

# ATKINS

Member of the SNC-Lavalin Group



## NDOT TSMO Steering Committee Meeting

February 2021

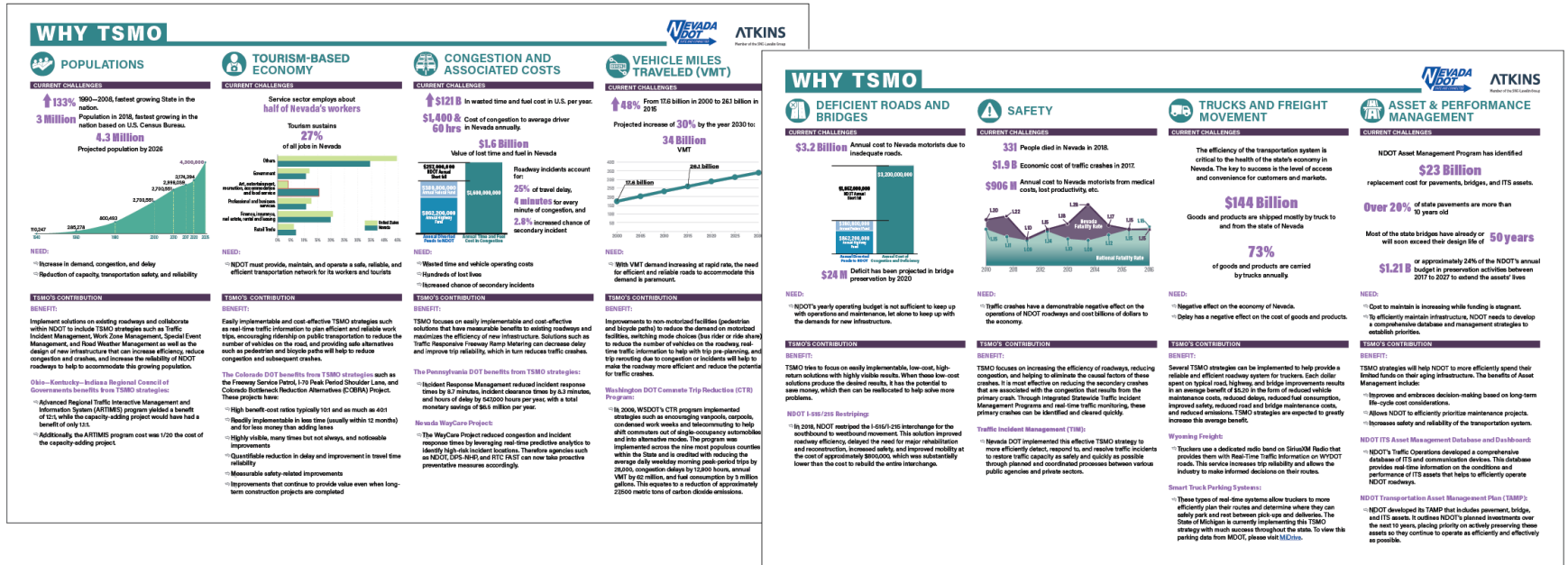
1 hour



# Agenda

- NDOT TSMO Business Case for Divisions
- NDOT TSMO Website
- 2021 NOCoE TSMO Awards

