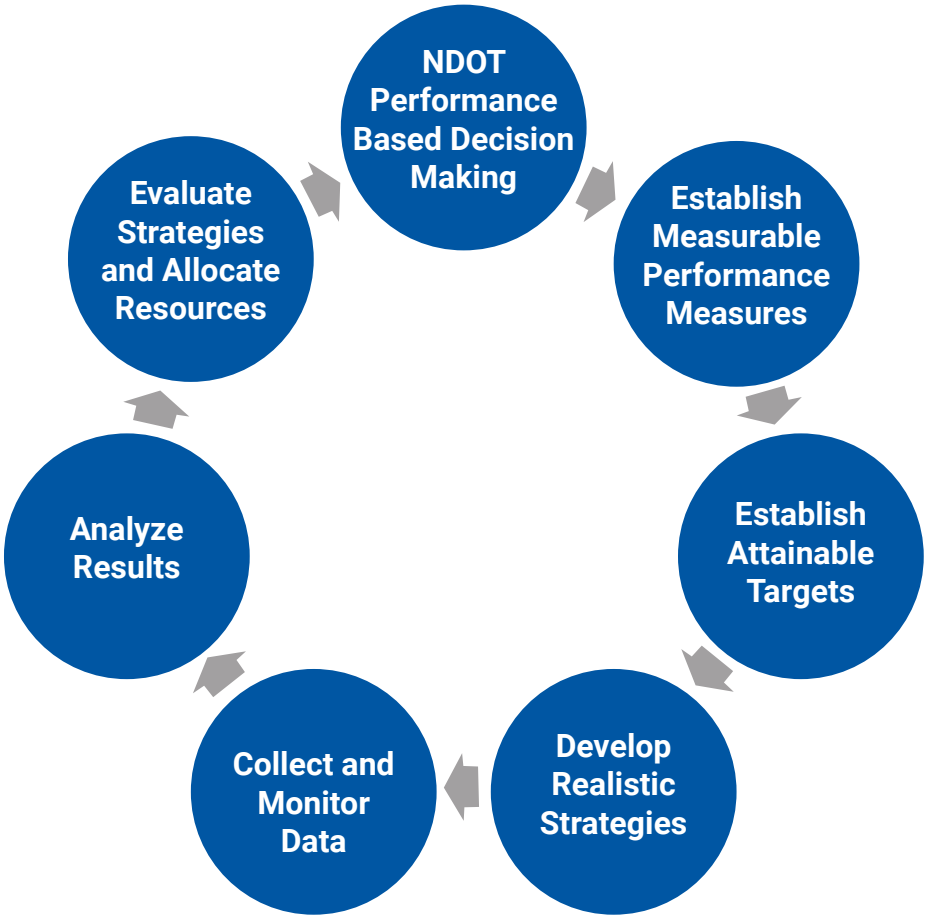
2021 PERFORMANCE MANAGEMENT REPORT

December 2021

Kristina L. Swallow, P.E.
Director

2021 PERFORMANCE MANAGEMENT REPORT

Steve Sisolak
Governor



Performance Management Cycle

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Catherine Byrne	State Controller
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Justin Kalb	Member – District 1
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Jeff Lerud	Deputy Director – Operations & Maintenance
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Jenica Keller	Assistant Director – Operations
Ryan McInerney	Communications & Government Affairs Director

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Maya Bourgeois	Chief of Administrative Services
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Samuel Lompa	Chief Construction Engineer
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Oscar Fuentes	Safety Manager
Jessen Mortensen	Chief Bridge Engineer
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Craig Reynoldson	Chief Right-Of-Way Agent
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Natalie Caffaratti	Assistant Chief of Roadway Design
Pan Charlie Changlin	Chief Materials Engineer
Rod Schilling	Chief Traffic Operations Engineer

DEPARTMENT MISSION, VISION, CORE VALUES AND GOALS

MISSION

Provide, operate, and preserve a transportation system that enhances safety, quality of life and, economic development through innovation, environmental stewardship and a dedicated workforce

VISION

To be a leader and partner in delivering effective transportation solutions for a safe and connected Nevada.

MISSION, VISIOIN, CORE VALUES, and GOALS

GOALS

- Safety first
- Cultivate environmental stewardship
- Efficiently operate and maintain the state transportation system
- Enhance internal and external communications
- Enhance organizational and workforce development
- Consistent and effective data management

CORE VALUES

- Respect – Treat others with dignity and value their contribution
- Integrity – Do the right thing
- Accountability - Take pride in our work and be accountable for our actions
- Communication – Communicate with transparency and responsiveness both Internally and externally
- Teamwork – Foster collaborative Partnerships both internally and externally
- Flexibility – Be responsive to changing conditions and open to new ideas

INTRODUCTION

NDOT's Performance Management is a collaborative process in which all major divisions of the Department are involved in monitoring their quarterly, annual, and ultimate performance targets resulting in a customer- oriented, balanced, effective, efficient, and transparent decision-making process. It is a dynamic process, and improvements are incorporated into the performance management process on an ongoing basis. NDOT's performance management plays a vital role in the performance-based decision-making process. It: 1) ensures investment accountability and transparency, 2) tracks and monitors Department-wide performance, 3) helps identify and implement efficient and cost-effective performance-based programs, 4) links projects to the goals of the Department, 5) helps align performance targets with customer expectations, and 6) helps in delivering essential and high-quality projects.

The Department is required to develop a performance management plan for measuring its performance, which must include performance measures approved by the Board of Directors of the Department. The specific requirements are as follows:

1. Section 47.2 – Annual Report on Performance Measures and General Project Information (NRS 408.133)

Prior to December 31 of each year, the Director of the Department of Transportation shall prepare a report as follows:

- Goals and objectives of the Department and status of meeting those goals
- Schedule, scope, cost and progress of any current or proposed highway project
- Funding sources, amount and expenditures of the Department
- The rationale used to establish priorities
- Transportation board and legislative directives
- Recommended plan amendments

2. Section 47.3 – Annual Report on Benefit-Cost Analysis for capacity projects that cost at least $25 million (NRS 408.3195).

The annual report will include the criteria used in the benefit-cost analysis. The resulting benefit/cost ratios will be reported to the Board. Additionally, a written description of the analysis for any project must be submitted to the Board before the Board approves funds for project construction.

3. Section 55.3 – Annual Report on projects funded through the Las Vegas Convention and Visitors Authority funding.

The report will include funding, descriptions, status, timelines, and information on the completed projects, if any (NRS 244A.638). As these funds have been fully expended, no projects utilized these funds during this time period.

4. Section 55.5 – Quarterly Report on General Project information for the Blue-Ribbon Task Force projects and any proposed super and mega (major) highway projects.

The report will include funding, descriptions, status, timelines, and information on the completed projects, if any. Report submitted to the Governor and the Director of the Legislative Counsel Bureau for transmittal to the Interim Finance Committee.

PERFORMANCE MANAGEMENT DASHBOARD (EXECUTIVE SUMMARIES)

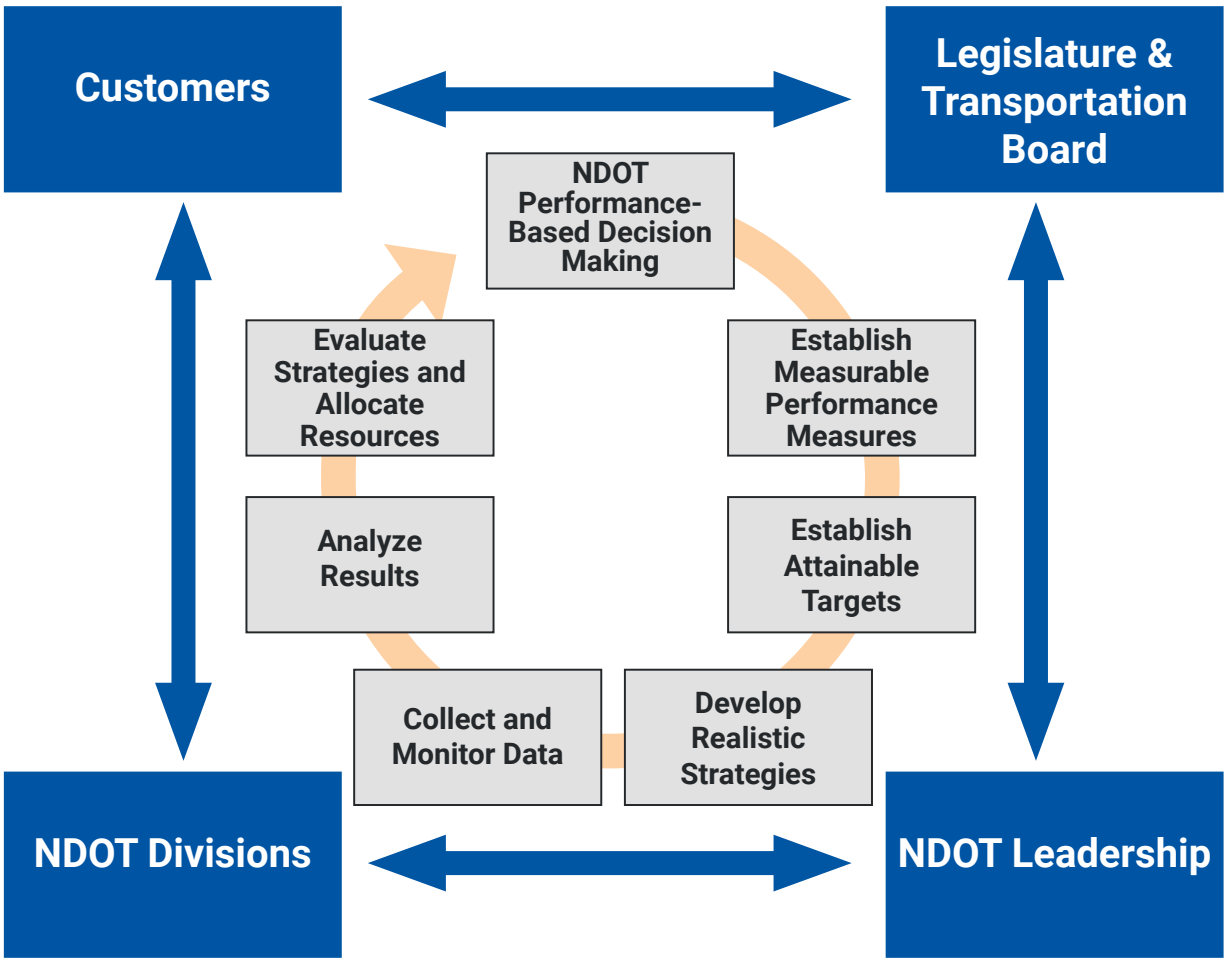
EXECUTIVE SUMMARY

NDOT has established 16 performance goals and performance measures to track, monitor, and report on the major divisions and program areas. NDOT's performance management system focuses on the critical aspects of a cohesive, integrated, and performance-driven approach. NDOT's senior management is actively involved in the performance management process and supports the process by conducting quarterly performance updates to help guide the various program areas in meeting their targets. NDOT's performance management system empowers staff to take ownership of the program, holds staff accountable for their division's performance, helps diagnose and address problems faced by the divisions in meeting their targets, and effectively communicates its performance-based decision-making process to the public and legislature.

In Fiscal Year 2021, NDOT continued to monitor its performance-based management process. The performance management dashboard, the performance measures overview, and the detailed data trends section of this report provide further information regarding NDOT's performance in Fiscal Year 2021.

NDOT STRATEGIC PERFORMANCE MANAGEMENT PROCESS

NDOT's Strategic Performance Management process is guided by comprehensive input from: 1) our customers in the form of surveys and direct two-way communication, 2) the State Legislature and decision makers, 3) leadership, commitment, and support from NDOT top management, and 4) collaborative team support from the major divisions and program areas of NDOT. The process is part of the performance-based decision-making cycle that includes identifying realistic and specific performance measures, establishing measurable and attainable targets, developing comprehensive and effective strategies to help achieve the targets, collecting quarterly data and monitoring, and evaluating strategies to help allocate our resources most effectively and efficiently. The following graphic shows the performance management process.



PERFORMANCE GOALS - MEASURES

1. Reduce Workplace Accidents
2. Provide Employee Training
3. Improve Employee Satisfaction
4. Streamline Agreement Process
5. Improve Customer and Public Outreach
6. Improve Travel Reliability & Reduce Delay
7. Streamline Project Delivery - Bidding to Construction Completion
8. Maintain State Highway Pavement
9. Maintain NDOT Fleet
10. Maintain NDOT Facilities
11. Emergency Management, Security and Continuity of Operations
12. Reduce Fatal & Serious Injury Crashes
13. Project Delivery - Schedule and Estimate for Bid Advertisement
14. Maintain State Bridges
15. Streamline Permitting Process
16. Reduce Greenhouse Gas Emissions

PERFORMANCE MEASURES OVERVIEW

Performance Measure		Target	Current Status	Target Met	Trend (5yrs or less)	Desired Trend
Employee						
Reduce Workplace Accidents (1)	Injuries/Illnesses per 100 employees	2% Annual reduction	0.4% Reduction			
	Injuries/Illnesses requiring medical attention per 100 employees	2% Annual reduction	0.4% Reduction			
Provide Employee Training (2)	Percentage employees trained according to requirements	85% Compliance annually	Average 80% compliance			
Improve Employee Satisfaction (3)	Percentage employees satisfied with NDOT	75% Annually	61% Satisfied			
Project Delivery						
Streamline Agreement Process (4)	Percentage agreements processed within 20 days	90% Annually	94% Processed within 20 days			
Streamline Project Delivery – Bid Opening to Construction Completion (7)	Percentage projects completed on schedule and within budget	80% Annually	93% within budget			
			98% within schedule			
			69% Change order <3% cost increase			
Project Delivery – Schedule and Estimate for Bid Advertisement (13)	Percentage of scheduled projects advertised within the reporting Year	80% Advertised within the reporting year	73.0%			
	Percentage of advertised & awarded projects within established construction cost estimate range	80% Delivered within established cost estimate range	39% (Int. vs Award)			
			43% (Final vs Award)			
Streamline Permitting Process (15)	Percentage encroachment permits processed within 45 days	95% Annual	96.6% Processed within 45 days			
Assets						
Maintain State Highway Pavement (8)	State roadways maintained at "fair or better" condition (Road category definition in report)	Category 1: 95%	96.4%			
		Category 2: 90%	88.3%			
		Category 3: 85%	93.0%			
		Category 4: 75%	72.1%			
		Category 5: 50%	45.0%			
Maintain NDOT Fleet (9)	Percentage mobile equipment in need of replacement	1% Annual decrease	0.45% Decrease			
	Percentage fleet in compliance with condition criteria	1% Annual increase	3.15% Increase			
Maintain NDOT Facilities (10)	Percentage completion of facilities assessments & priority work	0.66	NA	NA	—	
Maintain State Bridges (14)	Percentage bridges on the NHS in good condition	35% or greater	46.2%			
	Percentage bridges on the NHS in poor condition	7% or less	0.90%			
	Percentage bridges on the Non-NHS in good condition	35% or greater	48.2%			
	Percentage bridges on the Non-NHS in poor condition	7% or less	2.0%			

PERFORMANCE MEASURES OVERVIEW

Performance Measure		Target	Current Status	Target Met	Trend (5yrs or less)	Desired Trend
Safety						
Emergency Management, Security and Continuity of Operations (11)	Percentage of emergency management plans implemented	100% Annually	100% Compliance			
Reduce Fatal & Serious Injury Crashes (12)	Number of traffic fatalities	Reduction in the # of traffic fatalities compared to the trend value of 330.6	318.0			
	Number of serious traffic injuries	Reduction in the # of serious injuries compared to the trend value of 1088.6	1,060.8			
	Number of traffic fatalities per 100M VMT	Reduction in the rate of fatalities per 100M VMT compared to the trend value of 1.214	1.181			
	Number of serious traffic injuries per 100M VMT	Reduction in the rate of serious injuries per 100M VMT compared to the trend value of 4.060	3.934			
	Number of non-motorized fatalities and serious injuries	Reduction in the # of non-motorized fatalities & serious injuries compared to the trend value of 294.7	283.0			
Our Partners						
Improve Customer and Public Outreach (5)	Customer satisfaction & public outreach	75% Positive satisfaction level (Annual customer satisfaction survey)	75%			
Improve Travel Reliability & Reduce Delay (6)	Percent of person-miles traveled on Nevada interstate that are reliable	86.9% or higher	94.4%			
	Percent of person-miles traveled on Nevada non-interstate NHS that are reliable	70.0% or higher	92.4%			
	Annual hours of peak-hour excessive delay per capita (Urbanized Areas)	12 hrs or less	4.60 hrs			
	Percent of non-single occupancy vehicle travel in Nevada urbanized areas	21.5% or higher	21.5%			
	Freight trip reliability Index	1.28 or less	1.23			
Reduce Greenhouse Gas Emissions (16)	Percent reduction in greenhouse gas emissions	In alignment with state's goal (2005 baseline), 28% reduction by 2025 and 45% reduction by 2030	NDOT baseline is being evaluated.	N/A		

PERFORMANCE DASHBOARD

The following Performance Management Dashboard provides an executive summary of each of the 16 performance goals and their related performance measures, targets, and the status of each performance measure in relation to established targets for Fiscal Year 2021. Detailed information regarding each performance measure is provided in the "Performance Management Detailed Data Trends" section of this report.

1. Reduce Workplace Accidents

Executive Summary: Two performance measures have been established for this performance goal: percentage of workplace injuries/illnesses per one hundred employees, and percentage of injuries/illnesses requiring medical attention per one hundred employees. The data is tracked per calendar year and a five-year rolling average is used. The five-year rolling average (2016 to 2020) for the injuries/illnesses not requiring medical attention decreased from 7.72% to 7.34% compared to the previous five-year average, and injuries/illnesses requiring medical attention also reduced from 4.84% to 4.47% compared to the baseline. The average claim cost decreased from $12,084 to $11,930. For detailed information refer to page 29.

Performance Measure

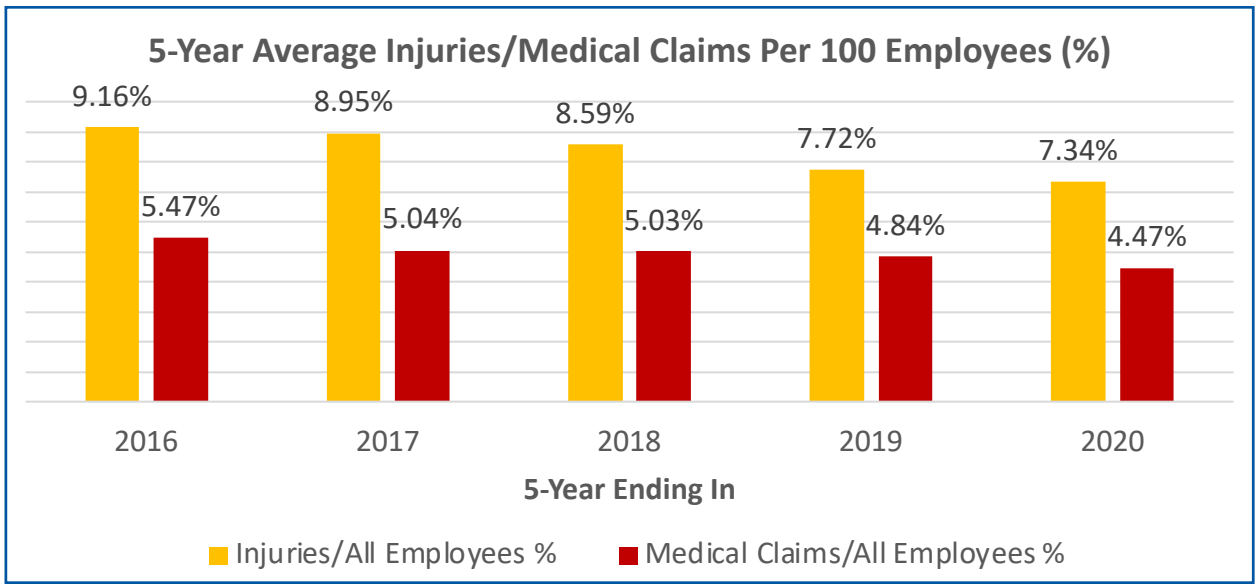
1) Percentage injury/illness per 100 employees
2) Percentage injury/illness requiring medical attention per 100 employees

Target

1) 2% Annual reduction
2) 2% Annual reduction

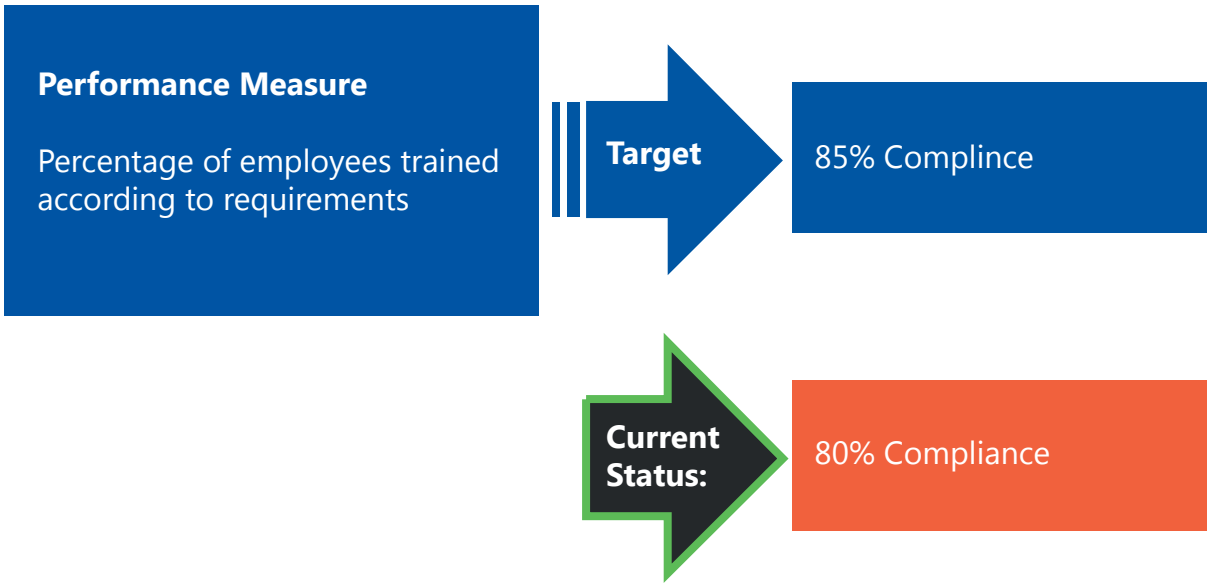
Current Status:

1) 0.4% reduction
2) 0.4% reduction



2. Provide Employee Training

Executive Summary: The performance measure for this goal is the percentage of employees trained in accordance with prescribed training plans, and State statute training requirement. The data is tracked through the state fiscal year. The target for required training in FY 2021 was set at 85%, and an 80% compliance was achieved which is five percentage points below the established target. Based on this level of achievement the target was not met. The target was not met due to changes and events that occurred in 2021. For detailed information about this performance measure refer to page 33.



Requirement	% in Compliance					# Trained*
	2017	2018	2019	2020	2021	FY 2021
Alcohol & Drug Program	82	75	88	92	90	413
Defensive Driving	91	89	91	94	83	1336
EEO -Online	82	85	89	86	89	406
Employee Appraisal	82	76	84	88	86	393
Global Harmonization	90	91	93	96	71	1147
Grievance Procedures	81	80	87	90	86	395
Internet Security Awareness	66	83	89	88	51	832
Interviewing & Hiring	87	82	85	90	88	403
Progressive Discipline	83	72	81	85	87	398
Sexual Harassment Prevention	93	83	86	92	66	1071
Work Performance Standards	80	78	85	90	88	402
Averages	**83**	**81**	**87**	**90**	**80**	

*Total number of employees who attended training on this topic

3. Improve Employee Satisfaction

Executive Summary: The performance measure for this goal is the percentage of employees who are satisfied with the NDOT work environment. The methodology for tracking this performance measure is through the annual employee satisfaction survey which is done during the state fiscal year.

The percentage of employees surveyed who indicated that they are extremely or somewhat satisfied with NDOT in 2021 is 61%. The target was established at 75% satisfaction level, so the target was not met. The satisfaction level achieved in 2021 is lower than in 2020. This decrease in satisfaction level is attributed to the COVID-19 pandemic and other related issues. For detailed information about this performance measure refer to page 38.

Performance Measure

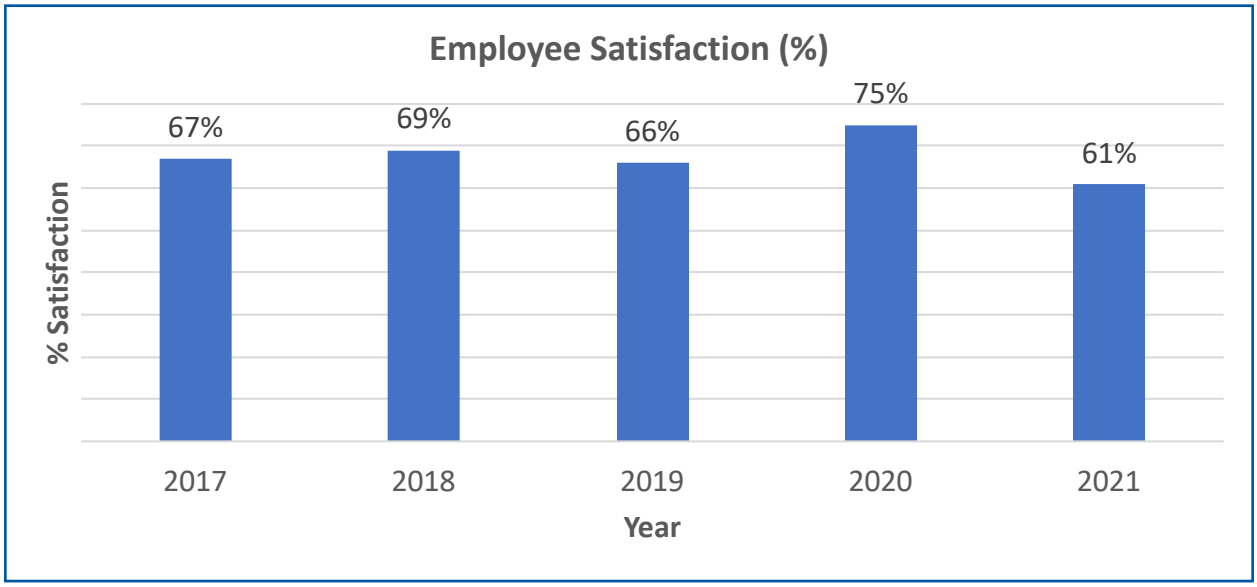
Percentage of employees satisfied with NDOT

Target

75% Annually

Current Status:

61% Satisfied



4. Streamline Agreement Process

Executive Summary: In state fiscal year (SFY) 2021, 93.9% of all agreements submitted to the Agreement Services section were executed within 20 days or less. This exceeds the established target of 90%. The goal to process an agreement was changed from 30 days or less to 20 days or less in 2020 because of prior years' accomplishments.

In 2021, it took an average of 9 days to process an agreement excluding weekends and holidays, and the time agreements were with second parties or awaiting Transportation Board approval. The 9-day average was significantly less than the maximum 20 days established for the target. For detailed information about this performance measure refer to page 41.

Performance Measure

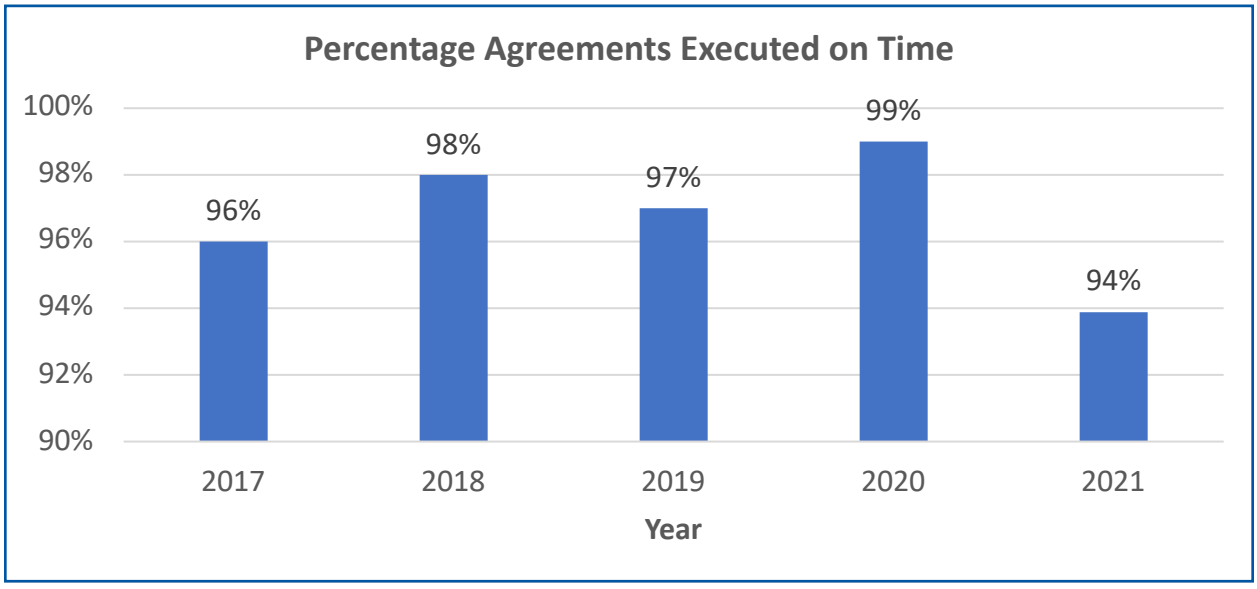
Percentage agreements executed within 20 days

Target

90% Annually

Current Status:

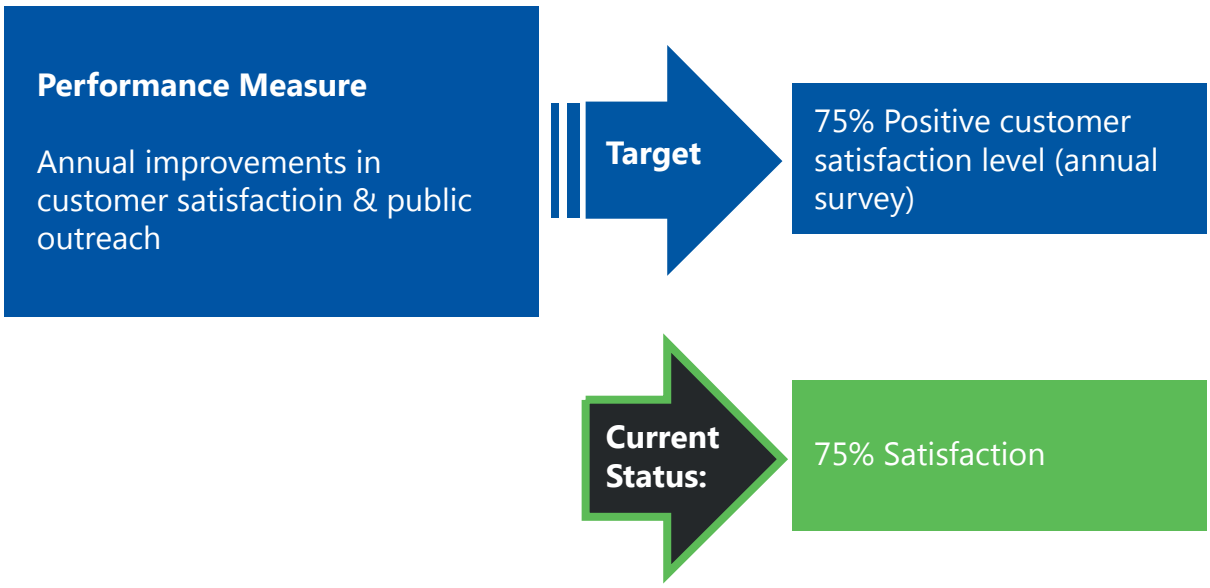
94% Satisfied



5. Improve Customer and Public Outreach

Executive Summary: This performance measure works toward meeting the NDOT's Strategic Plan goal to enhance internal and external communications. It is aligned with the goals and strategies set forth in the NDOT communications plan: (1) improve internal and external customer service, and (2) build a cohesive statewide communications program. The satisfaction level tracked as the metric for this measure is through the Annual Customer Service Survey. Also, other performance metrics that are tracked to determine how the Department is doing include the following: Facebook likes, Twitter engagement, and Instagram followers. The Public Information staff have improved on all performance areas including maintaining the NDOT website, increasing internal and external communications, and improving public involvement.

In SFY 2021, a customer satisfaction level of 75% was achieved. This performance met the set target of 75%. For more information refer to page 44.



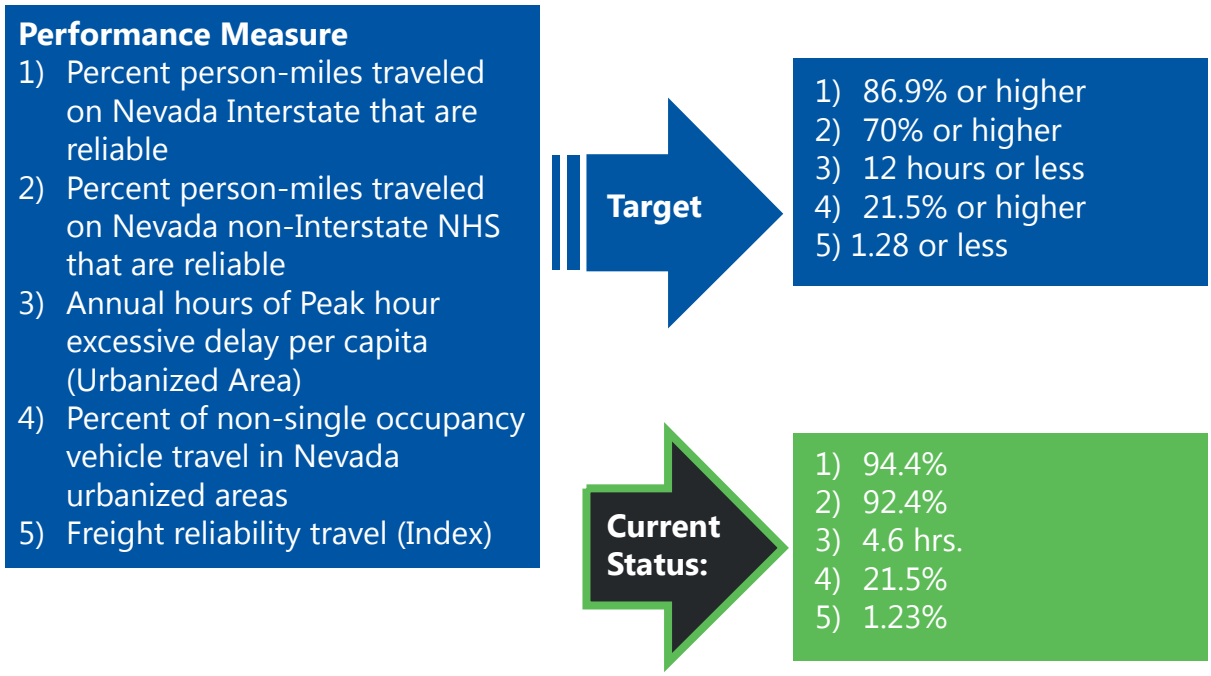
	FY2020	FY2021	FY2022	FY2023
Number of Respondents Rating NDOT Good	2,100	349	647	842
*Total Number of Surveys (completed)	2,636	**468	*840	*1,080
Percentage (of "good" responses)	79.67%	75%	77%	78%
Amount Type	Actual	Actual	Projected	Projected

NOTE:
**Zendesk's automated survey feature was not implemented until the latter half of FY21; therefore, these results reflect a partial year.
*Customer Service averaged approximately 1,000 tickets per month for FY21. Based on a 7% response rate, our projected total number of surveys completed for FY22 will be 840. Based on a 9% response rate, our projected total number of surveys completed for FY23 will be 1,080

6. Improve Travel Reliability and Reduce Delay

Executive Summary: There are five performance measures related to this performance goal: percent of person-miles traveled on Nevada interstates that are reliable; percent of person-miles traveled on Nevada non-interstate NHS routes that are reliable; annual hours of peak hour excessive delay per capita; percent of non-single occupancy vehicle travel, and truck travel time reliability index on the interstate system.

The National Performance Measurement Research Data Set (NPMRDS) was used to analyze the performance of Nevada's interstate and non-Interstate NHS roadway systems. Based on the analysis using calendar year (CY) 2020 data, 94.4% of person-miles traveled on Nevada interstate were reliable, exceeding the 86.9 target that was set. The non-interstate NHS roadways had a 92.4% reliability, which exceeds the set target of 70%. Targets for the annual hours of peak hour excessive delay per capita, percent of non-single occupancy vehicle travel, and truck travel time reliability index were all achieved. For detailed information about this performance measure refer to page 46.



7. Streamline Project Delivery - Bidding to Construction Completion

Executive Summary: For this performance goal, Design Bid Build and Construction Manager at Risk projects completed are evaluated based on cost estimate, change orders, and schedule compared to established targets.

Evaluation does not include projects in progress but only completed projects. In SFY 2021, an average of 93% of completed contracts were within budget, 98% were within schedule, and 69% had change orders of less than a three percent cost increase. Cost estimate and schedule met and exceeded their set targets while the change order target was not met. For detailed information about this performance measure refer to page 51.

Performance Measure

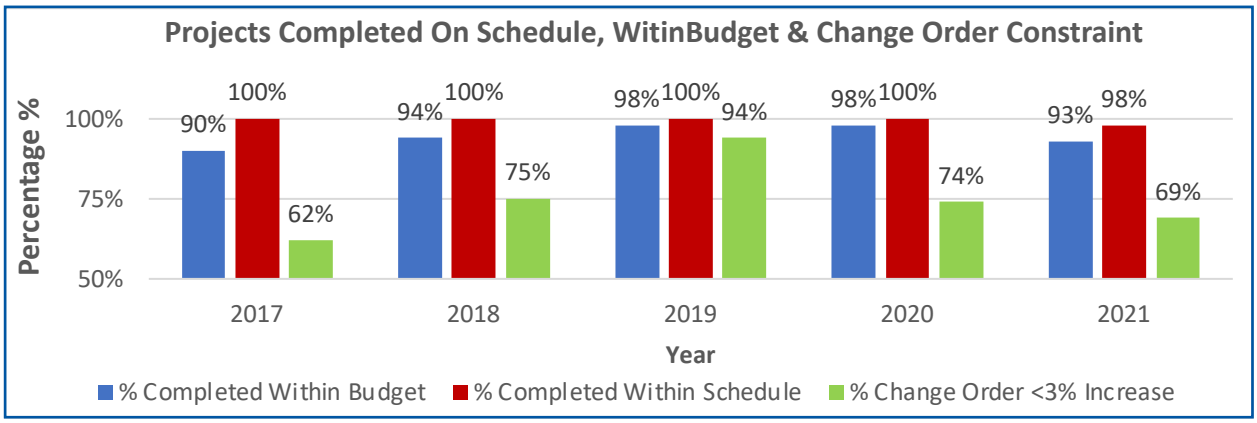
1) Percentage of projects completed within 10% of original programmed budget
2) Percentage of projects completed within 10% of original assigned working days
3) Percentage of projects completed with cost increase of less than 3% Change Orders

Target

80% Annually

Current Status:

1) 93% within budget
2) 98% within schedule
3) 69% with change orders < 3% cost



8. Maintain State Highway Pavement

Executive Summary: In SFY 2021, NDOT was able to meet the performance targets for pavement condition for categories 1 and 3, but was unable to meet the performance targets for categories 2, 4, and 5 roadways to bring them up to the minimum target level.

To maintain the roadway network in fair or better condition, the Department performs rehabilitation work on the roadways each year. To increase the percentage of pavements in "fair or better" condition, rehabilitation work must exceed the rate of deterioration of the pavement on all roads. For detailed information about this performance measures refer to page 54.

