



# STATEWIDE TRANSPORTATION OPERATIONS CENTER CONCEPT EXPLORATION

## Task 1: Needs Assessment

*October 2014*



*"Keep Alaska Moving through service and infrastructure."*

*Prepared By:*



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## EXECUTIVE SUMMARY

On February 14, 2013, Governor Parnell, Alaska Department of Transportation and Public Facilities (DOT&PF) Commissioner Kemp, and Department of Public Safety (DPS) Commissioner Masters announced an initiative to improve safety on Alaska highways. The initiative advances implementation of intelligent transportation systems (ITS) and served as an impetus for a statewide transportation operations center (STOC) needs assessment, which is documented in this report. The project team conducted 26 interviews to understand what individual stakeholders need to more effectively or efficiently perform their primary function and whether a STOC can meet those needs.

### STOC NEED

Is there a need for an Alaska STOC? The short answer is *yes*. Forty-seven (47) specific needs were identified by the stakeholders in five distinct categories (see the Stakeholder Interview Findings section for detail). In addition to stakeholder outreach, four other states were interviewed to gain perspective on the structure, benefits, and lessons learned with respect to their TOCs. With consideration of all the information collected from stakeholders and other states, the following primary themes support Alaska considering the development of a STOC:

- Improve operational coordination and consistency within DOT&PF and with other agencies
- Establish a primary point of DOT&PF contact available 24/7/365
- Establish a data center to collect, process, integrate, and disseminate information
- Improve customer service and meet public expectation of accurate and timely information
- Improve traffic management in Central Region and elsewhere (incident management, congestion relief, ITS device management, integrating weather responsive traffic management strategies, etc.)
- Improve partnerships with other state and local government agencies (*Note: At the time of this assessment, the Municipality of Anchorage has begun its own assessment of the need for a traffic management center.*)
- Improve coordination with non-highway modes such as aviation and marine highway

### SIGNIFICANT CONCERNS AND CONSTRAINTS

Although stakeholders generally supported the development of a STOC, in many cases that support came with significant concerns and potential constraints, including:

- Need for proper management support to ensure success
- How to fund and staff a center with limited and constrained resources
- Justification of a center given relatively low traffic volumes and roadway miles
- Need for strengthened intra- and inter- agency relationships to support an effective center
- Lack of policies, procedures, and protocols to ensure effective operations
- Need for a clear and supported management structure of a center

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These concerns and constraints cannot be answered in this needs assessment; however, they will help to inform decision makers regarding the challenges that will be faced by the department if they choose to move forward.

## REPORT CONTENTS

This report contains the following sections:

- **Existing Systems and Processes** – A brief summary of currently deployed infrastructure, systems, and processes in Alaska.
- **Statewide Transportation Operations Center Overview** – An overview of different types of operations centers and their potential application to Alaska.
- **Stakeholder Interview Findings** – A summary of the conducted stakeholder meetings, including: identified needs, level of support for a center, and perceived benefits and challenges associated with a center.
- **Additional Input and Observations** – The stakeholder interviews revealed additional input and observations that were outside the scope of this evaluation but are documented here as important elements of information regardless of whether DOT&PF proceeds with developing a STOC.
- **Needs Assessment** – A presentation of the findings of the needs assessment. This summarizes the primary needs and provides other supportive information.
- **Research Findings: Other State TOCs** – A summary of input received from other State TOCs interviewed from Idaho, Utah, Wyoming, and Washington.
- **Stakeholder Meeting #1 Summary** – A summary of meeting minutes and attendees from the first Stakeholder Meeting.
- **Conclusions and Recommendations** – A summary of conclusions and recommendations for next steps based on the findings of the previous sections.

## INTRODUCTION

### BACKGROUND

In 2000, the Alaska Department of Transportation and Public Facilities (DOT&PF) initiated the Intelligent Transportation Systems (ITS) Iways Architecture program. ITS refers to services and systems that are considered "intelligent" because their functions are based on attributes normally associated with sensory capabilities, memory, communications, information processing, and adaptive behavior.

Integration, both technological and institutional, is a key component of successful ITS deployments. To this end, the Alaska Iways Architecture recommended creating an Integrated Transportation Operations and Communications Center (ITOCC). The Iways Architecture suggested that:

*“the ITOCC may serve as the focal point for statewide transportation control systems and information dissemination. The information collected and processed at the ITOCC can be used to assist with various functions and operations of the Alaska transportation system. This will enhance both internal and external integration. The ITOCC will likely start as a virtual center that networks existing operations centers. The ITOCC may in part act as a statewide data archive and it will support the collection/dissemination of real-time data to improve transportation operations, traveler safety, and infrastructure security.”*

On February 14, 2013, Governor Parnell, DOT&PF Commissioner Kemp, and Department of Public Safety (DPS) Commissioner Masters announced an initiative to improve safety on Alaska highways. The initiative advances implementation of ITS components such as a centralized transportation operations center, real-time speed sensors, weather sensors, message boards, avalanche detection systems, call boxes, and improved cell coverage. This initiative served as an impetus for a statewide transportation operations center (STOC) needs assessment.

Concurrent with the STOC needs assessment, DPS is conducting its own assessment of the Department’s dispatch needs and infrastructure. DPS has expressed an interest in the potential to collocate a dispatch center for the Alaska State Troopers (AST) with a STOC. As such, DPS is included as a key potential partner in this assessment.

### INTENT FOR A STATEWIDE CENTER

A STOC has the potential to integrate ITS elements to relay information to travelers; manage traffic control elements; and obtain information from and dispatch maintenance, law enforcement, and emergency response personnel. Additionally, a STOC could be a focal point for collection, processing, and dissemination of real-time road conditions. This statewide resource has the potential to improve coordination across regions and make the most efficient use of resources by providing a single point of contact. The term “statewide” is intended to indicate that the center would have the potential to interact with communities and agencies throughout the state. DOT&PF recognizes that many

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communities within Alaska have limited communication infrastructure and/or limited need to communicate with a statewide center. The intent of exploring a statewide center is not to force statewide participation, but rather to provide an opportunity to connect those communities and agencies that make sense. In fact, a STOC would likely, at least initially, be focused on safety corridors and other primary facilities.

## ASSESSMENT OVERVIEW

The purpose of this assessment is to provide guidance to DOT&PF regarding the need for a STOC. Should the need for a STOC be established, the project would then explore steps to plan, program, and implement a STOC that would integrate and expand current operations to improve internal functions, incident response, and public access to real-time information.

This assessment conforms to the processes outlined in the *Federal Highway Administration (FHWA) Systems Engineering Analysis (SEA) Guidelines, November 2009*. DOT&PF's consideration of a STOC is currently within the Phase 0 (Concept Exploration and Benefits Analysis) process described in Chapter 3.3 of the SEA Guidelines. The two primary tasks within the Phase 0 process are Needs Assessment (Task 1) and Concept Selection and Benefits Analysis (Task 2). This report summarizes the findings of the Needs Assessment task. If a need is established and DOT&PF authorizes further assessment, the next phase will include a concept exploration and benefits analysis.

### Objective of this Report

The current evaluation effort, as summarized within this report, is intended to:

- ❖ Establish whether the need for a STOC exists in Alaska
- ❖ Document lessons learned from other states with a STOC

If a need is established, the next phase of the evaluation will include a concept exploration and benefits analysis.

### Needs Assessment Task

The intent of the Needs Assessment task is to clearly define what individual stakeholders need to more effectively or efficiently perform their primary function. This entails gaining a clear understanding of current conditions and identifying and interviewing stakeholders to obtain needs, functions, and preferences related to traveler information collection and dissemination, law enforcement and emergency service dispatch operations, highway maintenance, traffic operations, and ITS management.