# NDOT Business Case Reminder



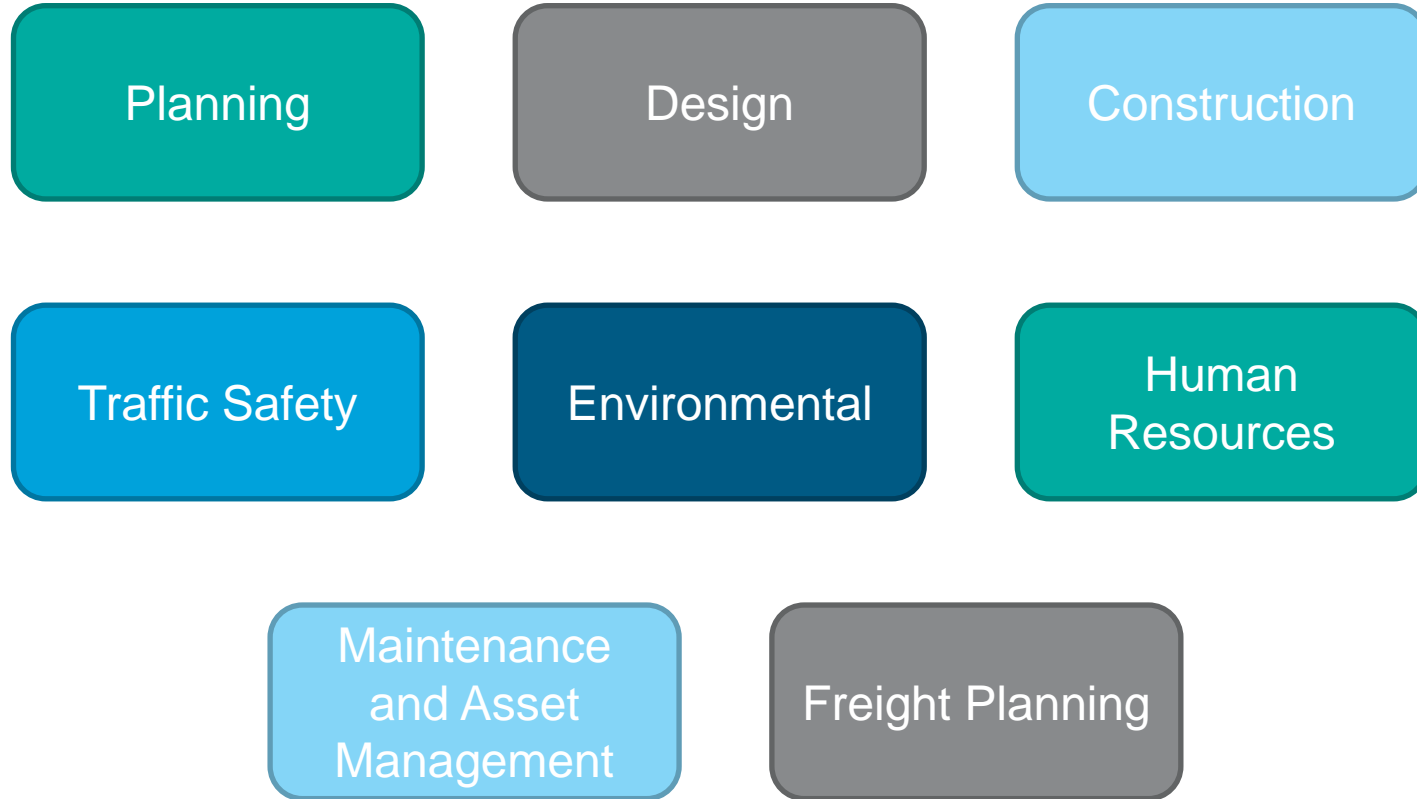
Let's test our knowledge!  
<https://create.kahoot.it/kahoots/my-kahoots>