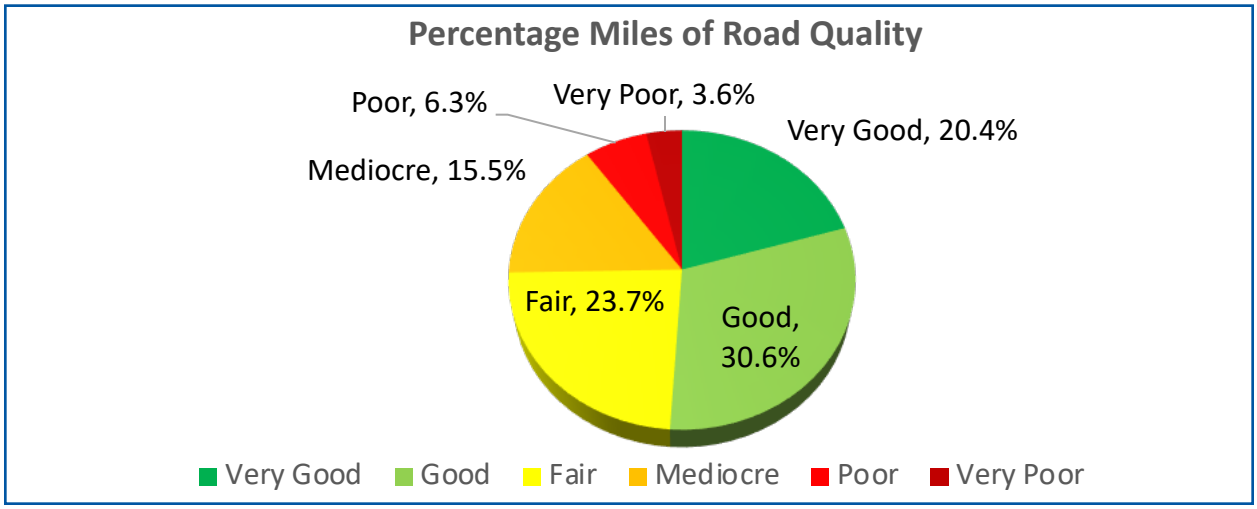
Performance Measure
State roadways maintained at "fair or better" condition

Target

Category 1: 95%
Category 2: 90%
Category 3: 85%
Category 4: 75%
Category 5: 50%

Current Status:

Category 1: 96.3%
Category 2: 88.3%
Category 3: 93.0%
Category 4: 72.1%
Category 5: 45.1%



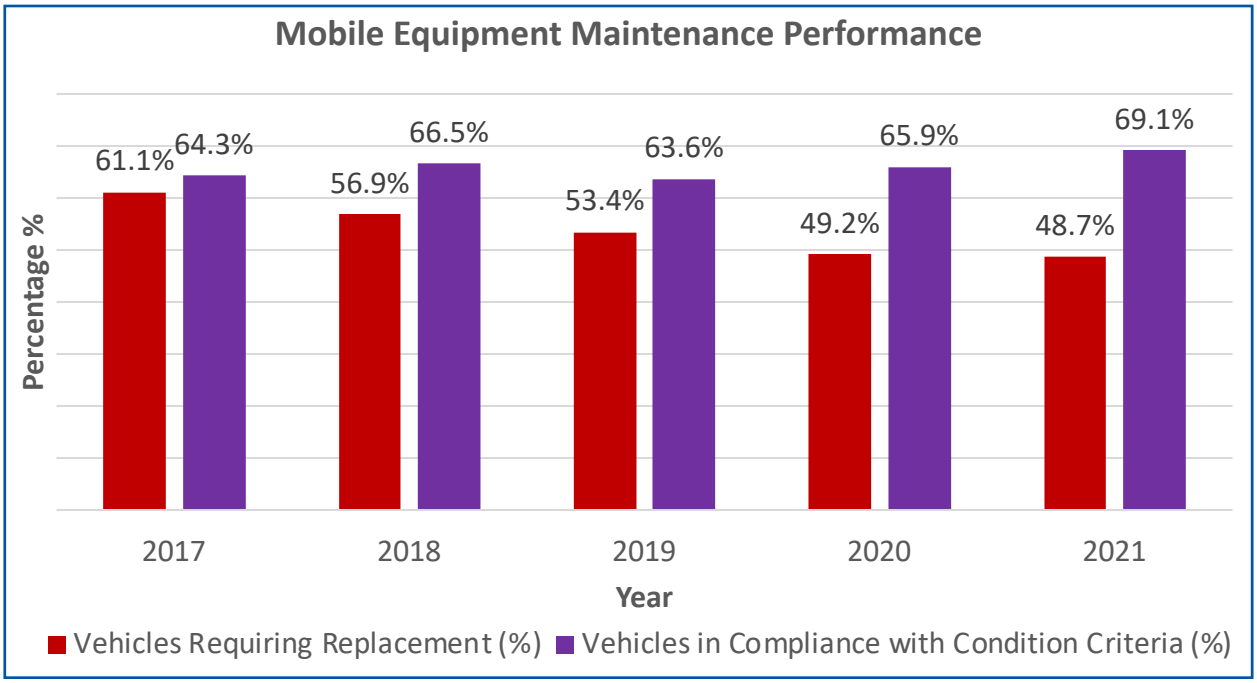
9. Maintain NDOT Fleet

Executive Summary: Two performance measures have been established for this performance goal: percentage mobile equipment in need of replacement, and percentage fleet in compliance with condition criteria. In SFY 2021,NDOT was not able to meet the performance target set for the percentage of the equipment requiring replacement. NDOT did meet the performance target set for the percentage of vehicles in compliance with the preventive maintenance requirements as it increased by 3.15%. For detailed information about this performance measure refer to page 59.

Performance Measure
1) Percentage mobile equipment in need of replacement
2) Percentage fleet in compliance with condition criteria

Target
1) 1.0% or greater annual decrease
2) 1.0% or greater annual increase

Current Status:
1) 0.45% Decrease
2) 3.15% Increase



10. Maintain NDOT Facilities

Executive Summary: There are two performance measures evaluated for this performance goal. 1) Percentage of facilities with a Current Facility Condition Assessment (FCA). This tracks the percentage of buildings that have a current FCA performed on a seven- year cycle. 2) Overall Condition Composite. This assigns a composite score which represents the overall condition of NDOT buildings.

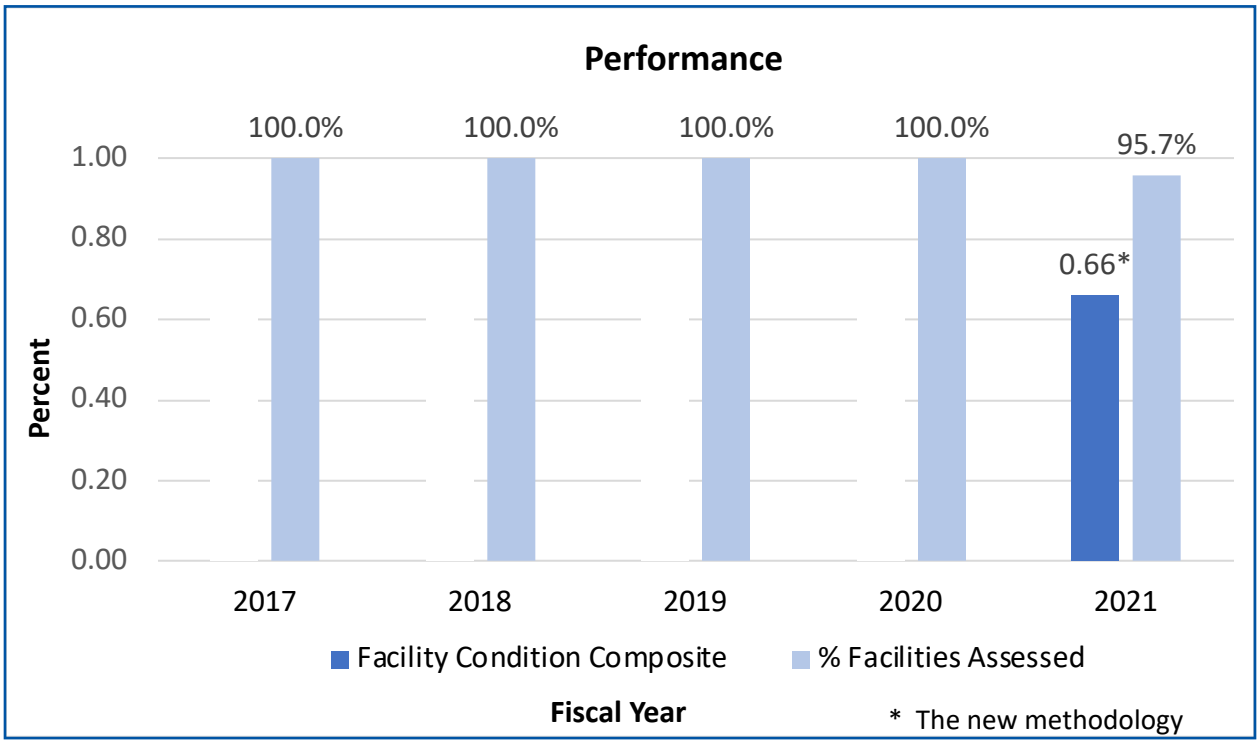
Because this methodology was initiated in SFY 2021, target evaluation is not applicable until in SFY 2022. For detail information about this performance measure refer to page 63.

Performance Measure

Percentage of facility assessments, and priority facilities work

Target 0.66

Current Status: NA



11. Emergency Management, Security and Continuity of Operations

Executive Summary: This performance measure involves tracking the percentage of NDOT Emergency Management Plans completed, training and education provided to the appropriate personnel about the plans, tests and emergency exercises performed in executing the plans, and updating the plans. Training, exercises, and plan updates have to be completed within a four-year cycle.

In state fiscal year 2021, NDOT obtained a 100% compliance level and met the established target. Training and updates have to be completed within a four-year cycle. The four-year cycle provides enough time to manage staff and attend to real emergencies, as well as focus more attention to the emergency plans. For detailed information about this performance measure refer to page 69.

Performance Measure

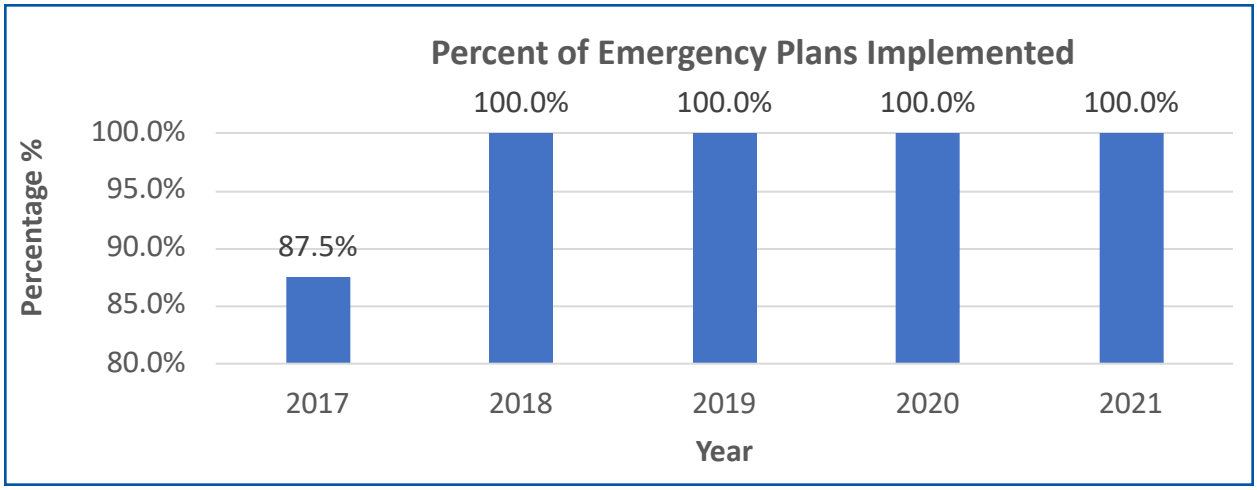
Percentage of emergency management plans implemented

Target

100% Annually

Current Status:

100% Accomplished



12. Reduce Fatal and Serious Injury Crashes

Executive Summary: There are five performance measures under this performance goal. They have been adjusted to align with the reporting requirements by the Federal Highway Administration (FHWA) and the National Highway Traffic Safety Administration (NHTSA).

Targets for the various measures are based on the 2016 to 2020 Nevada Strategic Highway Safety Plan (SHSP) goal to reduce fatalities and serious injuries. The targets in the Plan were developed using the 2015 to 2019 crash data, while performance evaluations analyzed the 2016 – 2020 crash data. Performance targets for all five performance measures were met. Data is gathered on calendar year (CY) basis. For detailed information refer to page 73.

Performance Measure

1) Number of traffic fatalities
2) Number of serious injuries
3) Number of fatalities per 100M VMT
4) Number of serious injuries per 100M VMT
5) Number of non-motorized fatalities & serious injuries

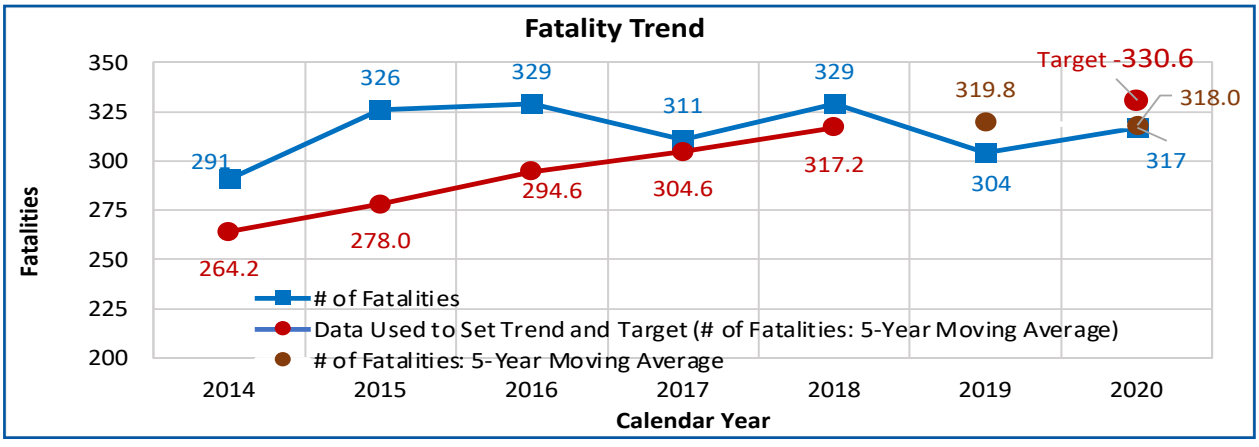
Target

Five year rolling average

1) Reduction in the # of traffic fatalities compared to the trend value
2) Reduction in the # of serious injuries compared to the trend value
3) Reduction in the # of traffic fatalities per 100M VMT compared to the trend value
4) Reduction in the # of serious traffic injuries per 100M VMT compared to trend value
5) Reduction of the # of non\ motoriszed traffic fatalities & serious injuries compared to the trend value

Current Status:

Target	Actual
1) 330.6	318.0
2) 1088.6	1060.8
3) 1.214	1.181
4) 4.060	3.930
5) 294.7	283.0



13. Project Delivery - Schedule and Estimate for Bid Advertisement

Executive Summary: This measure has been established to track project delivery performance within the federal fiscal reporting year (FFY), from October 1, 2020 to September 30, 2021. The measure is quantified by:

1. **Schedule:** The percentage of scheduled projects advertised within the established federal fiscal reporting year.
2. **Project Cost:** The percentage of engineer's estimate within a range of the awarded contract estimate. The comparison ranges include:
   a. Intermediate (60% Design) Engineer's Estimate is within 15% of the Awarded Contract Estimate
   b. Final (100% Design) Engineer's Estimate is within 10% of the Awarded Contract Estimate

Neither Schedule nor Project Cost metrics met targets. For detail information refer to page 79.

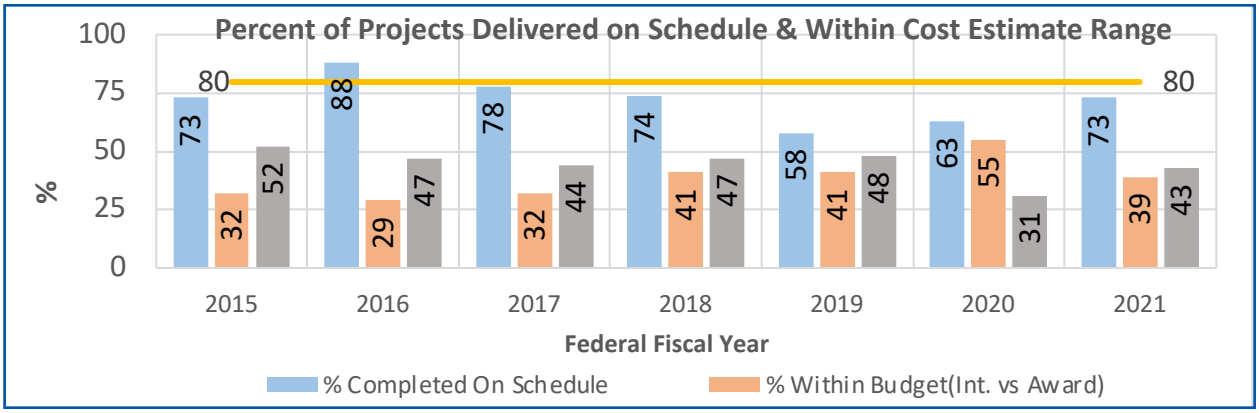
Performance Measure
1) Percentage of scheduled projects advertised within the reporting year.
2) Percentage of advertised & awarded projects within established construction cost estimate ranges

Target

1) 80% Advertised within the reporting year
2) 80% Delivered within established cost estimate ranges

Current Status:

1) 73%
2a) 39% (Int. vs Award)
2b) 43% (Final vs Award)



14. Maintain State Bridges

Executive Summary: The Department's performance measure associated with the maintenance of state bridges includes bridge condition ratings, separated by those assets on the National Highway System (NHS) and those not on the system (non-NHS). This performance measure aligns with the established national performance measures which include percentages of bridge inventory considered to be in "good" and "poor" condition.

As part of the NDOT Transportation Asset Management Plan (TAMP), the Department has established performance goals related to the overall condition of the state's bridge inventory. These performance targets include maintaining an inventory that has greater than thirty five percent of bridges in good condition and less than seven percent in poor condition. All performance targets were met and exceeded in 2021. For detailed information refer to page 88.

Performance Measure

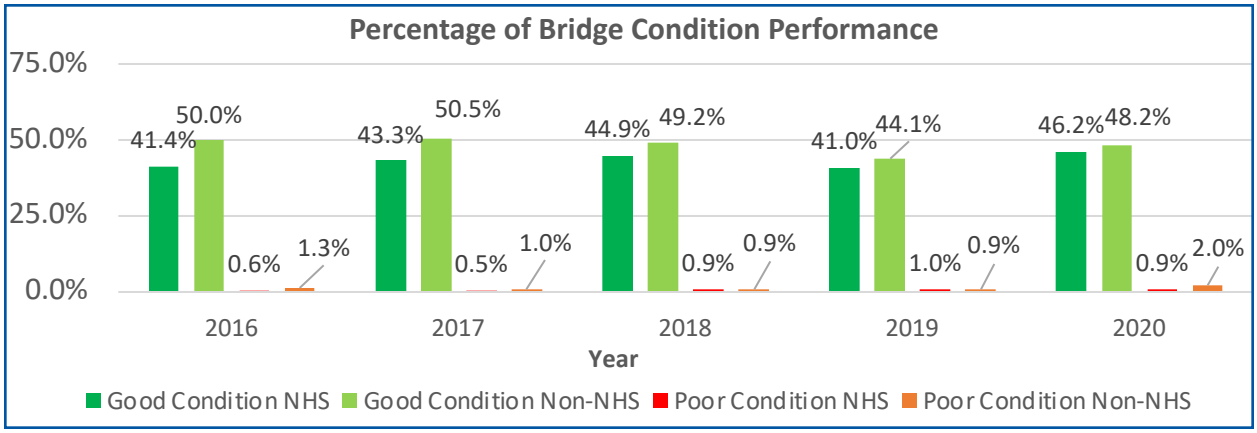
1) Percentage of bridges on the NHS in the bridge inventory in good condition
2) Percentage of bridges on the NHS in the bridge inventory in poor condition
3) Percentage of non-NHS bridges in the bridge inventory in good condition
4) Percentage of non-NHS bridges in the bridge inventory in poor condition

Target

1) 35% or greater
2) 7% or lower
3) 35% or greater
4) 7% or lower

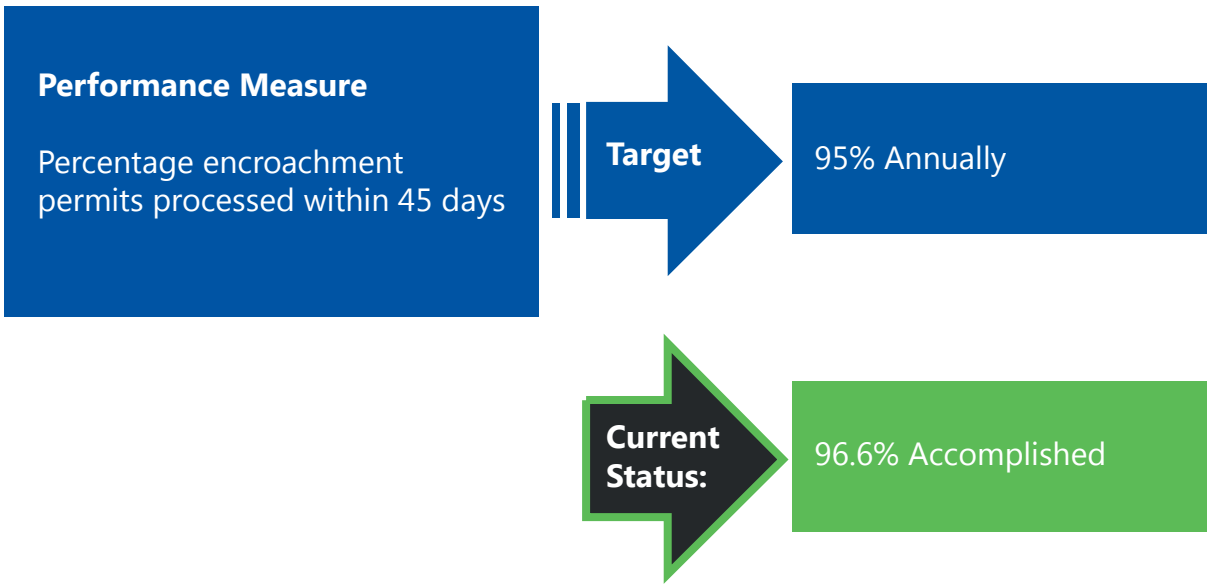
Current Status:

1) 46.2%
2) 0.9%
3) 48.2%
4) 2.0%



15. Streamline Permitting Process

Executive Summary: During state fiscal year 2021, the NDOT Right-Of-Way Division accepted a total of 967 permits of which 876 were processed. Of those 876 permits, 846 were processed within 45 days. This translates to a 96.6% performance rating which exceeds the performance target of 95%. For detailed information refer to page 95.



Summary of Status	District 1	District 2	District 3	HQ	Summary
Total Permits Accepted:	610	271	86	0	967
Total Permits in Progress:	114	96	14	0	224
Total Permits Processed through FHWA:	64	22	5	0	91
Total Permits Processed:	569	228	79	0	876
Total Permits Processed more than 45 days:	11	16	3	0	30
Total Permits Processed less than or equal to 45 days:	558	212	76	0	846
Total Permits Processed with Re-Reviews:	120	64	5	0	189
Percentage of Permits Processed more than 45 days:	1.93%	7.02%	3.80%	0.00%	3.42%
Percentage of Permits Processed less than or equal to 45 days:	98.1%	93.0%	96.2%	0.0%	96.6%

16. Reduce Greenhouse Gas Emissions

Executive Summary: This performance measure has been established as the percent reduction in Greenhouse Gas (GHG) emissions within the Department's operations. This measure was added to the annual reporting cycle in April 2020 to support the overall GHG reduction from the transportation sector as reported by the Nevada Annual Greenhouse Gas Inventory Report. This measure is in alignment with the state's goal to reduce economywide GHG emissions by 28% by 2025 and 45% by 2030 compared to a 2005 baseline (2019 Senate Bill 254). NDOT is performing evaluation of the Department's operations beginning with state fiscal years 2019, 2020, and 2021 to establish a baseline to measure and assess future GHG reduction goals. For detailed information refer to page 97.

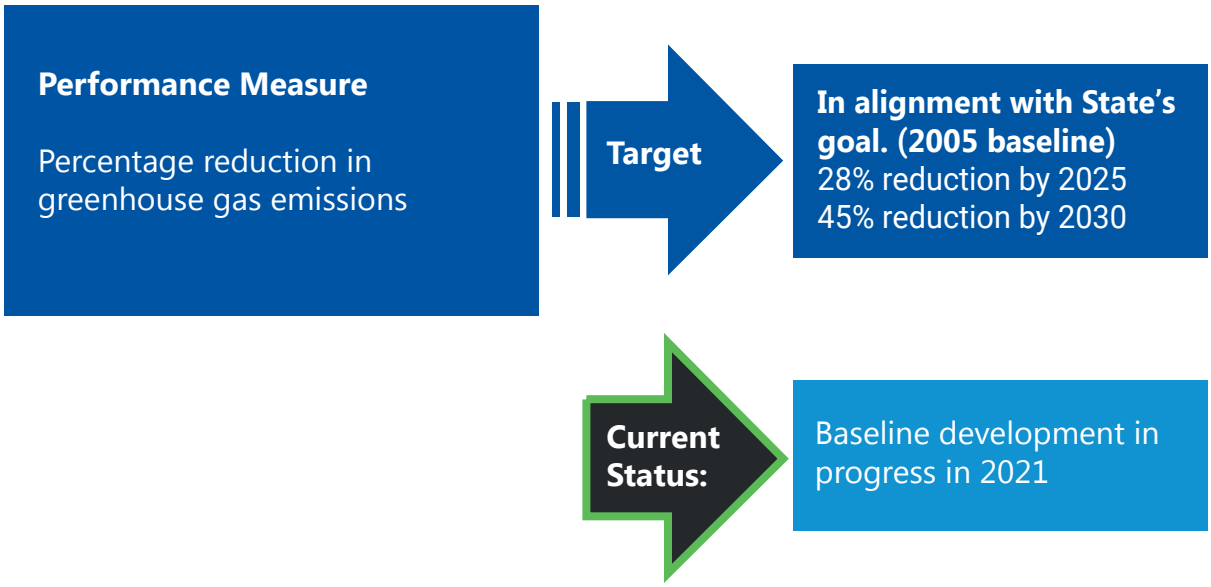


Table 1. GHG emissions baseline for FY 2019 - 2021 in metric tons of CO2 equivalent

Parameters	FY 2019	FY 2020	FY 2021	FY19-21 Change	FY20-21 Change
Stationary source a	3,036.90	2,776.20	1,868.00	-38.49%	-32.71%
Mobile source	20,385.90	18,183.60	17,410.40	-14.60%	-4.25%
Biofuel b	**287.3**	**245.4**	**293.6**	**2.19%**	**19.64%**
Refrigeration/AC c	389.7	389.7	1360.3	249.06%	249.06%
Electricity purchase	6,011.40	5,870.00	5834.7	-2.94%	-0.60%
Business travel	163.3	130.7	11.9	-92.71%	-90.90%
Commuting	6,170.80	4,442.50	2808.2	-54.49%	-36.79%
Waste generation	1,445.30	1,445.30	1905.6	31.85%	31.85%
Total	**37,603.30**	**33,238.00**	**31,199.10**	**-17.03%**	**-6.13%**

Notes: a) Natural gas data for FY 2021 is unavailable for several District 2 facilities.
b) Emissions from biofuel fractions (E85, B5 and B20) are quantified but are not included in the total GHG emissions.
c) Inventory for refrigeration and AC equipment is an ongoing effort for District facilities. In FY 2021, AC units from Department vehicles and mobile equipment were included, resulting in a significant GHG emissions increase for this category in FY 2021.

DETAILED PERFORMANCE MANAGEMENT DATA

1. Reduce Workplace Accidents

Performance Measures:

The injury rate and claim rate percentage are reported per calendar year. The injury rate is the the number of reported workplace injuries and illnesses (i.e., number of C-1 forms filed) per 100 employees. The claim rate is the number of injuries and illnesses requiring medical attention (i.e., number of C- 3 forms filed) per 100 employees. Data is based on annual OSHA 300 Log Reporting per federal reporting requirements. The CY 2020 calculation formula to determine the percentages are as follows:

1. Total number of Injuries (106) divided by total number of employees (1665) x 100 = 6.37% - Injuries/All Employees
2. Total number of medical claims (54) divided by total number of employees (1665) x 100 = 3.24% - Medical/Employees

Current year target:

2% Reduction

Ultimate target:

Zero accidents

Performance Champion/Division:

Safety/Loss Control Section Manager, Human Resources Division (HRD)

Support Divisions:

All NDOT Divisions

Overview and plan support:

Safety extends to all aspects of NDOT from the roadways to the office. Identifying and reducing risk to the department, employees, and the traveling public is an ongoing endeavor. This performance measure works towards meeting the Department of Transportation's strategic plan goals (1) safety first and (2) enhance organizational and workforce development.

Measurement and supporting data:

The annual Baseline is the prior five-year average. Data is reported on a calendar year basis pursuant to federal OSHA reporting requirement and the average number of employees during any given year. This data is used to calculate the percentage injury and percentage severity rates.

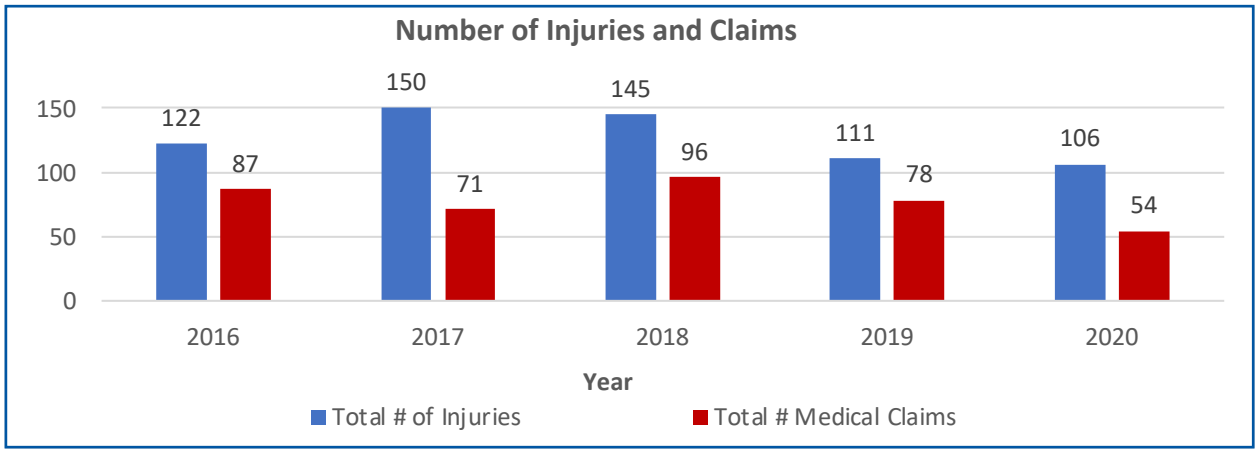
Claim costs include all medical expenses. The five-year ending 2020 average claim cost was lower by $154 compared to the (2015-2019) baseline. The injury rate in CY 2020 shows a reduction of 0.40% compared to the baseline. The target of reducing the injury rate by 2% annually compared to the baseline was not met. Also, the serious injury rate, which is the rate of injuries/illnesses requiring medical attention per every 100 employees did not meet the 2% annual reduction target. The rate of the five-year average ending CY 2020 was 4.46% compared to the baseline rate of 4.84%.

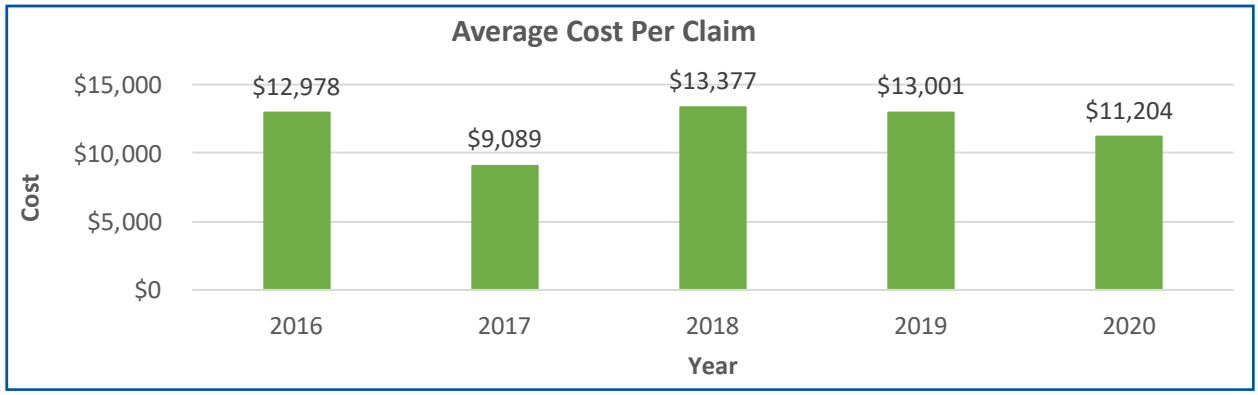
Most of the injuries sustained in CY 2020 were due to strains, sprains, and fractures. Body parts injured were low back, neck, bicep, shoulder, head, hand, and knee. Causes of injuries were due to lifting and being struck. The number of low back claims went from 13 in CY 2019 up to 14 in 2020.

Finger/thumb claims went from 7 in CY 2019 down to 4 in CY 2020.

Calendar Year	2015	2016	2017	2018	2019	2020
Total # of Injuries	146	122	150	145	111	106
Injuries/All Employees %	8.31%	7.11%	8.61%	8.23%	6.36%	6.37%
Total # Medical Claims	90	87	71	96	78	54
Medical Claims/All Employees %	5.12%	5.07%	4.07%	5.45%	4.47%	3.24%
Average Claim Cost	$11,974	$12,978	$9,089	$13,377	$13,001	$11,204
# All Employees	1757	1717	1743	1762	1746	1665
Total Calendar Year Cost	$1,149,496	$1,329,390	$1,430,173	$1,938,795	$988,141	$605,037

Calendar Year	2015-2019 Average	2020	2016-2020 Average
Total # of Injuries	135	106	127
Injuries/All Employees %	7.72%	6.37%	7.34%
Total # Medical Claims	84	54	77
Medical Claims/All Employees %	4.84%	3.24%	4.46%
Average Claim Cost	$12,084	$11,204	$11,930





Evaluation of Performance Measure:

Annual Target Met:

No for measure 1. Reduced by 0.4%
No for measure 2. Reduced by 0.4%

Which strategies were in place during the data reporting period?

- Workers' Compensation training.
- Safety and health safety inspections.
- Safety and health training.
- Ergonomic evaluations.
- Active Shooter classes.

The strategies in place for 2019 were not implemented due to the COVID-19 Pandemic. On March 18, 2020, Governor Steve Sisolak ordered State Employees to leave shared offices and telecommute from home until he evaluated the severity of the pandemic. Most employees telecommuted from home until June 2021, thus reducing inspections and training.

Which strategies applied during the current data reporting period were successful?

All strategies support the Safety Section efforts to reduce workplace accidents and injuries. All strategies support the prevention of accidents. Training, inspection, and prevention are the best way to reduce accidents and injuries.

Which strategies were not successful and why?

The COVID-19 Pandemic severely impacted the Safety/Loss Control Section's ability to implement the strategies to improve safety and train employees. The Safety/Loss Control section was dedicated to supporting the COVID-19 response and focused its efforts on the pandemic related safety issues.

Strategies for improvement planned for next reporting period:

Short Term Strategies

- Continue OSHA safety and health training classes to educate management, supervisors, and employees to reduce workplace hazards and injuries.
- Work collectively with the NV OSHA Safety Consultation and Training Section (NV SCATS) to assist with safety and health inspections to reduce workplace hazards and injuries.
- Continue to conduct ergonomic evaluations for the agency.

Long Term Strategies

- Evaluate NDOT's organization and culture to determine new safety protocols.
- Maintain up-to-date safety and health training materials.
- Provide assistance, research, and guidance to all divisions and districts to support NDOT's safety goals.
- Assist management to develop and implement NDOT's Strategic Safety Plan.

Does this performance measure effectively measure what is desired?

Yes.

Does monitoring and evaluating this performance measure improve your business process?

Yes.

Is there a more effective performance measure that should be considered? If so, explain.

Yes. The current measure is "injury rate" determined by the number of C-1 forms submitted. C-1 forms track every injury that occurs. Employees are encouraged to submit C-1 forms for even the most minor injuries. The information on these forms allows the safety team to plan and improve safety programs. A reduction in C-1 forms is not the best way to measure improvement. The "serious rate" determined by C-3 forms is a better measure. C-3 forms are completed when medical attention is sought. If the serious injury rate is reduced, it is a better indicator of success of safety programs and measures. The recommended target reduction is 0.3%.

Change the target percentage injury rate calculation (number of C-1 Forms) to the percentage serious rate calculation (medical claims C-3 Forms) because it measures cost and if the strategies were effective to reduce workplace injuries. The recommended target is a reduction of 0.3%.

Has the Covid-19 pandemic effected this performance measure or your ability to achieve the targets? If so, explain.

The COVID-19 Pandemic impacted the ability of the Safety/Loss Control Section to implement the core strategies. The section refocused to work collectively with the Executive Leadership Team to develop OSHA COVID-19 Posters, Face Covering Posters, Hand Sanitize Posters, and Personal Protective Equipment Posters.

Governor Steve Sisolak introduced several Directives relating to the COVID-19 Pandemic to protect the health of each Nevadan in the workplace. All Directives discussed social distancing and personal protective equipment. The section developed a COVID-19 Risk Assessment Inspection process and procedure for employee workstations. The section completed COVID-19 Risk Assessments for 34 divisions. The risk assessments evaluated workstations to ensure compliance with social distancing requirements and worked with the team to guide, educate, and coach on safety measures. The section recommended most of the workstations to have plastic curtain barriers, staggered shifts and telecommuting from home to reduce the infection rate.

Will meeting the yearly target have a fiscal impact? If so, explain.

No

2. Provide Employee Training

Performance Measures:

Percentage of employees trained in accordance with prescribed training plans and State statute training requirements.

SFY21 Target:

An average compliance rate of 85% for all required training.

Ultimate Target:

100% compliance for all required training.

Performance Champion/Division:

Employee Development Manager, Human Resources Division (HRD)

Supporting Divisions:

All NDOT Divisions

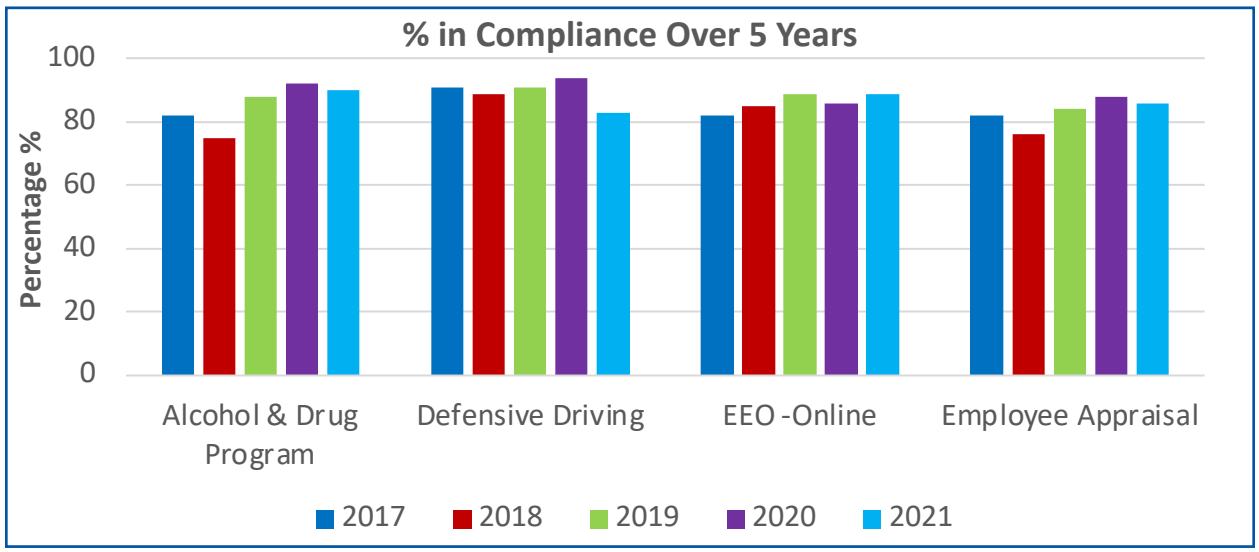
Overview and Plan Support:

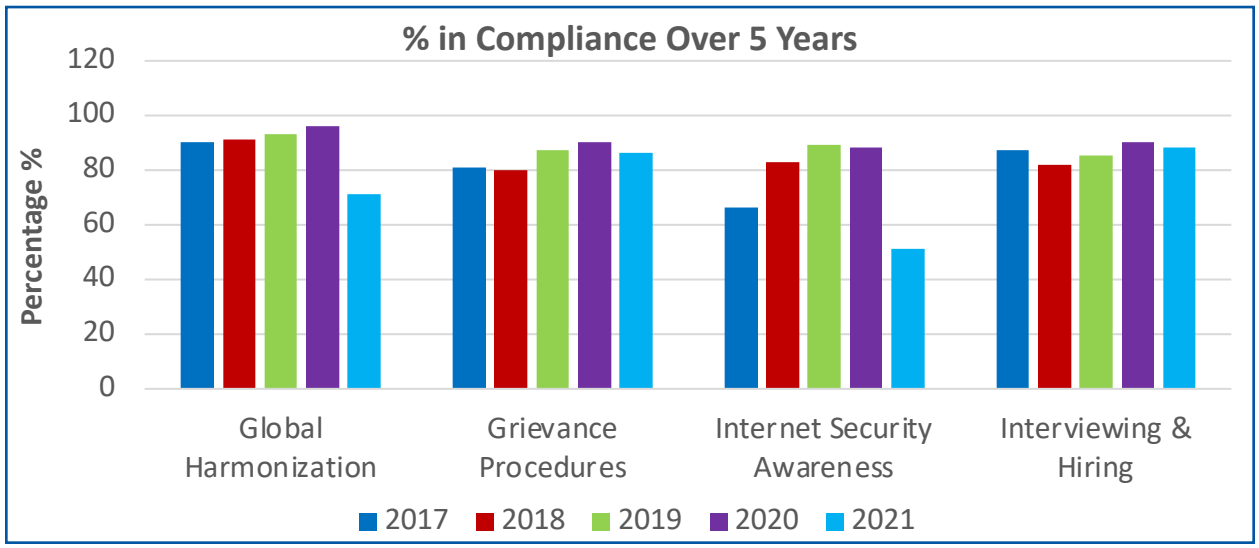
The classes listed in the performance measures are required by Nevada Administrative Code 284, the State Administrative Manual, or a specific NDOT Transportation Policy. The classes apply to the entire department and are either required for all employees or all supervisory and managerial employees.