The stakeholders identified for interviews represent a wide range of agencies and organizations. The majority of the interviews were conducted in-person in Fairbanks, Juneau, and Anchorage in October 2013. Those interviews that could not be scheduled during this time were conducted via phone. Table 1 summarizes the stakeholders interviewed. The input received from these interviews formed the basis for the Needs Assessment and is summarized later in this report.

**Table 1. List of Interviewed Stakeholders**

Agency/Division/Section	Individual(s) Interviewed
<b>Alaska Department of Transportation and Public Facilities</b>	
Office of the Commissioner	Kim Rice, <i>Deputy Commissioner</i>
Statewide Maintenance and Operations	Mike Coffey, <i>Statewide Maintenance Engineer</i>
Division of Program Development	Mike Vigue, <i>Division Operations Manager</i>
Statewide Transportation Information Group	Jack Stickel, <i>Transportation Information Group Manager</i>
	Jill Sullivan, <i>Transportation Data Programs Manager</i>
	Lisa Idell-Sassi, <i>Real-Time Systems Coordinator</i>
Statewide Design & Engineering Services	Jeff Jeffers, <i>State Traffic &amp; Safety Engineer</i>
	Matt Walker, <i>Assistant State Traffic &amp; Safety Engineer</i>
Measurement Standards & Commercial Vehicle Enforcement	Dan Smith, <i>Director</i>
Northern Region	Dave Miller, <i>Region Maintenance and Operations Director</i>
	Steve Potter, <i>Region Maintenance Manager</i>
	Pam Golden, <i>Region Traffic Engineer</i>
	Hannah Blankenship, <i>Region Publications Specialist</i>
Central Region	Rob Campbell, <i>Region Director</i>
	Randy Vanderwood, <i>Region Maintenance and Operations Chief</i>
	Tom Dougherty, <i>Region Construction Engineer</i>
	Ken Morton, <i>Region Pre-Construction Engineer</i>
	Jennifer Witt, <i>Region Chief of Planning and Administration</i>
	Howard Helkenn, <i>Region Highway Data Supervisor</i>
	Jill Reese, <i>Region Public Information Officer</i>
<b>Alaska Department of Public Safety</b>	
Division of Alaska State Troopers	Captain Randy Hahn, <i>Division Headquarters</i>
	Lieutenant David Hanson, <i>Division Headquarters</i>
	Captain Burke Barrick, <i>Commander - "D" Detachment</i>
<b>Alaska Department of Health and Social Services</b>	
Division of Public Health, Emergency Programs	Quinn Sharkey, <i>EMS Data Manager</i>
<b>Federal Highway Administration, Alaska Division</b>	
Engineering Operations Team	Al Fletcher, <i>Field Operations Engineer</i>
	Kris Riesenber, <i>Transportation Planner/ITS</i>
<b>Municipality of Anchorage</b>	
Public Works, Traffic Division	Stephanie Mormilo, <i>Municipal Traffic Engineer</i>
Community Development, Transportation Planning	Vivian Underwood, <i>Senior Transportation Planner</i>
Public Transportation	Lance Wilber, <i>Director</i>
Anchorage Police Department, Traffic Unit	Sergeant Roy Leblanc, <i>Traffic Supervisor</i>
	Officer Steven Buchta, <i>Traffic Officer</i>
<b>Matanuska-Susitna Borough</b>	
Department of Emergency Services	Dennis Brodigan, <i>Director</i>

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## EXISTING SYSTEMS AND PROCESSES

DOT&PF has been actively deploying field devices and implementing processes to support traveler information, maintenance activities, and traffic operations throughout the State, including cameras, traffic sensors, weather sensors, and message boards. This section provides a brief overview of systems and processes in place, deployed by both DOT&PF and other agencies, which have relevance to a potential STOC.

### TRAVELER INFORMATION

#### Alaska 511

The Alaska 511 traveler information system is available via phone, internet (511.alaska.gov and Facebook), and Twitter feed (@alaska511) for sharing information on events such as road closures, restrictions due to maintenance or construction, weather, road conditions, and construction. DOT&PF is also working on a 511 iPhone application.

Information is input to the 511 system from a number of sources including the statewide 511 Management Center and working group, maintenance and operations staff (beginning and end of each shift), DPS dispatch, and construction personnel. Until recently, the weigh station in Tok, Alaska served as a central location for inputs to 511 on a 24 hour, 7 day a week basis. The AST dispatch center in Fairbanks is now contracted by the DOT&PF to provide continuous coverage for input to 511.

Concerns were expressed regarding the existing 511 system, including:

- Information is often not timely and not reported around the clock (most maintenance stations are not staffed 24/7)
- Anchorage Police Department does not participate in inputting information to 511
- Inconsistent assessment of roadway conditions

#### Dynamic Message Signs

DOT&PF currently owns and maintains three permanent dynamic message signs: one each on the Glenn and Seward Highways leaving Anchorage and one outside Fairbanks near Fox on the Steese Highway. The Anchorage Police Department, under an agreement with DOT&PF, is responsible for posting messages to the dynamic message signs in Anchorage. Northern Region Maintenance and Operations staff are responsible for posting messages to the sign on the Steese.

The message signs are connected to 511 such that messages displayed on the signs are automatically posted to the 511 system. DOT&PF is currently planning to add portable dynamic message signs that could also be connected to the 511 system.

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## Navigator

DOT&PF Central Region has used a web-based tool called Navigator ([alaskanavigator.org](http://alaskanavigator.org)) to provide construction information to the public. Northern Region has also recently begun posting construction information to Navigator. The system provides a map-based interface showing current construction projects and related road closures. Each project listing includes information regarding the project, contact information, and the opportunity for the public to receive weekly email updates.

## Anchorage Roads

The municipality of Anchorage has established their own web-based source for the public to receive information regarding construction projects and known delays. The site also links to Navigator. Anchorage Roads is updated on a weekly basis and provides current information to the public through Twitter (@ANCroads).

## COMMUNICATIONS

Communication gaps in the state can make timely reporting of conditions and incidents challenging. Stakeholders indicated the following regarding the status of communication systems in the state:

- Cellular phone coverage is variable across most of the state and non-existent along parts of the transportation system.
- Satellite phones improve coverage but can still be unreliable.
- The Alaska Land Mobile Radio (ALMR) system has greatly improved coverage and interconnectedness between various agencies. However, there are still areas without ALMR coverage.
- Call boxes have been installed on the Seward and Sterling Highways. However, the frequency of these call boxes can make it challenging for stranded motorists to utilize them.

## DISPATCH

As mentioned in the *Introduction*, DPS is currently evaluating the future of their dispatch needs and infrastructure. The following summarizes the existing dispatch environment for law enforcement and emergency response:

- The dispatch center in Ketchikan is the only public-safety answering point (PSAP) that is owned and operated by AST.
- In the Fairbanks North Star Bureau, 911 calls are routed to a PSAP operated by the City. If the call is law enforcement related and within the AST response area (outside City limits), the call is forwarded to the AST dispatch center. If the call is related to a need for emergency medical services (EMS) the City dispatches EMS.
- In Southcentral Alaska, currently the Cities of Palmer and Wasilla and the Municipality of Anchorage all operate PSAPs.

