

# ATKINS

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## TSMO Steering Committee February 2022 Meeting

*1.5 hours*

## Part 1 TSMO Project Updates

- Tools Conversion
- Staffing and Workforce Development Plan
- Performance Management Program
- TSMO Video
- Stakeholders Coordination Plan
- Planning and Financial Processes and Procedures

## Part 2 ITS & ATM Master Plan

- Project Overview
- Statewide ITS and ATM Vision, Goals, and Objectives
- Discussion of Master Plan Focus Areas

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## PART ONE – TSMO

## TSMO Investment Prioritization Tool (IPT)

Project Information				Project Prioritization Criteria														
				Alignment with TSMO Strategic Goals and Objectives														
SDP #	Project/Services/Activities	Project Location	PCEMS No.	Enhance Safety	Optimize Mobility	Enhance Reliability	Preserve Infrastructure	Foster Sustainability	Optimize Customer Service	Enhance Collaboration	Cost	Implementation	Dependencies, Business Risks, and Limitations	Risk Severity	Benefit/Cost Ratio	Strategic Value		
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	

## TSMO Evaluation Tool

	A	B	C	D	E	F	G	H	I	J	K	L
1	<b>LEVEL 1 TSMO ANALYSIS</b>											
2	Name of the representative filling out this form:											
3	Form start date: 8/19/2019											
4	The following questions are to be completed for Level 1 TSMO Analysis. Please answer these questions based on your review of the project. If you answer yes to any of the questions, a <b>A Level 2 Analysis is required</b> . If you answer no to all of the questions, <b>Level 1 TSMO Waiver</b> should be requested.											
5		Comments	L2 Enhance Safety Analysis	L2 Preserve Infrastructure	L2 Enhance Reliability	L2 Optimize Mobility	L2 Optimize Customer Service	L2 Enhance Collaboration	L2 Foster Sustainability	L2 Strengthen TSMO Integration	Suggestions	
6	Are there any documented safety concerns within the project area?	information, multiple fatal accidents in the area. However, no mitigation measures suggested.	x									
7	From the safety and sustainability perspective, does the project area meet current design standards?		x						x			
8	opportunities to utilize existing infrastructure, such as sign structures, poles, etc.			x								
9	to the project that would help keep the roadway system in a good state of service? (For example, switching from asphalt to concrete to increase the lifecycle of the pavement.)											
10	Are there any design changes that may impact traffic operations in the project area?				x	x						
11	Are there any known mobility issues?					x						
12	Are there any documented operational or congestion concerns within the project area?				x	x						
13	Are there any documented concerns or complaints from the travelling public within the project area?	x					x					
14	Is there an ITS SDP project identified within the project area?		x					x		x		
15	Does the project enhance the performance of the transportation system while protecting and enhancing the natural environment?								x			
16	Does the project address any of the specific transportation challenges addressed in the TSMO Business Case?									x		
17	Does the project help improve TSMO maturity within NDOT? If yes, identify which CMM dimension the project is addressing?									x	(drop down for 6 dimensions)	
18												
19												
20												
21												
22												
23												
24												

Navigation: Title | Instructions | Project Information | Level 1 Analysis | L2 Enhance Safety | L2 Preserve Infrastructure | L2 Enhance Reliability | L2 Optimize Mobility | L2 Optimize Customer Service | L2 Enhance Colla ...