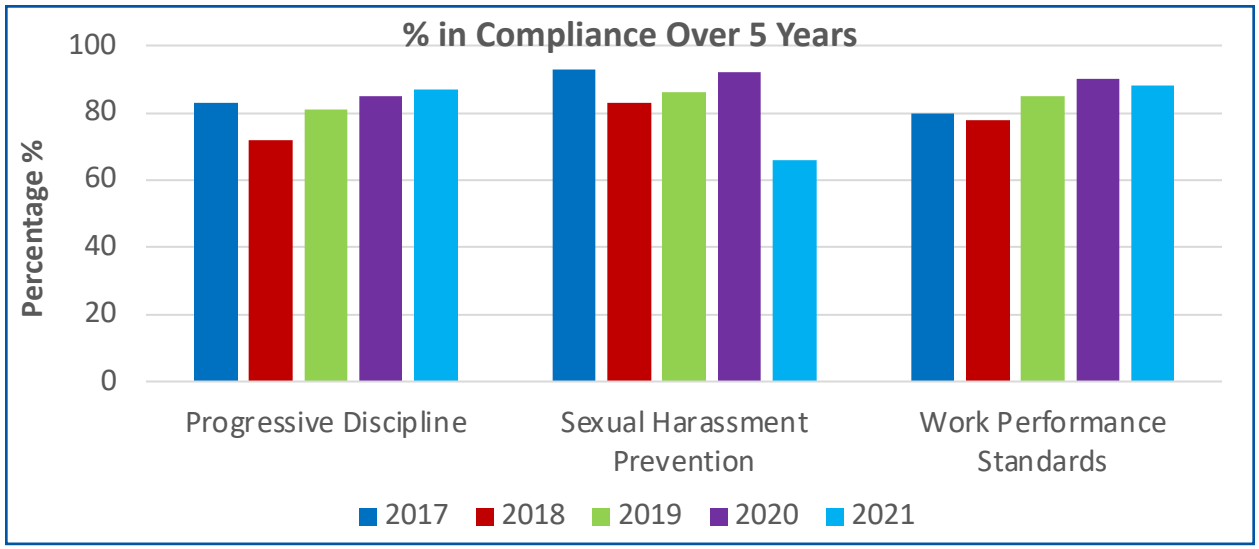
The annual target is the average compliance rate of all required training. The compliance percentage for each class is calculated by the number of employees or supervisory and managerial employees who were required to take the class by those who have successfully completed the class within the designated fiscal year.

Requirement	% in Compliance					# Trained*
	2017	2018	2019	2020	2021	SFY 2021
Alcohol & Drug Program	82	75	88	92	90	413
Defensive Driving	91	89	91	94	83	1336
EEO -Online	82	85	89	86	89	406
Employee Appraisal	82	76	84	88	86	393
Global Harmonization	90	91	93	96	71	1147
Grievance Procedures	81	80	87	90	86	395
Internet Security Awareness	66	83	89	88	51	832
Interviewing & Hiring	87	82	85	90	88	403
Progressive Discipline	83	72	81	85	87	398
Sexual Harassment Prevention	93	83	86	92	66	1071
Work Performance Standards	80	78	85	90	88	402
Averages	83	81	87	90	80	

*Total number of employees who attended training on this topic


% in Compliance Over 5 Years
Percentage %
100
80
60
40
20
0
Alcohol & Drug Program
Defensive Driving
EEO -Online
Employee Appraisal
2017
2018
2019
2020
2021


% in Compliance Over 5 Years
Percentage %
120
100
80
60
40
20
0
Global Harmonization
Grievance Procedures
Internet Security Awareness
Interviewing & Hiring
2017
2018
2019
2020
2021


% in Compliance Over 5 Years
Percentage %
100
80
60
40
20
0
Progressive Discipline
Sexual Harassment Prevention
Work Performance Standards
2017
2018
2019
2020
2021

The annual training target is an average compliance rate of 85% for all required training, with the ultimate target of 100% compliance. For FY21 we reached an annual training target of 80% in compliance for the 11 required classes.

FY21 average of 80% saw a decline of 10% from FY20 average of 90%.

All 11 required training classes experienced a decline in compliance. Classes that were required for:

- supervisory and managerial employees: average 2% decline
- all-employees: an average 24% decline including:
  - Defensive Driving: taught by State of Nevada Risk Management was temporarily suspended training due to lack of instructors
  - Global Harmonization
  - Internet Security Awareness
  - Preventing Sexual Harassment

Evaluation of Performance Measure:

Annual Target Met:

No

Which strategies were in place during the data reporting period?

Short term strategies

- Improve effectiveness of eHR email reminders:
  - Change initial email reminders to be sent 1 month prior to expiration.
  - Separate the Internet Security Awareness from the other classes so that reminders either come directly from KnowBe4 or come with a custom message.
  - Attach the table of which classes meet requirement to the reminder email.
  - Commit to keeping eHR data as current as possible so that employees trust the emails they receive.
- Market classes directly to the employees.
  - Focus our marketing efforts on headquarters' employees because they have a low compliance rate, are close to multiple training rooms, and have the most flexibility in their schedule.
  - Highlight the benefits of the training instead of marketing solely on the fact that the class is mandatory.
  - Require instructors to change exercises and scenarios every other year so that employees don't get the exact same training every year.
- Develop blended-learning training to maximize the effectiveness of the DHRM online classes. Provide instructor-led modules that utilize activities and case studies to address the application of knowledge and highlight NDOT-specific policies and people.
- Cross-train instructors so we have options if an instructor calls in sick.
- Share successful strategies from Districts with Divisions.

Long term strategies

- Embed leadership principles in all required classes. These principles should reinforce the strategic plan.
- Learn and implement technology like videoconferencing, webinars, and Skype to keep classes when we have low enrollment, flights are canceled, or meeting rooms are unavailable.
- Send trainers to the Employee Management Committee (EMC) hearing for a deeper/ broader understanding of state policies. Dedicate time for reading EMC decisions.
- Work with SMART21 project to redesign class evaluations to include more appropriate questions, provide reporting options for programs and classes, and provide timely feedback to the instructor.

Which strategies were successful?

- Improve effectiveness of eHR email reminders: eHR email reminders being sent one month prior to expiration were a factor at the beginning of the FY21 compliance successes.
- eHR dashboard of compliance rate for the employee: eHR provided employees with a snapshot of their training compliance.
- Market classes directly to the employees: Training sent out direct marketing to employees who were out of compliance. Training advertised that courses were available online at NVelearn and included the link to the NVelearn webpage.
- Learn and implement technology like videoconferencing, webinars, and Skype: HRD Training Section trainers continued learning to be more effective using Microsoft Teams to provide virtual training.

Which strategies were not successful and why?

Short term strategies

- Improve effectiveness of eHR email reminders: The State of Nevada rolled out a new learning management system (LMS) in SuccessFactors. NDOT was no longer able to maintain eHR compliance data on January 1, 2021. Enterprise HR stopped sending automatic emails. SuccessFactors's switchover did not occur on January 1, 2021, as planned. As a result, employees expressed confusion about training compliance, training locations, and options.
- Market classes directly to the employees: During the performance period, both training officer positions were vacated, as well as the Employee Development Manager position. The staff vacancies had a negative impact on notifying employees of reminders to complete their required training.
- Develop blended-learning training to maximize the effectiveness of the DHRM online classes: Due to vacancies and effects of the COVID 19 pandemic, the training section did not implement a blended learning strategy.

Strategies for improvement planned for next reporting period:

Short term strategies

The Employee Development Manager (EDM) will focus on staffing the training section. Three of the five training section positions are vacant.

The EDM will train new staff on SuccessFactors' LMS, compliance tracking, and budgeting. New staff will need to obtain required certifications, update curriculums, and schedule classes.

Long term strategies

- Training section must be proficient in SuccessFactors LMS
- Training section must lead the organization in learning to use SuccessFactors
- Training section will analyze and evaluate the distribution of training funds
- Training section will create classes to support the online classes and offer advanced learning opportunities for managers and supervisors.

Does the performance measure effectively measure what is desired?

Yes.

Does monitoring and evaluating this performance measure improve your process?

Yes. Monitoring and evaluating this performance measure are key to keeping the priority of completing all required training for our employees. The performance measure aids the training section in scheduling required classes, monitoring completion rates, and targeting employees for direct marketing.

Is there a more effective performance measure that should be considered? If so, explain

No.

Has the Covid-19 pandemic affected your performance measure or the ability to meet your targets? If so, explain.

Yes. The beginning of the stay-at-home order had a positive effect on our compliance. As NDOT developed remote working procedures and policies, employees were encouraged to use downtime to complete the online required training.

However, as the pandemic continued, the training section has recorded a downturn in compliance. Statewide vacancies have been attributed to the pandemic, which has increased remaining staff's workloads, and employees are experiencing virtual meeting and screentime overload. Because all mandatory training is online and workloads have increased, it is speculated that employees are not prioritizing this task.

Will meeting the yearly target have a fiscal impact? If so, explain.

No.

3. Improve Employee Satisfaction

Performance Measure:

Employee Satisfaction

Current year target:

Overall rating 75%

Ultimate target:

Overall rating 80%

Performance Champion/Division:

Human Resources Manager, Human Resources Division (HRD)

Support Divisions:

All NDOT Divisions

Overview and plan support:

Positive employee morale is critical to the success of the workplace. It is the backbone of a skilled and dedicated workforce and essential in attracting and retaining quality team members. A satisfied workforce will excel at their duties, and this benefits the people of Nevada, our visitors, and others traveling through our state. This performance measure works toward meeting NDOT's strategic plan goals including promote a safety-first culture, efficiently operate and maintain the state transportation system, enhance internal and external communication, and enhance organizational and workforce development.

Measurement and supporting data:

Overall Employee Satisfaction

2017 FY	67%
2018 FY	69%
2019 FY	66%
2020 FY	75%
2021 FY	61%

Historical Level of Employee Engagement Participation (Respondents)

Year of Survey	Launch Date	Closing Date	# of Employee Respondents
2017	28-Jun	30-Aug	929
2018	29-Jun	10-Aug	969
2019	15-Apr	21-Jun	872
2020	13-Apr	13-Jul	823
2021	20-Apr	23-Jul	662

Employee Satisfaction Survey Results

Key Question Response Comparison From 2020 - 2021			
Survey Category	**2020**	**2021**	**Increase/Decrease**
Satisfaction of workplace safety	75%	77%	2%
Satisfaction of workplace physical conditions	73%	72%	-1%
Satisfaction with ability to express concerns to their immediate supervisor	76%	72%	-4%
Satisfaction with ability to communicate effectively with their immediate supervisor	76%	72%	-4%
Satisfaction with their immediate supervisor recognizing when they go above and beyond their normal duties	72%	70%	-2%
Satisfaction with management applying policy decisions consistently	56%	53%	-3%
Satisfaction with ability to express concerns to their management	63%	59%	-4%
Satisfaction with flexibility of employees work hours	86%	85%	-1%
Percentage of Employees who would recommend NDOT to a friend	65%	55%	-10%

Evaluation of Performance Measure:

Annual target met?

No. 61% indicated that they were satisfied or very satisfied with NDOT overall.

Which strategies applied during the current data reporting period were successful?

The 2020 performance measure document identified the following strategies for improvement to be implemented in FY2021 based on the NDOT's 2020 Strategic Plan: A Roadmap to the Future.

- Develop and implement NDOT Team Safety Plan
- Develop building and facility maintenance and repair plan
- Improve internal and external customer service
- Build a cohesive state-wide communications program
- Evaluate and update communication structure and policies
- Conduct proactive organizational change process to address emerging trends
- Ensure business and operational continuity
- Administer Department policies and procedures consistently
- Retain and enhance mid-career talent
- Consolidate and transform Department data systems

The NDOT Executive Leadership Team (ELT) met throughout the year to track the progress of the strategic plan goals listed above. Each goal is in progress and will foster overall satisfaction of employees statewide. However, due to the unforeseen complications presented by the COVID-19 pandemic, the strategies were not completed.

Which strategies were not successful and why?

The failure to complete the strategies contributed to lower satisfaction.

Strategies for improvement planned for next reporting period:

Short Term Strategies

- NDOT's ELT will continue to progress and implement the 10 strategies listed from the last reporting period.
- NDOT's ELT will continue to work diligently to foster a healthy working environment while managing the complex challenges presented by the COVID-19 pandemic.

Long Term Strategies

The NDOT ELT and Senior Leadership Team's (SLT) commitment to supporting and executing the NDOT strategic plan will ensure success.

Does this performance measure effectively measure what is desired?

Yes.

Does monitoring and evaluating this performance measure improve your business process?

Yes, the detailed breakdown of employee satisfaction provided by the annual survey identifies areas of success and deficiency. Areas of success are replicated, and areas of deficiency are evaluated for improvement. The survey provides support and guidance for the creation of specific goals and programs linked to the NDOT strategic plan.

Is there a more effective performance measure that should be considered? If so, explain.

No. Overall employee satisfaction is a critical factor for NDOT to execute the mission, vision, and goals of the Department.

Has the Covid-19 pandemic effected this performance measure or your ability to achieve the targets? If so, explain.

Yes. The survey rolled out shortly before NDOT's return to the workplace mandate on June 1, 2021. The survey was open from April 20, 2021 to July 23, 2021. The survey respondents referenced the current COVID-19 situation as a reason for satisfaction for the increase in flexibility with the creation of the telecommuting policy. Respondents expressed high dissatisfaction rates regarding wages and benefits. During this reporting period, employees experienced furloughs and higher healthcare benefit costs. The survey recorded a 10 % decrease in employees who would recommend a friend to work at NDOT. Multiple respondents expressed dissatisfaction with having to take furloughs and other salary cuts while the state was receiving significant COVID related federal funding. Some employees expressed frustration with technology issues related to telecommuting due to COVID-19.

Will meeting the yearly target have a fiscal impact? If so, explain.

Yes.

Next year's target:

80%

4. Streamline Agreement Process

Performance Measure:

Percentage of Agreements executed within 20 days from when division submits agreement with all supporting documents to the date when it is fully executed, excluding time the agreement is with the second party for signature or awaiting Transportation Board approval.

Current year Target:

90% within 20 days

Ultimate Target:

99% within 5 days

Performance Champion/Division:

Administrative Services Division, Deputy Chief

Supporting Divisions:

All divisions that procure professional services over $2,500.00, including Interlocal, Cooperative, and Local Public Agency (LPA) agreements.

Overview and Plan Support:

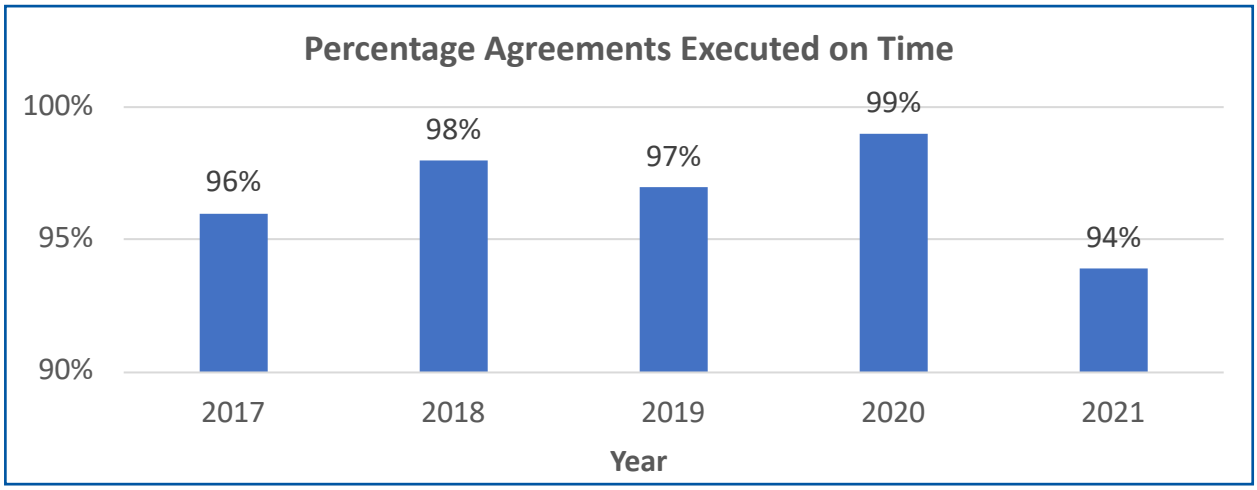
An agreement is an instrument used to procure a variety of services for NDOT. The Agreement Services Section ensures that NDOT procures these services in accordance with established laws, rules and regulations. Delays in executing agreements have a tremendous impact on the operations, delaying what can often be critical services, or services that impact the timely delivery of projects. Agreements for services and interlocal agreements with Universities over $300,000.00 require the approval of the Transportation Board; agreements less than $300,000.00 and certain services exempt from Board approval, such as right of way acquisitions and interlocal agreements, can be executed with approval from the NDOT Director.

This performance measure supports the Nevada Department of Transportation's Strategic Plan Goal 3: Efficiently Operate and Maintain the State Transportation System, by delivering timely and beneficial projects and programs; being responsive to our customers; effectively preserving and managing our assets; and efficiently operating the transportation system.

Measurement and supporting data:

For fiscal year 2021, the average number of calendar days to execute agreements, measured from the time they were submitted to the Agreement Services Section until the time of agreement execution, but excluding weekends and holidays and time the agreement was with the second party or awaiting Transportation Board approval, was 9 days. During fiscal year 2021, the Department executed 508 agreements, of which 477 were executed in 20 days or less. This translates to 93.90% of all agreements being executed within 20 days, exceeding the target of 90%.

	Number of Agreements Executed	Number Executed Within 20 Days	Percent Executed Within 20 Days	Average Number of Days to Execute
FY 2021	508	477	93.90%	9



Evaluation of Performance Measure:

Were the targets met?

Yes

Which strategies applied during the current data reporting period were successful?

All current strategies have been successful. Agreement Services Section staff understands the performance measure, what is measured, and how each stage of processing an agreement affects the measure. The Section Manager provides quarterly feedback to staff about the current processing time, tracking and discussing strategies for improving execution of all agreements, including LPA agreements, if applicable.

Which strategies were not successful and why?

All strategies implemented have been successful.

Strategies for improvement planned for next reporting period:

Short Term Strategies:

Continue reporting the number of "workdays" to execute an agreement, excluding days with the second party, weekends, holidays, and waiting for the Transportation Board. This method of measuring days accurately calculates the percentage and average days NDOT took to execute an agreement. With electronic processes in place, Agreement Services has consistently exceeded the 20-day agreement execution with higher than the 90% target.

Long term Strategies:

Continuing to assess the relevance of performance measure data and revising this measure, as necessary, to accurately reflect the time it takes to process an agreement. Additionally, mandating that all agreements be processed via DocuSign is critical to maintaining the success of this performance measure. Currently, Agreement Services is developing a new Masterworks system that we hope will create even more efficiencies in the processing of agreements. We'll review the Performance Measures at that time to determine if strategies are reflecting an accurate measure of performance.

Does this performance measure effectively measure what is desired?

Yes

Does monitoring and evaluating this performance measure improve your business process?

Yes - All staff is made aware of the goals of a performance measure.

Is there a more effective performance measure that should be considered? If so, explain

No – The efficiencies put into place have been successful on reducing the time to execute an agreement.

Has the Covid-19 pandemic effected your performance measure or the ability to meet your targets? If so, explain.

No – with the technology that we have it hasn't slowed the time it takes to execute an agreement.

Will meeting the next yearly target have a fiscal impact? If so, explain.

Yes. Procuring services more expediently will make Department operations more efficient, resulting in faster delivery of projects, more timely maintenance of facilities, and an overall higher standard of service provided. Collectively, this will result in overall cost savings.

Next year's target:

90% within 20 days

5. Improve Customer and Public Outreach

Performance Measure:

Improve Customer and Public Outreach

Current year target:

Customer Service Satisfaction: 75%

Public Outreach
- Facebook Likes: +3.2%
- Twitter Engagement: 0.9%
- Instagram Followers: +177

Ultimate target:

Customer Service Satisfaction: 75%
Public Outreach: continuous increase in likes, engagement, and followers

Performance Champion/Division:

Communications

Support Divisions:

Customer Service
Public Information Office

Overview and plan support:

This performance measure aligns with two goals in our Strategic Plan: (1) improve internal and external customer service, and (2) build a cohesive statewide communications program. Customer service and public outreach are critical aspects of strengthening NDOT's brand and ensuring we're delivering an effective program.

Measurement and supporting data:

	FY2020	FY2021	FY2022	FY2023
Number of Respondents Rating NDOT Good	2,100	349	647	842
*Total Number of Surveys (completed)	2,636	** 468	*840	*1,080
Percentage (of "good" responses)	79.67%	75%	77%	78%
Amount Type	Actual	Actual	Projected	Projected

NOTE:
**Zendesk's automated survey feature was not implemented until the latter half of FY21; therefore, these results reflect a partial year.
*Customer Service averaged approximately 1,000 tickets per month for FY21. Based on a 7% response rate, our projected total number of surveys completed for FY22 will be 840. Based on a 9% response rate, our projected total number of surveys completed for FY23 will be 1,080

Evaluation of Performance Measure:

Annual target met?

Yes.

Which strategies applied during the current data reporting period were successful?

Customer Service: We are very close to full implementation of our customer service management system, Zendesk, which has helped to streamline and organize our communications with the public. We also more proactively interfaced with the three districts to ensure better alignment in customer response.

Public Outreach: The Communications Division enlisted a consultant to assist with managing our social media calendar and building out presence on Instagram and Facebook. We also created three new regional Twitter accounts that assisted with building our following and engagement by geographic area.

Which strategies were not successful and why?

Customer Service: Customer Service experienced some issues getting District 3 to divert questions and calls to HQ. We hope to increase communication and cooperation moving forward.

Public Outreach: Our main NDOT Twitter account actually saw slowed growth because we brought more focus on our regional accounts. As we build out a blog in the near future, we hope to drive more traffic back to our main account through creative and original posts.

Strategies for improvement planned for next reporting period:

Short Term Strategies

Customer Service: Continue building strong relationships with the districts to ensure we're providing consistent and timely responses to customers throughout the state.

Public Outreach: Build out blog that will allow us to share more engaging content with the public.

Long Term Strategies

Public Outreach: Hire an in-house Social Media manager contractor to put 100% attention on building out our social media presence.

Customer Service: Hire at least one more social media representative and build out the online chat function of the website to better respond to customers.

Does this performance measure effectively measure what is desired?

Yes.

Does monitoring and evaluating this performance measure improve your business process?

Yes.

Is there a more effective performance measure that should be considered? If so, explain.

No.

Has the Covid-19 pandemic effected this performance measure or your ability to achieve the targets? If so, explain.

No.

Will meeting the yearly target have a fiscal impact? If so, explain.

No.

Next year's target:

Stated above.

6. Improve Travel Realiability & Reduce Delay

Performance Measure:

1. Interstate Travel Time Reliability (Interstate TTR) measure: Percent of person-miles traveled on the interstate system that are reliable
2. Non-Interstate National Highway System Travel Time Reliability (Non-interstate NHS TTR) measure: Percent of person-miles traveled on the non-interstate NHS that are reliable
3. Freight Reliability measure: Truck travel time reliability (Truck TTR) index on the interstate system
4. Non-Single Occupancy Vehicle (Non-SOV) Travel measure: Percent of Non-single Occupancy Vehicle Travel
5. Peak Hour Excessive Delay (PHED) measure: Annual hours of peak hour excessive delay per capita

(See: "Measurement and supporting data" below for definitions of these performance measures.)

Current and Ultimate Targets:

2020 Reporting Period	Interstate TTR (%)	Non-Interstate NHS TTR (%)	Interstate Truck TTR (Index)	Non-SOV Travel (%)	PHED Per Capita (Annual Hrs)
Current Targets	86.9 ≥	70.0 ≥	≤ 1.28	21.5 ≥	≤ 12.0
Ultimate Targets	87.0 ≥	87.0 ≥	≤ 1.26	21.6 ≥	≤ 10.0

Performance Champion/Division:

Traffic Operations

Support Divisions:

Roadway Systems
Performance Analysis

Overview and plan support:

The Department, in coordination with the Federal Highway Administration (FHWA) and the Metropolitan Planning Organizations (MPO's), selected these performance measures to align with the US DOT's Moving Ahead for Progress in the 21st Century (MAP-21) Act passed by Congress on July 6, 2012, the Fixing America's Surface Transportation (FAST) Act passed by Congress on December 4, 2015, and the Department's Transportation System Management and Operations (TSMO) Program Plan executed on May 13, 2020. The performance measures capture most aspects affecting the mobility and reliability of the transportation network. This is an indication of how efficient the system is performing.

The Department uses the Regional Integrated Transportation Information System (RITIS) to analyze FHWA's National Performance Management Research Data Set (NPMRDS). RITIS is also used to analyze INRIX probe data from mobile phones, vehicles, portable navigation devices, and embedded fleet management systems. Except for the Non-SOV Travel measure, all other performance measures are calculated using the RITIS platform. For Non-SOV Travel, the

Department, in coordination with the Regional Transportation Commission of Southern Nevada (RTC-SNV), utilizes the American Community Survey (ACS) Commuting (Journey to Work) data from the U.S. Census Bureau.

Measurement and supporting data:

The following are simplified definitions of the performance measures used to evaluate the mobility and reliability of Nevada's state-maintained roadway system.

- **Interstate Travel Time Reliability (Interstate TTR) measure: Percent of person-miles traveled on the interstate that are reliable:**
  The Interstate TTR measure is the percentage of total roadway segments, weighted by the roadway length, the annual average number of daily trips (AADT), and average number of persons in a vehicle (vehicle occupancy), that are reliable over a given year. A trip is considered reliable by the US DOT if the travel time is below one and a half times the median (50th percentile) for a given evaluation period (morning, afternoon, evening, and weekend). If the 80th percentile or more of trips through a roadway segment in all evaluation periods are found to be reliable, the roadway segment is considered reliable.
- **Non-Interstate National Highway System Travel Time Reliability (NHS TTR):**
  Percent of person-miles traveled on the non-interstate NHS that are reliable. This measure is used and calculated in the same manner as Interstate TTR with the exception that all calculations are specific to non-interstate segments on the NHS.
- **Freight Reliability measure: Truck travel time reliability (Truck TTR) index:**
  The Truck TTR measure is used to assess the reliability of travel time for trucks on Nevada's interstate system. To determine the reliability of an individual segment, the Truck Travel Time Reliability (TTTR) is calculated as the ratio of the "longer travel" time (95th percentile) to the "normal" travel time (50th percentile). The Truck TTR's of interstate segments are then used to calculate the Truck TTR Index for the entire interstate system using a weighted aggregate calculation for the worst performing times of each segment. Furthermore, the closer the Truck TTR Index is equal to 1.0, the more reliable the interstate system is for truck travel times.
- **Non-Single Occupancy Vehicle (Non-SOV) Travel measure: Percent of Non-single Occupancy Vehicle Travel:**
  The Non-SOV Travel measure is used to indicate the percentage of the population in urbanized areas that are commuting to work by means other than utilizing a single occupancy vehicle, such as carpool, van, public transportation, commuter rail, walking, or bicycling, as well as telecommuting. Based on MAP-21 requirements, this measure is currently applicable to urbanized areas exceeding 1 million people. Currently, the Las Vegas metropolitan area is the only urbanized area in Nevada that meets this criterion. To capture the Non-SOV performance measure, the Department, in coordination with RTC-SNV, utilizes the American Community Survey (ACS) Commuting (Journey to Work) data from the U.S. Census Bureau.
- **Peak Hour Excessive Delay (PHED) measure: Annual hours of peak hour excessive delay per capita:**
  Like the Non-SOV Travel measure requirement for urbanized areas exceeding 1 million people, the PHED measure is currently only applicable to the Las Vegas metropolitan area. PHED is used to show the annual hours of excessive delay per capita. Excessive

delay is defined as the extra amount of time spent in congested conditions defined by speed thresholds that are lower than a normal delay threshold. For the purposes of this rule, the speed threshold is 20 miles per hour (mph) or 60 percent of the posted speed limit for each segment, whichever is greater, during 15-minute intervals. The total excessive delay metric is also weighted by vehicle volumes and occupancy. For calculation purposes, the peak traffic periods are defined as weekday mornings from 6 a.m. to 10 a.m. and 3 p.m. to 7 p.m. for weekday afternoons.

The table below reflects the results for the performance measures up to the current 2020 reporting period.

Reporting Period	Interstate TTR (%)	Non-Interstate NHS TTR (%)	Interstate Truck TTR (Index)	Non-SOV Travel (%)	PHED Per Capita (Annual Hrs)
2015	98.8	92.0	n/a	n/a	n/a
2016	88.5	66.0	n/a	n/a	n/a
2017	86.8	86.8	n/a	21.5	11.0
2018	87.0	86.3	1.27	21.3	11.6
2019	85.1	86.8	1.28	21.4	7.4
2020	**94.4**	**92.4**	**1.23**	**21.5**	**4.60**
Current Targets	**86.9 ≥**	**70.0 ≥**	**≤ 1.28**	**21.5 ≥**	**≤ 12.0**

Evaluation of Performance Measure

Annual target met?

Yes.

Which strategies were in place during the current data reporting period?

The Department has several programs which aim to improve system reliability by mitigating recurring and non-recurring congestion, improving traffic safety, and reducing secondary incidents. The programs include:

- The Reno and Las Vegas Freeway Service Patrol (FSP) Program that improves reliability on the interstate by removing crashed or disabled vehicles from travel lanes during peak traffic times.
- The Statewide Hazmat Emergency Response Program, that improves reliability on all state-maintained roadways by mitigating hazardous material incidents as quickly and efficiently as possible.
- The 511 Traveler Information Program, that improves reliability on all state-maintained roadways by providing traffic and weather conditions to motorists.
- The Traffic Incident Management (TIM) Program, that improves reliability on all state maintained roadways by providing consistent first responder training and enhancing cross-agency collaboration.
- The Waycare Artificial Intelligence Platform System enhances incident management capabilities, promotes cross-agency collaboration, and provides traffic predictive insights.
- The Transportation System Management and Operations (TSMO) Program improves safety, mobility, and reliability via performance-driven strategies that focus on managing and operating the system more efficiently to optimize existing infrastructure.

Which strategies applied during the current data reporting period were successful?

- The Reno and Las Vegas Freeway Service Patrol (FSP) Program improved reliability on the interstate by mitigating 55,966 roadway incidents such as: crashes, disabled and abandoned vehicles, roadway debris, providing incident scene safety, and addressing other situations that disrupt traffic flows.
- The Statewide Hazmat Emergency Response Program improved reliability by mitigating 22 roadway related hazardous material incidents ranging from diesel spills, biohazardous releases, illegal dump and/or spill removals, and addressing other hazmat situations that the Department does not have the manpower and expertise to perform.
- The Traffic Incident Management (TIM) Program sponsored 8 virtual training sessions among various first responder participants such as law enforcement, emergency medical response, towing and recovery professionals, fire and rescue professionals, and highway maintenance personnel.
- The Waycare Artificial Intelligence Platform System enhances incident management capabilities, promotes cross-agency collaboration, and provides traffic predictive insights.
- The Transportation System Management and Operations (TSMO) Program improves safety, mobility, and reliability via performance-driven strategies that focus on managing and operating the system more efficiently to optimize existing infrastructure.
- The Department launched Nevada's first Active Traffic Management (ATM) System in March 2020 on the I-15 and US-95 freeways in Las Vegas. To-date the system is performing as expected by reducing congestion and improving traffic performance.

Which strategies were not successful and why?

None. All strategies were successful.

Strategies for improvement planned for next reporting period

Short Term Strategies:

The following are TSMO strategies that are in progress for the next reporting period:

- In fall 2021, Traffic Operations is planning to evaluate the feasibility of implementing a Towing and Recovery Incentive Program (TRIP). TRIP is a quick clearance incentive program that partners DOTs with heavy-duty recovery companies and pays a monetary bonus for clearing commercial vehicle wrecks within 90 minutes. TRIP's key objective is to standardize towing response and facilitate the safe and quick clearance of commercial vehicle crashes on the interstate system.
- The Travel Time Reliability Performance Index (TTRPI) is a developing supplemental evaluation of travel time reliability and speed reductions observed during peak hours of operation utilizing the FHWA's National Performance Management Research Data Set. Traffic Operations is planning to incorporate TTRPI methodologies to help identify segments that can be improved through non-capacity focused projects in the Clark County and Washoe County metropolitan areas, such as ITS solutions, striping, etc.
- The Department is in the process of updating its Advanced Traveler Information System (511). An updated version is expected to be operational by the 2022 calendar year.

Long Term Strategies:

The following are planned TSMO strategies for subsequent reporting periods:

- In 2022, Traffic Operations will be launching a project to develop a statewide ATM Master Plan. An ATM system uses lane-based roadway sensors to analyze traffic

conditions to inform drivers of unexpected changes in the road condition, such as construction-related lane closures, congestion, and crashes. The system is capable of autonomously reducing speed limits and advising caution or merging from specific lanes via the use of the overhead and side-mounted dynamic message signs (DMS). The system is also able to advise the merging and closing of lanes affected by crashes or construction, to flush metered lanes or change ramp metering rates, and to open the HOV lanes to all vehicles when approved by a Freeway & Arterial System of Transportation (FAST) traffic management center operator. All these factors serve to reduce the effect of bottlenecks from non-recurrent congestion and harmonize the speeds between congested areas and high-speed upstream traffic. Thereby reducing the likelihood of secondary crashes resulting from an initial crash to improve travel time reliability and safety.

Does this performance measure effectively measure what is desired?

Yes. These measures effectively measure the reliability of the transportation system and align with FHWA MAP-21 performance measures allowing for consistency across the nation.

Does monitoring and evaluating this performance measure improve your business process?

Yes. These measures are an indication of how successful program strategies have been at improving the mobility and reliability of the transportation system.

Is there a more effective performance measure that should be considered? If so, explain.

No.

Has the Covid-19 pandemic affected this performance measure or your ability to achieve the targets? If so, explain.

The COVID-19 pandemic impacted the performance measures by reducing traffic volumes, which improved travel time reliability. However, it should be noted that traffic volumes are expected to increase substantially once COVID-19 restrictions are lifted. Therefore, since it is still uncertain when COVID-19 restrictions are going to end, it is currently difficult to predict future traffic patterns and projected resources.

Will meeting the yearly target have a fiscal impact? If so, explain.

Yes. The targets cannot be met without the aid of the program strategies described above such as: FSP, TIM, Hazmat, 511, Waycare, and TSMO. Each program strategy plays a vital role in meeting the performance target. The Department also needs to continue providing access to software programs such as RITIS and continue purchasing traffic data.

Next year's target:

The Department's goal is to always aim for the ultimate targets as shown in the table below; however, they are unchanged from the previous reporting period. The 2021 targets are in accordance with FHWA requirements and will be re-evaluated at the end 2022.

Reporting Period	Interstate TTR (%)	Non-Interstate NHS TTR (%)	Interstate Truck TTR (Index)	Non-SOV Travel (%)	PHED Per Capita (Annual Hrs)
2021 Targets	86.9 ≥	70.0 ≥	≤ 1.28	21.5 ≥	≤ 12.0
Ultimate Targets	87.0 ≥	87.0 ≥	≤ 1.26	21.6 ≥	≤ 10.0

7. Streamline Project Delivery - Bidding to Construction Completion

Performance Measure:

Schedule and estimate from award opening to construction completion in State Fiscal Year 2021 (July 1, 2020 to June 30, 2021).
Budget Measure = Percentage of completed contracts within 10% of original programmed budget.
Schedule Measure = Percentage of completed contracts within 10% of original assigned working days.
Change Order Measure = Percentage of completed contracts with a cost increase of less than 3% in Change Orders.

Current year target:

80% of completed contracts within Budget Measure, Schedule Measure, and Change Order Measure. Projects were evaluated and met the measure if they were under 110% of the original programmed budget and schedule.

Ultimate target:

80% of completed project contracts within budget measure, schedule measure, and Change Order measures

Performance Champion/Division:

Construction Division

Support Divisions:

Engineering Divisions (Project Management; Environmental; Right of Way; Location; Roadway Design; Structures; Hydraulics)
Operation Divisions (Materials; Traffic Operations; Maintenance and Asset Management; District I; II; III)

Overview and plan support:

This performance measure aligns with the goals of the Nevada Department of Transportation's Strategic Plan to prioritize safety, cultivate environmental stewardship, and efficiently operate and maintain the state highway transportation system.

Measurement and supporting data:

FY 2021	Number of Completed Contracts	Percentage of completed contracts within 10% of original programmed budget	Percentage of completed contracts within 10% of original assigned working days	Percentage of completed contracts with a cost increase of less than 3% in Change Orders
1st Quarter	7	100%	100%	57%
2nd Quarter	13	92%	100%	77%
3rd Quarter	5	60%	100%	60%
4th Quarter	17	100%	94%	71%
Yearly Totals	**42**	**93%**	**98%**	**69%**

Evaluation of Performance Measure:

Annual target met?

Budget Measure - Yes
Schedule Measure - Yes
Change Order Measure – No

Which strategies applied during the current data reporting period were successful?

1. Thorough plan and specification review process to ensure intent is clear and contract documents provide for the highest quality possible for each construction project.
2. Consultation with Supporting Divisions to ensure proper scope and specifications are incorporated.
3. Budgets are developed and tracked closely to ensure fiscal responsibility.
4. Contract schedules are developed to complete the contract work with minimal impacts to traffic and public and providing adequate time for the contractor to provide a quality job.
5. Bid Review Analysis Team performs an in-depth analysis of every contract bid to identify potential quantity or plan errors and potential vague or conflicting specifications.
6. Detailed tracking of quantities during construction for accurate payment.
7. Change Order review process in place to ensure a detailed analysis and well documented accounting of changes to the contract.

Which strategies were not successful and why?

None. Strategies will be continually monitored and revised as necessary to improve. Although we did not meet the performance measure of 80% of completed contracts with a cost increase of less than 3% in Change Orders, this is a very high standard to achieve. The national Change Orders average is approximately 6%. Our data shows that only 6 of the 42 completed contracts had a cost increase of less than 6%, which is 85.7%.

Strategies for improvement planned for next reporting period:

Short Term Strategies

Continued coordination during project development to ensure quality plans, specifications, and accurate quantities are produced for every construction project.

Long Term Strategies

Continue to strive to meet the 80% of completed contracts with a cost increase of less than 3% in Change Orders. Review of Change Order measure and completed contracts to better identify specific areas that may need improvement. Review of the specific Divisions/Districts requesting the Change Orders and identify areas for improvement. Review strategies and refine if necessary.

Does this performance measure effectively measure what is desired?

Yes. It assists in determining ongoing efforts and is effective and an appropriate approach to evaluating the data. The data demonstrates the Department's overall construction program performs at or above performance measures and is a strong indicator of the success of the overall program.

Does monitoring and evaluating this performance measure improve your business process?

Yes. The performance measures will demonstrate if there are issues within areas of the program which would need to be addressed and works towards meeting the goals of the Nevada Department of Transportations' Strategic Plan.

Is there a more effective performance measure that should be considered? If so, explain.

No. The continued evaluation of these measures will be monitored as there have been a significant number of promotions and changes to personnel in many divisions, as well as retirements and therefore the Department has many vacant positions which may reflect in future evaluations.

Has the Covid-19 pandemic effected this performance measure or your ability to achieve the targets? If so, explain.

No.

Will meeting the yearly target have a fiscal impact? If so, explain.

Yes. By continually improving and striving to reach the goal of 80% of completed contracts with a cost increase of less than 3% in Change Orders will directly relate to additional available funding for future projects.

Next year's target:

80% of projects within Budget Measure, Schedule Measure, and Change Order Measure

8. Maintain State Highway Pavement

Performance Measure:

Percentage of state-maintained roadways in fair or better condition.

Current year target:

Category 1: 95% Minimum fair or better condition
Category 2: 90% Minimum fair or better condition
Category 3: 85% Minimum fair or better condition
Category 4: 75% Minimum fair or better condition
Category 5: 50% Minimum fair or better condition

Ultimate target:

Perform annual preservation as necessary to maintain the condition of the roadway network in conformance with the established goals and additional preservation as necessary to eliminate the accumulated backlog.

Performance Champion/Division:

Materials

Support Divisions:

Maintenance and Asset Management

Overview and plan support:

This performance measure supports the Department's Mission to effectively preserve and maintain NDOT's pavement assets. For the Department to maintain the roadway network in fair or better condition, maintenance and preservation work is performed on the roadways each year. To increase the percentage of pavements in fair or better condition, this work must be constructed on all roads faster than the rate of deterioration of the pavement.

The Department's Pavement Management System (PMS) assists NDOT with maintaining and improving the condition of the entire state-maintained roadway network. This network consists of a 5,382-centerline mile (13,708 lane mile) inventory that is classified into five separate road prioritization categories. These road categories are based on heavy truck equivalent single axle loads (ESALs), average daily traffic (ADT), and federal guidelines for highway classification descriptions. Each road prioritization category consists of pavements that share similar rates of deterioration and require similar timing for maintenance and preservation repair work.

NDOT uses a pavement condition rating system called the Present Serviceability Index (PSI) to objectively measure important roadway attributes such as travelers' responses to motion and appearance as demonstrated by a smooth riding surface that is without cracking, rutting, patching, or potholes. The PSI pavement condition rating system uses a value that is calculated using pavement roughness measurements and mathematical formulas that quantify pavement distresses such as cracking and rutting. These measurements and formulas are combined and standardized into an objective rating scale numbered from zero to five. Pavement rated from four to five is interpreted as pavement in new or very good condition with a smooth surface that is without distress or irregularities. Pavement rated less than two is interpreted as pavement in very poor or failed condition with the roughest of surface conditions and no longer navigable at the posted speed limit. The PSI pavement condition rating system is used to quantify the pavement condition for each road within the state-maintained roadway network.

Funding for improvements is generally administered as part of either the maintenance or preservation programs. Maintenance funds are typically used for traditional maintenance work such as chip seals, filling potholes, and patching. Preservation funds are typically used for repair strategies often classified elsewhere as rehabilitation - such as asphalt overlays, mill and fills, and recycling methods. The cost and construction timing for the various repair strategies are

significantly different and contingent on the pavement condition at the time of the repair. There is a significant cost savings when pavement is proactively rehabilitated in fair condition as compared to reactively reconstructed in very poor condition.

Measurement and supporting data:

Current Pavement Condition of the State-Maintained Road Network

Each category of road has a pavement condition minimum fair or better target that represent a reasonable condition in which the road should be maintained. It also represents a balance between condition and expense. Smoother roads in better condition are generally less expensive to maintain and rehabilitate. However, when roads become rough, cracked, or rutted, more money must be spent to bring them back to acceptable condition.