- **Anchorage** – The Municipality of Anchorage operates a PSAP. The dispatch center can communicate with AST on a common radio system (ALMR). The center also can post messages to the dynamic message signs in the Anchorage Bowl and to the Department’s radio and Twitter feeds.
- **Palmer** – The Matanuska Susitna (MatSu) Borough contracts with the City of Palmer to operate a PSAP for the Borough.
- **MatCom** – MatCom is operated by the City of Wasilla and dispatches for AST under contract.

The MatSu Borough recently completed a study that suggested consolidation of the dispatch centers in Wasilla and Palmer.

## MAINTENANCE & OPERATIONS

### Maintenance Decision Support System

DOT&PF is currently pilot testing a Maintenance Decision Support System (MDSS) in Northern Region. If the pilot test is successful, DOT&PF will likely expand use of MDSS to the other regions. As part of the pilot test, approximately 25 vehicles in Fairbanks have been equipped with mobile weather data collection systems. The vehicles collect the following data:

- Vehicle location (GPS)
- Ambient temp
- Road temp
- No friction
- No surface condition
- Dew point

The data is transmitted via the cellular network. If a vehicle is out of range of the cellular network, the data is stored until the vehicle is within range.

### Fleet Safety

DOT&PF has equipped some snowplows with cameras and GPS to improve operator safety and provide coaching opportunities. The DriveCam system provides GPS location and video images for review by supervisors.

### Avalanche Detection

DOT&PF is pilot testing an avalanche detection system on the Seward Highway. The system detects the occurrence of avalanches and can trigger an automated closure of the highway. It was suggested that, if successful, this information could automatically be uploaded to the 511 system.

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## COMMERCIAL VEHICLE OPERATIONS

Commercial vehicle operators and enforcement personnel have the potential to benefit from a statewide transportation operations center. The Division of Measurement Standards and Commercial Vehicle Enforcement (MSCVE) was interviewed as a stakeholder. The following summarizes highlights from that interview.

- MSCVE has 23 enforcement officers. One MSCVE enforcement officer is located in the AST Bureau of Highway Patrol office in each region.
- MSCVE operates seven weigh stations.
- Alaska is a member of NorPass partnership
- MSCVE obtains seasonal weigh restrictions from region engineers each morning during the Spring. MSCVE could benefit from a better and more centralized method for disseminating these restrictions.

## TRANSIT

People Mover, the public transportation provider in Anchorage, was interviewed as a stakeholder for this assessment. People Mover, as the largest transit provider in the state, is the most likely candidate to share information with a transportation operations center. The following highlights elements of the People Mover system:

- Use Trapeze for most operational automation functions (e.g., CAD, mobile data terminals, automatic vehicle location) of both the fixed route and demand response systems.
- Have piloted transit signal priority on a few routes but are currently waiting for signal controller upgrades before expanding.
- The paratransit system is operated by a contractor, while MOA owns the capital assets.
- People Mover currently has a bus tracker to provide public status updates and is working on getting Google Transit active for the system.

## ROAD WEATHER INFORMATION SYSTEM

The Alaska Road Weather Information System (RWIS) is a collection of environmental sensor stations located along Alaska's major highways. Each sensor site has several weather and pavement sensors that collect data on pavement conditions, atmospheric conditions, and sub-surface temperatures. Some sites are equipped with digital cameras that show weather and pavement conditions at the site. RWIS data are used to support DOT&PF internal operations, especially maintenance and public notification decision making. Additionally, subsurface temperature probes at some sites are used to make decisions regarding seasonal weight restrictions. RWIS data are shared with other agencies such as the National Weather Service and military bases to support agency operations and build a more robust collection of weather data. RWIS data is also fed into the 511 Travel Information System and available at [roadweather.alaska.gov](http://roadweather.alaska.gov).

## TRAFFIC DATA AND MONITORING

DOT&PF is currently piloting three real-time traffic data collection sites (two in Knick Arm, one in Eagle River). These sites provide real-time data on traffic volumes, gap, headway, and occupancy.

The Municipality of Anchorage currently has five CCTV Cameras deployed with plans for additional deployments in the future.

## TRAFFIC SIGNAL SYSTEMS

Each region within DOT&PF independently maintains and operates traffic signal systems within the regions. The following summarizes the signal system in each region.

- **Northern Region** – Maintains approximately 80 signals (60 DOT&PF, 23 City of Fairbanks)
- **Central Region** – Total of approximately 300 signals in region. Municipality of Anchorage maintains 273 signals (30% MOA, 70% DOT&PF). Most are connected to a central system, which resides at MOA.
- **Southeast Region** – Maintains approximately 20 signals.

## EXISTING CONTROL CENTERS

### Whittier Access Tunnel

The Whittier Access Tunnel is a key link in the connection between the deep water port at Whittier and the Seward Highway. The tunnel provides both vehicular and railroad access along a shared alignment. Because the shared alignment only allows one direction of vehicular or railroad movements at a time, control of the movements is necessary. DOT&PF operates, through an outsourced contractor, a tunnel control center, which consists of two control systems: the Tunnel Control System (TCS) and the Train Signal System (TSS).

The TCS tracks vehicular movements through the tunnel and controls gates and signals to manage the flow of vehicles. The TSS operates in a similar manner, controlling switches and signals to ensure one-way train traffic. The TCS and TSS are connected, permitting only one system to operate at a time and locking out the other system until the tunnel is free of conflicts. The control center is operated from a building adjacent to the toll gates at the Bear Valley portal to the tunnel.

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## STATEWIDE TRANSPORTATION OPERATIONS CENTER OVERVIEW

During stakeholder interviews, many asked what the possibilities were for a statewide operations center in Alaska. This section briefly describes the types of centers that exist in other states, the functions that are performed in various centers, and their potential application in Alaska.

### CENTER TYPES

No two statewide centers in the United States are exactly alike. They are developed and designed to meet the specific needs of the state at that time. They also are very dependent on the infrastructure available and partnerships that are present at the time of initiation. The combination of functions performed in each center varies; however, there tend to be three different “types” of centers that characterize the primary reason for their existence. These are:

- **Data Repository and Traveler Information Dissemination** – The primary function of these centers is the collection and integration of road condition data (road weather conditions and forecasts, construction, commercial vehicle restrictions, travel speeds/times, incidents, road closures, and CCTV camera images), and they are typically staffed by DOT and/or local transportation agencies. These centers also typically manage the collection, assembly, and dissemination of traveler information (511 systems, media, Dynamic Message Signs (DMS), Highway Advisory Radio (HAR), etc.)
- **Communications/Dispatch** – The primary function of these centers is to dispatch emergency response assets (local police, fire, state patrol/troopers, and Emergency Medical Services). These centers are typically staffed by emergency response agencies with state or local transportation agencies as possible partners in the center.
- **Traffic Operations/Incident Management** – The primary function of these centers is the management of regional traffic operations and incidents. This could include state and/or local agency owned roadways (typically highways and arterials). Activities in this type of center would include monitoring traffic flow (with various sensors including CCTV cameras); taking actions to improve traffic conditions (signal timing changes, roadway signage, dispatch motorist assist vehicles or maintenance crews if needed); coordinating with emergency response dispatch; disseminating information to the public regarding traffic conditions, incidents, construction, travel speeds/times, road closures, and more.

There is potential for significant overlap of activities in each type of center, and many centers are known to combine the functions of different center types. Also, in many states there may be multiple centers with each focusing on the activities of a particular agency. Again, the centers that exist are typically a function of the state’s or region’s needs and the opportunity for partnership available at the time of concept development.

## POTENTIAL APPLICATION TO ALASKA

The question of whether or not Alaska has a need for a statewide center is addressed later in this document. This section provides the potential application of each type of center to Alaska and is provided to assist the stakeholders in understanding what the opportunities may be. Table 2 provides the primary functions and potential application to Alaska for each major type of operations center.