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## NDOT TSMO IMPLEMENTATION

### STAFFING AND WORKFORCE DEVELOPMENT PLAN



# STAFFING AND WORKFORCE DEVELOPMENT PLAN

## TRAINING MODULES – BASIC PACKAGE

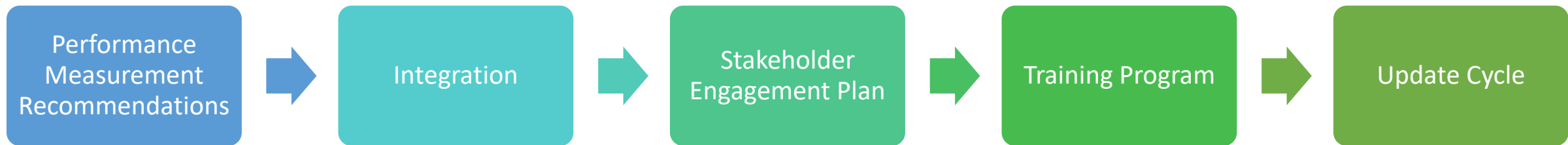
Training Title	Targeted Audience	Delivery Method	Training Material	Frequency
NDOT Employee Orientation	New Hires (all Divisions)	On-Line with Scored Quiz	TSMO 101 Training Module	Once, at the time of hiring
NDOT Employee Orientation	New Hires (all Divisions)	On-Line with Scored Quiz	TSMO 102 Training Module	Once, at the time of hiring
Hands-On TSMO Training	New Hires (Traffic Operations Division)	Combination of On-Line with Scored Quiz and Site Visit	TSMO Training Modules, field visits	Once, at the time of hiring
NDOT Traffic Operations Forum	New Hires (Traffic Operations Division)	On-Line or In-Person Lectures on advanced TSMO topics	One-hour lecture and site visits as applicable	Once, at the time of hiring
New Hires Rotational Program	New Hires (Traffic Operations Division)	Combination of In-Person and Experimental Training	Rotational Program in Collaboration with other Divisions	Once, at the time of hiring

# STAFFING AND WORKFORCE DEVELOPMENT PLAN

## TRAINING MODULES – ADVANCED PACKAGE

Training Title	Targeted Audience	Delivery Method	Training Material	Frequency
Advanced Orientation	Current Team members of all Divisions	On-Line or In-Person Lecture on Current TSMO Topics	TSMO 201 Training Module	Once per person
Basic Practitioner Training	Current Team members of Traffic Operations Division	On-Line or In-Person Lecture	TSMO 202 Training Module	Once per person
TSMO Tools Training	Current Team members of all Divisions as applicable	Combination of In-Person and Group Exercises	TSMO 203 Training Module	Annual, and subject to the update frequency of the tools
Advanced Practitioner Training/Cross-training	Current Team members of all Divisions	On-Line or In-Person Lecture	An overview of latest updates with TSMO topics	Quarterly
National Operations Academy Trainings, Partnered Trainings	Current Team members in Traffic Operations Division	Combination of In-Person Lectures, Group Exercises, and Field Visits	To be Determined Subject to Availability	Annual, and subject to the training schedule and availability

- 90% Completed. Working on finalizing the program and submitting to NDOT by the end of Spring 2022.
- Components:







## Stakeholder Interviews

- MPOs
- Urban Cities
- Urban Counties
- NDOT Districts
- FHWA
- WASHTO
- DPS/Police

**Doodle®** ➡ **Sending out this week**

## Task Scope

Ultimately, the goal of this task is to create a Tech Memo which includes:

- Processes and procedures for TSMO integration into:
  - Project planning process
  - Project development process
- 5-year financial plan, including:
  - Project Prioritization List
  - Expected Project Benefits
  - Funding sources
  - Timeframes
  - Strategies to secure funds
  - Integration into IPT

## Tech Memo Outline

### Introduction

#### State of Practice: Precedent from Other State DOTs

- Best Practices Planning Processes and Procedures
- Best Practices Financial Processes and Procedures

#### State of Practice: Nevada DOT (NDOT)

- Current Relevant Planning Processes and Procedures (TSMO & non-TSMO)
- Current Relevant Financial Processes and Procedures (TSMO & non-TSMO)

#### TSMO Planning Integrations at NDOT

- Project Planning and Development
- TSMO EVT
- TSMO IPT

#### Five-Year Financial Plan for TSMO at NDOT

- |                          |                              |
|--------------------------|------------------------------|
| • Project Prioritization | • Time Frames                |
| • Project Benefits       | • Strategies to Secure Funds |
| • Funding Sources        | • Integration into IPT       |

# PLANNING AND FINANCIAL RESOURCES PROCESSES AND PROCEDURES

## Tech Memo Outline

### Introduction

IN PROGRESS

### State of Practice: Precedent from Other State DOTs

- Best Practices Planning Processes and Procedures
- Best Practices Financial Processes and Procedures

COMPLETE

### State of Practice: Nevada DOT (NDOT)

- Current Relevant Planning Processes and Procedures (TSMO & non-TSMO)
- Current Relevant Financial Processes and Procedures (TSMO & non-TSMO)

### TSMO Planning Integrations at NDOT

- Project Planning and Development
- TSMO EVT
- TSMO IPT

IN PROGRESS

### Five-Year Financial Plan for TSMO at NDOT

- |                          |                              |
|--------------------------|------------------------------|
| • Project Prioritization | • Time Frames                |
| • Project Benefits       | • Strategies to Secure Funds |
| • Funding Sources        | • Integration into IPT       |