TABLE 1 illustrates the current condition of the roadway network for which NDOT is responsible and includes the annual targets that have been established for the condition of the roads. For the 2020 data collection period, the NDOT pavement management system contains 5,200 centerline miles (13,441 lane miles) that were surveyed and are reported on in this table. Most of the un-surveyed network consists of dirt/aggregate surfaced routes and roadway segments under construction during the time the data was collected. Category 1 is further broken down into Asphalt (A) and Concrete (C) surfaces for clarity.

TABLE 1. Pavement Condition versus Annual Target by Road Category

Condition	PSI Rating Scale	PSI Condition by road Prioritization Category Percentage (%) and Number of Miles						
		Road Category 1		Road Category 2	Road Categor 3	Road Category 4	Road Category 5	Roadway network Totals
		A	C					
Very Good	5.00 to 4.00	67.6% 380	8.5% 8	33.0% 296	27.2% 330	4.4% 38	0.7% 10	20.4% 1061
Good	3.99 to 3.50	27.4% 154	39.1% 39	38.3% 344	44.9% 545	31.7% 272	15.2% 238	30.6% 1592
Fair	3.49 to 3.00	3.5% 20	36.2% 36	17.0% 152	21.0% 254	36.0% 309	29.2% 459	23.7% 1230
Mediocre	2.99 to 2.50	1.5% 8	14.7% 15	7.1% 64	5.5% 66	22.4% 192	29.3% 460	15.5% 805
Poor	2.49 to 2.00	0.1% 0.3	1.3% 1.3	2.9% 25.7	1.2% 14.3	4.7% 40.3	15.6% 244.8	6.3% 327
Very Poor	< 2.00	0.0% 0	0.0% 0	1.7% 15.6	0.4% 4.2	0.9% 7.5	10.0% 157.6	3.6% 185
Total Miles:		**661**		**897**	**1,214**	**858**	**1,569**	**5,200**
Condition Goal: Percentage of Roads in Fair or Better Condition		95%		90%	85%	75%	50%	
Current Condition: Percentage of Roads in Fair or Better Condition		96.3%		88.3%	93.0%	72.1%	45.1%	74.7%
Does the current condition meet the condition goals?		Yes		No	Yes	No	No	

Pavement Preservation Repair Work for the State-Maintained Road Network

During state fiscal year 2021, NDOT advertised approximately $211 million worth of contract maintenance and preservation pavement repair work. These expenditures addressed the needs for approximately 337 centerline miles (933 lane miles) of roads. TABLE 2 contains a financial summary of the advertised maintenance and preservation pavement repair work that was accomplished on the state-maintained roadway network during state fiscal year 2021 along with the corresponding amount of mileage that was improved.

TABLE 2. Advertised Pavement Repair Work for Fiscal Year 2021

Fiscal Year	Contract Maintenance Repair Work Expenditure and Mileage	Contract Preservation Repair Work and Expenditure and Mileage	Contract Maintenance and Preservation Repair Work Expenditure and Mileage
2021	$19,084,203	$192,186,536	$211,270,739
	174 Centerline Miles 337 Lane Miles	163 Centerline Miles 596 Lane Miles	337 Centerline Miles 933 Lane Miles

Future Pavement Needs

Keeping the pavement network maintained at an acceptable level requires consistent funding and proper project selection. TABLE 3 shows the performance of the network relative to target for different areas of the State. Additionally, it shows the distribution of preservation funding necessary to either maintain the network at target levels where it currently meets them (identified with green) or bring the network up to the target level within five years where it does not (identified with pink).

TABLE 3. Project and Funding Distribution to Meet Targets

County	Category	Centerline Miles	Performance Target	Performance 2020	Yearly Project Miles	Yearly Cost ($M)
CL/WA	1	279	95%	94.4%	20.6	39.1
CL/WA	2	334	90%	76.9%	20.7	33.1
CL/WA	3	198	85%	91.1%	6.6	5.7
CL/WA	4	186	75%	47.8%	15.9	8.6
CL/WA	5	67	50%	51.2%	1.3	0.4
CL/WA	**All**	**1064**			**65.1**	**86.9**
	% of Total	**20%**				**42%**
All Others	1	382	95%	99.5%	25.0	47.6
All Others	2	563	90%	96.1%	11.3	18.1
All Others	3	1016	85%	93.4%	33.9	29.1
All Others	4	672	0.75	78.8%	15.9	8.6
All Others	5	1503	0.50	44.8%	51.4	15.4
All Others	**All**	**4136**			**137.5**	**118.8**
	% of Total	**80%**				**58%**
Total	**All**	**5200**			**202.6**	**205.7**

The differences identified in the table show that the projects needs are different for different parts of the State. Washoe and Clark Counties – where the population is most concentrated – has relatively more Category 1 and 2 roadways, which are in relatively worse condition compared to the rest of the State. As a result, these two counties require more than 40% of the funding despite only having 20% of the roads.

TABLE 3 also highlights the need for consistent investment in the entire state road network – even in those areas where the pavement is currently performing at an acceptable level. The continuous preservation effort is necessary to ensure that the network does not fall below the targets in the future.

Evaluation of Performance Measure:

Annual target met?

The annual target was met for roads in Categories 1 and 3. Category 2, 4, and 5 did not meet the targets.

Which strategies were in place during the current data reporting period?

- Focus on projects on Category 2 and 5 roads, especially in Clark County and southern Nevada.
- Secure funding at a level more appropriate for these targets.
- Work to transfer ownership of roadways that serve a local need and no longer function as a state route.
- Incorporate the expected performance of candidate projects with respect to these measures directly into the project selection process.

Which strategies applied during the current data reporting period were successful?

- Secure funding at a level more appropriate for these targets. The 2013-2020 average rehabilitation expenditure was $104 million. FY2021 was $192 million, and more than $200 million has been planned for both 2022 and 2023 already. These amounts are reasonably consistent with the projected needs and should allow the performance targets to be met if maintained.
- Work to transfer ownership of roadways that serve a local need and no longer function as a state route. Several sections of local routes have been transferred from NDOT to local agencies between the 2019 and 2020 data collection activities. Notably, significant portions of Category 2 routes SR589 Sahara Ave. and SR159 Charleston Blvd. are no longer in the NDOT inventory.

Which strategies were not successful and why?

None of the strategies included in the 2020 report were unsuccessful. All strategies in place were either successful at some level, or in place for too short of time to determine effectiveness. Pavement projects take several years from conception to completion, and the effectiveness of many of these strategies will not be evident until completion of the projects that originated after these strategies were implemented.

Strategies for improvement planned for next reporting period:

Short Term Strategies

- Include Category 4 and 5 roads in the preservation program. Traditionally, the preservation program has focused on Category 1, 2, and 3 roads, while Category 4 and 5 have been supported by maintenance funds. Significant progress towards the targets will require projects beyond maintenance activities.
- Re-evaluate the assignment of prioritization categories across the network. Most Categories were assigned decades ago and have not been updated since. Changes in

traffic and roadway utilization patterns have led to many instances where the assigned category is not in line with the current expectation of importance. Updating the category assignment should help more effectively manage the network relative to expectations.

Long Term Strategies

- Incorporate the expected performance of candidate projects with respect to these performance measures directly into the project selection process. The development and implementation of the NDOT Enterprise Asset Management System should allow future expected performance to be more easily established and usable for project selection.
- Monitor and evaluate the performance of the network with respect to the targets and distribute projects as necessary to keep it performing at the desired level.

In order to keep the network performing at the targeted levels, the targets themselves, and the network performance relative to them, must be used to help guide the project selection process.

Does this performance measure effectively measure what is desired?

Yes. Based on the deterioration rates of state-maintained roadways, the annual and ultimate targets represent what is realistic, cost effective and acceptable.

Does monitoring and evaluating this performance measure improve your business process?

Yes. Monitoring and evaluating the pavements with respect to these metrics is necessary to determine the effectiveness of the performed rehabilitation and maintenance. Only through the evaluation can progress be determined.

Is there a more effective performance measure that should be considered? If so, explain.

Other performance measures exist and have been investigated by the Department. This measure accurately portrays the experience of the traveling public and what condition is reasonable for the roadway network.

Has the Covid-19 pandemic effected this performance measure or your ability to achieve the targets? If so, explain.

The ability to collect and process the data used for this performance measure has been hampered both by the travel restrictions put in place in 2020, and the hiring difficulties that have been present during the pandemic. This does not directly affect the performance measure, but it does affect the ability to monitor it and evaluate progress.

Will meeting the yearly target have a fiscal impact? If so, explain.

Yes. Meeting these targets requires significant and continual spending on maintenance and preservation projects. However, this can be weighed against the results of underfunding the annual needs of the system, which will lead to an increased deterioration of the entire roadway network. Proactively applying maintenance and preservation strategies to the state-maintained roadway network can extend pavement service life and reduce costly reconstruction projects that not only impact the Department's budget but also impact the traveling public for longer periods of time due to construction projects that take longer to complete.

Next year's target:

The targets for next period are unchanged from the previous reporting period:
Category 1: 95% Minimum fair or better condition
Category 2: 90% Minimum fair or better condition
Category 3: 85% Minimum fair or better condition
Category 4: 75% Minimum fair or better condition
Category 5: 50% Minimum fair or better condition

9. Maintain NDOT Fleet

Performance Measure:

There are two performance measures for the maintenance of the Department's fleet of mobile equipment:

1. Percentage of fleet requiring replacement.

   This measure is the percentage of the fleet that has reached the age or mileage that has been established for replacement.

   A lower percentage is desired, indicating the fleet is being replaced in a timely manner and expensive rebuilds and breakdown repairs are being avoided.

2. Percentage of fleet that complies with scheduled maintenance requirements.

   This measure is the percentage of the fleet that is maintained as per Department preventive maintenance requirements. Preventive maintenance allows the vehicle to perform over expected life without breakdown. As the fleet is maintained per the manufacturer's recommendations based on mileage or accrued hours of operation, compliance is achieved.

   A higher percentage is desired, indicating the fleet is being maintained as recommended to gain the maximum performance life.

Current and Ultimate Targets:

2020 Reporting Period	Fleet requiring replacement (%)	Fleet meeting maintenance requirements (%)
Current Target	Decrease of 1% per year	Increase of 1% per year
Ultimate Target	10% maximum	95% minimum

Performance Champion/Division:

Equipment Division

Supporting Divisions:

Districts I, II, and III support both performance measures by performing scheduled vehicle preventive maintenance at their repair facilities.

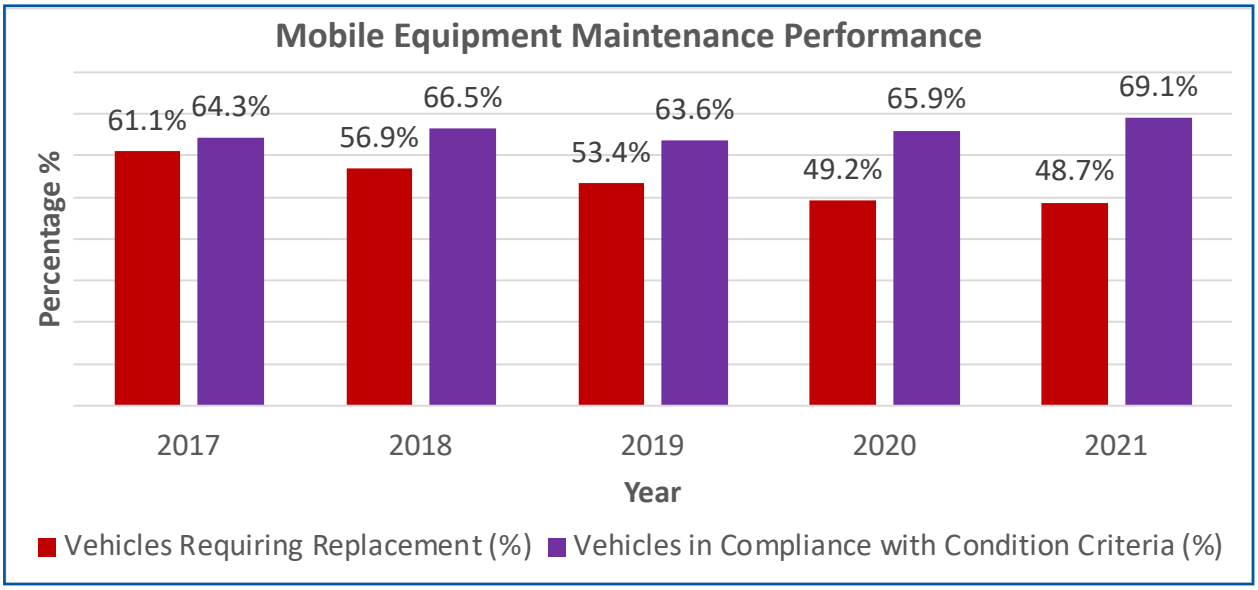
Overview and Plan Support:

In state fiscal year 2020, the Equipment Division continued to purchase new replacement equipment based on funding. The Rebuild Program will be continued on a limited basis for specialty equipment. The Rebuild program was initiated in 2010 due to lack of funding for replacement equipment. This program extends the life of specified equipment that has reached or exceeded replacement criteria and is rebuilt to like-new condition which assists in assuring that the NDOT is adequately equipped for its work efforts in maintaining public safety.

The vehicles in the fleet are important to deliver projects, operate, and maintain a safe highway system. These performance measures help ensure the equipment is in good condition and helps meet NDOT's Mission, Vision, Core Values, and Goals.

Supporting Data:

Year	Fleet Requiring Replacement (%)	Change from Previous Year (%)	Fleet Meeting Maintenance Requirements (%)	Change from Previous Year (%)
FY 2017	61.1	-5.84	64.3	-7.05
FY 2018	56.9	-4.21	66.5	2.24
FY 2019	53.4	-3.45	63.6	-2.87
FY 2020	49.2	-4.24	65.9	2.31
FY 2021	48.7	-0.45	69.1	3.15
Current Target		Decrease of 1% per year		Increase of 1% per year



Evaluation of Performance Measure:

Annual Target Met

1. No. The percentage of fleet requiring replacement decreased by 0.47% not meeting the target of a 1% decrease.

Fleet Requiring Replacement

	SFY 2021	SFY 2022
	As of 7/1/2020	As of 7/1/2021
Total NDOT Fleet	2,714 units	2,738 units
Vehicles meeting age and use replacement criteria	1,335 units	1,334 units
% requiring replacement	49.19%	48.72%

During state fiscal year 2022, 132 units were replaced; however, during this same period, 131 different units met the age and use criteria and require replacement. The fleet is aging, and with the current funding levels, NDOT is barely keeping up with little progress toward the ultimate performance measure. Based on age and current use/mileage projections, more than half the fleet will meet replacement criteria in state fiscal year 2023.

2. Yes. The percentage of fleet that complies with scheduled maintenance requirements increased by 3.15% exceeding the target of more than a 1% increase.

Which strategies were in place during the data reporting period?

1 Fleet requiring replacement
   a. Revise replacement criteria by increasing usage criteria in selected class codes Improved technology has created longer lasting vehicles. Usage criteria was increased for sedans, SUVs, pick-ups, 1-ton trucks, most trailers, street sweepers, excavators, and snow cats.
   b. Increase age criteria in other specified class codes. Selective replacement based on condition and usage that meet one of the replacement criteria. For example, a vehicle meeting both criteria may still have a useful life. Also, a vehicle meeting one replacement criteria may be replaced based on high maintenance cost.
2. Fleet that complies with scheduled maintenance
   a. Analyze quarterly Preventive Maintenance (PM) that was accomplished on core fleet to identify non-compliance and make recommendations for vehicle maintenance.
   b. Develop an enforceable policy for non-compliance of PM standards is still in development.

Which strategies were successful?

All strategies were successful. While the percentage of fleet requiring replacement didn't decrease per the target, the trend is in the right direction. Using the strategies indicates the fleet is being maintained as recommended to gain the maximum performance life.

Which strategies were not successful and why?

All strategies were successful.

Strategies for improvement planned for next reporting period:

Short term strategies

1. Fleet requiring replacement
   a. Continue revising replacement criteria by increasing usage criteria in selected class codes
   b. Continue to remove age criteria in other specified class codes.
2. Fleet that complies with scheduled maintenance
   a. Continue to analyze quarterly Preventive Maintenance (PM) accomplished on core fleet
   b. Continue to develop enforceable policy for non-compliance of PM standards.

Long term strategies

1. Fleet requiring replacement
   a. Maintain fleet size by usage assessments maximizes the usage of underutilized vehicles while minimizing the usage of overutilized vehicles.

2. Fleet that complies with scheduled maintenance
   a. Annual fleet condition audit will be performed by the Equipment Division, highway Equipment Specialist to inspect and ensure compliance of the maintenance policy and procedures.

Does the performance measure effectively measure what is desired?

Yes

Does monitoring and evaluating this performance measure improve your process?

Yes

Is there a more effective performance measure that should be considered? If so, explain

No

Has the Covid-19 pandemic effected your performance measure or the ability to meet your targets? If so, explain.

COVID has no effect on our performance measure unless funding for replacement equipment is cut.

Will meeting the yearly target have a fiscal impact? If so, explain.

1. Percentage of fleet requiring replacement.

   Yes, meeting the target for replacing fleet will require a significant increase in the approved annual replacement budget. In order to reach the ultimate target of a maximum of 10% of the fleet requiring replacement, $101 Million is needed. It is estimated to take 14 years with the current level of funding to reach this ultimate target. To reach this target in 8 years, NDOT will need $12.6 Million/year for 8 years. This represents an annual increase of $5 million/year for 8 years from our current annual budget of $7.5 million/year.

10. Maintain NDOT Facilities

Performance Measure:

NDOT buildings play a vital role in NDOT's mission of operating a safe roadway transportation system. There are two performance measures for the maintenance of NDOT facilities.

1. Percentage of facilities with a current Facility Condition Assessment (FCA).

   By law, state facilities must be assessed periodically, and by policy, NDOT does so on a seven-year cycle. This measure is the percentage of buildings that have a current FCA. On a seven-year cycle, Maintenance & Asset Management (M&AM) conducts FCAs, which are high-level assessments of the conditions of the buildings at all NDOT-owned sites. All structures observed during the FCA site visits are recorded in the buildings inventory. NDOT performs its own FCAs while SPW performs it for other public agencies.

2. Overall Condition Composite.

   This measure reports a composite figure which represents the overall condition of NDOT buildings. The figure ranges from a minimum of 0 to a maximum of 1. A higher figure indicates a better average condition of NDOT's buildings than a lower figure. Please see the Overview and Plan Support section for a detailed explanation of how the figure is calculated.

Current and Ultimate Targets:

2020 Reporting Period	Current FCA (%)	Overall Condition Composite
Current Target	95.7%	0.66
Ultimate Target	100%	1.00

Performance Champion/Division:

Maintenance and Asset Management Division/Architecture Section

Support Divisions:

Districts, R/W, Environmental

Overview and Plan Support:

The Maintenance and Asset Management Division (M&AM) maintains an inventory of buildings and building-like structures owned and operated by NDOT, excluding most leaseholds. The following categories of structures are excluded from this report:

- Leaseholds on private property where NDOT owns no title to the land (e.g., an office lease in a privately-owned building);
- Building-like structures (e.g. shade ramadas, etc.);
- Non-building structures (e.g. wash pads, cutback oil tanks, etc.)
- Non-hazardous buildings and building-like structures with purely highway operations purposes (e.g. Boschung buildings, fiber huts, radio towers, etc.);
- Buildings of a minor nature that are not for occupancy (e.g. residential or other minor storage sheds, etc.); and
- Buildings less than 120ft^2 in area that pose no operational risk of failure.

Trained teams with broad-based experience in inspection, engineering, and architecture are employed to conduct the FCA's. The ratings are generated through visual observation only, which is consistent with the intention that the FCA rates buildings at a high level. These teams rate each building for adequacy in 10 performance categories. For each performance category, the number of buildings with acceptable ratings is divided by the total number of applicable buildings within the category and the results are plotted as percentages in Figure 1. The performance categories are:

1. **Accessibility** – The building, or applicable portion thereof, complies with accessibility codes. The rating is either "yes" (fully compliant with applicable accessibility code), or "no" (if there is any exception to full compliance). Facilities where construction commenced prior to January 26, 1992, are exempt from accessibility codes to the extent that they have not been altered after that date. Residences are exempt from accessibility codes. A higher percentage indicates better average accessibility compliance.
2. **Painting** – The building exterior requires paint within the next three years. The rating is either "yes" (paint is required within three years), or "no." Buildings which do not require paint on the exterior envelope are not rated. A higher percentage indicates better average condition of paint.
3. **Roofing** – The building requires major maintenance or replacement to the roof within five years. The rating is either "yes" (major maintenance or replacement is required within five years), or "no." A higher percentage indicates better average condition of roofs.
4. **Life-Safety** – The building has exit signs (if required), egress lighting, automatic fire suppression (if required), and a fire alarm/smoke detection system (as applicable). The rating is either "yes" (all applicable systems are installed and operational), or "no" (any applicable system is not present). A higher percentage indicates a greater number of buildings have all required life-safety systems.
5. **Lighting and Electrical** – Rating of the overall condition of the building's lighting and electrical systems, excluding issues that are otherwise accounted for in Life-Safety and/or Energy Conservation (for example, egress lighting would be considered under Life-Safety rather than Lighting and Electrical). The rating is either "good" (no deficiencies noted, or minor deficiencies which are easily correctable by NDOT staff), "fair" (some deficiencies noted which could require contractor or engineering assistance to correct but pose no hazard to personnel or operations), or "poor" (deficiencies are noted which could require engineering and contractor support, and/or pose hazards to personnel and/or operations). Ratings of "good" and "fair" are considered acceptable. A higher percentage indicates better average condition of lighting and electrical systems.
6. **Mechanical Systems** – Rating of the overall condition of the building's heating, ventilation, air conditioning, and plumbing systems. The rating is either "good" (no deficiencies noted, or minor deficiencies which are easily correctable by NDOT staff), "fair" (some deficiencies noted which could require contractor or engineering assistance to correct but pose no hazard to personnel or operations), or "poor" (deficiencies are noted which could require engineering and contractor support, and/or pose hazards to personnel and/or operations). Ratings of "good" and "fair" are considered acceptable. A higher percentage indicates better average condition of mechanical systems.
7. **Energy Conservation** – Energy improvements are recommended due to one or several of the following conditions existing in the building: non-LED lighting; no automated lighting control; inefficient or obsolete heating/cooling/ventilation system; no automated heating/cooling/ventilation system control; lack of thermal insulation where the construction of the building or a component of the building readily allows for installation of additional

insulation or insulated components; non-insulated glazing, and insulated glazing units which have failed or show signs of deterioration. The rating is either "yes" (one or several improvements are recommended), or "no." A higher percentage indicates a better average degree of energy efficiency.

8. **New Building Needs** – There is a known need for a replacement and/or additional building. The rating is either "yes" (a replacement or additional building is needed), or "no." A higher percentage indicates a lesser need for replacement and/or additional buildings.
9. **Additions** – There is a known need to add area to an existing building. The rating is either "yes" (additional area must be added to the building), or "no." A higher percentage indicates a lesser need for additions.
10. **Tenant Improvements** – There is a known need for space reconfigurations, carpeting, remodeling, and similar major interior work. The rating is either "yes" (there is a known need), or "no." A higher percentage indicates a lesser need for tenant improvement work.

Finally, a composite number is generated by averaging all 10 performance category ratings. The composite number is the value reported in the Current Year Target and Actual Reported Value sections and is plotted for the current and previous four state fiscal years in Figure 2.

Measurement and Supporting Data:

Construction on eighteen (18) capital projects has been completed in the current reporting period. Completed projects include the installation of a manufactured building, replacements, repairs, retrofits, renovations, installations, emergency repairs, and a feasibility study, among others.

The Architecture Section maintains records for 518 structures, some of which are minor in nature or leased as defined in the Overview and Plan Support section. Omitting minor and leased structures, Performance Measure 10 tracks data for 372 buildings. As of the time this report was written, the average age of an NDOT building is about 45.5 years.

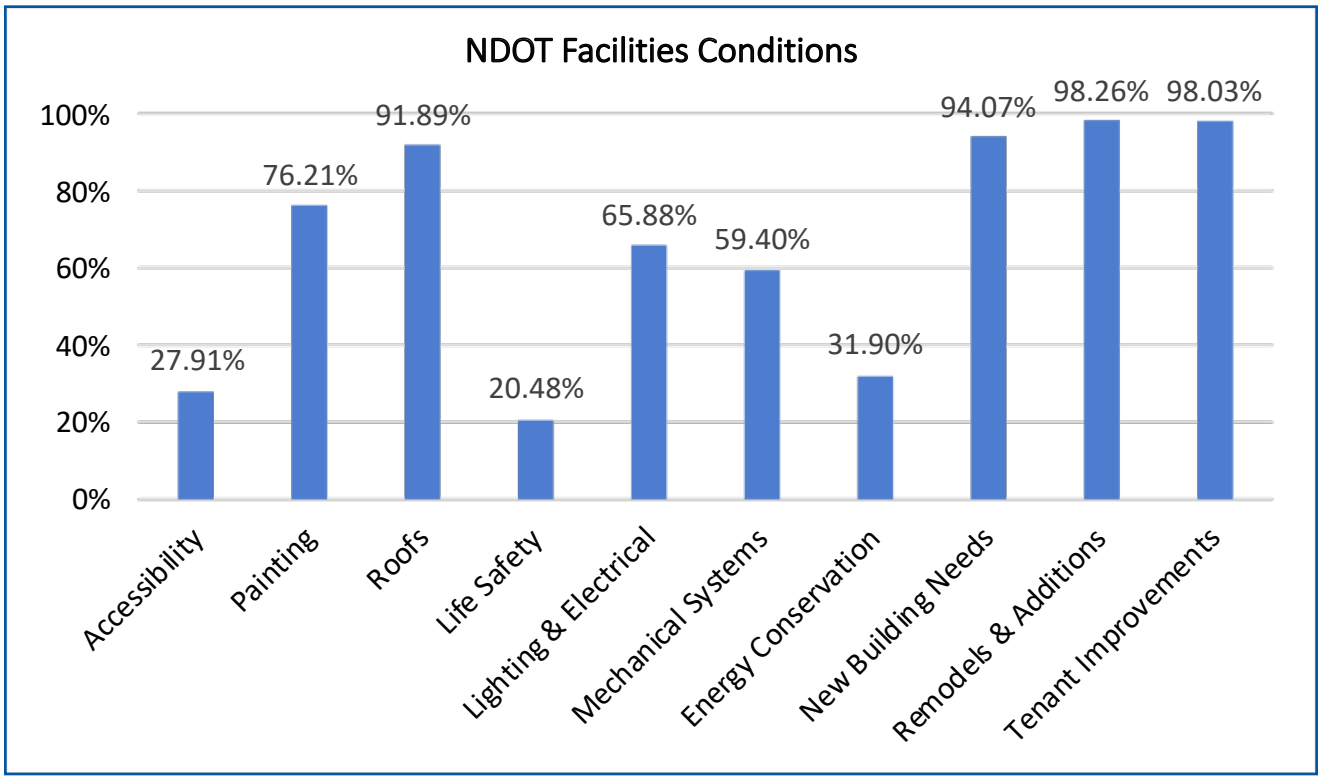


FIGURE 1 – NDOT Facilities Conditions Performance Categories

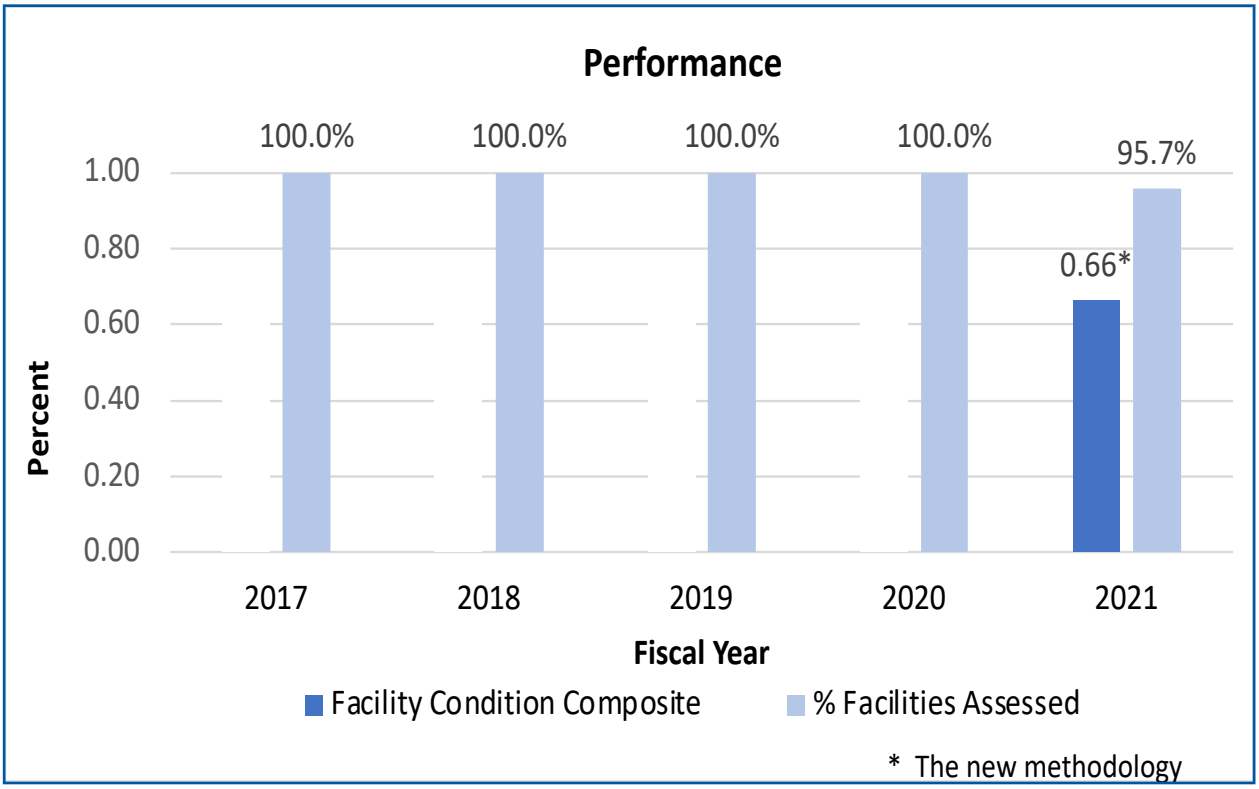


FIGURE 2 – Composite Score over Five Years

EVALUATION OF PERFORMANCE MEASURE

Annual Target Met

Not applicable. The new data used in this report makes this score not comparable to scores from previous years as explained in the Actual Reported Value section. In future years, state fiscal year 2021 will be used as the baseline for comparison.

Which strategies were in place during the data reporting period?

As-built plans and photos of facilities are now available in GIS, and all buildings are georeferenced in GIS. This will make future assessments easier and more precise because georeferencing will eliminate any confusion caused by different people using different names/ descriptions for the same building. It should also make mobile data collection much faster and more practical for future assessments.

During state fiscal year 2021, all of NDOT's significant structures were added to ShakeCast.

Which strategies applied during the current data reporting period were successful?

GIS made mobile data collection efforts faster and more practical. GIS greatly assisted NDOT's implementation of ShakeCast.

Immediately following seismic events, ShakeCast evaluates NDOT's buildings to predict if damage is likely, what level of damage, and notifications are sent to appropriate parties. This strategy assists NDOT by identifying deficiencies sooner than current practices by prioritizing facility inspections where damage is most likely to have occurred.

Which Strategies were not successful and why?

The strategies were successful to the extent that NDOT benefited from them. They were unsuccessful to the extent that we did not improve the composite score by 2 points.

Strategies for improvement planned for next reporting period:

Short-term strategies:

Staffing challenges limit the volume and speed of work that Architecture can deliver. During the first half of state fiscal year 2022, Architecture will begin augmenting staff through professional services agreements, and it is anticipated that these additional resources will increase capacity while at the same time reducing the lead time for some future architecture projects.

NDOT buildings are aging and in need of repair. One of NDOT's strategic initiatives is to prioritize building and facility needs as there is not a current strategic plan for prioritization of repair of NDOT's buildings and facilities. NDOT is working with a program manager to produce detailed strategic plans which quantify and prioritize the needs of NDOT facilities to assist NDOT in setting long-range goals and planning for the achievement of those goals. The plans will include priorities with options for variables such as condition, occupancy, critical operations, etc. The plans will be prepared for NDOT's Executive Leadership Team to approve and advance for funding.

Long-term strategies:

We are working on refinements to improve the efficiency of our assessment data to better enable the prioritization of projects. System improvements to maintain the performance measure are being enacted to reduce the potential for discontinuities and reconciliation of data sets as was observed recently. Additional efforts are being extended to increase the project capacity of the division to assist in reducing the backlog of necessary projects and deficient facilities throughout the state.

Does this performance measure effectively measure what is desired?

No. By their nature, capital projects often require years to plan, fund, and construct, and therefore it is ordinary for very few changes occur to the performance measure data within a state fiscal year, when in reality, significant progress is being made. NDOT will identify different performance goals to effectively measure its program.

Does monitoring and evaluating this performance measure improve your business process?

No. The reporting timeline either needs to be increased or capital project milestones need to be tracked in order to monitor and evaluate performance.

Is there a more effective performance measure that should be considered? If so, explain.

Yes. The Performance Measure needs to be modified to demonstrate progress as well as drive decisions.

Has the COVID-19 pandemic affected this performance measure or your ability to achieve targets. If so, explain.

Yes. The COVID-19 pandemic affected the Architecture Section's ability to meet targets by slowing delivery of some projects due to stakeholder availability and budgetary uncertainties early in the pandemic. Travel restrictions and quarantines made administration of out-of-town construction difficult, and communication with stakeholders was more difficult which delayed plan reviews and other permitting/inspection actions.

Will meeting the next yearly target have a fiscal impact? If so, explain.

Yes. There are fiscal impacts associated with the funding for needed projects as well as with the resources needed to deliver them.

Funding:

The estimate of the total backlog of vertical capital improvement needs exceeds $1 Billion. The vast majority of this is comprised of the need to rehabilitate/reconstruct the existing maintenance station inventory and construct new maintenance stations. Statewide, there are approximately 352 maintenance station buildings at 62 sites with an average age of 46 years. The oldest are 81 years. In additional to the needs of the maintenance stations, new administration facilities are needed to accommodate the staffing needs of NDOT as change has occurred at a rate that has not been matched by construction of new building assets. There are approximately 125 rest area buildings on 34 sites. The average building age is 34 years. The oldest are 66 years.

In summary, the total need is very large due to decades of minimal capital improvement spending and lack of a formal, long-range capital plan.

Resources:

Beyond the need to plan for the actual construction of these and other projects, planning to adequately align the staffing of Architecture to the need is critically important. Both the type and number of staff in the Architecture Section are significantly mismatched to Architecture's role and workload.

Next year's target:

0.68

11. Emergency Management, Security and Continuity of Operations

Performance Measure:

This Performance Measure involves tracking the percentage of emergency plans that have been completed; training and education that has been provided to appropriate personnel; and emergency plans that have been tested, exercised, and updated to accommodate changes in departmental processes and policies and to reflect any changes to Federal and State guidelines.

Training and updates are to be completed within a 4-year period. The Performance Measure 11 plans include:

- NDOT Emergency Operations Plan (EOP)
- NDOT Physical Security Plan (PSP)

Current year target:

100%

Ultimate target:

100%

Performance Champion/Division:

Maintenance and Asset Management

Support Divisions

All NDOT divisions

Overview and plan support:

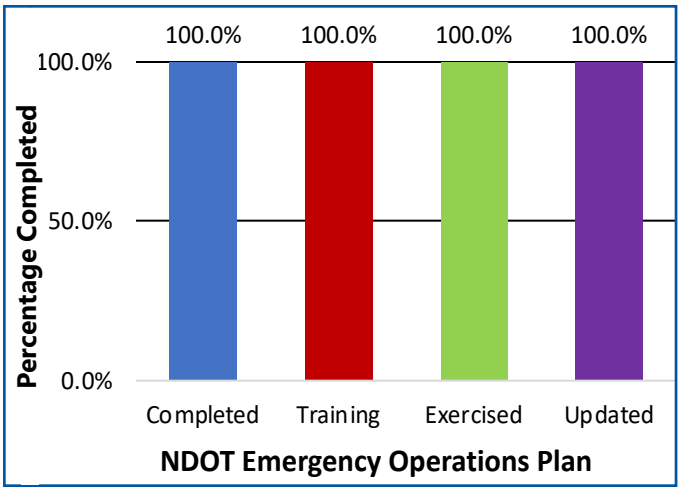
NDOT's emergency plans provide clear guidance on how NDOT will continue to perform critical functions and operations in the event of an emergency or disaster. The EOP provides a structure, processes, and procedures for the Department to continue operations in support of the state during catastrophic emergencies, including those effecting the Department directly. The PSP provides guidance for handling physical security threats to the Department directly as well as the Department providing support to others during homeland security type events.

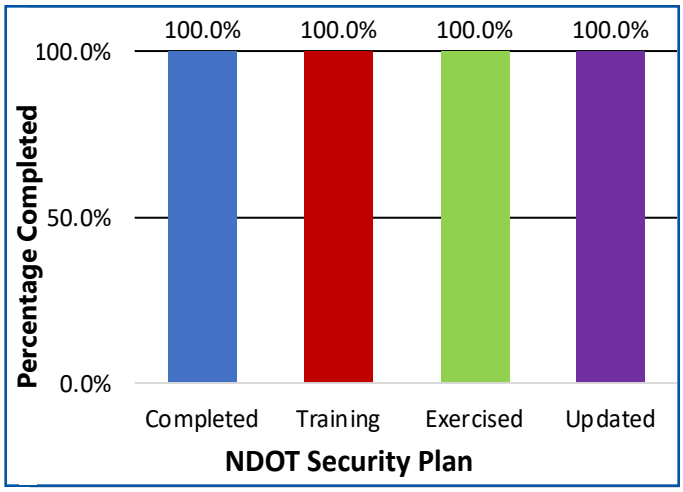
Being prepared and ready for an emergency is paramount to keeping systems operating during such times, as well as being in a position to respond to health and safety issues. Completing the Performance Measure 11 tasks helps NDOT meet its Mission, Vision, Core Values and Goals.

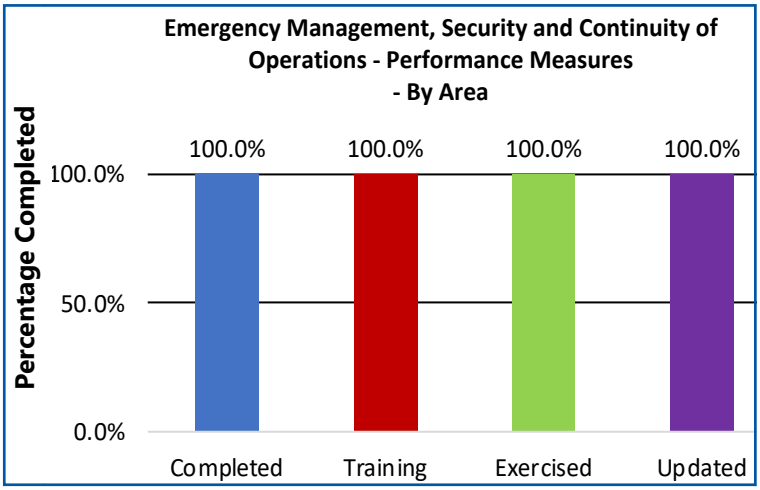
Measurement and supporting data:

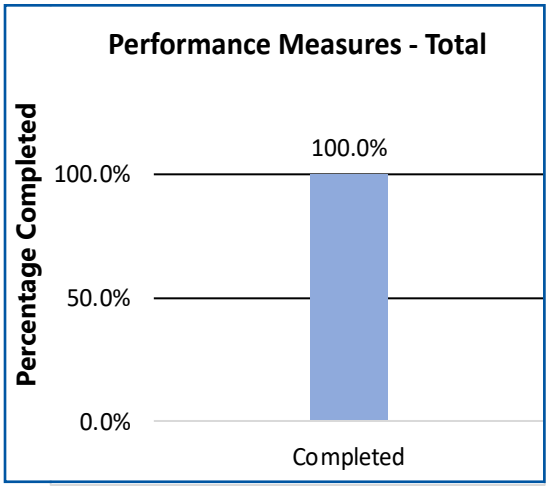
SFY 2021
7/1/2020 through 6/30/2021

Mem	Were PM requirements met by providing Training within last 4 years	Date of Last Training	Were PM requirements met by providing Exercises within last 4 years	Date of Last Exercise	Were PM requirements met by Updating Plans within last 4 years	Date of Last Updates
NDOT Emergency Operations Plan (EOP)	Y	05/19/2021	Y	04/06/2021	Y	05/18/2021
NDOT Physical Security Plan (PSP)	Y	04/06/2021	Y	04/06/2021	Y	01/21/2021
% Compliant	100%	100%	100%	100%	100%	100%









Evaluation of performance measure:

Annual target met?

Yes

Which strategies were in place during the current data reporting period?

Strategies applied during the current data reporting period included:

- Tracking the percentage of emergency plans that have been completed.
- Conducting, participating in, and tracking training and education that has been provided to appropriate personnel.
- Conducting, participating in, and tracking emergency plan testing, exercising, and updating.
- Conducting "hotwashes" following real events to determine successful practices and challenges in NDOT's emergency plans.

Which strategies applied during the current data reporting period were successful?

All strategies have been successful. Due to the number of real events this year, including the COVID-19 pandemic (throughout the year), various wildfires (July 2020 and June 2021), and potential civil unrest events (August 2020, October 2020, November 2020, January 2021 and April 2021), the most successful strategy has been to conduct "hotwashes" following real emergency events. Lessons learned from these "hotwashes" will be incorporated into the EOP and in the various training sessions in order to improve NDOT's responses to emergencies.

Which strategies were not successful and why?

All strategies were successful.

Strategies for improvement planned for next reporting period:

Short term strategies:

The chart below outlines the proposed schedule for maintaining compliance with this performance measure. Regular exercises and training will remain a fundamental part of this section's strategy.