**Table 2. Typical Statewide or Regional Transportation Operations Centers**

Center Types	Primary Functions	Potential Application to Alaska
Data Repository/ Traveler Information Dissemination	<ul style="list-style-type: none"> <li>▪ Collection of road condition data</li> <li>▪ Integration of various sources of data</li> <li>▪ Management of traveler information systems</li> <li>▪ Dissemination of en-route traveler information</li> <li>▪ Interface with media</li> <li>▪ Interface with emergency response agencies</li> </ul>	<ul style="list-style-type: none"> <li>▪ Road (weather) condition data collection and repository</li> <li>▪ Management of 511 system (collection and dissemination of all information)</li> <li>▪ Management/integration of Navigator</li> <li>▪ Activation of DMS signs/HAR systems statewide</li> <li>▪ Management of social media tools and responses</li> <li>▪ Interfaces with maintenance dispatch, emergency response agencies, and other media outlets</li> </ul>
Communications/ Dispatch	<ul style="list-style-type: none"> <li>▪ Emergency response dispatch (state and/or local agencies)</li> <li>▪ EMS dispatch potential</li> <li>▪ Interface with state and local transportation agencies as needed</li> </ul>	<ul style="list-style-type: none"> <li>▪ Partnership between DOT&amp;PF and AST to manage transportation system and dispatch emergency response statewide</li> <li>▪ Potential AST and local agency integrated dispatch</li> <li>▪ Where possible, integrate EMS dispatch</li> </ul>
Traffic Operations/ Incident Management	<ul style="list-style-type: none"> <li>▪ Collection of road/traffic condition data (with sensors and cameras) and management of related systems</li> <li>▪ Arterial traffic management including real time traffic signal timing (and integration with highway)</li> <li>▪ Highway traffic management (and integration with arterials)</li> <li>▪ Incident detection and coordination with emergency response</li> <li>▪ Dispatch of motorist assist vehicles</li> <li>▪ Management of traveler information (pre-trip and en-route) associated with roadway system responsibility</li> <li>▪ Interface with DOT construction and maintenance forces</li> </ul>	<ul style="list-style-type: none"> <li>▪ Central Region traffic management</li> <li>▪ Central Region traveler information management</li> <li>▪ Opportunity to partner with local agencies to conduct traffic management activities on highways and arterials</li> <li>▪ Management of automated traffic data collection systems</li> <li>▪ Interface with state and local emergency response/EMS agencies</li> <li>▪ Interface with People Mover</li> </ul>

## STAKEHOLDER INTERVIEW FINDINGS

The project team conducted 26 interviews with stakeholders from within and outside of DOT&PF. Their input was documented with an interview form that captured their thoughts on topics including needs (related to the potential STOC), STOC support (level, benefits, challenges, and location), and other related information. The interview template is included as Appendix A. The results of these interviews are summarized below.

### IDENTIFIED NEEDS

Table 3 documents STOC-related needs expressed during the stakeholder interviews. The table also indicates what organizations expressed a specific need. The table reflects what was expressed by stakeholders during the interviews; it is possible that after review of these needs stakeholders would add check marks on other needs listed. The bolded needs represent those that the stakeholders expressed as their most important. The needs with the most checkmarks (expressed by the most stakeholders) could be considered the most significant by the largest number of stakeholders.

**Table 3. Statewide Transportation Operations Center Needs Expressed by Various Stakeholders**

Identified Need*	DOT&PF							Other Stakeholders						
	HQ	PD	M&O	T&S	PI	MSCVE	Const	MOA	APD	PM	AST	EMS	Mat-Su	FHWA
<b>Institutional/Coordination</b>														
Improve internal DOT&PF communication	√	√												
Need to focus on safety corridors	√							√	√		√			√
Governance structure established for who does what, when		√												
Improved coordination between DOT&PF and AST			√								√			
Improved coordination between DOT&PF Regions	√		√	√										
Improved command and control during major events	√													
Coordination of construction activities							√							
<b>Data Collection/Data Sharing/Communications</b>														
Improved road weather information and forecasts	√	√	√											
Notification of snow plow operations				√						√				
Need truck restriction information from DOT&PF construction						√								
Need lane restriction and road closure information						√		√		√			√	
Two-way data sharing between DOT&PF and emergency response dispatch centers	√	√							√		√		√	
Better coordination of road conditions and incidents with EMS dispatch												√		
Lack of cell and radio communications to support data collection		√	√	√							√	√		√
Coordination with NWS on weather forecasting			√											
Data storage and reporting - improve sharing of traffic and crash data	√							√					√	

Identified Need*	DOT&PF							Other Stakeholders						
	HQ	PD	M&O	T&S	PI	MSCVE	Const	MOA	APD	PM	AST	EMS	Mat-Su	FHWA
<b>Traffic Operations/Incident Management</b>														
<b>MOA traffic congestion, incident information</b>		√		√				√	√	√				√
Active management of key corridors in Central Region									√		√			
Improved real-time traffic conditions and data collection (volume, speed)				√				√	√					√
Manage/operate/control signal systems	√		√	√				√						√
Real-time signal timing adjustments	√		√	√				√						√
Incident response, including tow trucks, to improve congestion in Central Region		√		√				√	√					
Better coordination with APD regarding incident notification and response	√	√		√				√	√		√			√
Preparation and execution of incident corridor management plans								√						√
Dispatch of motorist assist vehicles (if existed)		√												
<b>Other Operations Improvements</b>														
<b>Integrated data, technology, coordinated operations and response, and public dissemination center</b>											√			
<b>Proper deployment of resources, knowing what conditions will be</b>			√											
Improved approach to manage operations	√													
Welfare checks on M&O crews			√											
Coordination of movement of large truck loads in Alaska						√								√
Relieve heavy load on project engineers responding to inquiries							√							
Haz-mat tracking and routing as well as coordination during haz-mat incidents													√	√
Improve knowing right resource or contact to call for specific incidents			√	√							√		√	
Management plans for ITS deployments		√				√	√							

Identified Need*	DOT&PF							Other Stakeholders						
	HQ	PD	M&O	T&S	PI	MSCVE	Const	MOA	APD	PM	AST	EMS	Mat-Su	FHWA
<b>Traveler Information/511</b>														
<b>Meet public expectation of instant information</b>	√	√				√		√						
<b>Improve 511 format, information, reliability</b>	√	√	√	√	√	√	√	√	√	√	√			√
<b>Coordination to facilitate accurate and timely inputs to 511 system 24/7</b>	√	√	√	√	√		√	√		√	√			√
<b>Using technology to automate (as much as possible) data collection and 511 input</b>		√	√	√	√				√		√			√
<b>Better policies on how to manage 511 system</b>	√	√									√			
<b>Additional DMS to provide information to travelers en-route</b>				√										√
Data collection and dissemination of traveler information from one source									√		√			√
Management of non-traditional information dissemination approaches		√			√			√	√					
Improved dissemination of seasonal weight restriction information to trucking industry						√								
Perform education and outreach (safety programs), and coordinate technical assistance and training	√													
Expand 511 system capabilities to show construction; and into future dates							√							
Transit data on 511										√				
Special event information on 511										√				

\*bolded needs indicated most important by an interviewee

Legend:

**HQ** = DOT&PF Headquarters

**PD** = DOT&PF Program Development

**M&O** = DOT&PF Maintenance and Operations

**T&S** = DOT&PF Traffic and Safety

**PI** = DOT&PF Public Information

**MSCVE** = Measurement Standards and Commercial Vehicle Enforcement

**Const** = DOT&PF Construction

**MOA** = Municipality of Anchorage

**APD** = Anchorage Police Department

**PM** = People Mover

**AST** = Alaska State Troopers

**EMS** = ADHSS Division of Public Health

**Mat-Su** = Matanuska-Susitna Borough

**FHWA** = Federal Highway Administration

## ADDITIONAL INPUT FROM STAKEHOLDERS

In addition to discussing needs, stakeholders were asked during the interviews about their thoughts regarding an Alaska STOC. The responses are provided below in terms of their general level of support, potential benefits, challenges/constraints, collocation versus virtual nature of a center, and potential location.