## State of Practice: Precedent from Other State DOTs

### Highlighted Five “Best Practices” for Project Planning Processes and Procedures

1. Create Staffing Positions Specific to TSMO
2. Create TSMO Advisory / Steering Committees
3. Set TSMO Specific Goals
4. Create Plans for Specific TSMO Workstreams
5. Share Success Stories through TSMO Program Marketing

### Highlighted Three “Best Practices” for Financial Processes and Procedures

1. Start with a Pilot Program for Dedicated TSMO Funding
2. Create Unique Funding Streams for TSMO Programs
3. Develop a Metric for Project Prioritization

Q&A



# PART TWO – ITS & ATM MASTER PLAN

**Kimley»»Horn**

Expect More. Experience Better.

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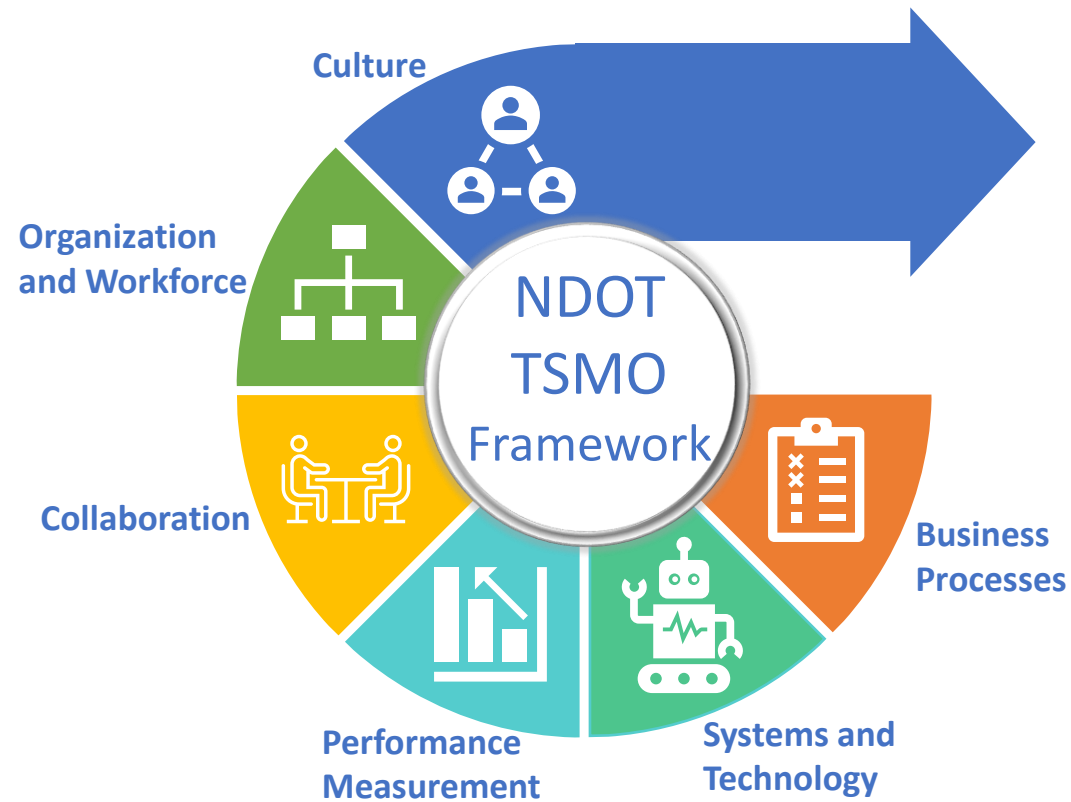
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How does the ITS & ATM Master Plan relate to the TSMO Steering Committee?