EOP Compliance Projection for Next Fiscal Year

	Training	Exercises	Updates
Date Due	06/24/2024	06/24/2024	07/30/2021
FY22 Q1 Jul 21 - Sep 21	District 3 Training	District 3 Virtual Exercise	Full EOP Update
FY22 Q2 Oct 21 - Dec 21	District 1 Training	District 1 Virtual Exercise	Contact List Update
FY22 Q3 Jan 22 - Mar 22	District 2 Training	District 2 Virtual Exercise	Contact List Update
FY22 Q4 Apr 22 - Jun 22	HQ/Senior Management Training	HQ Virtual Exercise	Contact List Update

The NDOT security audit was completed at the end of FY2020. Pertinent security issues raised in the security audit report, such as video surveillance upgrades, fence and gate security measures, and building observation practices, will be incorporated into the PSP. The chart below outlines the proposed schedule for maintaining compliance with this performance measure.

PSP Compliance Projection for Next Fiscal Year

	Training	Exercises	Updates
Date Due	05/31/2024	05/31/2024	06/30/2022
FY22 Q1 Jul 21 - Sep 21	District 3 Training	District 3 Virtual Exercise	None
FY22 Q2 Oct 21 - Dec 21	District 1 Training	District 1 Virtual Exercise	Critical Infrastructure List Update
FY22 Q3 Jan 22 - Mar 22	District 2 Training	District 2 Virtual Exercise	Draft PSP Update
FY22 Q4 Apr 22 - Jun 22	HQ/Senior Management Training	HQ Virtual Exercise	Full PSP Update

Long term strategies:

The Emergency Management Section plans to continue to provide quarterly training each year and to continue working with District and HQ personnel to enhance the NDOT EOP and the NDOT PSP over time. With the pandemic ensuing, training and exercises may need to continue to be conducted virtually.

Does this performance measure effectively measure what is desired?

Yes.

Does monitoring and evaluating this performance measure improve your business process?

Yes. Monitoring and evaluating this performance measure ensures that, at least quarterly, we inspect existing processes. Adjustments are made, if necessary, to improve these processes.

Is there a more effective performance measure that should be considered? If so, explain

No.

Has the Covid-19 pandemic effected this performance measure or your ability to achieve the targets? If so, explain.

Yes. Although the Emergency Management section has been able to meet the performance measure targets, training and exercises have been conducted virtually in place of traditional tabletop style events. This has caused difficulties in the quality of communications during the events as the moderator of the events has not been able to always see the participants, and therefore do not have the same ability to recognize body language indicating confusion, disagreement, or further interests in a particular topic.

Will meeting the yearly target have a fiscal impact? If so, explain.

No fiscal impact is anticipated.

Next year's target:

The target for next period is unchanged from the previous reporting period: 100%.

12. Reduce Fatal & Serious Injury Crashes

Performance Measure:

Number of fatalities, fatality rate, number of serious injuries, serious injury rate, and the number of non-motorized fatalities and serious injuries on Nevada's streets and highways.

Current year target:

All targets are based on 2016-2020 Nevada's Strategic Highway Safety Plan (SHSP) Goals to reduce fatalities and serious injuries. The 2020 targets were identified in the 2019 Highway Safety Improvement Program (HSIP) annual report submitted to the Federal Highway Administration (FHWA). The performance measures were developed using the best available crash data from 2014-2018 and calculated with the best available crash data from 2016-2020.

Ultimate target:

Zero.

Performance Champion/Division:

Traffic Safety Engineering

Support Divisions:

All NDOT divisions.

Overview and plan support:

All drivers and highway system users should expect a safe highway system. The 2021-2025 SHSP focuses on the 6 "E's" of traffic safety: Equity, Engineering, Education, Enforcement, Emergency Medical Services/Emergency Response/Incident Management, and Everyone. Through the efforts of the 6 E's fatal crashes can be eliminated. The strategies for this performance measure are defined in the Nevada 2016-2020 SHSP and align with the Department of Transportation Strategic Plan goals.

Measurement and supporting data:

These measurements are in line with FHWA and the National Highway Traffic Safety Administration (NHTSA) reporting requirements. The evaluation of performance for 2020 includes preliminary crash data for 2020. The data in this report uses a five-year rolling average.

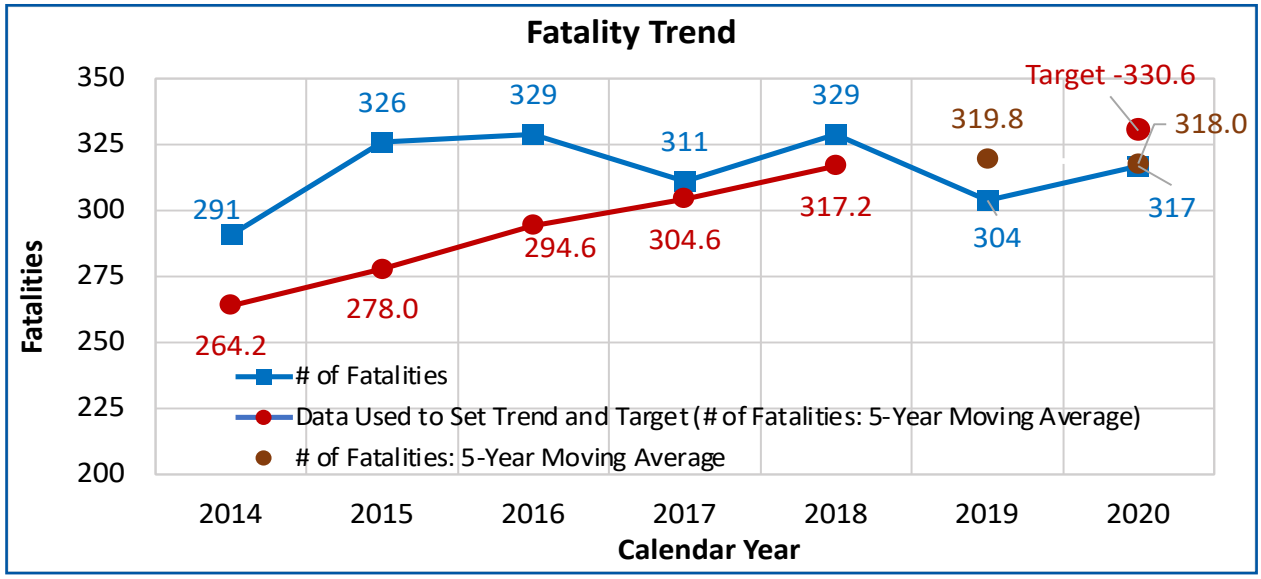
Evaluation of Performance Measure

Annual target met?

See individual targets on following pages.

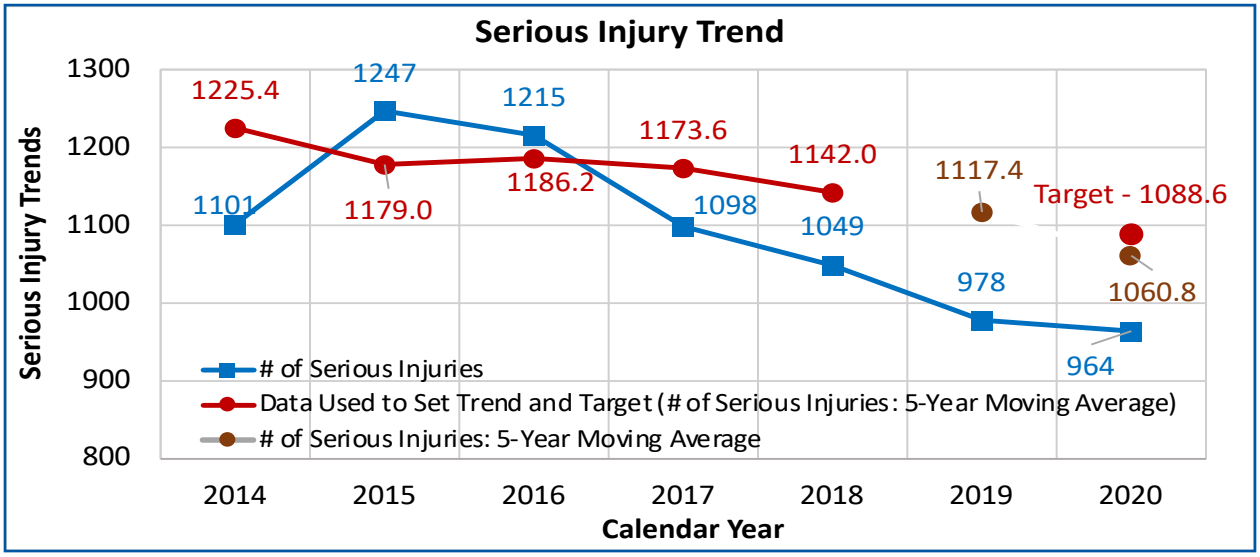
Measure 1: Number of Fatalities – Target met

The 2020 target was based on the five-year rolling average calculated using the best available data from 2014-2018 and published in the 2019 HSIP Report per FHWA guidance using the best available data through December 2018. The actual number is calculated using the five-year rolling average from 2016-2020 using the best available data through December 2020. The year-to-year data is included for transparency.
Target Rolling Average– 330.6
Actual Rolling Average– 318.0



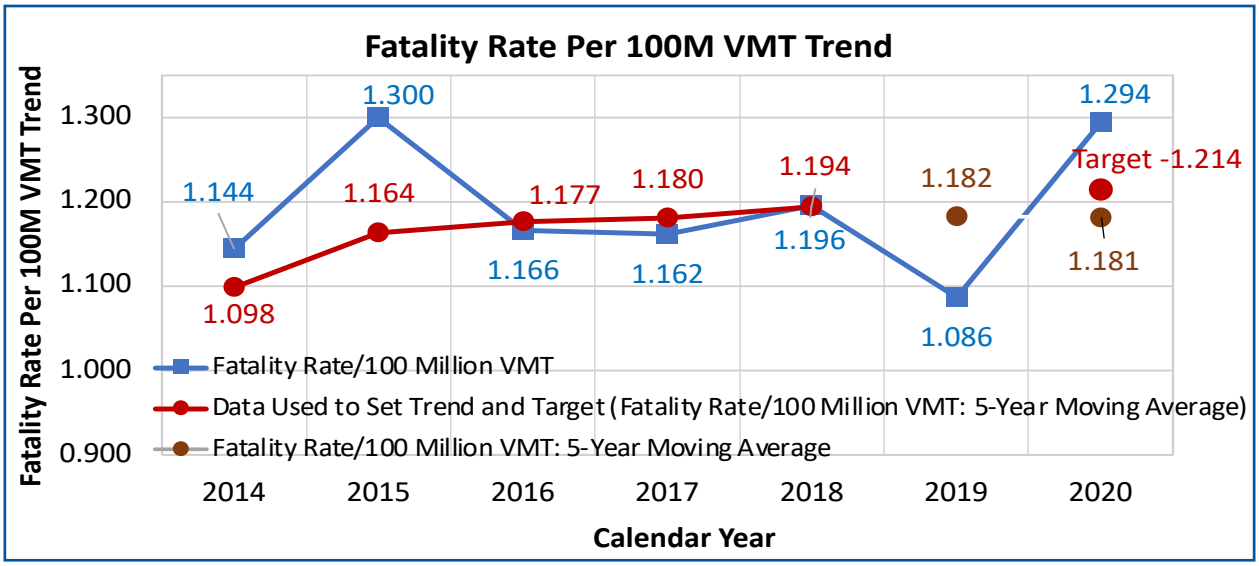
Measure 2: Number of Serious Injuries – Target met

The 2020 target was based on the five-year rolling average calculated using the best available data from 2014-2018 and published in the 2019 HSIP Report per FHWA guidance using the best available data through December 2018. The actual number is calculated using the five-year rolling average from 2016-2020 using the best available data through December 2020. The year-to-year data is included for transparency.
Target Rolling Average – 1088.6
Actual Rolling Average – 1060.8



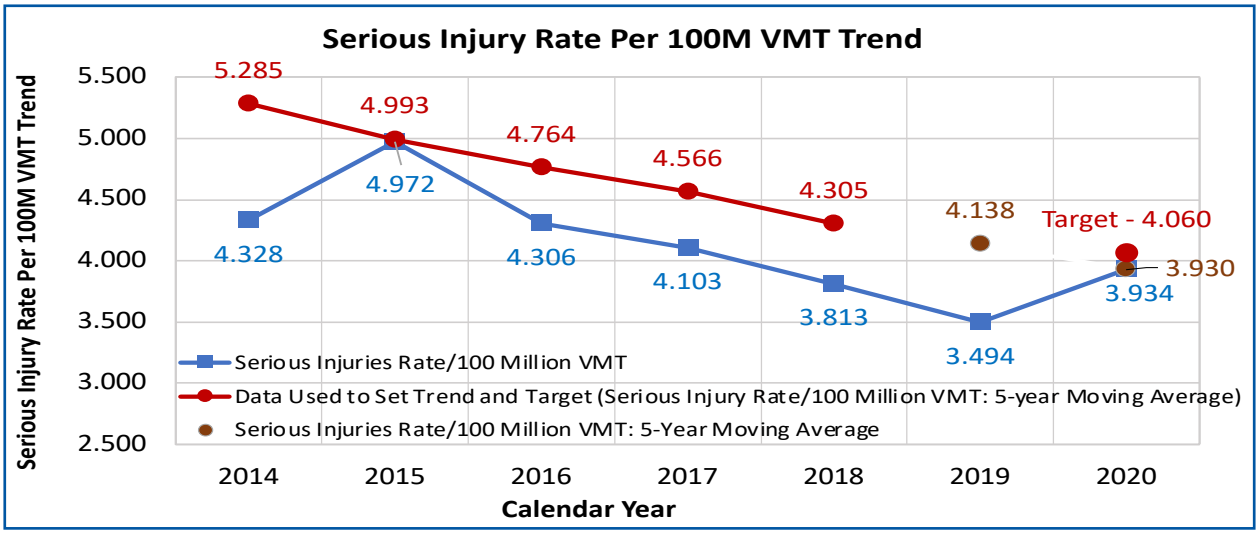
Measure 3: Number of Fatalities Per 100M Vehicle Miles Traveled (VMT) – Target met

The 2020 target was based on the five-year rolling average calculated using the best available data from 2014-2018 and published in the 2019 HSIP Report per FHWA guidance using the best available data through December 2018. The actual number is calculated using the five-year rolling average from 2016-2020 using the best available data through December 2020. The year-to-year data is included for transparency.
Target Rolling Average – 1.214
Actual Rolling Average – 1.181



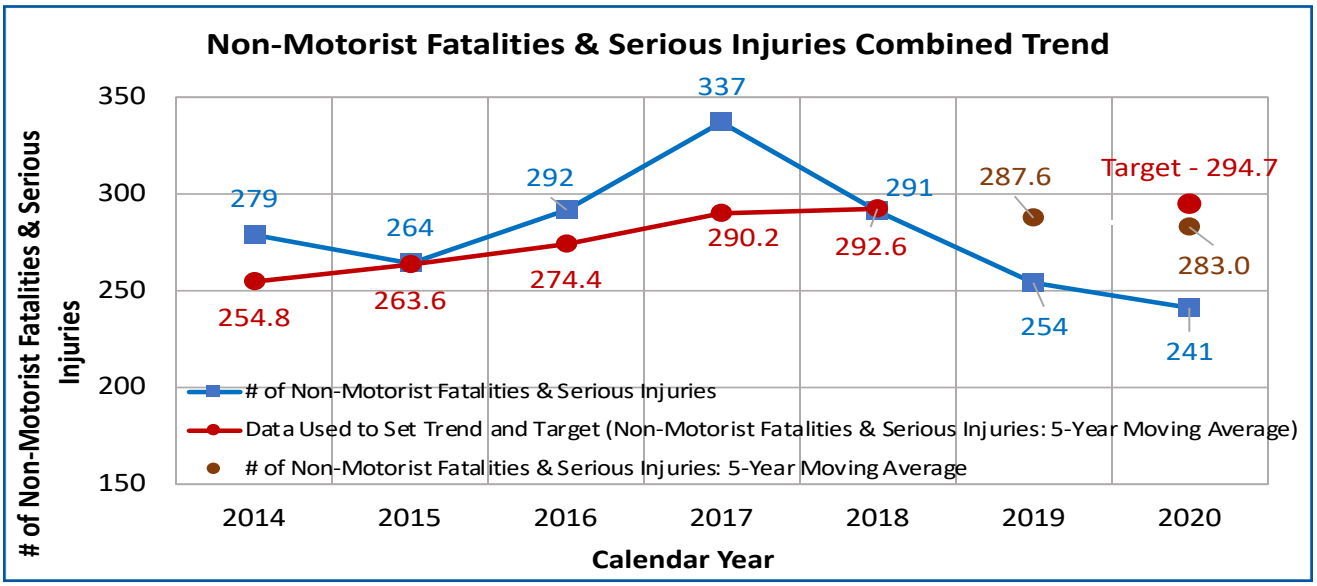
Measure 4: Number of Serious Injuries Per 100M Vehicle Miles Traveled (VMT) – Target met

Number of serious injuries per 100M Vehicle Miles Traveled (VMT) – Target Met
The 2020 target was based on the five-year rolling average calculated using the best available data from 2014-2018 and published in the 2020 HSIP Report per FHWA guidance using the best available data through December 2018. The actual number is calculated using the five-year rolling average from 2016-2020 using the best available data through December 2020. The year-to-year data is included for transparency.
Target Rolling Average– 4.060
Actual Rolling Average– 3.930



Measure 5: Number of Non-Motorized Fatalities and Serious Injuries – Target met

The 2020 target was based on the five-year rolling average calculated using the best available data from 2014-2018 and published in the 2020 HSIP Report per FHWA guidance using the best available data through December 2018. The actual number is calculated using the five-year rolling average from 2016-2020 using the best available data through December 2020. The year-to-year data is included for transparency.
Target Rolling Average– 294.7
Actual Rolling Average– 283.0



Which strategies applied during the current data reporting period were successful?

Strategies for Performance Measure 12 are identified in the Nevada 2016-2020 SHSP. The SHSP is a data-driven, multi-year, comprehensive plan that identifies and analyses highway safety problems and opportunities on all public roads with cooperation from public and private stakeholders.

SHSP strategies include:

- Low-cost improvements to keep vehicles in their lane
- Crash data analysis to identify high crash locations at intersections and along corridors
- Systemic safety improvements identified as FHWA Proven Safety Countermeasures
- Develop Safety Management Plans (SMPs) to analyze select corridors
- Perform Road Safety Audits (RSAs) to identify opportunities on Nevada's roadways

Which strategies were not successful and why?

Due to the systemic nature of current safety strategies, it is difficult to measure effectiveness or ineffectiveness of strategies. Additional data and analysis opportunities are under consideration.

Strategies for improvement planned for next reporting period

Short Term Strategies:

Develop a Passing and Climbing Lane study using highway attributes and crash data to prioritize projects as part of the Lane Departure Task Force of the 2021-2025 SHSP. The results of the study will prioritize projects through the One Nevada Transportation Plan and the Nevada Highway Safety Improvement Program (HSIP). The study will be completed in late 2022.

Continue to invest Nevada's HSIP Core Federal-Aid funds on strategies that will reduce fatalities and serious injuries as identified in the 2021-2025 SHSP.

Develop a Safe Systems approach that can be implemented throughout the department. The FHWA states that Safe System approach aims to eliminate fatal and serious injuries for all road users. It does so through a holistic view of the road system that first anticipates human mistakes and second keeps impact energy on the human body at tolerable levels.

Implement and track the Wrong Way Driver strategies on Nevada's freeway off-ramps and the Traffic Incident Management System to prevent secondary crashes.

Develop a Speed Management Action Plan that looks at the way speeds are set on Nevada's roads. The plan uses the best available data on speed and crashes to develop strategies and actions that will reduce speed and speeding related fatalities and serious injury crashes on Nevada's roadways. This study will be completed in 2022.

Long Term Strategies

Engage local agencies and work with to develop Local Road Safety Programs (LRSP) that identify local concerns. LRSP's have been identified as proven countermeasures by the FHWA.

Continually update RSA procedure manual to reflect a virtual RSA option and current best practices identified by the FHWA.

Participate in the expansion of the Traffic Incident Management program to efficiently manage traffic crashes.

Does this performance measure effectively measure what is desired?

Yes. This performance measure is based off a five-year rolling average using the best available crash data. This performance measure aligns with FHWA reporting requirements outlined in the HSIP.

Does monitoring and evaluating this performance measure improve your business process?

Yes. The performance measure matches the goals in the HSIP and 2016-2020 SHSP.

Is there a more effective performance measure that should be considered? If so, explain.

No. This matches FHWA reporting requirements..

Has the Covid-19 pandemic affected this performance measure or your ability to achieve the targets? If so, explain.

Crash data is not fully available until the end of the following calendar year. The 2021 Performance Measure will be based on the best available data from 2017-2021. Preliminary data from 2021 indicates that NDOT will struggle to meet targets the 2021 targets in the 2022 Performance Management Report. The department recognizes the immediate problem with pandemic related fatal & serious crashes and the Traffic Safety Engineering team is working with its SHSP partners to respond.

Will meeting the yearly target have a fiscal impact? If so, explain.

No. NDOT will continue to prioritize safety on Nevada's roadway system. This performance measure includes data from public roads in Nevada, not just NDOT maintained roads. There are several factors that are out of control of the Department. These factors are addressed in the 2021-2025 SHSP and are critical to reach Nevada's goals of zero serious injuries and fatalities on Nevada's roadways.

Next year's target:

All targets are based on Nevada's 2016-2020 SHSP Goal of Zero Fatalities and included in the 2020 Nevada HSIP report. These targets were set in the 2020 HISP Report. Targets are set with five-year rolling average from 2015-2019 using the best available data through December 2019.

Measure 1: Number of Fatalities - 330.2
Measure 2: Number of Serious Injuries - 1154.7
Measure 3: Number of fatalities per 100M VMT - 1.226
Measure 4: Number of serious injuries per 100M VMT - 3.835
Measure 5: Number of Non-Motorized Fatalities and Serious Injuries - 309.8

13. Project Delivery - Schedule and Estimate for Bid Advertisement

Performance Measure:

This performance measure was established to track project delivery performance within the federal fiscal reporting year (FFY), October 1, 2020, to September 30, 2021. This measure is quantified by:

1. Schedule: The percentage of scheduled projects advertised within the established federal fiscal reporting year.
2. Project Cost: The percentage of engineers' estimates within a range of the awarded contract estimate. The comparison ranges include:
   a. Intermediate (60% Design) engineer's estimate is within 15% of the awarded contract estimate
   b. Final (100% Design) engineer's estimate is within 10% of the awarded contract estimate

Current year target:

80%

Ultimate target:

80%

This performance measure incorporates most project contracts advertised for construction by the Department through the electronic bidding process. Projects administered through a separate process are not captured in this metric. This includes capital improvement projects managed by the Architectural Division and contracts which cost under $250,000.

The methodology to complete this performance measure is to establish a baseline list of scheduled projects at the start of the FFY (October 1). These project schedules and costs are tracked throughout the year to award. Projects added after October 1 that are expected to be advertised and awarded prior to September 30th are also tracked and reported for cost performance.

The reason for tracking projects according to the federal fiscal year timeline is because a large percentage of the Department's programs are delivered using federal funds. The Department tries to use all available federal funding. Doing so enables the Department to request, and in most cases receive, additional obligation authority, enabling more federal funds to be spent to produce more projects. For example, the Department was able to spend an additional $33.8 million in federal funds during this reporting year.

Performance Champion/Division:

Roadway Design, Scheduling and Estimating Section

Support Divisions:

ADA, Bridge/Structures, Hydraulics, Landscape and Aesthetics, Maintenance and Asset Management: District Betterment, Project Management, Stormwater, Traffic Operations, Traffic Safety Engineering, Transportation Multimodal Planning

Overview and plan support:

This performance measure works towards meeting NDOT's Strategic Plan goals of putting safety first and efficiently operating and maintaining the transportation system in Nevada. With the effective planning and delivery of contracts more lane miles will be preserved and improved, mobility and travel time will be enhanced, multi-modal accommodations will be provided, freight and economic networks will be accounted for, and the needs of the environment and communities will be understood. NDOT will be able to consistently coordinate with other state agencies, federal and local public entities, and the public, to reach these goals.

Measurement and supporting data:

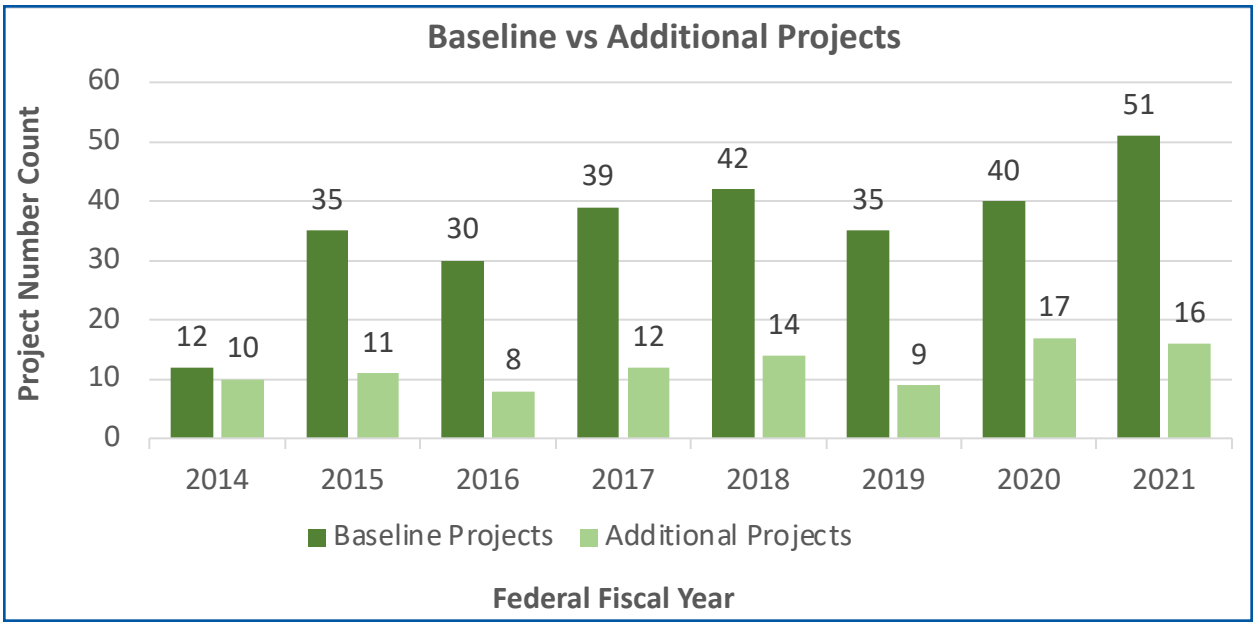
1. Schedule Data:

At the beginning of the reporting period, 51 baseline projects were scheduled for FFY 2021; of the 51 baseline projects, 37 were advertised.

Aside from the baseline, an additional 16 non-baseline projects were scheduled and delivered for FFY 2021 resulting in a combined total of 53 scheduled and delivered projects for FFY 2021. delivery.

	Baseline	Additional	TOTAL
Delivered	37	16	53
Not Delivered	14	-	
Data not Available*	0	3	
TOTAL	51		

* The project bid opening occurs after the reporting cutoff date; therefore, the awarded contract data is not available to report on. October 14, 2021 was determined to be the cutoff date for data collecting to meet the Performance Measure reporting deadline.



There are various reasons for projects to be added or shifted to a different delivery year. Reasons for the 16 added this year include changes in the Department's priority, acceleration for funding fulfillment, and project replacement due to unexpected delays from an associated project.

Urgent or emergency projects, such as Contract 3887, are another example of unplanned additional projects. On April 6, 2021, the Notice to Proceed for Contract 3865 was provided to the contractor to construct a two-inch overlay on ten miles of State Route 140(SR 140), in Humboldt County, in rural Nevada. As the contract was progressing, the District overseeing that route noticed the haul trucks, for that contract, were accelerating the damage to a segment of SR 140 south of the project limits. The pavement treatment needed to repair these three miles was entirely different than the existing contract scope: pulverize a large portion of the damaged roadbed and replace anew. With that, the Maintenance and Assets Division scheduled an urgent project on July 15, 2021, and, on September 13, 2021 was awarded for $1,474,474. This is an example of the Department's flexibility and expedited response to keep roads safe and connected.

2. Project Cost Data:

Over the course of the reporting period, 49** projects that were awarded were tracked for their cost estimate performance.

a. Intermediate (60% Design) Engineer's Estimate is within 15% of the Awarded Contract Estimate. 19 projects have Intermediate Design Estimates within 15% above or below the Awarded Contract Estimate. 30 of the project estimates were outside the 15% threshold.

b. Final (100% Design) engineer's estimate is within 10% of the Awarded Contract Estimate. 21 projects have Final Design Estimates within 10% above or below the awarded contract estimate. 28 of the project estimates were outside the 10% threshold.

**Baseline and additional scheduled projects

Evaluation of Performance Measure:

Annual target met?

1. Schedule:

The target of 80% of scheduled projects to be delivered within FFY 2021 was not met.

The established baseline list of scheduled projects includes 51 projects. Of the 51 scheduled projects, 37 were delivered/advertised within the reporting year resulting in a 73% delivery.

The projects that didn't reach the performance metric for schedule delivery were delayed for multiple reasons. The most common reasoning is shown below in descending commonality:

- Department priority changes
- Project bundling extending timelines or matching future project dates
- Timeline was determined to be too aggressive for the scope of work
- Utility conflicts
- Schedules were shifted to not conflict with other construction projects
- Pandemic impacts to staffing resources resulting in environmental clearance and coordination delays, mapping procurement delays, delays due to federal agency coordination, and construction material shortages

2. Project Cost:

Intermediate compared to Awarded Estimates: the project cost target of 80% was NOT met.

Of the 49 delivered projects, 19 Intermediate Design Estimates were within 15% of the Awarded Estimate; 39% of the projects were within the cost comparison target.

Final compared to Awarded Estimates: the project cost target of 80% was NOT met.

Of the 49 delivered projects, 21 Final Design Estimates were within 10% of the Awarded Estimate; 43% of the projects were within the cost comparison target.

The most common explanation for cost estimating inconsistencies this FFY was project scope changes after intermediate design, resulting in the Final and Awarded Estimates falling outside the target thresholds. Examples of scope change include design strategy changes, addition/removal of scope elements, specification changes, and alteration of project limits.

Another common issue noted was Awarded Estimates coming in lower than Intermediate and Final Design Estimates on projects that included the following items:

- Emulsions
- Screenings
- Slurry Sand

Other cost estimating inconsistencies include:

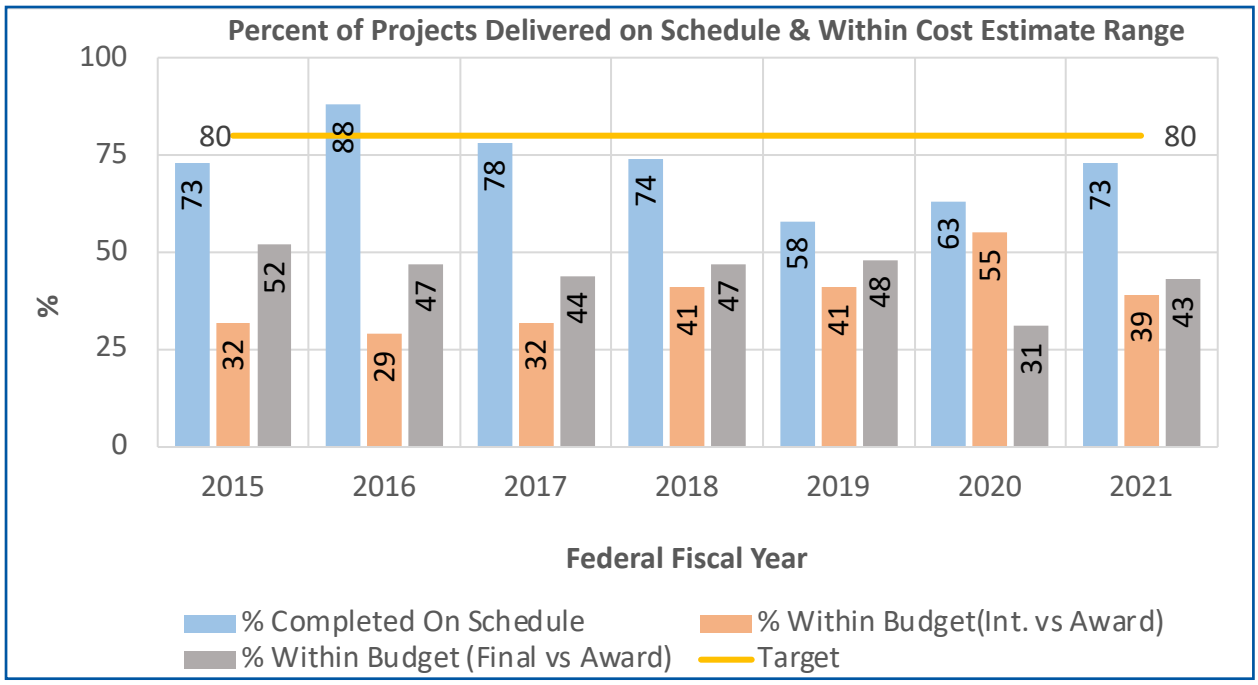
- Awarded project costs were higher than estimated for Signal and Lighting items
- Project bundling

Additionally, upon further examination of the data, we noted the following trend with estimate comparisons:

- 24 Intermediate Design Estimates were above the Awarded Contract Estimate, and 25 were below
- 29 Final Design Estimates were above the Awarded Contract Estimate and 20 were below

The above estimate fluctuations resulted in total project Awarded costs for the year having an average 1.5% difference from the Intermediate Design Estimates, and a 1.0% difference from Final Design Estimates. This demonstrates that although we have individual project estimate fluctuations above and below the Awarded, we remain agile with our project delivery offsetting the cost differences and optimizing the year's available funding.

This trend is outside our performance measure targets.



Which strategies applied during the current data reporting period were successful?

Multiple strategies were practiced or implemented during the reporting period to continue improving processes and moving towards achieving our performance measure targets. The Scheduling and Estimating Section continued to work with supporting divisions and program champions to solicit each programs' desired projects for the upcoming reporting period. This process has the advantage of allowing each program the ability to include its project priorities. However, we have discovered that there can be inconsistencies and varying levels of project scope development when projects are scheduled in this manner, potentially resulting in a project being included in the October baseline when it may not have been thoroughly evaluated for scope, cost, and risks, to ensure the feasibility of delivering the project for the reporting year.

Roadway Design hosts a monthly project status meeting with other divisions to discuss scheduled projects and to give stakeholders an opportunity to learn from one another.

The Department implemented another strategy by revising the scoping process for preservation projects to include a comprehensive multidisciplinary evaluation of scope, needs, cost and risks. The new process was executed in FFY 2020 for the review of 2022/2023 preservation projects. The anticipated benefits should be reflected beginning in FFY 2022 reporting (the earliest these projects will be scheduled and ready for delivery). This process was repeated for FFY 2024/2025 preservation projects with the goal of having an approved project list 6 months earlier than in previous years, providing more time for project mapping and to reduce project delays.

The Department is invested in the establishment of a data-driven metric for defining project prioritization: The One Nevada Plan. This improvement, coupled with a focus on project readiness, will yield a more established schedule for projects along with the costs of those projects. With project prioritization and readiness, the Department can move away from redundant planning,

design, and financial discussions, to ensure funds are being spent efficiently, priorities are achieved, and schedules met.

Finally, it is important to note that any initiative introduced into the project delivery process will take time to demonstrate its effectiveness. Every project has a different trajectory, and it may take years of tracking to ascertain the gains of any strategy or change.

Which strategies were not successful and why?

We have yet to note any specific strategies that can be quantified as not successful. Several strategies are either in development or are currently being implemented. Therefore, we will not be able to experience the potential success or failure of a given strategy for another one to two years, when affected or impacted projects will be quantified and reported on.

Strategies for improvement planned for next reporting period:

Neither scheduling nor cost estimating targets were met this FFY. Moving forward, there are several initiatives being developed both Department-wide and at the division level that we believe will help us meet proposed targets in the future.

1. Schedule:

The principal reason for variability in project schedules is due to changes in project deliverability, in turn leading to a change in priorities. Project timelines may be shifted out to future years. 12 projects were added to the schedule within the same FFY they were executed. We will focus on early identification of characteristics that have the potential to impact a project's readiness and deliverability. Also, as mentioned above, the Planning Division is actively developing the One Nevada Plan; this is a data-driven method to prioritize and harmonize projects throughout the Department.

2. Project Cost:

Cost estimate accuracy is a moving target. It is subject to variables such as changing markets, construction and materials innovations, and changes in community development patterns. The Design Division, in partnership with the Construction Division and FHWA, is actively reviewing bid item costs and changing estimation strategies.

Design strategy changes throughout the life of a project's design are expected. However, improvements can be made by identifying the final strategy earlier in the process, in turn allowing for more time to manage project risks that potentially impact schedule and cost.

Short Term Strategies:

1. Schedule:

Short term strategies for improving project scheduling performance include:

- Educating supporting divisions regarding their role in establishing and meeting performance measures to establish uniformity and consistency for project scheduling submission timelines
- Clarifying roles and needs for submitting a project scheduling and programming form
- Synchronize October baseline development with the One Nevada Plan process and the AWP/STIP annual approval to ensure priorities are aligned

2. Project Cost:

Short term strategies for improving project cost performance include:

- Educating supporting Divisions regarding their role in establishing and meeting performance measures to establish uniformity and consistency for project scheduling submission timelines
- Continue to improve division coordination to:
  - Identify projects earlier
  - Further document project scope elements, project unknowns, and project risks that may affect project cost estimates and schedules
  - Prioritize projects for resource management
  - Prioritize projects to meet funding levels
  - Evaluate project bundling to optimize construction costs and resources

Long Term Strategies:

1. Schedule:

A significant and pivotal long-term strategy will be the implementation of the One Nevada Plan being developed by the Planning Division. With a cohesive metric and established conduit for a program's needs to be analyzed, prioritized, and delivered, the Department can expect more consistency in scheduling, resource allocation, coordination, and funding.

To give an example of smaller initiatives that are being championed, the Traffic Operations Division is developing its Transportation Systems Management and Operations (TSMO) implementation. This group is actively using a data-driven process to develop program planning and project prioritization. In turn, strategies identified by TSMO have the potential to be incorporated into other transportation projects with less risk.

The Department is nearing completion of the first module of the Masterworks enterprise project management and funding system. The scheduling, estimating, bid letting, and financial management components of project tracking are nearing completion in the next few months. This new program offers opportunities for streamlining processes and creating greater project oversite for all divisions.

2. Project Cost:

The implementation of the One Nevada Plan is anticipated to provide a more comprehensive project list that better establishes needs, scope, risks, and readiness. With more coordination and analysis at the early project development stages, the Department can expect more accurate cost estimates.

Does this performance measure effectively measure what is desired?

The metrics established provide the explicit results directly and accurately. However, the larger discussion of measuring the performance of project delivery is complex and nuanced with multiple compounding and interconnected factors.

1. Schedule:

This measure provides a snapshot of projects being executed within a federal fiscal year. However, it does not accurately depict the lifecycle of a project including but not limited to:

- Re-advertisements
- Supplementals
- Change Orders
- District Betterments utilizing state funding and tracking funding according to the state fiscal year (July 1 to June 30). This may explain why many of these projects are not captured on the October 1 baseline.

2. Project Cost:

This metric shows the accuracy of Intermediate and Final Design estimates and how they compare to the Awarded Estimate. This metric does not provide a comprehensive picture of the overall design versus completed construction costs. The initial planning level costs through completion of construction are also not captured.

Another element that should be considered when reviewing the current metric is that the Awarded Estimate does not necessarily provide an average of what the market rate would be. For example, consideration of the second or third bidders would provide a different perspective of the design engineer's estimate.

Does monitoring and evaluating this performance measure improve your business process?

Monitoring and evaluating project delivery is critical to the Department's success in fulfilling NDOT's Strategic Plan. There are many processes and stakeholders involved with project development and delivery. The Scheduling and Estimating Section continues to work with these stakeholders to make additional process improvements and move towards achieving our performance metrics.

Is there a more effective performance measure that should be considered? If so, explain.

As mentioned above, a comprehensive evaluation of project delivery is complex. There are opportunities to review project delivery from different parts of the development process and with different comparisons. All of which would provide different insights and opportunities for change. For example, adding the Final Design Estimate as a comparison criterion has given us a more consistent measure of cost estimation at the end of the project development process.

Identifying unforeseen changes to projects, changes in priorities, mandates, funding impacts, and specific project development issues, will help us better identify where improvements need to be made. A supplemental measure to consider might be to measure project delivery based on the percentage of program funding obligated per the Department's transportation goals for the year. If the Department is unable to deliver a scheduled project, might there be a comparable project (similar program/location/funding/scope) that could be delivered as a replacement.

The FHWA Stewardship Performance indicators were introduced for FFY 2016. The indicators have overlapping goals to NDOT's Performance Measure 13. We believe it would be helpful for future performance measure tracking to have these goals align.

Has the Covid-19 pandemic affected this performance measure or your ability to achieve the targets? If so, explain.

The pandemic has indirectly affected the Department's project delivery in many ways. One example of this is the Governor's hiring freeze order implemented on March 16, 2020. The effects of the hiring freeze were largely felt this federal fiscal year. Throughout the Department, available positions are vacant longer. If a position is approved for hiring, there are less resources available to provide training since the overall workload on existing staff is heavier due to the vacancies.

A related issue is the delay in response, or even lack of response, from partner agencies, utility companies, and businesses. It is assumed that pandemic response measures such as telecommuting, limited staffing, or closure of businesses, were the major factor in these delays. An example is the closure of borders and offices on many tribal lands.

Will meeting the yearly target have a fiscal impact? If so, explain.

Yes. Meeting the yearly targets will allow the Department to optimize project funding and deliver more projects.

Next year's target:

FFY 2022 project delivery performance measures will remain the same to allow implemented strategies to take effect to meet performance criteria and reach the Department's overall goals and priorities.

14. Maintain State Bridges

Performance Measure:

The Department's performance measure associated with the maintenance of state bridges includes bridge condition ratings, separated by those assets on the National Highway System (NHS) and those not on the system (non-NHS). In alignment with the established national performance measures, this will include percentages of the inventory considered to be in "good" and "poor" condition.