# New Business Case Alert!

## NDOT TSMO Business Case for Divisions

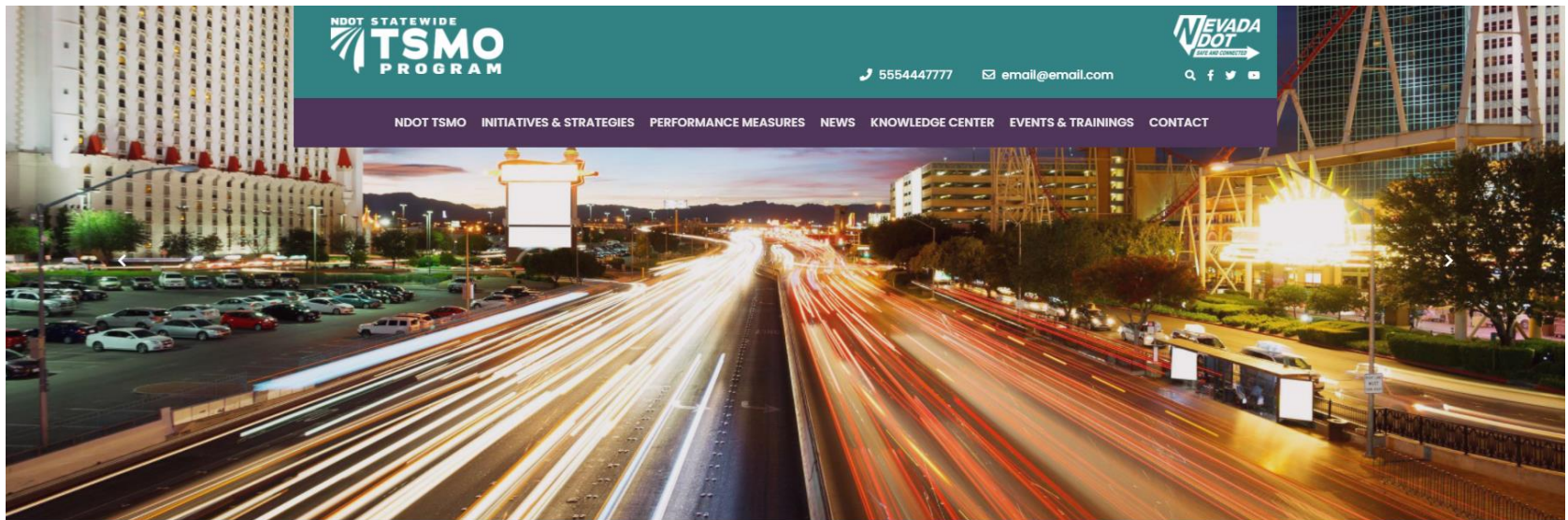


# NDOT TSMO Business Case for Divisions - Categories





# NDOT TSMO Website



## Welcome!

This website was developed by NDOT as a resource for the agency's TSMO Program. TSMO strategies support NDOT's mission to "Provide, operate, and preserve a transportation system that enhances safety, quality of life, and economic development through innovation, environmental stewardship, and a dedicated workforce."

Strategies offered by TSMO are used to proactively address transportation challenges (such as recurring and/or non-recurring congestion, safety, mobility, and reliability). This performance-driven program focuses on the surface transportation system and the policies, business processes, technologies, infrastructure, and systems that are applied to manage and operate this system more efficiently.

[www.nvtsmo.com](http://www.nvtsmo.com)



# 2021 NOCoE TSMO Award Winners

THE RUNNER-UP OF THE 2021 TSMO  
AWARD FOR BEST PROJECT  
SELECTION AND PRIORITIZATION IS

NEVADA DOT



♥ Nevada DOT liked



NOCoE @NOCOEops · 3h

The 2021 TSMO Award runner up for 'Best Project Selection & Prioritization' is: @nevadadot. Read about their TSMO Investment Prioritization Tool (IPT) in this case study: [bit.ly/3pltatc](https://bit.ly/3pltatc) @aashtospeaks @ITEHQ @ITS\_America #TSMO



7 views



3



CASE  
STUDY

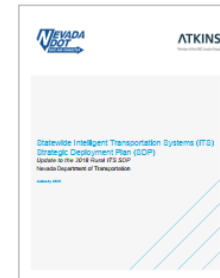
## NDOT TSMO INVESTMENT PRIORITIZATION TOOL (IPT)

By Nevada Department of Transportation

### IN THIS CASE STUDY YOU WILL LEARN:

- 1 How Nevada DOT developed the TSMO Investment Prioritization Tool (IPT) to help identify and prioritize projects based on the state's transportation priorities, and in a manner that best help achieve the established TSMO goals and objectives.
- 2 How NDOT collaborated internally so that priorities aligned with the One Nevada Transportation Plan and held workshops with the districts to educate and train them on the utilization of the tool.
- 3 How NDOT has integrated the tool into other ITS Planning efforts and device-specific Master Plans.

the TSMO Investment Prioritization Tool (IPT). The tool has been designed to help NDOT identify and prioritize projects based on the state's transportation priorities, and in a manner that best help achieve the established TSMO goals and objectives. The tool helps establish a formalized process to institutionalize TSMO goals and objectives during needs assessment and project selection for efficient resource allocation.



### BACKGROUND

The Nevada Department of Transportation (NDOT) Statewide Transportation Systems Operations and Management (TSMO) Program Plan was developed and formally adopted in 2020. As part of this program, NDOT has developed and planned for integration of TSMO business processes, procedures and tools into the DOT's day to day business. One example of the newly adopted business processes is

### TSMO PLANNING, STRATEGIES AND DEPLOYMENT

Historically, project selection within NDOT Traffic Operations division has been accomplished through qualitative deliberations, negotiations, and making the business case

# 2021 NOCoE TSMO Award Winners

## THE INVESTMENT PRIORITIZATION TOOL FOCUSES ON PRIORITIZING PROJECTS ACCORDING TO THE FOLLOWING CATEGORIES:

- Alignment with the Statewide TSMO Strategic Goals and Objectives.
- Initial cost of the project/technology purchase and/or deployment.
- Districts' Priority.
- Level of risks and degree of impact of a specific project/technology.