### Support Level

The question asked was: “Are you supportive of a STOC?” The responses by stakeholder are displayed in Table 4.

*Table 4. Level of Support of a Statewide Transportation Operations Center by Stakeholder Group*

Level of Support	DOT&PF							Other Stakeholders						
	HQ	PD	M&O	T&S	PI	MSCVE	Const	MOA	APD	PM	AST	EMS	Mat-Su	FHWA
Supportive or Very Supportive	√	√	√		√	√		√			√		√	√
Cautiously Supportive	√	√	√	√			√	√	√	√		√		
Not Supportive														

Additional notable information in relation to the information in Table 4:

- No stakeholder stated that they were ‘not supportive’ of a center.
- Multiple check marks under a particular stakeholder indicate different individuals with varying opinions within the same organizational group.
- By far the factor that gave “caution” to stakeholders was the funding and impact that rerouting funding to the STOC would have on their limited resources to support the center.

### Benefits

Specific benefits of a statewide center mentioned by stakeholders included:

- Coordinated, consistent, accurate, and timely dissemination of traveler information (pre-trip and en-route)
- A single data repository (traffic, incidents, construction, maintenance operations, road weather conditions, etc.)
- “Active” data collection
- 24/7 operation, a way to tie entire state together
- Integration of data, technology, coordinated operations, and information dissemination
- Improved situational awareness (leads to improved safety)

- 
- Coordinated incident detection, notification, and emergency response. Center can act as a command and control center for DOT&PF activities during major incidents.
  - Coordinated traffic management on safety corridors
  - Potential to serve as back-up control for the Whittier Access Tunnel control center
  - Bringing together various agencies (transportation and emergency response)
  - Coordination with the State Emergency Operations Center (SEOC)
  - Reduction of travel delay and collateral crashes
  - Operational improvements – signal systems, variable speed limits, road weather condition information to field personnel, etc.
  - Improved efficiency of goods movement

## Challenges/Constraints

Specific challenges/constraints of a STOC mentioned by stakeholders included:

- Management support at a level to ensure success
- Funding for capital improvements as well as (and perhaps more importantly) operations
- Impact on already stretched resources (all disciplines)
- Staffing/PCNs – can't be "other duties as assigned"; no new positions (position control numbers (PCN)) are likely to staff the center
- Would there be enough activity in a center to operate 24/7 and keep staff busy enough?
- DOT&PF can't do it alone – best if have partners
- Must improve 511 credibility
- Workload in winter would likely be greater
- Diversity of needs between regions – how to make a "statewide" center work
- Working with ETS is very challenging – if they have a significant role
- Collecting all the data necessary to make a center effective (road conditions, construction, traffic operations, etc.)
- Communication to many parts of the state is limited
- Staff acceptance – willingness to support
- Buy-in, cooperation from all agencies involved (partners and others involved in sharing information)
- How to (and how will) maintain technology
- Perception of government growth

## Collocation vs. Virtual

When asked about the collocation versus virtual center concept, the stakeholders were about evenly split. Some thought collocation was the only way to ensure full coordination, cooperation, and consistency. Others felt that, with technology, a virtual center could accomplish the same goals and be a less expensive approach. Further study is required to analyze what might be best for Alaska.

## Potential Location

The vast majority of stakeholders agreed that the best location for a center would be in the Central Region (Anchorage or nearby). This opinion was driven by population, traffic issues, and the need for institutional partnerships. A few stakeholders did not think it mattered given the use of technology to collect and share information and operate systems.

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## ADDITIONAL INPUT AND OBSERVATIONS

### ITS PLAN UPDATE

The current Alaska Intelligent Transportation Systems Plan and Architecture document (Alaska Iways) was last updated in 2008/2009. Much has changed in terms of completed projects, near-term projects not completed, potential new projects, involved stakeholders, and general level of interest in considering technology applications to help solve transportation challenges. This is the right time for this document to be revised and updated. The revision needs to more extensively rely on input from the Regions (as well as Headquarters) and strive to be a plan that is implementable—one that resides on the desk and not on the shelf. *(Note: At the time of the finalization of this report, DOT&PF has selected a consultant to update the Alaska Iways plan.)*

### ITS INFRASTRUCTURE

During the stakeholder interviews, individuals expressed needs to significantly expand the use of technology and deploy additional ITS infrastructure. The following is a list of equipment and systems that were mentioned:

- Incident detection equipment on high volume roadways/safety corridors (volume/speed sensors and cameras)
- Variable speed limits systems
- Motorist assist vehicles
- Tow trucks to remove disabled vehicles during peak travel times
- Automated data collection devices for road weather conditions; direct input to 511
- Maintenance Decision Support System (MDSS) for weather forecasting for both maintenance operations and input to 511 (pilot study underway)
- Additional permanent and portable Dynamic Message Signs
- Avalanche detection and road closure systems (pilot study underway); direct link to 511
- Central, real-time control of signal systems
- Mobile data collection devices (weather, road conditions, etc.)
- Automated vehicle identification equipment (commercial vehicles)
- Snowplow DriveCam and GPS systems
- Travel time data collection

### POSSIBLE INCLUSION OF AVIATION AND/OR MARINE HIGHWAYS

Several stakeholders mentioned the inclusion of aviation and marine highways as possible partners in the center. They are both key aspects of transportation in Alaska. Airport runway status and maintenance was the greatest interest for aviation. Ferry connections and schedules for travel planning was the primary need for marine highway.

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## OPPORTUNITIES FOR INSTITUTIONAL AND SYSTEMS INTEGRATION

The stakeholders felt that a statewide center would foster much needed institutional integration, thereby improving coordination, cooperation, consistency, and improved operations. The potential for improved institutional integration included:

- Between DOT&PF Regions
- Between functions within DOT&PF
- DOT&PF with emergency response agencies
- DOT&PF with MOA (including APD)
- EMS agencies with all stakeholders

Additionally, the interviews revealed opportunities for integration of various systems, as follows:

- Computer Aided Dispatch (CAD) incident data with 511
- Avalanche detection and automated road closures with 511
- Statewide TOC with potential MOA TMC
- Statewide TOC with emergency response dispatch centers (state and local)
- Statewide TOC with the Whittier Access Tunnel control center
- Data integration with 511 system, Navigator system, Anchorageroads.org, APD Twitter, Envista, Bus Tracker, and gov delivery

## LACK OF POLICIES/PROCEDURES TO SUPPORT TRANSPORTATION MANAGEMENT

It was noted by several stakeholders that DOT&PF lacks the requisite policies and procedures to support coordinated operations and effective, efficient transportation management. These policies and procedures need to define organization roles and responsibilities (both internal to DOT&PF as well as interaction with other agencies), specific organization tasks/activities and timing of execution, interrelationships with other agencies, accountability factors, and performance measurement approaches. Some examples provided by stakeholders included:

- Accurate and timely collection of road weather conditions and input to 511
- Timely incident reporting and input to 511
- Coordination of construction activities (within and between regions, and with other agencies)
- Providing important information to other agencies to improve operations

These policies and procedures are important to improve operations in general. However, they are essential if a STOC is to be considered.