Data in the NDOT bridge inventory is collected in accordance with the National Bridge Inspection Standards (NBIS) and is reported to the National Bridge Inventory (NBI). For each bridge, the condition rating is determined for three primary elements: deck, superstructure, and substructure. Bridge-sized culverts have a single, independent rating. NBI general condition ratings are assessed on a scale that ranges from 0 (failed condition) to 9 (excellent condition). The lowest of the three ratings for bridges, or the single rating for culverts, is used to represent the overall condition of the structure. Ratings of 7 or better, represent a bridge that is in good condition and ratings of 5 or 6 represent a bridge in fair condition. If any of the condition ratings are 4 or below, the bridge is in poor condition. A structure deemed to be in poor condition is classified as structurally deficient (SD). Percentage of the overall inventory in each category is determined by square foot area of the bridge deck.

Bridge data referenced in the report is based on the annual federal reporting "snapshot" taken at the end of March every year. In years past, a snapshot of the inventory was taken at the time data was requested for the various reports the Department produces (facts book, preservation report, performance management report). However, this created confusion because the inventory changes continuously throughout the year, so that each report included different data. The data in the performance management report reflects all changes to the inventory from the previous calendar year. The data provided in this report is for calendar year 2020.

Current year target:

As part of the NDOT Transportation Asset Management Plan (TAMP), the Department has established performance goals related to the overall condition of the State's bridge inventory. These performance targets include maintaining an inventory that has greater than 35% of bridges in good condition and less than 7% in poor condition. Maintaining an inventory with less than 10% of bridges classified as structurally deficient is a federally mandated performance requirement. NDOT has established these goals as part of the annual and long-term targets.

Previous performance measures considered the number of structurally deficient bridges that were replaced or rehabilitated annually. While this is no longer a direct performance measure, it contributes to the overall goal of minimizing the percentage of bridges in poor condition and will continue to be listed annually to help provide some context for the bridge condition ratings.

Ultimate target:

The ultimate target is to eliminate structurally deficient bridges from the inventory, and to extend the service life of the Department's bridges.

As part of the TAMP, the Department has committed to the established performance goals for the next 10 years.

Performance Champion/Division:

The Structures Division is the performance champion for this performance measure.

Support Divisions:

The maintenance of state bridges is supported by those divisions involved with the Department's preservation program – the Design and Materials divisions – as well as the Department's three districts. Along with the Structures Division, these groups plan and execute bridge maintenance and preservations activities state-wide.

Overview and plan support:

These performance measures work towards meeting the Department of Transportation Strategic Plan goals of putting safety first and efficiently operating and maintaining the transportation system in Nevada. These goals can be met in the following ways: safety for the motoring public will be optimized by replacing structurally deficient bridges. The Bridge Division will seek and implement innovative solutions to the challenges faced by the Bridge Program. The Division will deliver timely and beneficial bridge projects and programs. Meeting this performance measure will help to efficiently preserve and manage Department assets.

Measurement and supporting data:

All supporting data is extracted from the Department's annual reporting to the National Bridge Inventory. Inspections are performed in accordance with established federal guidelines, and the Department is responsible for performing these inspections state-wide. While this data is constantly changing, as required inspections of our infrastructure occur and new bridges are added to the inventory, an annual snapshot is taken every year in March and submitted to and approved by the FHWA.

Tables have been included to allow for ease of tracking. The tables do not include structures that are subject to routine preservation and maintenance activities (such as expansion joint replacement, repair of deck cracking, etc.) included in preservation or District Betterment projects.

Table 1 includes the condition ratings of all state-maintained bridges in the inventory. A small percentage of structures owned by other entities have been included in this data because they are part of the NHS. Data from 2016 was included as part of the Federal Highway Administration (FHWA) approved TAMP and has been included in this report as the base year. While the FHWA's emphasis is primarily on the NHS, the Department's long-term goal is to meet the established performance measures for both the NHS and non-NHS state-owned structures.

Table 2 lists all projects that have rehabilitated or replaced a structurally deficient bridge. Replacement of structurally deficient bridges has a direct impact on decreasing the percentage of the bridge inventory in poor condition, thereby improving the overall health of the inventory state-wide.

Table 3 includes other significant structural work performed by the Department. These projects are often eligible for federal funding but may not directly contribute to the established performance measures. As shown in Table 3, these are primarily seismic retrofits or bridge replacements. The Department's on-going efforts to retrofit seismically deficient bridges are an important part of our annual work plan, but seismic

deficiencies alone do not relate to a structurally deficient classification and do not meet the performance criteria. The table also includes the replacement of structurally deficient bridges that are owned by other agencies. While it is essential these bridges be replaced, they do not meet the performance criteria which only addresses Department owned structures.

Table 4 includes a historic listing of structurally deficient bridges.

TABLE 1: BRIDGE CONDITION RATINGS

Year	Good Condition		Poor Condition	
	NHS	Non-NHS	NHS	Non-NHS
2016	41.4%	50.0%	0.6%	1.3%
2017	43.3%	50.5%	0.5%	1.0%
2018	44.9%	49.2%	0.9%	0.9%
2019	41.0%	44.1%	1.0%	0.9%
2020	46.2%	48.2%	0.9%	2.0%
TARGET	**>35%**	**>35%**	**<7.0%**	**<7.0%**

TABLE 2: STRUCTURALLY DEFICIENT BRIDGE REHABILITATION/REPLACEMENT

Calendar Year	Number of Bridges	Structure #'s	County	Contract # Award Date	Description of Work/Comments
2016	0	-	-	-	-
2017	0	-	-	-	-
2018	5	B-474	DO	3707-2/12/18	Replace SD bridge on SR757
		B-1392E	PE	3725-7/11/18	Replace SD bridge on I-80
		I-1899	CL	3755-11/19/18	Replace SD bridge on SR582
		B-425	MI	3735-9/6/18	Replace SD bridge on SR361
		B-242	CH	3738-10/9/18	Replace SD bridge on Maine St, Fallon
2019	1	B-639	EL	3758-2/7/19	Replace SD bridge on SR226
2020	3	I-1306	WA	3819-4/13/20	Replace SD bridge on US395
		B-28	PE	3846-10/23/20	Replace SD bridge on SR396
		B-3226	CH	3842-9/14/20	Repair SD bridge on US95
2021	2	I-1440 H-1450	CL	3856-3/8/21	Replace SD bridges on I-515

TABLE 3: ADDITIONAL BRIDGE IMPROVEMENT PROJECTS

Calendar Year	# of Bridges	Owner	Structure #'s	County	Contract #/ Award Date	Description of Work/Comments
2016	-	-	-	-	-	-
2017	-	-	-	-	-	-
2018	1	HU	B-1658	HU	3713-/30/18	Replace 1 SD bridge
2019	1	LY	B-1615	LY	-	Replace 1 SD bridge
2020	1	NDOT	I-889	EL	3849-11/9/20	Replace bridge
2021	1	NDOT	G-947/I-947	CL	3856-3/8/21	Seismic retrofit/rehab.

TABLE 4: HISTORIC LISTING OF STRUCTURALLY DEFICIENT BRIDGES

Calendar Year	Total State-Owned Bridges	State SD Bridges	Comments
2006 BASELINE	1045	20	2007 Report.
2008	1056	20	2009 Report.
2010	1064	18	2011 Report.
2012	1116	19	2013 Report.
2014	1154	15	2015 Report.
2016	1163	12	2017 Report.
2018	1208	15	2019 Report.
2020	1221	12	2021 Report.

NOTES:
Bridge counts shown are based on the number of SD bridges as reported in the NDOT State Highway Preservation Report. This report is published every 2 years.

A description of Structurally Deficient bridges from the 2021 Nevada State Highway Preservation Report is included below for information.

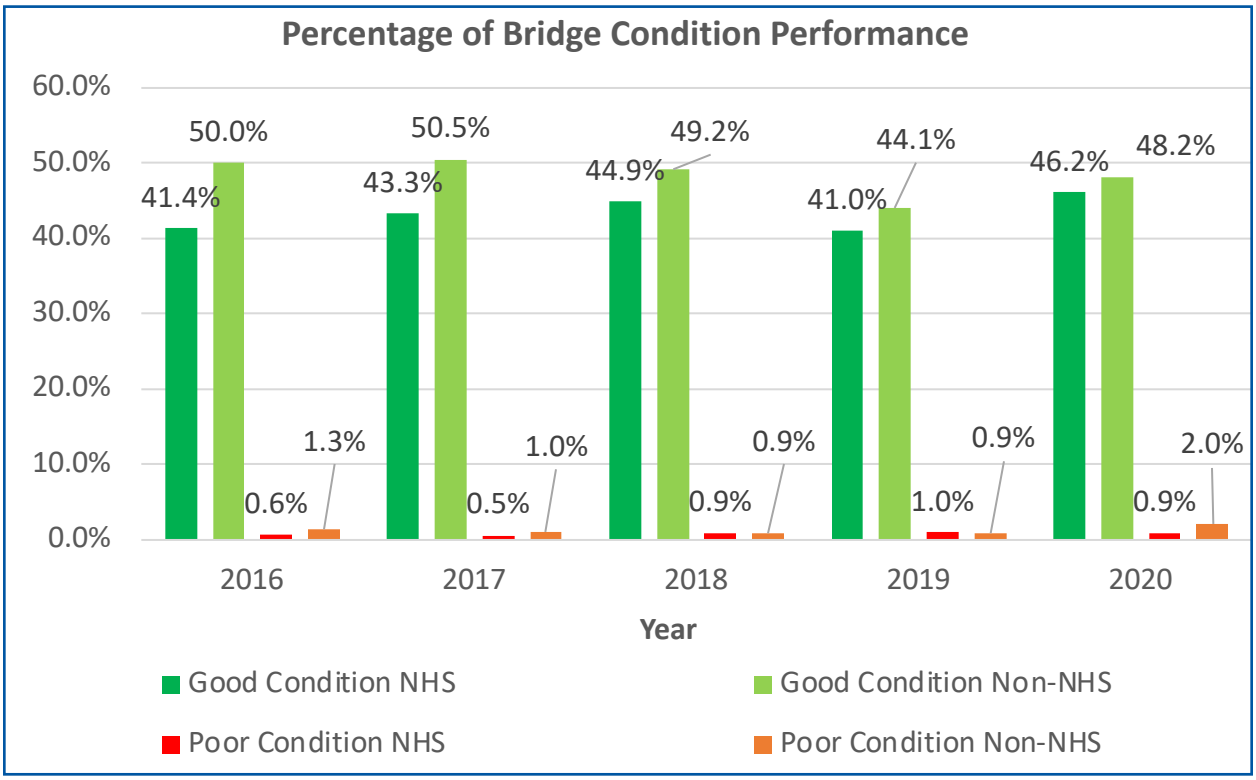
"Bridges are considered Structurally Deficient (SD) if significant load-carrying elements are found to be in poor or worse condition due to deterioration and/or damage, or the adequacy of the waterway opening provided by the bridge is determined to be extremely insufficient to the point of causing intolerable traffic interruptions."

Because the term "Structurally Deficient" causes undue concern, FHWA is considering changing the terminology. The term does not imply that the bridge is unsafe. Safety and maintenance concerns are identified during regularly scheduled inspections.

Evaluation of Performance Measure:

Annual target met?

Yes, the Department met the performance goals established in the Transportation Asset Management Plan.



The Department has replaced a number of bridges since the TAMP baseline was established in 2016 and has realized a net decrease in the overall number of structurally deficient bridges. The twelve SD structures listed in the 2021 preservation report include five NHS and seven non-NHS bridges statewide. Of those twelve, the Department is proud to highlight:

- Two have been repaired and removed from the list.
- One has been replaced since the 2021 data was reported. The B-28 bridge in Lovelock was the oldest state-owned bridge in the inventory.
- Two are currently under reconstruction. The I-1440 and H-1450 bridges on the I-515 in Las Vegas were experiencing significant fatigue issues and the superstructure replacements will help to improve the reliability of our inventory and reduce future maintenance and inspection costs.
- Five are actively in design for rehabilitation or replacement.
- The H-866E Nugget Viaduct is part of the proposed Reno Spaghetti Bowl Phase 2 improvement project and is slated for replacement.
- The remaining bridge is scheduled to be programmed for rehabilitation or replacement in the next several years.

The Department is currently completing several other projects that, although they may not directly impact the established performance measures, greatly benefit the traveling public and help keep motorists in Nevada safe and connected:

- Rehabilitation of the largest structure in the state inventory – the G-947/I-947 Las Vegas viaduct. This project will extend the service life of this critical infrastructure link on the I-515 corridor through downtown Las Vegas.
- Replacement of the I-889 bridge on I-80. While this structure was not structurally deficient, its replacement was necessary to allow the installation of a truck-climbing lane to increase trucking capacity and improve safety on the critical I-80 corridor.

Which strategies applied during the current data reporting period were successful?

The overall good condition of our inventory has allowed us to shift from a previous "worst first" approach to a more proactive preservation approach. The Department recognizes that our aging inventory is trending more rapidly from good to fair and we realize the importance of extending the service life of our structures. To meet the 4-year targets established in the TAMP, we are addressing this decline on several fronts.

We are not only analyzing our inventory from a state-wide perspective, but also a regional perspective to focus our efforts on those structures that would benefit most from preservation activities. Future Department preservation projects are playing a larger role in accomplishing necessary work on our major corridors and we are actively programming and planning projects outside of these areas to protect the health of the inventory. The Structures Division and Districts continue to work closely to prioritize necessary bridge work in the three regions. Analysis has shown that the bridge decks are primary drivers for overall bridge condition, and we recognize that preservation starts with construction. Requirements for regional multi-layer and polymer overlays on new bridge decks have been added to the NDOT Structures Manual to aid in preserving and extending the service life of our bridges.

Which strategies were not successful and why?

Not applicable. The Department met and exceeded the performance goals established in the Transportation Asset Management Plan.

Strategies for improvement planned for next reporting period:

Short Term Strategies

Evaluate programmed projects for possible preservation actions, corrective maintenance and risk reduction activities and include these activities into project scope as appropriate. NDOT Bridge Division provides information regarding state bridge policies and practices to local agencies to cooperate with and assist them.

Long Term Strategies

Perform bridge rehabilitation and replacement as allowed under the MAP 21 program and the FAST act. Continue to consider previous criteria used to establish eligibility under the previous HBP program and utilize preservation strategies to extend performance and serviceability of elements commonly causing deterioration of structures. These include repairs such as deck repair/replacement, deck overlays, replacement of bridge joints, fatigue crack repair and

repainting of steel structures. Maintain seismic retrofit program and scour mitigation program to minimize risks from these extreme events.

Seek additional funds to reduce the time frame for eliminating structurally deficient bridges. Many of the Department's bridges entered the inventory with the construction of the interstate system in the 1960's, and as these bridges continue to age, the number categorized as structurally deficient will continue to increase. While the Department has reduced the overall number of deficient bridges in recent years, at current funding levels, it is anticipated that the number of SD bridges will increase more rapidly than they can be replaced.

Does this performance measure effectively measure what is desired?

Yes. The performance measure does allow us to track the overall condition of our bridge inventory and comply with current federal requirements.

Does monitoring and evaluating this performance measure improve your business process?

Monitoring these performance measures on an annual basis helps the Department prioritize projects to utilize available funding most efficiently.

Is there a more effective performance measure that should be considered? If so, explain.

In compliance with federal regulations, bridge conditions in the TAMP are based on the four primary component ratings. To aid in the preservation of our bridge assets, it may be valuable to evaluate the element condition rating of structural components that are critical to extending the service life of a structure and maintaining a state of good repair. An evaluation of components such as bridge decks could provide a more detailed look at where to focus future preservation efforts.

Has the Covid-19 pandemic effected this performance measure or your ability to achieve the targets? If so, explain.

To date, the Covid-19 pandemic has had little impact on meeting our performance measures. However, it is unclear how potential budget impacts from the pandemic will affect future bridge preservation and replacement efforts.

Will meeting the yearly target have a fiscal impact? If so, explain.

Yes, an increasing investment in bridge preservation funding will be necessary in coming years to alleviate current backlog and address the anticipated growing rehabilitation and replacements needs of the state's aging inventory. The Department has committed to provide additional bridge preservation funding and, through the One Nevada Plans, looks to prioritize and utilize this investment in the most efficient way possible, to preserve the service-life of structures state-wide.

Next year's target:

While additional bridges from our aging inventory will likely be added to the list in coming years, we anticipate meeting the current target without need of adjusting the established performance measure.

15. Streamline Permitting Process

Performance Measure:

Percentage of permits issued or rejected within 45 days of receipt, in accordance with Transportation Policy (TP) 1-10-3 "Encroachment Permit Processing Time Schedule."

Current Year Target:

95%

Ultimate Target:

95%

Performance Champion/Division:

Right-of-Way Division

Supporting Divisions:

NDOT District permitting offices and permit reviewers from the following sections/divisions: Construction, Environmental Services, Hydraulics, Materials, Planning, Project Management, Roadway Design, Safety Engineering, Stormwater, Structures, Traffic Operations, and the Federal Highway Administration.

Overview and Plan Support:

In accordance with Transportation Policy (TP) 1-10-3 "Encroachment Permit Processing Time Schedule", this performance measure identifies a goal for the Right-of-Way Division to process 95% of encroachment permits within 45 days. TP 1-10-3 sets a 45-working-day process for all accepted encroachment permit applications.

Measurement and Supporting Data:

Encroachment Permits are processed using NDOT's Integrated Right-of-Way Information Network (IRWIN). Measurement and data for this report was generated from IRWIN based on information input and dates of work from District Permits staff during the processing of encroachments permits.

The measurement and supporting data effectively provide adequate information to show improvements may be necessary to achieve the target goal. Delays in permit processing may have potential impacts to Department project scheduling statewide.

Evaluation of Performance Measure

Annual target met?

Yes. All three Districts' annual reporting reflects 96.58% of all permits processed were completed within 45 days or less. The annual performance measure for each district is as follows:

- District 1 accepted 610 permits and processed 569, achieving 98.07%
- District 2 accepted 271 permits and processed 228, achieving 92.98%
- District 3 accepted 86 permits and processed 79, achieving 96.20%

Which strategies were in place during the data reporting period?

Permit review status meetings with District permitting offices to ensure consistent processing procedures.

Which strategies were successful?

Ongoing District-level permit review meetings have been effective in identifying areas for improvement and establishing better communication between Headquarters and the District offices.

Which strategies were not successful and why?

None. The implemented strategies have been successful.

Strategies for improvement planned for next reporting period

Short term strategies:

The short-range plan includes maintaining regularly scheduled permit review status meetings with the District permitting offices to ensure consistency in processing permits statewide.

Long term strategies:

The implementation of new software is being considered that will include a permit processing workflow to enhance productivity among various Department divisions that review and approve permits.

Does the performance measure effectively measure what is desired?

Yes. The established 95% processing rate within 45 days is reasonable and effectively evaluates the desired goal of efficiently issuing encroachment permits. Several factors have a potentially negative impact on our ability to meet the performance measure, including attrition of experienced permitting staff and reviewers. Demand for permits is driven by the public. High numbers of permit applications require more staff time to meet ever-increasing demand.

Does monitoring and evaluating this performance measure improve your process?

Yes. This performance measure keeps the permitting process accountable and clearly identifies any deficiencies that might require further investigation.

Is there a more effective performance measure that should be considered? If so, explain.

No. 95% has proven to be a high, but reasonable, standard that is sometimes unattainable due to increased permit applications from the public sector and current staffing levels.

Has the Covid-19 pandemic affected your performance measure or the ability to meet your targets? If so, explain.

Yes. Since the work from home order was given, Division reviews have taken longer to receive. Fortunately, access to IRWIN has made effective telework possible.

Will meeting the yearly target have a fiscal impact? If so, explain.

There is no anticipated direct fiscal impact for next year.

Next year's target:

95%

16. Reduce Greenhouse Gas Emissions

Performance Measure:

- Percent reduction in Greenhouse Gas (GHG) emissions within the Department's operations.

This measure was added to the annual reporting cycle in April 2020 to support the overall GHG reduction from the transportation sector as reported by the Nevada Annual Greenhouse Gas Inventory Report.

Current year target:

Fiscal years (FY) 2019, 2020, and 2021 are evaluated to establish a baseline to measure and assess future GHG reduction goals.

Ultimate target:

Support statewide GHG reduction initiatives to achieve 28% economywide reduction by 2025 and 45% by 2030 compared with the 2005 baseline.

Performance Champion/Division:

The Environmental and Planning Divisions' management teams.

Support Divisions:

All Divisions and District offices.

Overview and plan support:

NDOT proposed GHG emissions reduction as a new performance measure for NDOT's Annual Performance Management Report in support of Nevada's statewide climate goals. The Nevada Transportation Board of Directors adopted this measure on April 13, 2020. The Department is committed to providing leadership in achieving GHG emissions reduction by implementing a combination strategy in our operations, planning, design, construction, and maintenance of existing and future transportation systems. This commitment is supported in the Nevada Department of Transportation's 2020 Strategic Plan's Goal 2: Cultivating Environmental Stewardship.

During Fiscal Year 2021, NDOT completed the following actions to establish future performance targets in reducing GHG emissions within our operations.

- Performed initial GHG inventory for NDOT Administrative Operations for fiscal years (FY) 2019 and 2020, which resulted in an 11% GHG reduction because of the COVID-19 onset. The inventory included fuel usage (staff commuting, business travel, equipment), energy usage (electricity, natural gas, HVAC/refrigeration), and waste and material recycling.
- Developed guidance and electronic reporting forms for NDOT Operations to facilitate annual Waste Management and material recycling inventory.
- Developed NDOT Operations GHG Emission Reduction Implementation Plan with 24 measures, ranging from procuring more energy-efficient equipment to reducing construction congestion.

GHG emissions and implementation action plans are monitored and will be further refined in FY 2021 through FY 2022.

Measurement and supporting data:

NDOT continues to use the EPA Simplified Greenhouse Gas Emission Calculator, Version 6 (August 2020) released by the EPA Center for Corporate Climate Leadership, to estimate GHG emissions for the Department's operations in FY 2019 through FY 2021, as shown in Table 1 below.

Table 1. GHG emissions baseline for FY 2019 - 2021 in metric tons of CO2 equivalent

Parameters	FY 2019	FY 2020	FY 2021	FY19-21 Change	FY20-21 Change
Stationary source [a]	3,036.90	2,776.20	1,868.00	-38.49%	-32.71%
Mobile source	20,385.90	18,183.60	17,410.40	-14.60%	-4.25%
Biofuel [b]	287.3	245.4	293.6	2.19%	19.64%
Refrigeration/AC [c]	389.7	389.7	1360.3	249.06%	249.06%
Electricity purchase	6,011.40	5,870.00	5834.7	-2.94%	-0.60%
Business travel	163.3	130.7	11.9	-92.71%	-90.90%
Commuting	6,170.80	4,442.50	2808.2	-54.49%	-36.79%
Waste generation	1,445.30	1,445.30	1905.6	31.85%	31.85%
Total	**37,603.30**	**33,238.00**	**31,199.10**	**-17.03%**	**-6.13%**

Notes:

a Natural gas data for FY 2021 is unavailable for several District 2 facilities.

b Emissions from biofuel fractions (E85, B5 and B20) are quantified but are not included in the total GHG emissions.

c Inventory for refrigeration and AC equipment is an ongoing effort for District facilities. In FY 2021, AC units from Department vehicles and mobile equipment were included, resulting in a significant GHG emissions increase for this category in FY 2021.

GHG emissions from NDOT operations in FY 2021 were reduced by more than 17% compared with the baseline 2019 fiscal year (6% from FY 2020). Most of the reduction realized can be attributed to reduced energy/fuel usage (stationary and mobile sources), less business travel, and fewer staff commuting to and from the worksite. The observed GHG reduction can be associated with social distancing measures implemented to prevent the spread of COVID-19 during the last quarter of FY 2020 and 2021.

These measures include limited travel, increased virtual meetings, telework for Department staff, and other efforts. It is anticipated that the use of virtual meetings by Department staff (both public and contractors) and less commuting for Department staff (where applicable) will continue post-pandemic.

Evaluation of Performance Measure:

Annual target met?

Not applicable. A specific performance target has not been set for GHG reduction in NDOT operations. Baseline inventory measuring will continue through FY 2022 to develop future performance targets.

Which strategies applied during the current data reporting period were successful?

Not applicable. The Department's GHG Reduction Strategic Plan was finalized in February 2021. Twenty-four GHG reduction measures were identified but not yet implemented. These cover NDOT administrative operations (nine measures), design/construction/

maintenance of the transportation system (11 measures), and planning (four measures). Further guidance and goals are being developed in FY 2022-23 for NDOT GHG reductions in planning and operations.

Which strategies were not successful and why?

Not applicable. The Department will continue to track and monitor formally implemented strategies to reduce GHG emissions and modify as needed. The Department's GHG Reduction Strategic Plan identified GHG reduction strategies' implementation, tracking, and monitoring but was not yet implemented in FY 2021.

Strategies for improvement planned for next reporting period:

GHG reduction strategies officially implemented are in the Department's GHG Reduction Strategic Plan as scheduled for FY 2022-2025. The following are some of measures included in that plan.

Short Term Strategies

- Asset Management: Switching light fixtures to LED and window replacement project at HQ and other facilities continue to be implemented. Improved record keeping will better document energy savings and resulting GHG reductions. (Measures O-1 through 3)
- Traffic Operations: LED lighting replacement and the increased use of solar power at remote facilities are current and upcoming practices being implemented within Traffic Operations. The team will keep tracking and updating the inventory of lighting fixtures and solar panel installations to document energy savings and resulting GHG reduction. (Measures O-5 and DC-4)
- Reducing business travel for in-person meetings has and will continue to be a practice that supports GHG reduction. The use of virtual meetings by Department staff (both public and contractor) will be implemented where applicable post-COVID to continue GHG reduction benefits realized. (Not included in the plan)
- Promoting and incentivizing alternative commuting for Department staff such as carpooling, public transit, and telecommuting would provide meaningful opportunities to reduce GHG emissions. This is evident based on telework for the Department staff during COVID-19 in FY 2020-2021. (Measure O-4)
- Recycled materials in waste management and construction have a significant impact on offsetting GHG emissions. Reusing and recycling construction materials include reclaimed asphalt pavement (RAP), Portland cement concrete pavement (PCCP), and fly ash. The Materials and Design divisions will continue to promote and implement recycled materials to improve function and durability and reduce the carbon footprint for our Department's operations. (Measures O-6 and DC-10)

Long Term Strategies

- Planning: Develop new transportation projects with GHG reduction and sustainability as key components. Recent board approval of the One Nevada Plan and STIP, which includes priorities directly related to GHG reduction, is an important initial step toward incorporating GHG reduction into the Department's planning process. (Measure P-1)
- Planning: Develop transportation planning documents to address GHG reduction. For example, the rail plan is aimed at reducing the number of semi-trucks traveling on our roadways. (Measure P-2)
- Planning: Include quantitative GHG assessments of major projects for consideration in planning studies. (Measures P-2 and P-4)

- Planning: Include quantitative GHG assessment of projects' modal types for consideration in planning studies and decisions. (Measures P-2)
- Planning: Consider GHG emissions in transportation network design.
- Planning: An emphasis on bike and pedestrian connectivity and implementing Complete Streets projects is projected to reduce vehicle emissions.
- Roadway Design: Incorporating landscape vegetation in roadway design would help offset GHG emissions. (Measure DC-3)

Does this performance measure effectively measure what is desired?

It is anticipated the performance measure will allow the Department to track the effort as desired and help meet statewide GHG goals. In addition, departmental tracking and monitoring of GHG reduction strategies will assess the effectiveness of the performance measure, and modifications will be made to ensure accurate and effective measurement.

Does monitoring and evaluating this performance measure improve your business process?

Currently, the Department is monitoring baseline emissions and evaluating the impact from COVID-19 to NDOT operations. With continued monitoring and refinements, we expect to achieve sufficient accuracy in emission estimates to make meaningful process improvements.

Is there a more effective performance measure that should be considered? If so, explain.

Not applicable. The Department continues to evaluate baseline GHG emissions and refine reduction strategies.

Has the Covid-19 pandemic effected this performance measure or your ability to achieve the targets? If so, explain.

Reduced work travel and staff commuting because of COVID-19 in FY 2021 have resulted in reduced GHG emissions in these categories and overall GHG in FY 2021 compared to FY 2019 (17% reduction) and FY 2020 (6% reduction). This is a positive outcome for the GHG reduction initiative.

Will meeting the yearly target have a fiscal impact? If so, explain.

Replacing equipment with energy- and fuel-efficient alternatives will have a fiscal impact initially. Where possible, the existing/authorized operating budget will be utilized to fund purchases. Modifications to construction and maintenance practices or materials may incur higher costs by the Department and our construction contractors and consultants. Quantitative tracking of Department GHG emissions will attempt to utilize existing personnel, processes, and systems where applicable. Additional staff resources will be needed to support coordination, monitoring, and implementation. The Department is continuing work on specific guidance and establishing yearly targets as well as fiscal implications.

Next year's target:

A performance target has not been established for FY 2022. The Department will continue to monitor annual GHG emissions in NDOT operations through FY 2022 to develop realistic future reduction performance target(s).

APPLICABLE DIRECTIVES FROM THE TRANSPORTATION BOARD/LEGISLATURE

APPLICABLE DIRECTIVES FROM THE TRANSPORTATION BOARD/LEGISLATURE

The 2021 Legislature passed two bills this session that may affect elements of this report in future years:

AB 54 created the Nevada Advisory Committee on Traffic Safety. This effort brings additional attention to the continued need to improve safety on Nevada's transportation system. This committee is a revision of a prior committee created by the Department to be advisory on the creation and implementation of the Strategic Highway Safety Plan. By formalizing this committee in statute and revising the membership, we hope the state benefits from more attention to traffic safety, including strategies and policies as well as the role everyone has in achieving the goals and targets.

AB 413 requires the Department to create an Advisory Working Group to study sustainable transportation funding and related considerations, such as electric vehicles, climate policy, equity, and land use. The results of this study will be provided to the 2023 Legislature for consideration. This effort could affect several elements of this report in future years, including, but not limited to new or adjusted performance measures and targets as well funding sources and expenditures. This bill does not require any changes at this time, but the results of the study as well as any actions taken by the 2023 legislature may.

STATE HIGHWAY FUND ANNUAL REVENUE AND EXPENDITURES

STATE HIGHWAY FUND ANNUAL REVENUE AND EXPENDITURES

Assembly Bill 595 in the 2007 Legislative Session included the requirement for the Department to report on the funding sources, amount and expenditures (Section 47.2).

The following three tables provide the required information:

1. Schedule of Revenues and Receipts – Budgetary Basis
2. Comparative Schedule of Expenditures and Disbursements – Budgetary Basis
3. Highway Fund Balance – Budgetary Basis

The first table reports that total FY 2021 revenues into the State Highway Fund were approximately $1.18 billion while the second table contains the total FY 2021 actual expenditures of approximately $1.17 billion. These two tables also include other detailed financial data about transportation-related revenues and expenditures.

The third table indicates the Highway fund balance was $477,903,965 at 2020 fiscal year-end. This balance is approximately $45 million higher than the 2019 year-end balance of $432,363,510. Please note that the 2021 fiscal year-end balance will be available when the State of Nevada 2021 Comprehensive Annual Financial Report has been completed.

State of Nevada Highway
Special Revenue Fund
Schedule of Revenues and Receipts - Budgetary Basis
For the Years Ended June 30, 2021 and 2020
(In thousands)

State user taxes	2021	2020
Gasoline taxes	$212,106	$206,219
Motor vehicle fees and taxes		
Vehicle registration & bicycle safety fees	127,779	116,296
Basic Government Service Tax	-	63,924
Motor carrier fees	42,591	40,316
Driver's license fees	27,255	17,154
Special fuel taxes	111,612	102,138
Total motor vehicle fees and taxes	309,237	339,828
Total state revenue	521,343	546,047
Federal Aid reimbursement		
Department of Interior	-	-
Federal Aviation Administration	283.87	16
Federal Emergency Management Administration	14	1,662
Federal Highway Administration	272,740	330,377
Federal Rail Administration	-	-
Federal Transit Administration	13,620	14,275
Total Federal Aid	286,658	346,330
Miscellaneous receipts		
Departments of Motor Vehicles & Public		
Safety authorized revenue	146,158	125,959
Appropriations from other funds	2637	221
Proceeds from sale of bonds	160009	-
Agreement income	14,052	41,462
Interest	3,720	10,436
Sale of surplus property	-	-
AB595 property tax	27,108	26,020
AB595 bond revenue	-	-
Other sales & reimbursements	22,779	28,871
Total miscellaneous receipts	376,463	232,969
Total revenue and receipts - budgetary basis	**$1,184,464**	**$1,125,346**

State of Nevada Highway
Special Revenue Fund
Comparative Schedule of Expenditures and Disbursements - Budgetary Basis for the Fiscal Year Ending June 30, 2021 and 2020
(In thousands)

	Budgeted	2021 Actual Using Budgetary Basis	Variance Favorable (Unfavorable)	2020 Actual Using Budgetary Basis
Department of Transportation				
Labor	$166,823	$141,447	$25,376	$152,787
Travel	2,212	1,161	1,051	1,862
Operating	86,691	77,760	8,931	80,494
Equipment	34,842	27,282	7,560	32,145
Capital improvements	749,409	513,237	236,172	494,173
Bond expenditures	161,600	67,278	94,322	-
Other programs	37,676	14,858	22,818	9,842
Total operations	1,239,252	843,023	396,229	771,303
Cost of fuel sold to other agencies	2,303	1,864	439	2,101
Total Department of Transportation	1,241,555	844,887	396,668	773,404
Department of Motor Vehicles (see Note 2)	199,979	123,842	76,137	121,483
Department of Public Safety (see Note 2)	145,274	108,485	36,789	103,519
	345,253	232,327	112,926	225,002
Appropriations to other funds				
Board of Examiners	-	-	-	-
Department of Administration	-	-	-	-
Transportation Services Authority	2,734	2,400	334	2,059
Public Works Board	3,358	3,358	-	1,616
Traffic Safety	-	-	-	-
Investigations	423	350	73	418
DMV Training Division	1,653	1,492	161	1,514
Transfer to Treasurer	4,424	4,150	274	4,148
Governments Office of Finance IT Project	6,078	6,078	-	456
Fleet Services Capital Purchase	-	-	-	-
Legislative Counsel Bureau	5	-1,546	1,551	-
Dept of Information Technology	-	-	-	-
Total appropriations to other funds	18,676	16,282	2,393	10,211
Other disbursements				
Transfer to bond fund	84,000	73,007	10,993	74,606
Total other disbursements	84,000	73,007	10,993	74,606
Total expenditures & disbursements Budgetary basis	**$1,689,484**	**$1,166,503**	**$522,980**	**$1,083,223**

STATE HIGHWAY FUND BALANCE
(BUDGETARY BASIS)
STATE FISCAL YEARS 2018 - 2020

	ACTUAL FY 2018	ACTUAL FY 2019	ACTUAL FY 2020
BEGINNING FUND BALANCE:			
GENERAL OBLIGATION BONDS	$195,172,512	$111,015,911	$0
RESTRICTED FUNDS	$67,612,447	$41,897,438	$91,781,507
OTHER HIGHWAY FUND	$265,688,049	$358,543,723	$340,582,003
TOTAL BEGINNING FUND BALANCE:	**$528,473,009**	**$511,457,073**	**$432,363,510**
ADD:			
REVENUES	$1,134,382,823	$1,144,728,498	$1,125,345,978
BOND PROCEEDS	$136,839,036	$1,447,658	$683
TOTAL ADDITIONS:	**$1,271,221,859**	**$1,146,176,156**	**$1,125,346,661**
DEDUCT:			
DEPT OF TRANS. NON-BOND EXPENDITURES	$775,583,924	$816,395,194	$773,373,013
DEPT OF TRANS. BOND EXPENDITURES	$220,995,637	$112,463,572	$683
EXP. & APPROP TO OTHER AGENCIES	$283,574,981	$292,171,905	$310,284,803
TOTAL DEDUCTIONS:	**$1,280,154,542**	**$1,221,030,671**	**$1,083,658,498**
ADJUSTING ENTRIES:			
CONTROLLERS OFFICE CAFR ADJUSTMENTS	-$8,083,253	-$4,239,047	$3,852,291
ESTIMATED REVERSION TO FUND (SEE NOTE H)	$0	$0	$0
TOTAL ADJUSTING ENTRIES:	**-$8,083,253**	**-$4,239,047**	**$3,852,291**
ENDING FUND BALANCE:			
GENERAL OBLIGATION BONDS	$111,015,911	$0	$0
RESTRICTED FUNDS	$41,897,438	$91,781,507	$105,442,342
OTHER HIGHWAY FUND	$358,543,723	$340,582,003	$372,461,622
TOTAL ENDING FUND BALANCE:	**$511,457,073**	**$432,363,510**	**$477,903,965**

MAJOR PROJECTS
ANNUAL STATUS REPORT

TYPICAL PROJECT DEVELOPMENT PROCESS

The Department's project development process typically consists of four major phases: planning, environmental clearance, final design, and construction. These phases are described in more detail below. The development process is based on federal and state laws and regulations, engineering requirements, and a Departmental review and approval process. This appendix provides an overview of the four-phase process, identifies major milestones within the phases, and describes the information developed during each phase.

Project Planning Phase

In this phase the project needs are analyzed, and conceptual solutions are developed. Project descriptions, costs, and schedules are broadly defined. The planning phase typically addresses such issues as number of lanes, location and length of project, and general interchange and intersection spacing. The intent of this phase is to develop the most viable design alternatives, and to identify the best means to address risks and uncertainties in cost, scope and schedule.

Environmental Clearance Phase

For the environment clearance phase, major projects are subject to the National Environmental Policy Act (NEPA) to address potential social, environmental, economic and political issues. During this phase studies are conducted to define existing conditions and identify likely impacts and mitigations so the preferred design alternative can be selected from among various alternatives. In this phase, the project scope is more fully defined, right-of-way issues are generally identified, project costs and benefits are estimated, and risks are broadly defined. Finally, a preliminary project schedule is determined. After this phase, major projects are divided into smaller construction segments to address the project's social, environmental, economic and political issues as well as funding availability and constructability.

Final Design Phase

During this phase, the design of the selected alternative identified during the environmental clearance phase is finalized. In this phase, the project scope is finalized, a detailed project design schedule and estimate is developed, and project benefits are fully determined. The right-of-way requirements are also determined, and acquisition is initiated. Additionally, utility relocations are initiated toward the end of the final design phase. At the end of this phase the project design and cost estimate are complete, and the project is advertised for construction.

Construction phase

During this phase projects are constructed based on the final design plans. Depending on the nature of the project, utilities relocation might occur during early stages of this phase. Due to the complexity of major projects, a detailed construction schedule, traffic control plans, and environmental mitigation strategies are developed in consultation with the selected contractor.

PROJECT STATUS SHEET EXPLANATION

The information contained on the project status sheet is centered on the Department's project development process. This process typically consists of the four major phases: planning, environmental clearance, final design and construction. Additional details of these phases are contained in Appendix A, which details the project development process utilized by the Department of Transportation. The project status sheets contain several items of information as follows:

Project Description:

Contains the preliminary project scope, which generally identifies features of the project i.e., length, structures, widening, and interchanges, and directs the project development process.

Project Benefits:

Summarizes the primary favorable outcomes expected by delivering the project.

Project Risks:

Identifies the major risks that might impact project scope, cost, and schedule. Unforeseen environmental mitigation, right-of-way litigation, and inflation of construction materials or land values are only a few items that can adversely affect project development. Appendix B, Dealing with Project Risk, provides more details.

Schedule:

Provides the time ranges for the four primary phases of project development: planning, environmental clearance, final design, and construction. Generally, the schedule by state fiscal years, reveals the time range for starting or completing a phase. It indicates the starting range early in the development process and completion range later in the process. Appendix B Dealing with Project Risks, provides more details concerning the time ranges.

Project Costs:

Project cost ranges are provided by activity: 1) engineering activities that include planning, environmental clearance and final design costs, 2) right-of-way acquisition, and 3) construction. Costs are adjusted for inflation to the anticipated mid-point of completing a phase. Appendix B Dealing with Project Risks, provides more detail on the range of project cost estimates.

What's changed since last update?

Contains summaries of the project scope, cost, and schedule changes, if any.

Financial Fine Points:

Includes the total expended project costs and summary of financial issues.

Status Bars at the Bottom of the Form:

Shows the percentage completion for the primary project development activities that are in progress: planning, environmental clearance, final design, right-of- way acquisition, and construction.

MAJOR PROJECTS SUMMARY SHEETS

MAJOR PROJECTS

Southern Nevada Projects

I-15 Projects

I-515 Projects

US-95 Northwest Projects

Northern Nevada Projects

I 15 North - Phase 3

Speedway Boulevard to Garnet Interchange
Project Sponsor: NDOT
Project Manager: Christine Chia, P.E.

(775) 888-7767

Project Description:

- Last phase of improvements associated with the I-15 North Corridor Environmental Assessment. Original project limits were from Speedway Boulevard to Apex Interchange (May 2007 Environmental Assessment). Project limits were extended 6.1 miles to the north from the Apex Interchange to the Garnet Interchange (US 93)
- Widen I-15 from four to six lanes from Speedway Boulevard Interchange to the Garnet Interchange, approximately 10.7miles
- Project also includes: drainage improvements, bridge rehabilitation and widening, highway maintenance facility, landscape and aesthetic enhancements, improved and additional lighting, and truck parking

Schedule:
Planning:
Complete

Environmental Phase:
Complete

Final Design:
Complete

Construction:
2022 - 2024

Project Cost Range:

Engineering:
$3.4 - $4.9 million

Right-of-Way:
$1.5 - $2.0 million

Construction:
$79.3 - $93.3 million

Total Project Cost:
$84.2 - $100.2 million

Project Benefits:

- Improve safety
- Improve travel time reliability
- Improve access to areas planned for development in North Las Vegas
- Improve operations

What's Changed Since Last Update?