Table 1: Goals and Objectives to be Considered for Project Prioritization Process

Strategic Goals	Strategic Objectives
Enhance Safety	Reduce incidents, injuries, and fatalities.
Preserve Infrastructure	Maintain transportation assets to preserve investments.
Optimize Mobility	Maximize system efficiency by reducing congestion and/or promoting multimodal transportation.
Foster Sustainability	Develop a sustainable transportation system through sustainable and balanced design, operations, and maintenance.
Enhance Reliability	Improve economic competitiveness and enhance quality of life through reliable travel times.
Optimize Customer Service	Provide timely and accurate travel information to internal and external customers to enable informed decision-making.
Enhance Collaboration	Maximize coordination and cooperation between NDOT divisions and partnering agencies to proactively manage and operate an integrated transportation system.

## THE INVESTMENT PRIORITIZATION TOOL FOCUSES ON PRIORITIZING PROJECTS ACCORDING TO THE FOLLOWING CATEGORIES:

- Benefit/Cost Ratio.
- Strategic Value or High Demand for certain technology.
- Communication Infrastructure Needs in coordination with the IT Group.

Table 2 - Benefit/Cost ratio for ITS technologies

Technology	Benefit/Cost ratio
Dynamic message signs	3.81
Closed-circuit television	3.95
Microwave vehicle detection systems	1.02
Freeway courtesy patrol	3.82
Tolling/Express Lanes	2.50*
Ramp Metering	9.00*
Adaptive Traffic Signal Control	12.25*
RWIS	6.00*
Animal Crossing	1.50
DMS & CCTV	3.88
DMS & CCTV & RWIS	4.59
CCTV & RWIS	4.98

\*Averaged value



NDOT coordinated with the Planning division when developing the tool to ensure that the criteria established for the IPT and definitions are aligned with the One Nevada Transportation Plan.

Once the tool was established, NDOT held workshops with the districts to educate and train them on the utilization of the tool and explained the incorporation process of the tool into everyday business.



The IPT has now been formally adopted by NDOT Traffic Operations division. The division utilizes this tool to prioritize projects listed within the Statewide ITS Strategic Deployment Plan (SDP) every other year.

NDOT's next step with this effort is to integrate TSMO Performance Measures into the tool for a more performance driven decision-making process. Formal adoption and integration of this tool has greatly helped NDOT in TSMO Culture and Collaboration improvements at a statewide level.



# NDOT IPT

Project Information				Project Prioritization Criteria													
				Alignment with TSMO Strategic Goals and Objectives										Dependencies, Business Risks, and Limitations	Risk Severity	Benefit/Cost Ratio	Strategic Value
SDP P#	Project/Services/ Activities	Project Location	PCEMS No.	Enhance Safety	Optimize Mobility	Enhance Reliability	Preserve Infrastructure	Foster Sustainability	Optimize Customer Service	Enhance Collaboration	Cost	Implementation					
D3-31	CCTV PTZ & RWIS	US 6, west D16:F16 of Ely	TBD	1	0	1	1	0	1	1	4	3	Coordination with NWS	-1	1	0	12
D3-28	CCTV PTZ and RWIS and Weather (Signage) Chain Control	US 6, east of US 6/ SR 379 intersection	TBD	1	0	1	1	1	1	1	4	2	Comms to site required, Coordination with NWS	-1	1	0	12
D3-19-10	RGB Full matrix Sign mounted DMS	SR 227 & MP5	TBD	1	0	1	0	0	1	1	4	3		0	0	0	11
D3-10	DMS Type 2 (US 50 EB/WB), CCTV PTZ	US 50/SR 305 intersection	TBD	1	0	1	0	0	1	1	4	3		0	0	0	11
D3-9	DMS Type 2 (US 50 EB/WB), Weather (Signage) Chain Control Station and CCTV PTZ	US 50/SR 278 intersection	8-00251	1	0	1	0	1	1	1	3	3	Coordination with NWS	-1	0	0	10
D3-50	RWIS and CCTV PTZ	SR 318, South of Junction US 6	TBD	1	0	1	1	0	1	1	4	2	Coordination with NWS	-1	0	0	10
D3-40	CCTV PTZ	US 50/SR 376 intersection	TBD	1	0	1	0	0	1	1	4	1		0	0	0	9
D3-24	DMS Type 2 (US 93 NB), RWIS, CCTV PTZ	US 93,Ely @ McGill	8-00251	1	0	1	0	1	1	1	3	1	Comms to site required, Coordination with NWS	-1	1	0	9
D3-33	DMS Type 2 (US 93 SB) & CCTV	US 93, near Warm Springs - US 93S SR229 Ruby Intersection	TBD	1	0	1	0	0	1	1	4	1		-1	0	0	8



# Ongoing Tasks

- TSMO Staffing and Workforce Development Plan
- TSMO Performance Management Program
- TSMO Website

# Next Meeting

May 2021

# Thank You