Another related topic was STOC governance. If the STOC becomes a multi-agency facility, a formal governance structure will be critical to its success and formal agreements will need to be created that define the partnerships including a management structure, cost sharing, operational policies, and procedures. A few comments suggested the need for a separate Board that would be made up of management from the partner organizations.

## NEEDS ASSESSMENT

This section presents the findings of the needs assessment and gap analysis. Gaps are defined as either activities that DOT&PF wants to do and is currently not doing, or activities DOT&PF are currently doing but not as well as expected. Essentially, each of the needs identified above in Table 2 can be considered to fit within one of these gap types.

### STOC NEED

This assessment set out to answer the question: Is there a need for an Alaska STOC? The short answer to that question is yes. However, this yes answer is not without significant considerations (see below).

Forty-seven (47) specific needs were identified by the stakeholders in five distinct categories. There is overlap, interdependency, and opportunities for synergy between and among the needs identified. After reviewing and analyzing all the information collected from stakeholders and other state TOCs (see next section), the following provides a summary of primary themes that support Alaska considering the development of a STOC:

- Improve operational coordination and consistency within DOT&PF and with other agencies
- Establish a primary point of DOT&PF contact available 24/7/365. This may include command and control duties during major incidents.
- Establish a data center to collect, process, integrate, and disseminate information critical to other agencies, the traveling public, and commercial vehicle operators
- Improve customer service and meet public expectation of accurate and timely information
- Improve traffic management in Central Region and elsewhere (incident management, congestion relief, ITS management, integrated weather responsive traffic management, etc.)
- Improve partnerships with other state and local government agencies
- Improve coordination with non-highway modes such as aviation and marine highway

### SIGNIFICANT CONCERNS AND CONSTRAINTS

Although stakeholders generally supported the development of a STOC, in many cases that support came with significant concerns and potential constraints, including:

- Need for proper management support to ensure success
- How to fund and staff a center with limited and constrained resources
- Justification of a center given relatively low traffic volumes and roadway miles
- Need for strengthened intra- and inter- agency relationships to support an effective center
- Lack of policies, procedures, and protocols to ensure effective operations
- Need for a clear and supported management structure of a center, especially if it involves multiple agency partners

These concerns and constraints cannot be answered in this needs assessment; however, they will help to inform decision makers regarding the challenges that will be faced by the department if they choose to move forward. These challenges should be addressed in future phases of TOC concept development.

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## OTHER STOC OPPORTUNITIES AND CONSIDERATIONS

In addition to the primary themes supporting an Alaska STOC stated above, it is important to note the following additional opportunities and considerations:

- Improve the 511 system to make it a valuable tool for travelers and others to be informed about road and traffic conditions
- Obtain efficiencies by embracing state troopers' interest in partnering with DOT&PF to develop and operate a center
- Potential to collocate or coordinate a statewide TOC with a potential MOA management center
- Improve relationship with MOA toward a more coordinated, consistent approach to transportation management and informing the public
- Integrate multiple databases and systems to manage transportation functions and inform the public
- Deploy additional proven technology solutions and transportation management strategies used by other state centers that specifically address Alaska transportation needs
- Use current infrastructure more effectively to conduct transportation management and operations
- Opportunity to integrate aviation and marine highway into the statewide center
- Establish written policies, procedures, and protocols for coordinated intra- and inter- agency operations
- Take advantage of changes to federal funding rules that now allow use of federal funds for operation of ITS

## STOC LOCATION

The final location of a STOC will be determined if future development activities are performed. To date, input from the stakeholders clearly indicated that the most likely location for an Alaska STOC is in the Central Region (Anchorage area) for the following reasons:

- Opportunity to benefit the largest percentage of the state population
- Opportunity to improve/expand incident management capabilities in this region
- Opportunity for additional ITS infrastructure deployment to support effective and efficient traffic and incident management in this region
- Access to the most existing communication infrastructure in the state
- Opportunity for the greatest number of partners to participate in center
- Potential to collocate with a MOA traffic management center
- Opportunity for a multi-disciplined center approach that could include arterial traffic management, freeway traffic management, incident management, emergency service response dispatch, and statewide data center and dissemination activities
- Along with the multi-disciplined center approach, the opportunity for coordination of operations performed by multiple agencies (within and external to the center)
- Increased availability of skilled staff to operate the center

## RESEARCH FINDINGS: OTHER STATE TOCS

As part of the Needs Assessment activity, the project team contacted other states to learn from their experiences developing and maintaining a STOC. This chapter provides the findings from this research.

### STATE TOCS CONTACTED

The other state DOTs were selected for research based on the following criteria:

- They operate a STOC.
- The state has a fairly low population given its geographic presence and most of the state is rural in nature with both two-lane and divided highways. Also, the state may have one or two larger population areas.
- Winter weather and poor road conditions are a major component of the TOC operations.
- Emergency response is challenging in rural areas because of the lack of communication infrastructure and long distances needing to travel.

The following states were contacted and interviewed:

- Idaho
- Wyoming
- Utah
- Washington (note: WSDOT has six regional centers, all have different structures and functions)

Other states were contacted, but not interviewed for the following reasons:

- South Dakota – still working to establish a statewide TOC. Working with North Dakota and Montana to explore concepts for extremely rural states.
- Nevada – do not have a statewide TOC, perform operations from three regional centers primarily because they manage their maintenance operations historically from the region offices. Two of the regional TOCs are rural (Elko and Reno), and one is in a highly populated area (Las Vegas) and focuses mainly on urban traffic issues.
- Minnesota – contacted, no response yet.

### APPROACH

Phone interviews were conducted with STOC management personnel at each of the states identified above. The interview form used to guide the discussions is provided in Appendix A. The questions centered around STOC operations, how the STOC was formed, current partners, funding sources (initiation and maintenance), significant benefits derived, best practices, results from any benefit/cost studies performed, and general advice for Alaska.

## RESEARCH FINDINGS

A summary of the responses from the 12-question interview guide are provided below. Appendix B provides additional detail of the discussions. The reader is encouraged to review Appendix B for specific notes about each response.

### *What functions are performed in your TOC/TMC?*

TOC/TMC Function	Idaho	Wyoming	Utah	Washington
Incident Management		√		√
Collect/integrate/disseminate road weather conditions/forecasts	√	√	√	√
Conduct traffic operations/manage traffic signals		√	√	√
Dispatch emergency services	√	√	√	√
Dispatch maintenance forces	√	√		√
Prepare regular meteorological road weather forecasts		√	√	√
Disseminate pre-trip and en-route traveler information	√	√	√	√
Manage warning and active safety systems	√	√	√	√
Coordinate with other agencies and/or neighboring states	√	√	√	√
Control ITS equipment	√	√	√	√
Support goods movement/CV tracking and inspections				
Haz Mat tracking and routing	√	√		
Toll road management			√	√
Other	√	√		√

#### Other Idaho:

- Issue Amber Alerts
- Tracking mega loads and nuclear waste movements

#### Other Wyoming:

- Manage Variable Speed Detection System (5 sites)
- Manage Citizen Reporting System (400 trained reporters)
- Track nuclear waste movements

#### Other Utah:

- Operate DOT emergency management center
- Track construction closures and restrictions
- Manage fiber optic communications inventory and network management
- Issue Amber Alerts

Other Washington:

- Ramp metering control
- Security monitoring (bridges, etc.)
- Relationship with public – live Twitter, Facebook (significant component in center and growing)