- Scope - No Change
- Schedule - No Change
- Cost - No Change

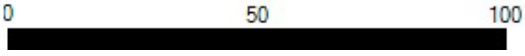
Project risks:

- Timely completion of construction

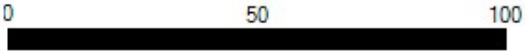
Financial Fine Points (Key Assumptions):

- Total funding expended for phase 3: $ 2,164,000 (design and environmental)
- Total funding expended for original Environmental phase: $214,000

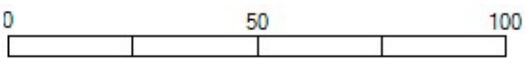
% Environmental Complete



% Design Complete



% Construction Complete



September 2021

NEVADA DOT SAFE AND CONNECTED

I 15 North - Phase 4

I 15 / CC 215 Northern Beltway Interchange
Project Sponsor: NDOT
Project Manager: Christine Chia, P. E.

(775) 888-7767

Project Description:

- This is one of four phases of improvements to the I-15 North Corridor between US 95 and Apex Interchange (15 miles)
- Construct new direct connect ramps to upgrade the I-15 and CC 215 (Las Vegas Beltway) Interchange
- Construct I-15 SB ramps and reconstruct I-15 NB ramps for the I-15 and Tropical Parkway Interchange
- Reconstruct local streets to match interchange re-configurations
- Provide landscape and aesthetic enhancements in accordance with the I-15 Landscape and Aesthetics Corridor Plan
- Improvements will be constructed within the existing I-15 and CC-215 rights-of-way to the extent possible. However, a total of approximately 3.8 acres has been acquired for these improvements

Schedule:

Planning: Complete

Environmental:

Complete

Final Design:

Complete

Construction:

2020 - 2022

Project Cost Range:

Engineering: $10.5 - $10.9 million

Right-of-Way: $1.7 - $3.7 million

Construction: $112.9 - $117.9 million

Total Project Cost: $125.1 - $132.5 million

Project Benefits:

- Improve safety
- Improve travel time reliability
- Improve access to areas planned for development in North Las Vegas
- Improve operations with full freeway-to-freeway connectivity

What's Changed Since Last Update?

- Scope - No Change
- Schedule - No Change
- Cost - No Change

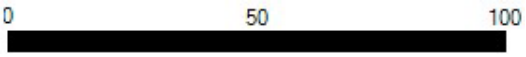
Project risks:

- Timely completion of utility relocations
- Timely completion of UPRR construction reviews

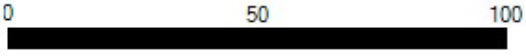
Financial Fine Points (Key Assumptions):

- Total funding expended for construction: $ 44,343,000
- Total funding expended for construction engineering: $ 3,901,000
- Total funding expended for engineering: $10,683,000
- Total funding expended for right of way: $3,901,000
- Total funding expended for I-15 North environmental phase: $875,000
- NDOT Average Escalation Rates applied
- Awarded 01/13/2020 to Fisher Sand & Gravel. Bid $98,989,898.98

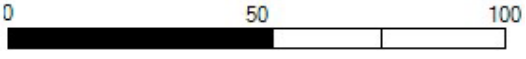
% Environmental Complete



% Design Complete



% Construction Complete



September 2021

NEVADA DOT SAFE AND CONNECTED

I 15 Central Corridor

Project Sponsor: NDOT

Project Manager: Christine Chia, PE

(775) 888-7767

Project Description:

- Feasibility study along I-15 from Flamingo Road to Sahara Avenue.
- Enhance access and mobility within the I-15 corridor.
- Define needs and examine potential improvements to the I-15 within the resort corridor area.
- Engage stakeholders in a feasibility study and alternative analysis that meets project goals.
- Create a phased implementation strategy and prioritization for future construction.

Schedule: Feasibility Study: 2019 - 2021

Environmental:

TBD

Final Design:

TBD

Construction:

TBD

Project Cost Range:

Engineering:

TBD

Right-of-Way:

TBD

Construction:

TBD

Total Project Cost:

TBD

Project Benefits:

- Increase capacity
- Improve safety
- Improve access
- Improve travel time reliability

What's Changed Since Last Update?

- Feasibility Study Virtual Public Meeting held from May 25 - June 23, 2021
- Planning Phase: Feasibility Study expected to be completed fall 2021
- Scope, schedule, and cost- No change

Project risks:

- Consensus building among the stakeholders.
- Funding uncertainty.
- Economic development along the corridor could require design changes affecting scope, schedule and budget.

Financial Fine Points (Key Assumptions):

- Total funding: TBD

Planning Phase: I-15 Central Corridor Feasibility Study

0 50 100

September 2021

NEVADA DOT SAFE AND CONNECTED

I 15 Tropicana Interchange Reconstruction

Project Sponsor: NDOT
Project Manager: Lynnette Russell, PE

(702) 671-6601

Project Description:

- Demolish and reconstruct the Tropicana Avenue interchange at I-15
- Grade separate the intersection of Tropicana Avenue and Dean Martin Drive
- Construct HOV ramps at Harmon Avenue
- Extend the Active Traffic Management System South on I-15
- Pavement preservation Warm Springs to Harmon

Schedule:

Environmental:
FONSI - February 6, 2020

RFQ:
September 2020

RFP:
January 2021

Design Build Contractor award:
September/November 2021

Construction:
2022 - 2025

Project Cost Range:

Engineering:
$8,000,000.00 to $12,000,000.00

Right of Way:
$40,000,000.00

Construction:
$305,000,000.00

Project Benefits:

- Improve operations, safety, and mobility
- Provide for future expansion of I-15
- Improve travel time reliability.

What's Changed Since Last Update?

- FONSI - February 6, 2020
- Scope - No Change
- Schedule - Updated to reflect delay in award of construction contract
- Budget - Updated to reflect construction cost and revised ROWcosts

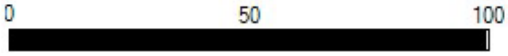
Project risks:

- Timing of funding
- Stakeholders buy-in
- Right of Way
- Utility conflicts and coordination

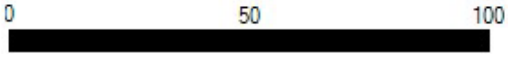
Financial Fine Points (Key Assumptions):

- N/A

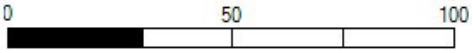
Environmental (NEPA Phase)



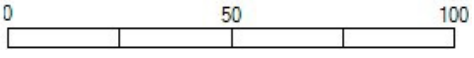
Design Build Procurement January 2020 - October 2021



Design Build design development



Construction



September 2021

NEVADA DOT SAFE AND CONNECTED

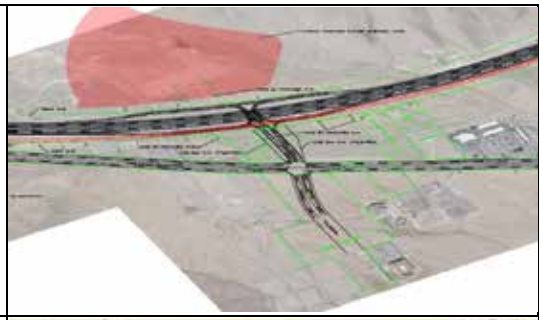
I 15 South - Via Nobila Interchange

(formerly Bermuda Road)

Project Sponsor: City of Henderson

Project Manager: Pedro Rodriguez, PE

(775) 888-7321



Project Description:

- The I-15 South Corridor Environmental Assessment from Sloan to Tropicana was completed in 2008 and broke the corridor into nine (9) project elements to address funding and constructability opportunities.
- Construction of a new interchangeat Via Nobila (formerly Bermuda Road) was one of the project elements identified in the original Environmental Assessment.
- Because of the length of time since the original Environmental Assessment was completed, the corridor is being re-evaluated to address any changes that may have occurred and determine how those changes impact the future of the corridor.

Schedule:Planning:
Complete

Environmental:
Re-evaluation of 2008 EA to be complete 2nd Quarter SY 2021

Final Design:
TBD

Construction:
TBD

Project Cost Range:

(Estimates per January 2019 CRA)

Engineering: $11 million - $15 million

Right-of-Way: $8 million - $25 million

Construction: $73 million - $106 million

Total Project Cost: $92 million - $146 million

Project Benefits:

- Increase capacity
- Improve safety
- Improve access
- Improve travel time reliability

What's Changed Since Last Update?

- Scope - No change
- Schedule - No change
- Cost - No change

Project risks:

- Unit price and property escalationmay affect project cost
- Funding uncertainty

Financial Fine Points (Key Assumptions):

- Escalation due to project funding not being available until 2040per CRA
- Total funding expended for I-15 South Environmental Studies(all phases): $3.5 million

% Environmental Complete

0 50 100

% Design Complete

0 50 100

September 2021

I 15 South - Pebble Road Overpass

Project Sponsor: Clark County
Project Manager: Pedro Rodriguez, PE

(775) 888-7321

Project Description:

- The I-15 South Corridor Environmental Assessment from Sloan to Tropicana was completed in 2008 and broke the corridor into nine (9) project elements to address funding and constructability opportunities.
- Construction of an overpass at Pebble Road and I-15 was one of the project elements identified in the original Environmental Assessment.
- Because of the length of time since the original Environmental Assessment was completed, the corridor is being re-evaluated to address any changes that may have occurred and determine how those changes impact the future of the corridor.

Schedule:

Planning: Complete

Environmental:

Re-evaluation of 2008 EA to be complete 2nd Quarter SY 2021

Final Design:

TBD

Construction:

TBD

Project Cost Range:

(Estimates per January 2019 CRA)

Engineering: $5 million - $6 million
Right-of-Way: $0
Construction: $33 million - $43 million
Total Project Cost: $38 million - $49 million

Project Benefits:

- Improves access
- No connections to I-15, so interstate traffic will not be negatively impacted

What's Changed Since Last Update?

- Scope - No change
- Schedule - No change
- Cost - No change

Project risks:

- Unit price and property escalation may affect project cost.
- Lack of funding may push this project well into the future

Financial Fine Points (Key Assumptions):

- Funding not available
- Total funding expended for I-15 South Environmental Studies(all phases): $3.5 million
- Funding Source (2019 EA Update): Clark County Fuel Revenue Index Funding

% Environmental Complete

0 50 100

% Design Complete

0 50 100

September 2021

NEVADA DOT SAFE AND CONNECTED

I 15 South - Phase 2

Sloan Road to Blue Diamond (SR-160)
Project Sponsor: NDOT
Project Manager: Danja Petro, PE

(702) 671-8865

Project Description:

- The I-15 South Corridor Environmental Assessment from Sloan to Tropicana was completed in 2008 and broke the corridor into nine (9) project elements to address funding and constructability opportunities.
- This is one project element identified in the original Environmental Assessment.
- Because of the length of time since the original Environmental Assessment was completed, the corridor is being re-evaluated to address any changes that may have occurred and determine how those changes impact the future of the corridor.
- The original project identified widening on I-15 between Sloan Road and Blue Diamond Road from 6 to 10 lanes for a total length of 8.2miles.

Schedule:

Planning:
Complete

Environmental:
Re-evaluation of 2008 EA to be complete 2nd Quarter SY 2021

Final Design:
TBD

Construction:
TBD

Project Benefits:

- Increase capacity
- Improve safety
- Improve access
- Improve travel time reliability

Project Cost Range:
(Estimates per January 2019 CRA)

Engineering:
$22 - $25 million

Right-of-Way:
$0

Construction:
$138 million - $284 million

Total Project Cost:
$160 million - $309 million

What's Changed Since Last Update?

- Scope - No change
- Schedule - No change
- Cost - No change

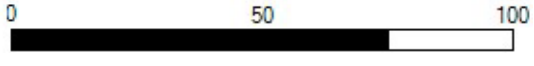
Project risks:

- Complexity in maintaining traffic staging, relocating utilities and reducing impacts to traveling public.

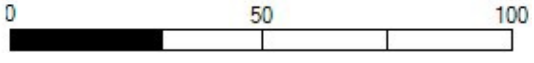
Financial Fine Points (Key Assumptions):

- Funding not available until 2045
- Total funding expended for I-15 South Environmental Studies (all phases): $3.5 million

Environmental Complete



Design Complete



September 2021

NEVADA DOT SAFE AND CONNECTED

I 15 South - Via Inspirada Interchange

(formerly Sloan Road)

Project Sponsor: City of Henderson
Project Manager: Pedro Rodriguez, PE

(775) 888-7321

Project Description:

- The I-15 South Corridor Environmental Assessment from Sloan to Tropicana was completed in 2008 and broke the corridor into nine (9) project elements to address funding and constructability opportunities.
- Construction of a new interchange at Via Inspirada (formerly Sload Road) was one of the project elements identified in the original Environmental Assessment.
- Because of the length of time since the original Environmental Assessment was completed, the corridor is being re-evaluated to address any changes that may have occurred and determine how those changes impact the future of the corridor.

Schedule:Planning:
Complete

Environmental:

Re-evaluation of 2008 EA to be complete 2nd Quarter SY 2021

Final Design:

TBD

Construction:

TBD

Project Cost Range:
(Estimates per January 2019 CRA)

Engineering:
$10 million - $12 million

Right-of-Way:
$13 million - $22 million

Construction:
$54 million to $73 million

Total Project Cost:
$77 million - $107 million

Project Benefits:

- Increase capacity
- Improve safety
- Improve access
- Improve travel time reliability

What's Changed Since Last Update?

- Scope - No change
- Schedule - No change
- Cost - No change

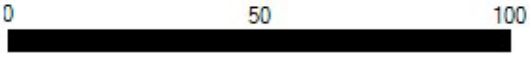
Project risks:

- Unit price and property escalation may affect project cost.
- Sloan Interchange to be constructed prior to widening to accommodate additional lanes

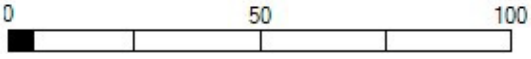
Financial Fine Points (Key Assumptions):

- Funding not available until 2022 per current Financial Plan
- Total funding expended for I-15 South Environmental Studies(all phases): $3.5 million

Environmental Complete



Design Complete:



September 2021

NEVADA DOT SAFE AND CONNECTED

Downtown Access Project

I-515/US-95 from Rancho Blvd
Interchange to Mojave Rd
Project Sponsor: NDOT
Project Manager: Ryan Wheeler, P.E.
(702) 278-3391

Project Description:

- This project proposes to improve freeway capacityby adding more lanes and fixing ramp spacing by adding braided ramps connecting I-15 and I-515 in both directions. The project will also add additional access to/from I-515 and the Downtown area with two new HOV interchanges. One at City Parkway and the other at Maryland Parkway.
- This current scope of work on the project is to implement the necessary studies, documentation,and outreach to complete the NEPA phase of the project. This will be done by analyzing three proposed build alternatives that have been conceptually designed to 15% and a no-build alternative.
- The proposed build alternatives include replacingthe existing viaduct but not building a lengthy bridge OR recessing the highway into a trench below existing ground level.
- Each construction alternative will include similarproposed improvements: remove or replace the 1.6-mile viaduct; add freeway capacity; fix ramp spacing by adding ramp braiding to/from I-15 and I-515; add HOV lanes on I-515/US-95; and new HOV interchanges at City Parkway and Maryland Parkway
- *** This project was originally the I-515 alternatives development study with project limitsfrom the Wyoming grade separation to the MLK interchange. The alternatives development studyhad 5 separate task orders to perform general environmental work, develop lists of potential projects and pursue project development. Task Orders 1-4 have been completed. Task order 5 isthe pursuit of the Downtown Access Project.
- Please visit the project website at www.ndotdap.com

Schedule:

The project is currently estimated to be 10-13 years in total.

Environmental (3-4 years):

In progress

Final Design (3-4 years):

TBD

Right-of-way (concurrent with final design, 3-4 years):

TBD

Construction (4-5 years):

TBD

Project Benefits:

- Improved safety, operations, and air quality through the I-515/US-95 corridor
- Remedy aging infrastructure by replacing or removing the 1.6-mile viaduct
- Improve operations by adding freeway capacity and braiding ramps to/from I-15 and I-515
- Extend HOV network to downtown along I-515/US-95 freeway, including new HOV interchanges at Maryland Parkway and City Parkway
- Improved landscaping and aesthetics

Project Cost Range:

Environmental: $6.0 million
Engineering: TBD
Right-of-Way: TBD
Construction: TBD
Total Project Costs: TBD

What's Changed Since Last Update?

- View project information at www.ndotdap.com
- Mar 8-April 12 Temporary test closures of streets proposed to be closed permanently

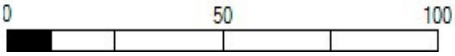
Project risks:

- Funding availability to move project into the next phases of: design, right-of-way acquisitions, and construction
- Utility relocation, groundwater, right-of-way acquisitions, crossing the UPRR tracks, and maintenance of traffic during construction.
- The project team will manage risks through project development.

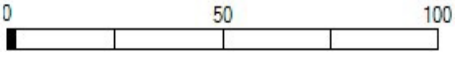
Financial Fine Points (Key Assumptions):

- $6million for pre-NEPA studies
- $5million for NEPA work

Environmental



% Design Complete



September 2021

NEVADA DOT SAFE AND CONNECTED

Henderson Interchange NEPA Study

Project Sponsor; NDOT
Project Manager; David Bowers, P.E.

702-671-6672

Project Description:

- This NEPA Study for the Henderson Interchange will determine the preferred alternative and system wide improvements.
- The project limits extend south along I-11 to Horizon Drive, north along I-515 to Galleria Drive, west along I-215 to Valley Verde Drive, and east along Lake Mead Parkwayto Van Wagenen Street.

Schedule:

Planning (Henderson Feasibility Study): Complete

Environmental: 2022

Project Cost Range:

Environmental: $4 million

Engineering: TBD

Right-Of-Way:

TBD

Construction:

TBD

Project Benefits:

- Improved operations
- Improved travel time reliability
- Improved safety

What's Changed Since Last Update?

- Scope: Alternative 2A, which utilizes a crossover on the E-W route, has been selected to advance into the NEPA Study.
- Schedule: No Change
- Cost: No Change

Project risks:

- Negative environmental impacts
- High project cost

EA

0 50 100

September 2021

NEVADA DOT SAFE AND CONNECTED

US 95 Northwest - Phase 3D

Clark County 215 Interchange

Project Sponsor: NDOT, City Las Vegas and Clark County
Senior Project Manager: Pedro Rodriguez, PE

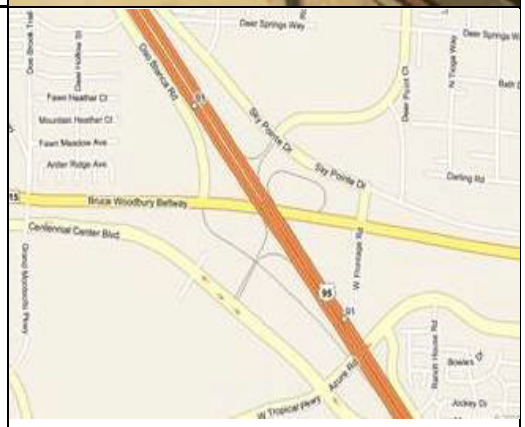
(775) 888-7321

Project Description:

- This is the third phase of the US 95 Northwest project that extends from Washington Avenue toKyle Canyon Road
- Construct new system to system interchange atCC 215
- This third phase is anticipated to be constructedin 3 subparts (A, C and D)
- Phase 3D: Ramps providing west to north, south to west and east to north movements; local interchange; upgrade CC215; and construct Multi-Use Path

Schedule:

Planning: Complete
Environmental: Complete
Final Design: Complete 2020
Construction: Start January 4, 2021
Construction: End 2nd Quarter SY 2024



Project Cost Range:

(Design Phase Estimates):Engineering (All Phases):
$14 - $15 million

Right of Way (All Phases): $0 - $1 million
Construction (All Phases): $204 - $268 million
Construction (3D): $134 - $185 million
Total Project Cost (All Phases): $218 - $284 million

Project Benefits:

- Increase capacity
- Improve safety
- Improve access
- Improve travel time reliability

What's Changed Since Last Update?

- Scope - No change
- Schedule - No change
- Cost - No change

Project risks:

- Unit price escalation may affect project cost
- Complex right of way and utility issues may impact schedule and cost

Financial Fine Points (Key Assumptions):

- Total funding expended for Phase 3: $141.62 million
- Total funding expended for US 95 Northwest Environmental Studies (all phases): $5 million
- 3D: inflation escalation (2.27%) to midpoint of construction 2021
- Funding source:
- - Federal: 113 million
- - State: $40 million
- - Local: $2 million

% Design Complete 0 50 100

% ROW Complete 0 50 100

% Construction Complete 0 50 100

September 2021

NEVADA DOT SAFE AND CONNECTED

The Reno Spaghetti Bowl & Spaghetti Bowl Express (Phase1)

180/ I580/ US 395 System Interchange

Project Sponsor: NDOT

Project Manager: Pedro Rodriguez, PE

775-888-7321

Project Description:

- Freeway capacity, safety, and operational improvements to and surrounding the Spaghetti Bowl Interchange
- Freeway access management improvements
- Modify service interchanges
- I-80 limits: Virginia/Sierra/Center Street Interchange to Pyramid Highway Interchange
- I-580/US 395 limits: McCarran/Clear Acre Interchange to Virginia/Kietzke Interchange

Schedule:

Environmental:
Complete

SBX Phase 1 Designand Construction:
2019 - 2023

SBX Phase 1 Design-Build:
2020 - 2023

Future Construction Phases:
2025 and Later

Project Cost Range:

Engineering:
$107 - $153 million

Right of Way:
$342 - $495 million

Construction:
$1.5 - $2.2 billion

Total Project Cost (All Phases):
$1.9 - 2.8 billion

Project Benefits:

- Improve freeway safety and operations
- Improve travel time reliability
- Accommodate current and future travel demands
- Improved freeway maintenance

What's Changed Since Last Update?

- Scope - No changes
- Schedule - Environmental Phase Complete
- Budget - Updated based on Cost Risk Assessment

Project risks:

- Complex access management strategies
- Railroad
- Truckee River
- Socio-economic environment
- Fragmented Local Network
- Right of Way
- Historical and cultural impacts
- 4f and 6f impacts

Financial Fine Points (Key Assumptions):

- Total funding expended for Environmental Phase: $11.6 Million

% Environmental Complete

0 — 50 — 100

% Design SBX Phase 1 Design -Build Complete

0 — 50 — 100

September 2021

Reno Spaghetti Bowl - Phase 2 Nugget Viaduct

East of I80/I580/US395 Interchange to

East McCarran Blvd (SR659)

Project Sponsor: NDOT
Project Manager: Amanda Callegari, P.E.

(775) 888-7603

Project Description:

- This project is the second phase of the Reno Spaghetti Bowl (RSB) I80/I580/US395 System Interchange Improvements to address necessary operational improvements in the Truckee Meadows area
- The current scope of work for this project includes conducting a feasibility study for the replacement of the Nugget Viaduct and preliminary design for necessary improvements for the eastern leg of the Reno Spaghetti Bowl FEIS limits
- Improvements include reconstructing I- 80 from east of the Spaghetti Bowl to East McCarran Blvd
- Replace I-80 Bridge H-866 E/W over the Nugget Casino
- Construct new interchange at Kietzke Lane
- Reconstruct Rock Blvd. and Pyramid Way Interchanges

Schedule:

Milestones and Deliverables:

Environmental:

Complete

Preliminary Engineering and Preliminary Design:

2022

Final Design and Right-of-Way:

TBD

Construction:

TBD

Project Cost Range:

Engineering: TBD

Right-of-Way: TBD

Construction: TBD

Total Project Cost: TBD

Project Benefits:

- Improve Safety
- Improve Travel Time Reliability
- Optimize Local and Regional System Connections
- Improve Freeway Operations

What's Changed Since Last Update?

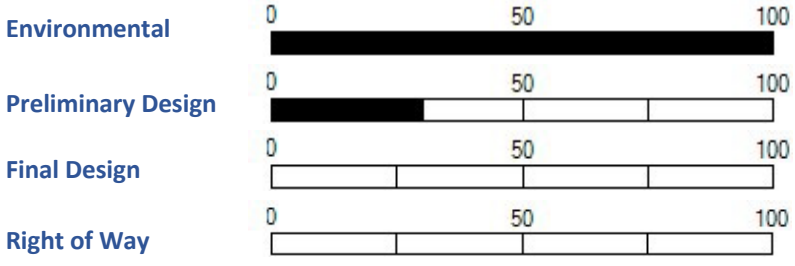
- Scope: No change
- Schedule: No change
- Cost: No change

Project risks:

- Funding uncertainty for construction
- Consensus building among stakeholders

Financial Fine Points (Key Assumptions):

- State funds programmed to conduct preliminary engineering including feasibility study to determine estimated costs for design, right-of-way, and construction



September 2021

NEVADA DOT SAFE AND CONNECTED

I-80 East

Vista Blvd. to USA Parkway (SR 439)

Project Sponsor: NDOT
Project Manager: Amanda Callegari, P.E.

(775) 888-7603

Project Description:

- This project consists of corridor improvements on 13.1 miles of I-80 betweenVista Blvd. and USA Parkway
- Freeway capacity improvements include widening I-80 in each direction from two to three lanes
- Freeway safety improvements include widening shoulders for emergency access
- Interchange improvements will enhance acceleration lanes/merging distances and freeway access management
- The current scope of work on the project is to implement the necessary studies, outreach, and documentation to fulfill the NEPA requirements as well as to develop preliminary design alternatives

Schedule:
Planning: Anticipated scoping completion 2021
Milestones / Deliverables:
Environmental: 2021 - 2023
Intermediate Design: 2023
Final Design and Right-of-way: 2023 - 2025
Construction: 2025

Project Cost Range:

Engineering: TBD

Right-of-Way: TBD

Estimated Construction Costs: $300-$400M

Project Benefits:

- Improve Safety and Emergency Service Access
- Improve Travel Time Reliability
- Improve Freight Movement
- Accommodate Future Planned Growth
- Improve Operations and Maintenance

What's Changed Since Last Update?

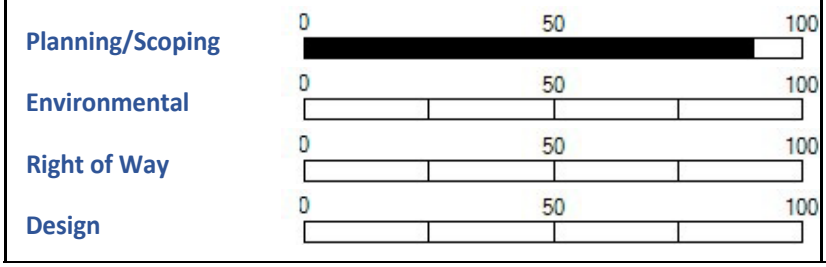
- Scope: Scope development in progress
- Schedule: No change
- Cost: No change

Project risks:

- Funding uncertainty for project construction
- Environmental study outcomes could impact schedule
- Challenging topography between steep rock slopes, the Truckee River and the UPRR adjacent to I80
- Significant utilities located adjacent to I80 could impact schedule and budget

Financial Fine Points (Key Assumptions):

- Environmental effort programmed to use state funds
- Preliminary Engineering Anticipated to use state funds
- Funding for Construction not yet identified



September 2021

NEVADA DOT SAFE AND CONNECTED

Pyramid Highway/US 395 Connection

Project Sponsor: Washoe County RTC and NDOTWashoe
RTC Project Manager: Doug Maloy, P.E.
NDOT Project Manager: Pedro Rodriguez, P.E.

Phone: (775) 888-7321

Project Description:

- Calle de la Plato to La Pasada- Transition from 4 Lane Arterial to 6 lane freeway
- La Pasada to Sparks Blvd. - Develop Pyramid alignment into 6 lane freeway with frontage roads.
- Continue 6 lane freeway from Sparks Blvd. to Disc Dr. either on the Pyramid alignment with frontage roads or on a separate alignment to the west.
- Extend 6 lane freeway through Sun Valley to US-395.
- Widen and improve Pyramid highway from Disc Dr. to Queen Way.
- Widen and extend Disc Dr. to Vista Blvd.
- NEPA completed by Washoe RTC.
- This project will be delivered in 6 phases.
- Phase 1 from Queen Way to Golden View Drive is currently in the design process.

Schedule:

Planning: Complete

Environmental:
2010 - 2018

Final Environmental Impact Statement (FEIS):
Winter 2014-2017

Record of Decision (ROD): 2018

Final Design:
Phase 1 - currently in design
Phases 2 through 6 design TBD

Construction:
Phases 1 through 6 - TBD

Project Cost Range: (Planning phase estimates)

Engineering: $40M - $60M

Right-of-Way: $100M - $150M

Construction: $410M - $660M

Total Project Costs: $550M - $870M

Project Benefits:

- Address travel time reliability and safety along the Pyramid Highway and McCarran Blvd. corridors.
- Provide alternative access to freeway system.
- Improve safety.

What's Changed Since Last Update?

- The Record of Decision has been received.
- Phase 1 - Queen Way to Golden View Drive is currently in the design process.

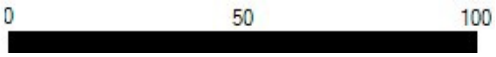
Project risks:

- Construction in a dense urban residential area.
- Funding sources for all phases not identified.
- Complex right of way and utility issues may impact schedule and costs.

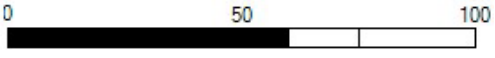
Financial Fine Points (Key Assumptions):

- Total RTC Funding Expended - $7,300,000
- Construction funding for all phases: TBD

% Environmental Complete



% Design Complete Phase 1



September 2021

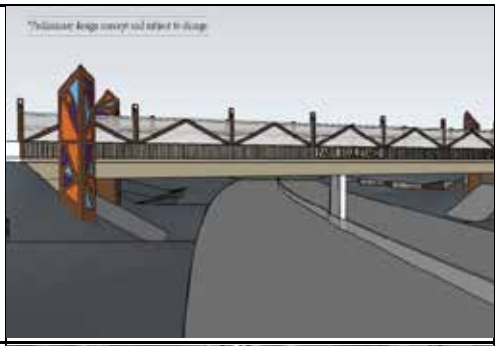
NEVADA DOT SAFE AND CONNECTED

US 395 North Valleys Phase 1A: Parr-Dandini BridgeReplacement

Highway Project Manager: Pedro Rodriguez, P.E.

Phone: (775) 888-7321

E-mail: prodriguez@dot.nv.gov



Project Description:

- US 395 is the major connection between Reno/Sparks and the north valleys: Golden Valley, Lemmon Valley, and Cold Springs. This route also serves as the main connection to northeastern California.
- This is the first phase of the future widening of US 395 in the North Valleys
- This phase includes the removal of the aging and structurally deficient Parr-Dandini Bridge structure (I-1306) and construction of a new bridge that will be longer and wider to accommodate future phases of widening through this area

Schedule:Final Design Submittal:

December 2019

AdvertiseProject:

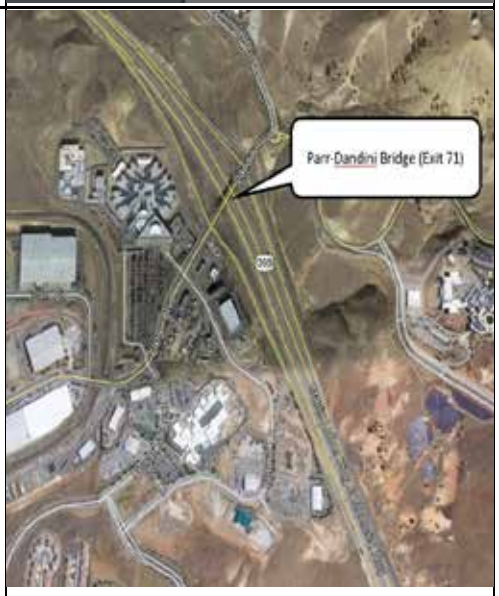
February 2020

Construction Awarded:

April 2020

Anticipated Construction Completion:

December 2020



Project Benefits:

- Improved safety
- Decreased structure maintenance
- Multimodal design

Project Cost Range:

Engineering: $500k to $700k

Construction: $8 to $9 million

Total Project Cost: $8.5 to $10 million

What's Changed Since Last Update?

- Scope: No change
- Schedule: No change
- Budget: No change

Project risks:

- Existing transmission line poses constructability challenges
- Weather could delay construction completion

Financial Fine Points (Key Assumptions):

- Total funding expended: $6 million

September 2021

NEVADA DOT SAFE AND CONNECTED

US 395 North Valleys - Phase 1B

Highway Project Manager: Pedro Rodriguez, P.E.

Phone: (775) 888-7321

E-mail: prodriguez@dot.nv.gov

Project Description:

- US 395 is the major connection between Reno/Sparks and Golden Valley, Lemmon Valley, and Cold Springs areas. This route serves as the main connection to northeastern California.
- This is the second phase of US 395 North Valleys Project, Phase 1B, which begins just north of McCarran Boulevard and ends just south of Golden Valley Road interchange.
- This phase will include a third southbound travel lane, auxiliary lanes between the interchanges in both the northbound and southbound directions, new braided ramp at Panther Valley and the rehabilitation of the existing roadway.

Schedule:

Planning:

Complete

Intermediate Design Submittal:

September 2021

Advertise:

December 2022

Project Cost Range:

Engineering: $4 to $6 million

Right-of-Way: $100,000 to $150,000

Construction: $75 to $100 million

Total Project Cost: $80 to $106 million

Project Benefits:

- Increase capacity to accommodate projected traffic
- Improve travel time reliability
- Improve safety

What's Changed Since Last Update?

- RTC Washoe to begin Lemmon Valley Drive interchange DDI construction fall 2021.
- Intermediate Design submittal moved to September 2021. The projected Advertisement milestone not expected to change.

Project risks:

- Bridge widening within UPRR right-of-way

Financial Fine Points (Key Assumptions):

- Total preliminary engineering funding expended for Phase 1A/1B: $3,800,000

Design Complete 0 50 100

September 2021

US 395 Carson City Freeway - Phase 2B

South Carson Street to Fairview Drive

Project Sponsor: NDOT

Senior Project Manager: Nanette Maxwell, P.E.

(775) 888-7742

Project Description:

- This project will be delivered in four packages. Construction is complete for Phase 2B Packages 1, 2 & 3.
- Phase 2B Package 4 will construct the South Carson Interchange and complete the remainder of the project.

Schedule:

Planning:

Complete

Environmental: Complete

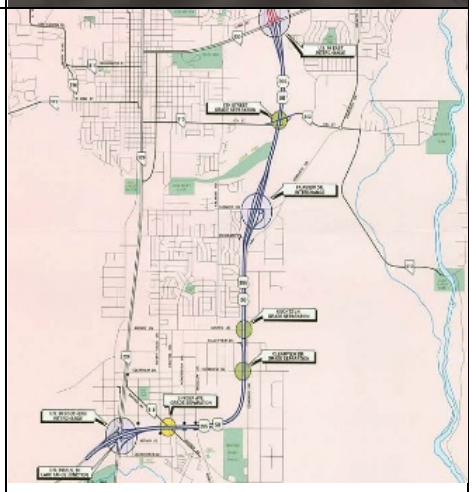
Final Design:

Phase 2B Packages 1, 2& 3 are Complete - Package 4 - TBD

Construction:

Phase 2B Packages 1, 2& 3 are Complete -

Package 4 - TBD



Project Benefits:

- Improve travel time and reliability on Carson Street through Carson City and local streets along the freeway corridor.
- Provide flood control protection.
- Improve opportunities for economic development along the corridor and downtown.

Project Cost Range:

(Final design phase estimates):

Engineering: $11 - $13 million

Right-of-Way: $30 - $32 million

Construction: $100 - $150 million

Total Project Cost: $150 - $200 million not including Package 4

Project risks:

- Project completion date will depend on the availability of funds.
- Concurrent utility relocation will be required.
- Changes in design standards could affect schedule and budget.
- New development along the corridor.

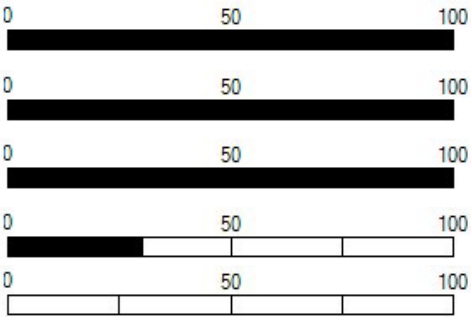
What's Changed Since Last Update?

- Scope - Package 4 will complete the remainder of the Freeway.
- Schedule - TBD
- Cost - No change
-

Financial Fine Points (Key Assumptions):

- Total funding expended: $200 million
- Construction funding source for Phase 2B-4: TBD

- **% Design Complete 2B-1, 2B-2, 2B-3**
- **% ROW Complete**
- **% Construction Complete 2B-1, 2B-2, 2B-3**
- **% Design Complete 2B-4**
- **% Construction Complete 2B-4**



September 2021

NEVADA DOT SAFE AND CONNECTED

APPENDICES

APPENDIX A

BENEFIT-COST ANALYSIS OF CAPACITY PROJECTS

The Department is required under NRS 408.3195 to conduct benefit cost analysis for larger highway capacity projects. Specifically, prior to submitting a project to the Board for approval, the Department will prepare such a written analysis for highway projects that will increase capacity on the State Highway System and cost at least $25 million. Subsequently, this analysis was done and is being reported on active projects before the Department requests the Board to approve funding for construction, including right-of-way acquisition and utility work. The Benefit-Cost (B/C) ratio calculations are being done on the larger capacity projects that are expected to be funded for construction within 10 years and, thereby, appear in the Transportation System Projects document. Furthermore, B/C analysis has been done for some projects that do not meet the minimum dollar threshold, but the information will be beneficial to management for decision making purposes. The department has policy (TP 1-11-1) that guides the B/C analysis Program.

The B/C ratios for several projects have been determined for FY 2013 to present. The following table reports the B/C ratio results for major projects. Attempt has been made to include B/C ratios for entire projects and not the ratios of individual phases except in cases that are appropriate.

Major Projects	B/C Ratio	Fiscal Year
I-15 Interchange at Milepost 118 in Mesquite, Nevada	5	2013
US 93 Pavement Rehabilitation & Truck Climbing Lanes	8.3	2013
South McCarran Boulevard – Phase I Virginia Street to Mira Loma Drive	3.57	2013
South McCarran Boulevard – Phase II Mira Loma Drive to Greg Street	2.47	2013
US 395 Southern Corridor E Clearview Drive SR 88	2.13	2013
US-50 Widening Project Chaves Road to Roy's Road	1.9	2013
F Street Connection Washington Ave. to Bonanza Road	1.15	2013
USA Parkway	17.3	2013
I-15 NEON (All Phases)	2.3	2014
Boulder City Bypass: Phases I and II Fooithills Drive to West of the Hoover Dam Bypass	0.94	2014
I-15 Pavement Rehabilitation: Dry Lake Rest Area to Logandale/Overton Interchange	1.7	2014
Carson City Freeway (All Phases)	2.14	2014
US 95 North-Phase 2A (Ann Road to Durango Drive)	4.2	2014

Major Projects	B/C Ratio	Fiscal Year
SR 593 Tropicana Avenue: Dean Martin Drive to Boulder Highway (The project starts at Dean Martin Drive and ends at SR 582 Boulder Highway (SR 593 CL-3.50 to -10.85))	2.5	2014
I-15 North-Part 2 Package D (Capacity Improvements): Craig Rd. to Speedway Blvd	7.1	2014
I-15 North Phase 4 – I-15/CC-215 Interchange – Alternative 1	1.37	2015
I-15 North Phase 4 – I-15/CC-215 Interchange – Alternative 2	1.66	2015
I 215 from I 15 to Windmill Lane (Airport Connector)	2.6	2015
US 95 NW Phase 3A; CC 215 from US 95 to Tenaya Way MP CL 0.88 - N/E & W/S Ramps and S/B collector road	1.2	2015
SR 593, Tropicana Ave. at SR 604 Las Vegas Blvd. (Replace Escalators)	1.2	2015
US95/CC215 Interchange and Associated Improvements (Phases 3C, 3D/E)	3.36	2017
I-15/US 93 Interchange (Garnet Interchange) Reconstruction and US 93 Capacity Improvements	2.64	2017
I-515 Alternatives Development Study Project 1	2.9	2017
I-515 Alternatives Development Study Project 2	0.4	2017
I-515 Alternatives Development Study Project 3	2.8	2017
I-515 Alternatives Development Study Project 4	6.8	2017
I-515 Alternatives Development Study Project 5	0.3	2017
I-515 Alternatives Development Study Project 6	1.2	2017
I-15 South Phase 2A/2B Widening	0.2	2018
I-15 South Bermuda Road Interchange	-0.1	2018
I-15 South Sloan Road Interchange	-0.1	2018
Reno Sparks Freeway Traffic Study (Total US 395 Improvements)	8.8	2018
I-15 North Corridor Improvement Phase 3 Project from Speedway Boulevard to Garnet Interchange	3.8	2019
I-15 Tropicana EA project	10.31	2019
Pyramid Highway Improvement Project (Phase 1)	1.57	2019
I-515 Charleston Boulevard Interchange Project	1.98	2020
I-15 Flamingo to Sahara Feasibility Study-Alternative 1	1.33	2021
I-15 Flamingo to Sahara Feasibility Study-Alternative 1-Shift	1.05	2021
I-15 Flamingo to Sahara Feasibility Study-Alternative 2	0.99	2021
I-15 Flamingo to Sahara Feasibility Study-Alternative 2-Shift	0.87	2021

DISCUSSION OF THE CALCULATIONS OF COSTS AND BENEFITS

Introduction

The determination of the benefit and costs has received considerable use for many decades. The process was first proposed by a French engineer by the name of Dupuit in 1844. The method provides an analysis framework whereby many benefits and costs are quantified. It has become a widely used tool and enables the decision-making process of ranking projects to become more transparent. For the private sector it is a tool to guide private investment and has been certainly helpful to assist assessing the cost effectiveness of public projects. For the public sector, normally economic efficiency is the primary objective, but the public sector needs to consider economic equity as well. As the social and environmental factor became important, the economic analysis of projects came more complex and, therefore, more difficult.