**TSMO Planning  
creates the BLUEPRINTS**

**ITS are the TOOLS**



## Strategy Implementation

### TSMO Implementation

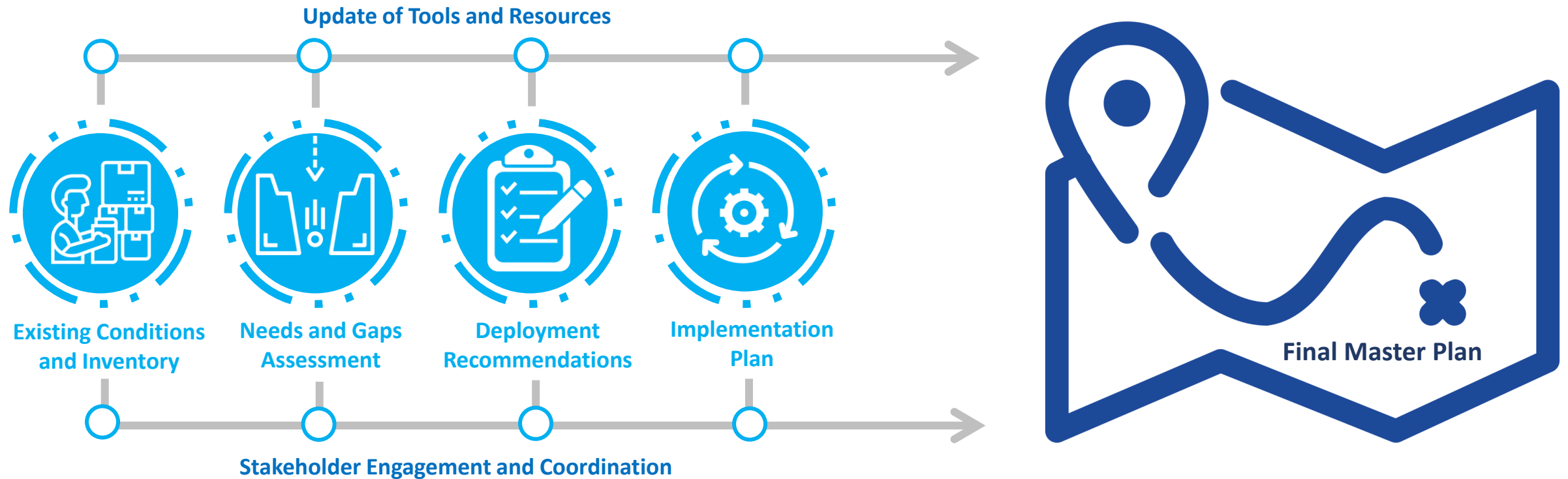
Staffing and Workforce Plan

Performance Management Program

Stakeholder Coordination Plan



ITS & ATM Master Plan



# STATEWIDE ITS AND ATM VISION AND SUPPORTING FOCUS AREAS



# STATEWIDE ITS AND ATM GOALS AND OBJECTIVES

## Communications

- **Goal:** Install reliable communications on critical routes statewide to connect ITS devices
- **Objectives:** Increase percentage of routes covered by communications infrastructure, increase connectivity to NDOT devices

## District Operations

- **Goal:** Standardize District operational hubs dedicated to active traffic management and operations support
- **Objective:** Provide redundant cross-district operational capabilities

## Partnerships

- **Goal:** Improve communication and collaboration between NDOT and other partners to support a variety of purposes
- **Objectives:** Create seamless operations across jurisdictions throughout the state and leverage partners for additional data, real-time situational awareness to support regional active traffic management

## Data

- **Goal:** Centralize and optimize data for decision-making and improving safety, mobility, reliability and collaboration
- **Objectives:** Increase data sharing quantity, availability, quality, reliability, and use of data

## Technologies

- **Goal:** Identify programs and candidate locations for ITS foundational and emerging technologies to improve safety, mobility, reliability and collaboration
- **Objectives:** Reduce travel times, reduce travel delay, and increase travel time reliability through new technologies installed and new pilot programs

## Urban Areas:

- Las Vegas ATM Expansion
- Reno/Sparks ATM Deployment

## Rural Areas:

- Weather/Visibility Areas
- Mountain Passes

# MASTER PLAN FOCUS AREAS

## Corridor Priorities

Which corridors are priorities for technology deployment or improved operations?

What does active traffic management mean to you?

## What is ATM

## ATM Applications

What type of active traffic management applications do you think is needed for different areas in the state?

What timing do you think is important for some active traffic management strategies to be put in place?

## Deployment Timeframes

## Challenges and Pain Points

What reservations or pain points do you anticipate with implementation of emerging technologies?



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Expect More. Experience Better.



## Thank You

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# TSMO TRAINING MODULES



Transportation Systems Management and  
Operations Training

## Orientation

TSMO Training Module 101

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Transportation Systems Management and  
Operations Training

## NDOT TSMO

TSMO Training Module 102

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Transportation Systems Management and  
Operations Training

## The Business Case for TSMO

TSMO Training Module 201

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Transportation Systems Management and  
Operations Training

## Investment Prioritization Tool (IPT) and TSMO Evaluation Tool

TSMO Training Module 203

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