*What data do you collect, integrate, and store/maintain in your TOC/TMC?*

Data Management	Idaho	Wyoming	Utah	Washington
Traffic data		√	√	√
Incidents	√	√	√	√
Road weather conditions and forecasts	√	√	√	√
Variable speed limits		√	√	√
Road closures	√	√	√	√
Construction project information		√	√	
Maintenance operations		√		√
Traveler information	√	√	√	√
Other	√	√	√	√

Other Idaho:

- Ensure federal mandate to provide real-time road condition reporting

Other Wyoming:

- Log every phone call and radio call

Other Utah:

- ITS asset management
- Toll data for HOT lanes (tags and clean fuel vehicles)

Other Washington:

- Cameras – do not record any video

*What organizations are represented in your TOC/TMC?*

Data Management	Idaho	Wyoming	Utah	Washington
DOT – ITS managers	√	√	√	√
DOT – maintenance dispatchers	√	√		√
DOT – traveler information system managers	√	√	√	√
DOT – construction managers		√		
DOT – traffic operations managers		√	√	√
State Patrol/Police/Troopers	√	√	√	√ (one)
Local police/fire dispatch		√		

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*What are your staffing levels in the TOC/TMC (employees and contracted staff)?*

Note: all centers contacted operate 24/7.

Notable responses include:

- Idaho
  - No DOT personnel reside in the center
  - They fund ~2.5 equivalent State Communications staff to support the DOT operations
- Wyoming
  - DOT: 20 full time staff + 7 seasonal + 1 contractor (road weather forecasting)
  - Highway Patrol: 40 full time staff
  - Important to note that the DOT staff values are only 3 more positions than Districts had and they do a lot more. The Districts agreed to give up their positions so that the statewide center could perform the activities for the Districts.
- Utah
  - 13 operations staff
  - Plus, 10 road weather meteorologist forecasters (8 contracted)
- Washington
  - Typical center has 2 people during the day and 1 person at night – more in large urban areas of Seattle and Vancouver
  - Night operators are primarily radio operators to support construction and maintenance

*Why/how did these organizations decide to work together in your TOC/TMC?*

Notable responses include:

- Idaho
  - Originally, it was a governor's mandate to establish a state communications center that Health and Welfare would manage and that Idaho State Police would be collocated with them
  - DOT began contracting with State Communications for services following a major traffic incident that was not reported. DOT services have grown over the years starting with after-hours dispatching to full time dispatching and management of the 511 system.
- Wyoming
  - Needs of both DOT (ITS) and Highway Patrol for new facilities
  - \$1.7m federal grant
  - Districts believing it would be more efficient to conduct several functions centrally
- Utah
  - Always planned, but inspired by 2002 winter Olympics to manage traffic and address moving people
  - Need for transportation command center
  - Coalition of city, county, and state officials

- Washington
  - Regional centers are all structured to meet the needs of specific to that region

***Are there other regional TMCs in your state that you interact with? What is the nature of your coordination and sharing of information?***

Notable responses include:

- Idaho: Yes – Ada County (Boise metro area) Highway District. Each operates their own systems. Very little coordination. Not the best arrangement.
- Wyoming: No.
- Utah: Yes – three small traffic management centers in Orem, Provo, and Salt Lake City mainly managing traffic signals.
- Washington: No need – already regional centers.

***What funding sources did you use to initiate your facility and do you now use to maintain your TOC/TMC?***

Notable responses include:

- Idaho: Federal Aid for operations. No initiation dollars needed since they partnered with an existing center.
- Wyoming: \$1.7M grant to initiate. Use CMAQ funds for operations.
- Utah: Primarily uses state funds for TMC operations. Uses some federal funds for ITS enhancement deployments.
- Washington: State funds from Headquarters (state traffic engineer budget) support all regional centers.

***What do YOU think is the most significant benefit your TOC/TMC provides?***

Notable responses include:

- 24/7 service provided by highly trained, experienced professional staff
- High level of customer service with accurate and timely traveler information
- Meets public expectation by demonstrating that the DOT will respond when needs arise on the roadways
- Advanced Traffic Management in large urban areas
- Coordination and central contact point between very diverse agencies
- Operational benefits of traffic congestion relief
- Savings to maintenance (labor and materials) from meteorological road weather forecasts
- Coordination and consistency across the state
- ITS device management – big benefits (see below)
- Radio operations and coordination of road maintenance operations
- Expanding scope of center every year with additional agency coordination assignments

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***What do you think your executive management believes is the most significant benefit your TOC/TMC provides?***

Notable responses include:

- That the center supports DOT strategic goals: mobility, safety, and economic opportunity
- Otherwise, the DOTs felt their executive management would provide the same answers as above

***What do you believe are national best practices being performed in your TOC/TMC?***

Notable responses include:

- Point of Contact and center for communications for a large number of state agencies (20-25 agencies). Mostly related to emergency response.
- Horizontal integration of statewide response and communications
- Operation of variable speed limit systems
- Statewide citizen reporting system to enhance knowledge of road and weather conditions
- Road weather forecasting
- Traffic signal timing operations
- Utah traffic phone app
- Utah incident management program and relationship with SHP
- Outreach to commercial vehicle operators to understand and respond to their needs
- Internal Information Technology (IT) group that work for and support the center operations
- Regional centers that support local needs

***Have you conducted benefit/cost studies that support your TOC/TMC or other technologies you have deployed? If so, can you share your results?***

Notable responses include:

- The benefit of a more informed public regarding road and weather conditions is very difficult to measure
- Variable speed limit system has resulted in 50 fewer crashes per year
- Wyoming believes they are saving at least \$8M per year due to the center's operation
- Utah has seen \$10M per year savings due to reduced traffic delay
- Utah has estimated a 10:1 benefit cost ratio – maintenance labor and material savings versus cost of meteorological road weather forecasting in support of maintenance operations
- Washington has tried to develop meaningful measures for the centers and found it very difficult – most challenging is determining center's contribution to important benefits of clearing accidents more quickly or reducing congestion

***What advice would you offer to Alaska as they consider at statewide TOC?***

Notable responses include:

- Focus on public best interest
- Start small with successes and grow from there
- Integrate 511 and ITS control
- Engage regions – focus on their needs
- Advocate for statewide central system, as opposed to regional centers (significant efficiencies to be gained)
- Consider regional centers to support traffic management locally
- MUST have good relationship with state troopers and other government agencies
- Strong communication network is essential to successful operations
- Alaska would value a statewide center and once built would wonder how they got along without it in the past

## WEATHER RESPONSIVE TRAFFIC MANAGEMENT APPLICATIONS

A common theme that emerged among these states was an intention to expand their application of Weather Responsive Traffic Management (WRTM) strategies. WRTM involves the implementation of traffic advisory, control, and treatment strategies in direct response to or in anticipation of developing roadway and visibility issues that result from deteriorating or forecasted weather conditions. WRTM also includes using weather forecasting to provide proactive advisories and control strategies based on forecasts of weather conditions and not just the results of those conditions. The FHWA's Road Weather Management Program (RWMP) has, as one of its primary focus areas, been encouraging the development and implementation of WRTM strategies.

The specific WRTM strategies and the states that have implemented, or are implementing, them are shown in Table 5. Many of these are possible opportunities for Alaska to consider in both the near-term and long-term time horizons.