The application of the B/C ratio calculations for this Annual Report compares each proposed project with a set of factors that are converted to monetary values. This appendix discusses the input data needed to conduct a B/C ratio calculation, which includes: travel time benefits, crash cost benefits, motor vehicle emission cost benefits, vehicle operating cost benefits, and capital cost. In addition, the limitation of the B/C analysis is presented.

Benefit-Cost Analysis Assumptions and Parameters

The typical project life was assumed to be 20 years, i.e., benefits and costs accrued during a period of 20 years after the opening of the project are accounted for in the benefit/cost analysis. However, when the cost of the structural components of a project was a significant portion (greater than 25 percent) of the total project costs, a 40-year project life was assumed.

Travel Time Benefits:

For the value of travel time, the personal travel was 50% of local mean wage while business travel by truck/bus drivers was 100% of local mean wage plus fringe benefits. The wage values came from the Occupational Employment and Wage Statistics published by the U.S. Bureau of Labor Statistics in May 2020. A 50% fringe was used because it was an average of several labor groups. Table E-1 lists the travel costs at different areas including Metropolitan Statistical Areas (MSA).

Table E-1 Travel Costs (2020 USD)

Statistical Area	Mean Wage ($/hour)	Personal Travel ($/hour)	Business Travel ($/hour)
Nevada	$24.21	$12.11	$36.32
Las Vegas-Henderson– Paradise MSA	$24.02	$12.01	$36.03
Reno MSA	$24.75	$12.38	$37.13
Carson City MSA	$26.07	$13.04	$39.11
Nonmetropolitan Area	$24.12	$12.06	$36.18

Source: Occupational Employment and Wage Statistics published by U.S. Bureau of Labor Statistics in May 2020, https://www.bls.gov/oes/tables.htm

Average vehicle occupancy factors and rates are shown in Table E-2.

Table E-2 Average Vehicle Occupancy Factors and Rates

Statistical Area	Average Vehicle Occupancy Rates for Highway Passenger Vehicles*	Vehicle Occupancy Rate**
Las Vegas – Paradise MSA	1.67	1.51
Reno – Sparks MSA	1.67	1.45
Other Areas	1.67	

* Source: Benefit-Cost Analysis Guidance for Discretionary Grant Programs, USDOT, February 2021.

** Vehicle occupancy rates are provided by RTC Washoe and RTCSNV.

Crash Benefits:

Freeways and Expressways with controlled access normally have lower crash rates than local streets and roads with little or no access control. Consequently, by increasing freeway capacity more travelers will benefit from lower accident rates. The rates are illustrated in Tables E-3 and E-4.

Table E-3 FY 2020 Nevada Crash Severity Numbers of the Larger Counties

Location	Traffic Crashes Percentage	Number of Crashes	PDO1	INJURY	FATAL	Crash Rates2
Clark County	74.93%	37,033	19,846	17,030	157	194.02
Washoe County	14.66%	7,247	4,357	2,846	44	182.66
Carson City / Douglas County	3.16%	1,561	956	589	16	169.09

Notes: 1. Property Damage Only. 2. Crash rates expressed in crashes per 100,000,000 vehicles miles traveled.

Source: NDOT Traffic Safety Division updated on September 15, 2021.

Table E-4 FY 2020 Crash Totals by County, Rates, Annual Vehicle Miles Traveled, and Population

COUNTY	TOTAL CRASHES	% OF TOTAL CRASHES	TOTAL AVM	% OF TOTAL AVM	POPULATION	CRASH RATE
CARSON	950	1.92%	427,234,180	1.53%	56,434	222.36
CHURCHILL	399	0.81%	350,672,879	1.25%	26,202	113.78
CLARK	37,033	74.93%	19,087,604,696	68.19%	2,320,107	194.02
DOUGLAS	611	1.24%	495,915,995	1.77%	49,082	123.21
ELKO	887	1.79%	838,984,213	3.00%	55,435	105.72
ESMERALDA	64	0.13%	116,650,208	0.42%	999	54.86
EUREKA	97	0.20%	150,119,921	0.54%	1,936	64.62

COUNTY	TOTAL CRASHES	% OF TOTAL CRASHES	TOTAL AVM	% OF TOTAL AVM	POPULATION	CRASH RATE
HUMBOLDT	286	0.58%	374,187,378	1.34%	17,064	76.43
LANDER	102	0.21%	140,166,712	0.50%	6,324	72.77
LINCOLN	158	0.32%	166,961,091	0.60%	5,293	94.63
LYON	535	1.08%	537,303,892	1.92%	57,629	99.57
MINERAL	77	0.16%	138,424,763	0.49%	4,896	55.63
NYE	545	1.10%	652,714,238	2.33%	48,414	83.5
PERSHING	114	0.23%	279,559,748	1.00%	6,983	40.78
STOREY	152	0.31%	74,714,823	0.27%	4,304	203.44
WASHOE	7,247	14.66%	3,967,390,667	14.17%	473,606	182.66
WHITE PINE	169	0.34%	195,210,803	0.70%	10,477	86.57
TOTAL	49,426	100%	27,993,816,207	100%	3,145,185	176.56

1. Source: NDOT Traffic Safety Division updated on September 15, 2021.
2. Crash rates expressed in crashes per 100,000,000 vehicles miles traveled.
3. July 1, 2019 - June 30, 2020.

The crash costs per event (i.e., cost per fatality, cost per serious injury A, and others) were derived using Highway Safety Manual's Crash Cost Estimates. Consumer Price Index (CPI) and Employment Cost Index (ECI) were obtained from the Bureau of Labor Statistics (BLS) website, https://www.bls.gov/. The crash costs per event then were converted and rounded into 2020 dollars using BLS CPI data. The crash costs per event were converted to costs per crash to correspond with the data on crash reduction. Costs per crash are higher than costs per event because, for example, a fatal crash can involve multiple injuries; therefore, the cost of a single crash is likely higher than one event. Table E-5 shows the crash cost assumptions.

Table E-5 Crash Cost Assumptions

Crash Severity	Crash Cost per Event[1]	Crash Cost per Crash[2]
Fatal (K)	$6,439,100	$10,900,000
Suspected Serious (A)	$339,300	$521,300
Suspected Minor (B)	$123,900	$142,000
Possibly/Claimed (C)	$69,600	$72,500
Property Damage Only (PDO)	$11,200	$4,500

1. Source: Highway Safety Manual's Crash Cost Estimates converted into 2020 dollars using BLS CPI data.
2. Source: Benefit-Cost Analysis Guidance for Discretionary Grant Programs, USDOT, February 2021.

Table E-6 lists crash costs by the Abbreviated Injury Scale (AIS) levels from the Benefit-Cost Analyses Guidance for transportation investment grant applicants.

Table E-6 Crash Cost Assumptions

MAIS Level	Severity	Unit value
MAIS 1	Minor	$32,700
MAIS 2	Moderate	$512,300
MAIS 3	Serious	$1,144,500
MAIS 4	Severe	$2,899,400
MAIS 5	Critical	$6,463,700
MAIS 6	Not survivable	$10,900,000

1. Source: Benefit-Cost Analysis Guidance for Discretionary Grant Programs, USDOT, February 2021.

Use Table E-6 for TIGER, BUILD, FASTLANE, or INFRA grant applications.

Motor Vehicle Emissions and Costs:

The most common local air pollutants generated by transportation activities are Sulfur Dioxide (SO2), Nitrogen Oxides (NOX), Fine Particulate Matter (PM), and Volatile Organic Compounds (VOC). The recommended economic values for reducing emissions of various pollutants are shown in Appendix A, Table A-6 in Benefit-Cost Analysis Guidance for Discretionary Grant Programs published by USDOT in February 2021.

Vehicle Operating Costs Parameters:

Local data is encouraged to use on vehicle operating costs where available, appropriately documenting sources and assumptions. For analyses where such data is not available, the non-fuel costs for light duty vehicles can be estimated by the American Automobile Association (AAA)'s "Your Driving Costs" based on the average of three sedan categories (small, medium, and large).

The non-fuel costs for trucks can be estimated by values from the American Transportation Research Institute (ATRI), the research arm of the American Trucking Associations Federation. ATRI has conducted several analyses of the operational costs of trucking. These studies use costs derived directly from the trucking industry motor vehicle fleet operations. The operating costs reported include a number of categories associated with travel time and fuel operating costs in addition to non-fuel operating costs. These values include operating costs that vary with vehicle miles traveled such as fuel, maintenance and repair, tires, depreciation, and additionally, in the case of trucks, truck/trailer lease or purchase payments, insurance premiums, and permits and licenses. The values exclude other ownership costs that are generally fixed or that would be considered transfer payments, such as tolls, taxes, annual insurance, license, financing charges, and registration fees. For commercial trucks, the values also exclude driver wages and benefits which are already included in the value of travel time savings. Vehicle non-fuel operating cost assumptions are summarized in Table E-7.

Table E-7 Vehicle Non-Fuel Operating Costs

Vehicle Non-Fuel Operating Costs	Cost Per Mile ($)
Light Duty Vehicle	0.43
Commercial Truck	0.93

Source: Benefit-Cost Analysis Guidance for Discretionary Grant Programs, USDOT, February 2021.

Fuel consumption rates are suggested to be estimated from the California Air Resources Board Emission Factors 2014 (EMFAC2014) model. On December 30, 2014, the California Air Resources Board updated EMFAC from the previous version, EMFAC2011. EMFAC2014 also improves upon EMFAC2011's modeling structure.

Fuel costs used in the BCA model represent the out-of-pocket fuel costs paid by consumers. The American Automobile Association (AAA) Daily Fuel Gauge Report can be used as the source for fuel data (http://gasprices.aaa.com/?state=NV). It is suggested the price of mid-grade fuel for automobile fuel costs and the price of diesel fuel for truck fuel costs. The fuel cost calculation excludes federal, state, and local taxes. These taxes are transfer payments and user fees for funding transportation improvements. Fuel taxes can be broken into three components: Federal fuel excise taxes, State fuel excise taxes, and State and local sales taxes. Federal and state motor fuel taxes can be found from the U.S. Energy Information Administration (https://www.eia.gov/petroleum/). Nevada state local taxes can be found from the Facts & Figures book published annually by NDOT.

Capital Expenditures:

The capital cost of a project is the sum of the monetary resources needed to build the project (or program of projects). Capital costs generally include the cost of land, labor, material and equipment rentals used in the project's construction. In addition to direct construction costs, capital costs may include costs for project planning and design, environmental reviews, land acquisition, utility relocation, or transaction costs for securing financing. Costs should be recorded in the year in which they are expected to be incurred, regardless of when payment is made for those expenses.

Operating and Maintenance Expenditures:

Operating and maintenance (O&M) costs cover a wide array of costs required on a continuing basis to support core transportation functions. The ongoing O&M costs of the project throughout the entire analysis period should be included in the BCA and should be directly related to the proposed service plans for the project. O&M costs should be projected for both the no-build baseline and with proposed improvement project. For projects involving the construction of new infrastructure, total O&M costs will generally be positive, reflecting the ongoing expenditures needed to maintain the new asset over its lifecycle. For projects intended to replace, reconstruct, or rehabilitate existing infrastructure, however, the net change in O&M costs under the proposed project will often be negative, as newer infrastructure requires less frequent and less costly maintenance to keep it in service than would an aging, deteriorating asset. Note also that more frequent maintenance under the baseline could also involve work zone impacts that could be reflected in projected user cost savings associated with the project.

Residual Value and Remaining Service Life:

The analysis period used in the BCA should be tied to the expected useful life of the infrastructure asset constructed or improved by the project. Where some or all project assets have several years of useful service life remaining at the end of the analysis period, a "residual value" may be calculated for the project at that point in time. This could apply to both assets with expected service lives longer than the analysis period, and shorter-lived assets that might be assumed to have been replaced within the analysis period. A simple approach to estimating the residual value of an asset is to assume that its original value depreciates in a linear manner over its service life. Those residual values would then be discounted to their present value using the discount rate applied elsewhere in the analysis. The projected residual value of a project should be added to the numerator when calculating a benefit-cost ratio for a project.

Discussions and Limitations

In general, it is difficult to convert all diverse costs and benefits into monetary values. At times funding limitations might require the selection of an alternative that does not have the highest B/C ratio, simply because there is not sufficient funding. While the B/C ratio calculation reported herein is an excellent parameter to help select projects or alternatives, it does have limitations.

One limitation deals with the project cost impact on humans; therefore, a factor, i.e., community impact, will need to be addressed.

Another limitation deals with the system impact of large highway capacity projects. Correcting a significant urban freeway congestion problem at a site moves the primary 'bottleneck' (site of congestion) to another location. Such a project will probably have considerable benefit within the project limits, but might not provide much, if any, overall system improvement.

Consequently, at least one area wide factor is needed to address the system wide impacts. One of the Department's new performance measures is: percent of daily vehicle miles of travel at Level of Service E or worse. This measure is called the 'system congestion index'.

Another limitation with a benefit-cost analysis is that many times a project will have an economic development benefit component. This economic development component is very difficult to quantify monetarily. Different items that can be considered when trying to estimate the economic development component include the number of marginal jobs that a project will enable to be created, the increase in property values along a project, the amount of new tax revenues generated for all levels of government because of the project, and the marginal increase in total Nevada gross product. Each of these items is problematic to estimate by themselves, then to try to estimate the change in these items induced because of transportation projects becomes extremely difficult. For these reasons, the economic development component is not normally considered in a typical NDOT benefit-cost analysis.

Nationally, discount rates vary from zero to 7% and sometimes higher. The baseline discount rate of 7% is used because of OMB (Office of Management and Budget) Circular A-94 and is applied to all benefit/cost analyses. A three percent discount rate is recommended for performing sensitivity analyses to determine the impact of changes in the discount rate on the B/C ratio. All monetized values used in a BCA should be expressed in a common base year, with the effects of inflation netted out. OMB Circular A-94 and OMB Circular A-4 recommend using the Gross Domestic Product (GDP) Deflator as a general method of converting nominal dollars into real dollars. The GDP Deflator captures the changes in the value of a dollar over time by considering changes in the prices of all goods and services in the U.S. economy. If the method

of Consumer Price Index is used as the deflator, it should be explicitly indicated and the index values used to make the adjustments should be provided in the BCA.

The final limitation is the level of favorable public opinion toward a project. If there is a negative public perception toward a project, even if the perception is not justified, a high priority score might not suffice for a project to proceed toward implementation. In summary, even a good project needs public support; consequently, the level of public acceptance will be documented, most likely during the NEPA process.

Once the projects have been prioritized, they must be distributed among the various funding categories, meaning that a lower priority project might be funded before a higher priority because it is in a category with much more funding. Additionally, a lower priority project might be simple and easy to design and build compared with a large-scale project might have major mitigation issues. In this case, the lower priority would likely be constructed first.

APPENDX B

PROJECT PRIORITY RATIONALE

INTRODUCTION

Every year, the Department is responsible for the programming of federal and state funding for a wide range of transportation improvement projects across the state. Allocating these significant resources in an equitable, efficient, and effective manner requires a multifaceted approach. The Department has adopted flexible, yet accountable procedures to meet the needs of the traveling public, advance the Department's goals and priorities, and address the needs of a myriad of constituencies across the state.

The Transportation Board provides oversight on the project selection process. The Board approves the Annual Work Program (AWP), and Short and Long-Range Elements. This board also accepts, as approved by the Federal Highway Administration, the Statewide Transportation Improvement Program (STIP).

The Department's future transportation project priority rationale is guided by the One Nevada Transportation Plan which is NDOT's performance-based long-range transportation plan. The One Nevada Transportation Plan provides a framework for identifying future transportation needs, establishing project prioritization practices, and guiding future decision-making. The Plan includes an overarching vision and is the foundation for the continuous transportation planning process. The One Nevada goals are:

- Enhance Safety
- Preserve Infrastructure
- Optimize Mobility
- Transform Economies
- Foster Sustainability
- Connect Communities

The One Nevada Transportation Plan has moved into the implementation phase, which is focused on streamlining and advancing transportation needs through the project development process to implementable projects.

Long-Range
Need Identification

Needs Validation

Unified Project Concept (UPC)
Database

Mid-Range
Program Level Screening

STIP & AWP
Project Prioritization

STIP & AWP
Harmonization

The above graphic represents how the One Nevada Process is being used to guide NDOT's transportation investments. This transparent process will help validate transportation investment decisions by demonstrating how specific projects support the goals for the state's transportation network. There is a basic premise that validated needs are advanced into concepts and re-evaluated on their ability to meet NDOT's goals before they become funded projects.

BRIDGE PROGRAM

Highway assets are managed using two systems: A pavement management system and a bridge management system. Both systems provide an inventory of existing assets, their condition, needed repairs, and repair priorities. The bridge management system aids in identifying bridges in need of replacement and rehabilitation. Federal funds are available to replace and rehabilitate substandard publicly owned highway bridges. While the primary focus of this program is to replace or rehabilitate bridges, these funds can also be used for:

- Conducting federally mandated inspection on all existing bridges
- Compiling federally mandated inventory information
- Upgrading bridges to resist seismic activity
- Mitigating potential scouring of bridge supports due to flooding

Eligible expenses are funded at ninety-five percent federal funds with a five percent match by the bridge's owner.

There are 2,123 bridges in the Nevada DOT bridge inventory. Of these, 1,233 are owned and maintained by the Department, 817 bridges are maintained by Nevada Counties and Cities, 48 are maintained by other local agencies. Private entities maintain 11 bridges, Railroads maintain 6, and 8 bridges are maintained by other state agencies.

Priority of replacement and rehabilitation projects are based on a bridge's condition rating. For each bridge, the condition rating is determined for three primary elements: deck, superstructure and substructure. Bridge-sized culverts have a single, independent rating. National Bridge Inventory general condition ratings are assessed on a scale that ranges from 0 (failed condition) to 9 (excellent condition). The lowest of the three ratings for bridges, or the single rating for culverts, is used to represent the overall condition of the structure. Ratings of 7 or better, represent a bridge that is in good condition and ratings of 5 or 6 represent a bridge in fair condition. If any of the condition ratings are 4 or below, the bridge is in poor condition.

STATE HIGHWAY PRESERVATION PROGRAM

The Department maintains 5,382 centerline miles of highways. The total number of miles fluctuates annually as new highways are constructed and others are eliminated due to relinquishment and road transfer activities to counties and cities, prompted by the 1999 Assembly Concurrent Resolution (ACR) 3. These highways carry 49 percent of Nevada's traffic and 68 percent of the heavy trucks. The Department is responsible for protecting highway assets and preserving existing highways. The Pavement Management System provides an inventory of existing assets, their condition, needed repairs, and repair priorities. The basic principle of pavement preservation is that timely lower-cost improvements will save money and better serve the public. At present, approximately $205 million is needed annually for pavement preservation projects to maintain the quality of highway pavements at acceptable levels. To preserve the state highway system at low cost, action plans are used that optimize the use of available funds.

The Department's action plan in priority order is as follows:

- Apply timely overlays on Interstate and other Principal Arterials, Minor Arterials, and other moderate to high volume roads.
- Further develop economical repair strategies for our low-volume roads.
- Continue coordinating and integrating routine pavement maintenance activities with planned overlay and reconstruction work.

Within this action plan, individual projects are prioritized based on pavement age, traffic volume, axle loads, and condition. From this analysis, an action list is formulated based on the financial consequences of not doing the project. Further assessment data is collected from field surveys in conjunction with district-engineer offices. Collaboratively, repair strategies are formulated along with an appropriate funding level to accomplish the Department's preservation and other goals.

HIGHWAY SAFETY IMPROVEMENT PROGRAM

The Highway Safety Improvement Program is a core Federal-aid program with the purpose to achieve a significant reduction in traffic fatalities and serious injuries on all public roads. The program is legislated under Section 148 of Title 23, United States Code and regulated under Part 924 of Title 23, Code of Federal Regulations.

The Department is tasked with a data-driven, strategic approach to improving highway safety on all public roads in Nevada. The Highway Safety Improvement Program consists of several components, namely:

1. Maintaining a geolocated database of all crashes
2. Analyzing data to determine high crash sites
3. Conducting Safety engineering studies to develop highway safety improvements
4. Establishing priorities for implementing safety improvements
5. Programming and implementing highway safety improvement projects
6. Federal reporting for all Highway Safety Improvement Program activities
7. Evaluating crashes before and after the implementation of safety improvements
8. Determining the overall effectiveness of the prescribed safety improvements

The Department cooperates with a variety of stakeholders to implement the Nevada Strategic Highway Safety Plan under the Highway Safety Improvement Program. Stakeholders include state, federal, local and tribal safety partner from "the 6 E's of Traffic Safety" – Equity, Engineering, Enforcement, Emergency Response, Education, and Everyone. These partnerships are essential to reach the goal of zero fatalities on Nevada's roads.

Programs and projects are developed on systemic and systematic principles. Systemic projects are proactive and look at the use of proven safety countermeasures throughout the system where systematic project are reactive and based on crash data. Programs and projects will align with the Strategic Highway Safety Plan Critical Emphasis Areas goals.

TRANSPORTATION ALTERNATIVES PROGRAM (TAP)

The TAP is a competitive, cost reimbursement program that provides federal transportation funding for eligible projects that improve non-motorized mobility, scenic accessibility, environmental management, historic preservation, and Safe Route to School programs.

Federal funding covers up to 95% of project costs with 5% of costs provided by local proponents.

To be eligible, activities must fall within two broad categories: 1) Transportation infrastructure (constructed improvements); and 2) Non-infrastructure projects (efforts related to Education, Encouragement, and Equity for students' grades K-8).

Eligible project sponsors include entities such as: Tribal Governments, School Districts, Private as well as Tribal Schools, and local government agencies. Other organizations such as non-profits, may apply when partnered with an eligible sponsor.

Proposed TAP projects are solicited through a competitive process, facilitated by the NDOT, and ranked by a TAP evaluation committee. Members of this committee represent a wide range of interests such as active transportation, regional tourism, economic development, health, along with state and local agencies. TAP funding is also made available through regional competitive solicitations conducted by the Regional Transportation Commission of Washoe County (Washoe RTC), the Regional Transportation Commission of Southern Nevada (RTCSN), and the Tahoe Regional Planning Organization (TRPA).

More information about Nevada's TAP program can be found by going to www.nevadadot.com/tap

APPENDX C

PERFORMANCE MANAGEMENT PLAN

INTRODUCTION

The Department has developed performance measures for the four major divisions to facilitate the accomplishment of the Department's mission and achieve its strategic plan goals. These goals are as follows:

1. Safety first
2. Cultivate environmental stewardship
3. Efficiently operate and maintain the state transportation system
4. Enhance internal and external communications
5. Enhance organizational and workforce development
6. Consistent and effective data management

These performance measures are designed to quantify progress in achieving those goals, as well as assist divisions improve on their business processes and outcomes. The sixteen performance areas are listed below. The following performance measures plan includes the actual performance measures, annual and ultimate targets, the performance measure champions, a brief discussion of strategy and plan support, measurement and supporting data, and short and long-range strategies. Additionally, an annual evaluation of the performance measures is included.

ADMINISTRATION

Reduce Workplace Accidents (PM 1)
Provide Employee Training (PM 2)
Improve Employee Satisfaction (PM 3)
Streamline Agreement Process (PM 4)
Improve Customer and Public Outreach (PM 5)

OPERATIONS

Improve Travel Reliability & Reduce Delay (PM 6)
Maintain State Highway Pavement (PM 8)
Maintain NDOT Fleet (PM 9)
Maintain NDOT Facilities (PM 10)
Emergency Management, Security and Continuity of Operations (PM 11)

PLANNING

Reduce Fatal & Serious Injury Crashes (PM 12)

ENGINEERING

Streamline Project Delevery: Bid Opening to Construction Completion (PM 7)
Project Delivery: Schedule and Estimate for Bid Advertisement (PM 13)
Maintain State Bridges (PM 14)
Streamline Permitting Process (PM 15)
Reduce Greenhouse Gas Emissions (PM 16)

Reduce Workplace Accidents (PM 1)

Performance Measure:

1. Reduce the percentage of workplace injuries/illnesses per 100 employees by at least 2% per year.

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2. Reduce the percentage of medical claims per 100 employees by at least 2% per year

The rate of injuries is reported as the number of workplace injuries and illnesses per 100 employees. The severity rate of illnesses/injures which is the level at which a medical claim is filed is the number of injuries and illnesses requiring medical attention per 100 employees as documented through annual OSHA 300 Log Reporting data. Data is based on calendar year per federal reporting requirements.

Annual Target:

2% Reduction

Ultimate Target:

Zero accidents

Division(s) Responsible:

Safety/Loss Control Section Manager, Human Resources Division (HRD)

Support Divisions:

All NDOT Divisions

Strategy Plan Support:

Safety extends to all aspects of NDOT from the roadways to the office. Identifying and reducing risk to the department, employees, and the traveling public is an ongoing endeavor. This performance measure works towards meeting the following Department of Transportation strategic plan goals (1) safety first and (2) enhance organizational and workforce development.

All the strategies that were implemented had a positive effect, but for some, enough time has not elapsed to assess their effect.

Provide Employee Training (PM 2)

Performance Measure:

Percentage of employees trained in accordance with prescribed training plans and State statute requirements

Annual Target:

85%

Ultimate Target:

100%

Division(s) Responsible:

Employee Development Manager, Human Resources Division (HRD)

Support Divisions:

All NDOT Divisions

Strategy Plan Support:

Competency Training of the workforce keeps employees safe and helps to reduce injuries, lost time, and litigation. Competency Training also provides the skills and knowledge to enable employees to achieve higher job performance. This benefits the Department and the citizens of Nevada by providing a high-quality and safe transportation system. This performance measure aligns with Department of Transportation's Strategic Plan goals: safety first, efficiently operate and maintain the state transportation system, enhance internal and external communications, and enhance organizational and workforce development. Both the Nevada Administrative Code (NAC), and the Division Matrix training are addressed by the training section's competency training programs.

Improve Employee Satisfaction (PM 3)

Performance Measure:

Percentage rating obtained from employees' satisfaction surveys.

Annual Target:

Overall rating 75%

Ultimate Target:

Overall rating of 80%.

Division(s) Responsible:

Human Resources Manager, Human Resources Division (HRD)

Support Divisions:

All NDOT Divisions

Strategy Plan Support:

Positive employee morale is critical to the success of the workplace. It is the backbone of a skilled and dedicated workforce and essential in attracting and retaining quality staff. A satisfied workforce will excel at their duties. This benefits the Department and the public. This performance measure works towards meeting the Department of Transportation's Strategic Plan goals: safety first, cultivate environmental stewardship, efficiently operate and maintain the state transportation system, enhance internal and external communications, and enhance organizational and workforce development.

Streamline Agreement Process (PM 4)

Performance Measure:

Percentage of Agreements executed within 20 days from when a division submits an agreement with all supporting documents to the date when it is fully executed, excluding time the agreement is with the second party for signature or awaiting Transportation Board approval.

Annual Target:

90% within 20 days

Ultimate Target:

99% within 5 days

Division(s) Responsible:

Administrative Services Division, Deputy Chief

Support Divisions:

All divisions that procure professional services over $2,500.00, including Interlocal, Cooperative and Local Public Agency (LPA) agreements.

Strategy Plan Support:

Agreements are at the core of the Department's business practices and must be completed prior to any action being taken. It is the instrument used to procure a variety of services for NDOT. Delays have a significant impact on the operations of the Department. This performance measure works toward meeting the Department of Transportation Strategic Plan goals: efficiently operate and maintain the state transportation system and enhance internal and external communications.

Improve Customer and Public Outreach (PM 5)

Performance Measure:

Improve Customer and Public Outreach.

Annual Target:

Customer Service Satisfaction: 75%
Public Outreach

- Facebook Likes: +3.2%
- Twitter Engagement: 0.9%
- Instagram Followers: +177

Ultimate Target:

Customer Service Satisfaction: 75%
Public Outreach: continuous increase in likes, engagement, and followers

Performance Champion/Division:

Communications

Support Divisions:

Customer Service
Public Information Office

Strategy Plan Support:

NDOT operates in a frequently changing environment where communication is extremely important. Projects, programs, and demographics are constantly evolving, along with the challenges that accompany them. NDOT has consistently overcome these challenges with a strong focus on proactively providing accurate and reliable information to all who may be affected. Public opinion and user (customer) surveys will assess public information and outreach activities, customer processes, and how well the Department is performing in the eyes of our customers. This is important because it signals that the Department is doing the right things to be transparent, accountable, and efficient. This performance measure works toward meeting the Department of Transportation Strategic Plan goals to enhance internal and external communications. It also aligns with the Communications Division's Strategic Plan to build a cohesive statewide communications program

Improve Travel Reliability & Reduce Delay (PM 6)

Performance Measure:

1. Interstate Travel Time Reliability (Interstate TTR) measure: Percent of person-miles traveled on the interstate system that are reliable
2. Non-Interstate National Highway System Travel Time Reliability (Non-interstate NHS TTR) measure: Percent of person-miles traveled on the non-interstate NHS that are reliable
3. Freight Reliability measure: Truck travel time reliability (Truck TTR) index on the interstate system
4. Non-Single Occupancy Vehicle (Non-SOV) Travel measure: Percent of Non-single Occupancy Vehicle Travel
5. Peak Hour Excessive Delay (PHED) measure: Annual hours of peak hour excessive delay per capita

Current and Ultimate Targets:

2020 Reporting Period	Interstate TTR (%)	Non-Interstate NHS TTR (%)	Interstate Truck TTR (Index)	Non-SOV Travel (%)	PHED Per Capita (Annual Hrs)
Current Targets	86.9 ≥	70.0 ≥	≤ 1.28	21.5 ≥	≤ 12.0
Ultimate Targets	87.0 ≥	87.0 ≥	≤ 1.26	21.6 ≥	≤ 10.0

Division(s) Responsible:

Traffic Operations

Support Divisions:

Roadway Systems, Performance Analysis

Strategy Plan Support:

This performance measure is one of the most significant indicators of how well the NDOT is operating the state highway system based on the available resources. It integrates the outcome of our overall investments into one measure that is a direct result of the collaborative efforts of the various divisions of NDOT. Applying operation strategies and tracking the related metrics will help improve travel reliability and reduce delay on the NDOT maintained roadway system. This performance measure works towards meeting the Department of Transportation's Strategic Plan goals to efficiently operate and maintain the state transportation system, consistent and effective data management, and cultivate environmental stewardship.

Streamline Project Delivery - Bidding to Construction Completion (PM 7)

Budget measure:

Projects completed within 10% of original programmed budget

Change order measure:

Projects completed with cost increase of less than 3% in Change Orders

Schedule measure:

Projects completed within 10% of original assigned working days

Ultimate target:

80% of projects completed within budget, schedule and change order measures

Division(s) Responsible:

Construction Division

Support Divisions:

Engineering Divisions (Project Management; Environmental; Right of Way; Location; Roadway Design; Structures; Hydraulics)

Operation Divisions (Materials; Traffic Operations; Maintenance and Asset Management; District I; II; III

Strategy Plan Support:

Effort is made to ensure that at least 80% of completed projects are within 10% of the original programmed budget, are within 10% of the original schedule (assigned working days), and change orders are less than 3% cost.

This performance measure works towards meeting the Department of Transportation Strategic Plan goals to efficiently operate and maintain the state transportation system and enhance internal and external communications. It is critical as to how effective and efficient the Department is in implementing highway projects.

Maintain State Highway Pavement (PM 8)

Performance Measure:

Percentage of state-maintained roadways in fair or better condition.

Current year Target:

Category 1: 95% Minimum fair or better condition
Category 2: 90% Minimum fair or better condition
Category 3: 85% Minimum fair or better condition
Category 4: 75% Minimum fair or better condition
Category 5: 50% Minimum fair or better condition

Ultimate Target:

Perform annual rehabilitation as necessary to maintain the condition of the roadway network in conformance with the established goals and additional rehabilitation as necessary to eliminate the accumulated backlog.

Performance Champion/Division:

Materials

Supporting Divisions:

Maintenance and Asset Management

Strategy Plan Support:

Proactive approach in pavement preservation has a huge benefit in maximizing limited funds. Being proactive instead of reactive is more cost effective (4:1) in utilizing transportation project dollars. Pavement condition is also directly related to user vehicle maintenance and safety, and highway capacity.

This performance measure works towards meeting the Department of Transportation's Strategic Plan goals: safety first, efficiently operate and maintain the state transportation system. To effectively preserve and manage our assets is the corner stone to the Department's pavement preservation program.

Maintain NDOT Fleet (PM 9)

Performance Measures:

1. Reduce the yearly percentage of fleet requiring replacement by at least 1% – this measure is the percentage of the fleet that have reached the age or mileage that requires replacement.
2. Increase the yearly percentage of fleet in compliance with condition criteria by at least 1% – this measure is the percentage of the fleet that is maintained as per Department preventive maintenance requirements so that the expected life span of Department vehicles is not compromised.

Annual Target:

1. Decrease of 1% per year
2. Increase of 1% per year

Ultimate Target:

1. 10% Maximum
2. 95% Minimum

Division(s) Responsible:

Equipment Division

Support Divisions:

Districts I, II, and III

Strategy Plan Support:

In Fiscal Year 2020 the Equipment Division continued to purchase new replacement equipment because funds continue to be available. The Rebuild Program will be continued on a limited basis for specialty equipment.

The vehicles in the fleet are important to deliver projects and maintain a safe highway system. Equipment in good condition ensures the ability for NDOT personnel to perform the Department's business and provide safety to the public and staff. These performance measures work towards meeting the Department of Transportation Strategic Plan goals: safety first, efficiently operate and maintain the state transportation system, enhance internal and external communication, and cultivate environmental stewardship.

Maintain NDOT Facilities (PM 10)

Performance Measure:

Percent completion of facility assessments, and priority facilities work.

Annual Target:

0.66

Ultimate Target:

1.00

Division(s) Responsible:

Maintenance and Asset Management Division/Architecture Section

Support Divisions:

Districts, R/W, Environmental

Strategy Plan Support:

Facility Condition Analysis (FCA) reports will ensure Department buildings comply with building and safety codes and are safe and properly maintained. Each Department owned and maintained facility will be evaluated on a seven-year cycle. Completion of the priority work items will return the facility to normal operation, defer deterioration, correct fire/life safety hazard, or correct ADA requirements.

This performance measure works towards meeting the Department of Transportation's Strategic Plan goals to put safety first, enhance internal and external communication, and efficiently operate and maintain the state transportation system.

Emergency Management, Security and Continuity of Operations (PM 11)

Performance Measure:

This Performance Measure involves tracking the percentage of emergency plans that have been completed; training and education that has been provided to appropriate personnel; and emergency plans that have been tested, exercised and updated to accommodate changes in departmental processes and policies and to reflect any changes to Federal and State guidelines. Training and updates are to be completed within a 4-year period. The Performance Measure 11 plans include:

- NDOT Emergency Operations Plan
- NDOT Physical Security Plan

Annual Target:

100%

Ultimate Target:

100%

Division(s) Responsible:

Maintenance and Asset Management

Support Divisions:

All NDOT Divisions

Strategy Plan Support:

NDOT's emergency plans provide clear guidance on how NDOT will continue to perform critical functions and operations in the event of an emergency or disaster. Being prepared and ready for an emergency is paramount for keeping systems operating during such times, as well as being able to respond to health and safety issues. This performance measure works towards meeting the Department of Transportation's Strategic Plan goals - safety first, cultivate environmental stewardship, efficiently operate and maintain the state transportation system, enhance internal and external communication, and enhance organizational and workforce development.

Reduce Fatal & Serious Injury Crashes (PM 12)

Performance Measure:

Measure 1. Number of traffic fatalities
Measure 2. Number of serious traffic injuries
Measure 3. Number of fatalities per 100M Vehicle Miles Traveled (VMT)
Measure 4. Number of serious Injuries per 100M Vehicle Miles Traveled (VMT)
Measure 5. Number of Non-Motorized Fatalities (And Non-Motorized Serious Injuries)

Annual Target:

1. Reduce the number of traffic fatalities compared to the trend value of 330.6 fatalities
2. Reduce the number of serious injuries compared to the trend value of 1088.6 serious injuries
3. Reduce the number of traffic fatalities per 100M VMT compared to the trend value of 1.214
4. Reduce the number of serious traffic injuries per 100M VMT compared to the trend value of 4.060
5. Reduce the number of non-motorized traffic fatalities and serious injuries compared to the trend value of 294.7

Ultimate target:

Zero

Division(s) Responsible:

Traffic Safety Engineering

Support Divisions:

All NDOT Divisions

Strategy Plan Support:

The 2021-2025 SHSP focuses on the 6 "Es" of traffic safety: Equity, Engineering, Education, Enforcement, Emergency Medical Services/Emergency Response/Incident Management, and Everyone. Through the efforts of the 6 Es fatal crashes can be eliminated. The strategies for this performance measure are defined in the Nevada 2016-2020 SHSP and align with the NDOT's Strategic Plan goals.

Also, the measures are in line with FHWA and the National Highway Traffic Safety Administration (NHTSA) reporting requirements. The 2020 performance evaluation includes preliminary crash data for 2020. The data in this report uses a five-year rolling average.

Project Delivery - Schedule and Estimate for Bid Advertisement (PM 13)

Performance Measure:

Percentage of scheduled projects advertised within the reporting year and within the established construction cost estimate range.

Annual target:

80%

Ultimate Target:

80%

Division(s) Responsible:

Roadway Design, Scheduling and Estimating Section

Support Divisions:

ADA, Bridge/Structures, Hydraulics, Landscape and Aesthetics, Maintenance and Asset Management: District Betterment, Project Management, Stormwater, Traffic Operations, Traffic Safety Engineering, Transportation Multimodal Planning

Strategy Plan Support:

This performance measure works towards meeting the Department of Transportation Strategic Plan goals: enhance internal and external communications, put safety first, cultivate environmental stewardship, and efficiently operate and maintain the state transportation system. Goals are met by:

1. Keeping NDOT customers appraised of project risks, opportunities, costs, scope and scheduling issues;
2. Implementing standards to improve communication, coordination, and decision making resulting in efficient delivery of projects;
3. Focusing and managing available resources towards implementing projects that preserves the environment, NDOT's assets, improves safety and relieves congestion.

Maintain State Bridges (PM 14)

Performance Measure:

The Department's performance measure associated with the maintenance of state bridges includes bridge condition ratings, separated by those assets on the National Highway System (NHS) and those not on the system (non-NHS). In alignment with the established national performance measures, this will include percentages of the inventory considered to be in "good" and "poor" condition.

1. Percentage of bridges on the NHS road system in the bridge inventory in good condition
2. Percentage of bridges on the NHS road system in the bridge inventory in poor condition
3. Percentage of bridges on the Non-NHS road system in the bridge inventory in good condition
4. Percentage of bridges on the Non-NHS road system in the bridge inventory in poor condition

Annual Target:

1. 35% or greater
2. 7% or lower
3. 35% or greater
4. 7% or lower

Ultimate Target:

The ultimate target is to eliminate structurally deficient bridges from the inventory, and to extend the service life of the Department's bridges.

Division(s) Responsible:

Structures Division

Support Divisions:

Design, Project Management, Materials and the Districts

Strategy Plan Support:

This performance measure works towards meeting the Department of Transportation Strategic Plan goals: Safety first, cultivate environmental stewardship, and efficiently operate and maintain the state transportation system. These goals can be met in the following ways: safety for the motoring public is put first by replacing structurally deficient bridges. The Structures Division will seek and implement innovative solutions to the challenges faced by the Bridge Program. The Division will deliver and maintain bridges as well as bridge projects and programs efficiently. Meeting this performance measure will help preserve and maintain Department assets.

Streamline Permitting Process (PM 15)

Performance Measure:

Percentage of permits issued or rejected within 45 days of receipt.

Annual Target:

95%

Ultimate Target:

95%

Division(s) Responsible:

Right of Way Division

Support Divisions:

Roadway Design, Environmental Services, Traffic Operations, Structures, FHWA, Planning, Hydraulics, Materials, Project Management, Safety Engineering, Construction, and Stormwater.

Strategy Plan Support:

Every encroachment to connect or work on state right of way requires a permit. This is a large area of our customer service. We must be assured the impact to the system does not compromise safety and does not negatively affect the system. However, we must meet the customer's needs for a timely response for their economic development. Most permits are relatively simple, but some are very complicated and require extended technical reviews, thus the reason for the target being less than 100%. This performance measure works towards meeting the Department of Transportation's Strategic Plan goals to put safety first, enhance

internal and external communication, and efficiently operate and maintain the state transportation system.

Reduce Greenhouse Gas Emissions (PM 16)

Performance Measure:

Percent reduction in Greenhouse Gas (GHG) emissions within the Department's operations

Current year Target:

Fiscal years (FY) 2019, 2020, and 2021 are evaluated to establish a baseline to measure and assess future GHG reduction goals.

Ultimate Target:

Support statewide GHG reduction initiatives to achieve 28% economywide reduction by 2025 and 45% by 2030 compared with the 2005 baseline.

Performance Champion/Division:

The Environmental and Planning Divisions' management teams.

Supporting Divisions:

All Divisions and District offices.

Strategy Plan Support:

NDOT proposed GHG emissions reduction as a new performance measure for NDOT's Annual Performance Management Report in support of Nevada's statewide climate goals. The Nevada Transportation Board of Directors adopted this measure on April 13, 2020. The Department is committed to providing leadership in achieving GHG emissions reduction by implementing a combination strategy in our operations, planning, design, construction, and maintenance of existing and future transportation systems. This commitment is supported in the Nevada Department of Transportation's 2020 Strategic Plan's Goal 2: Cultivating Environmental Stewardship.

During Fiscal Year 2021, NDOT completed the following actions to establish future performance targets in reducing GHG emissions within our operations.

- Performed initial GHG inventory for NDOT Administrative Operations for fiscal years (FY) 2019 and 2020, which resulted in an 11% GHG reduction because of the COVID-19 onset. The inventory included fuel usage (staff commuting, business travel, equipment), energy usage (electricity, natural gas, HVAC/refrigeration), and waste and material recycling.
- Developed guidance and electronic reporting forms for NDOT Operations to facilitate annual Waste Management and material recycling inventory.
- Developed NDOT Operations GHG Emission Reduction Implementation Plan with 24 measures, ranging from procuring more energy-efficient equipment to reducing construction congestion.

GHG emissions and implementation action plans are monitored and will be further refined in FY 2021 through FY 2022.

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