**Table 5. Weather Responsive Traffic Management (WRTM) Strategies**

<b>WRTM Strategy</b>	<b>Idaho</b>	<b>Wyoming</b>	<b>Utah</b>	<b>Washington</b>
Contracted Meteorologists in TOC		√	√	
Integration of weather information from multiple sources		√	√	√
Road weather conditions disseminated	√	√	√	√
Road weather forecasts disseminated		√	√	√
Variable speed limit control based on weather and road conditions		√	√	√
Avalanche detection/road closures			√	
Road weather mobile data collection	√	√	√	√
Use of MDSS capability, or mobile data collection, to support traveler information dissemination	√	√		
Citizen Reporting System to collect road conditions (and weather if appropriate)	√	√	√	
Weather based signal timing plans			√	

## STAKEHOLDER MEETING #1 SUMMARY

On February 19, 2014, a meeting was held in Anchorage to provide an overview of the needs assessment to stakeholders. A summary of the meeting discussion is included as Appendix C. The following stakeholders were in attendance:

Agency/Division/Section	Individual(s) Interviewed
<b>Alaska Department of Transportation and Public Facilities</b>	
Office of the Commissioner	Pat Kemp, <i>Commissioner</i>
	Kim Rice, <i>Deputy Commissioner</i>
	Dan Breedon, <i>Special Programs Manager</i>
Program Development	Jeff Ottesen, <i>Director</i>
	Murray Walsh, <i>Special Assistant</i>
Statewide Transportation Information Group <i>(attended by phone)</i>	Jack Stickel, <i>Transportation Information Group Manager</i>
	Jill Sullivan, <i>Transportation Data Programs Manager</i>
	Lisa Idell-Sassi, <i>Real-Time Systems Coordinator</i>
Statewide Design & Engineering Services <i>(attended by phone)</i>	Jeff Jeffers, <i>State Traffic &amp; Safety Engineer</i>
Central Region	Rob Campbell, <i>Region Director</i>
	Joel St. Aubin, <i>Region Design &amp; Construction Director</i>
	Randy Vanderwood, <i>Region Maintenance and Operations Chief</i>
	Tom Dougherty, <i>Region Construction Engineer</i>
	Ken Morton, <i>Region Pre-Construction Engineer</i>
	Jennifer Witt, <i>Region Chief of Planning and Administration</i>
	Scott Thomas, <i>Region Traffic and Safety Engineer</i>
	Val Rader, <i>Region Signal Safety Engineer</i>
Jill Reese, <i>Region Public Information Officer</i>	
<b>Alaska Department of Public Safety</b>	
Division of Alaska State Troopers	Captain Randy Hahn, <i>Division Headquarters</i>
	Lieutenant David Hanson, <i>Division Headquarters</i>
	Major Matt Leveque, <i>Deputy Director</i>
<b>Municipality of Anchorage</b>	
Community Development, Transportation Planning	Vivian Underwood, <i>Senior Transportation Planner</i>

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## CONCLUSIONS AND RECOMMENDATIONS

In conclusion, the needs assessment has demonstrated that there is a need for an Alaska Statewide Transportation Operations Center. However, the ultimate decision to actually build and operate a center is dependent on answers to the following questions:

- What functions and activities are deemed most important for the STOC to perform (effectively determining the “type” of center to focus development activities)? The various alternatives will need to be evaluated in the process of answering this question.
- What existing infrastructure can and should be incorporated into a center?
- What partners are interested in participating and sharing the cost and operations of the center?
- What possible location sites exist to build or establish a center?
- What other infrastructure is needed or desired as part of center development?

Additional questions will need to be addressed following the answers to the questions above, including:

- What is the concept of operations for the center?
- What are the staffing requirements of the center?
- How will the center be funded and staffed (both initially and operationally)?
- What will be the institutional structure of the center and how will it be managed?
- What are the physical size, location, and cost of the center?

These, and possibly other questions, need to be answered in future center exploration activities, should the department choose to proceed to the next step of TOC development.

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Appendix A  
Stakeholder Interview  
Template



# ADOT&PF TOC Needs Assessment

## Stakeholder Interview Guide

*Name:*

*Organization:*

*Title:*

**1. What is your primary function or contribution to transportation operations in Alaska (please check all that apply):**

- Traffic Operations
- Maintenance Operations
- Traveler Information
- Incident Management
- Safety Systems
- Transit Systems
- Law Enforcement/EMS
- Other, specify

**Further description of function or contribution:**

**2. Please describe your current operational duties and how you use or disseminate information.**

**Topics to include:**

- a. Infrastructure
- b. Data gathering
- c. Systems utilization
- d. Information dissemination
- e. Coordination/interaction with other organizations

**3. To accomplish your primary operational function(s), what do you need to more effectively or efficiently perform your job? Possible categories include:**

- a. Institutional Support
- b. Coordination with other functions
- c. Data gathering
- d. Communications
- e. Data sharing
- f. Operations improvements
- g. Traveler information dissemination
- h. Other

**4. Of these needs, which are most important for your operations?**

**5. What are your thoughts regarding a statewide transportation operations center?**

- a. Topics to cover:
- b. Concept: Supportive or not? Why?
- c. If supportive, please provide your thoughts on the following:
  - Benefits of a TOC?
  - Challenges?/Constraints?
  - Collocation?
  - Virtual connection?
  - Likely location(s)?
  - Role of existing infrastructure?

# ADOT&PF TOC Needs Assessment

## Other States TOC Interview Guide

Date:

State DOT:

Individual(s) Interviewed:

### 1. What functions are performed in your TOC/TMC (check all that apply)?

- Conduct incident management?
- Collect/integrate/disseminate road weather conditions and/or forecasts?
- Conduct traffic operations/manage traffic signals?
- Dispatch emergency services? State, local, fire, EMS?
- Dispatch maintenance forces?
- Disseminate pre-trip and en-route traveler information?
- Manage warning and active safety systems?
- Support goods movement, and/or commercial vehicle tracking/inspections?
- Hazardous material tracking and routing?
- Toll road management?
- Other, specify \_\_\_\_\_
- Other, specify \_\_\_\_\_

Additional Description:

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**2. What data do you collect, integrate, and store/maintain in your TOC/TMC (check all that apply)?**

- Traffic data (volume, speed, etc.)
- Incidents
- Road weather conditions and forecasts
- Variable speed limits
- Construction projects
- Maintenance operations
- Traveler information
- Other, specify \_\_\_\_\_

Additional Description:

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**3. What organizations are represented in your TOC/TMC?**

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**4. Why/How did these organizations decide to work together in your TOC/TMC?**

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**5. Are there other regional TMCs in your state that you interact with? What is the nature of your coordination and sharing of information?**

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6. What funding sources did you use to initiate your facility and you now use to maintain your TOC/TMC?

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7. What do YOU think is the most significant benefit your TOC/TMC provides?

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8. What do you think your executive management believes is the most significant benefit your TOC/TMC provides?

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9. What do you believe are national best practices being performed in your TOC/TMC?

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10. Have you conducted benefit/cost studies that support your TOC/TMC or other technologies you have deployed? If so, can you share your results?

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11. What advice would you offer to Alaska as they consider a statewide TOC?

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Appendix B  
Other STOC Interview Notes



## ADOT&PF TOC Needs Assessment

### Other States TOC Interview Guide

Date: 12/3/13

State DOT: Idaho

Individual(s) Interviewed: Bob Koeberlein (ITD), Tony Ernest (ITD), Chris Loffer (DHW)

#### 1. What functions are performed in your TOC/TMC (check all that apply)?

- Conduct incident management?
- Collect/integrate/disseminate road weather conditions and/or forecasts? – *Not forecasts yet – future plans.*
- Conduct traffic operations/manage traffic signals?
- Dispatch emergency services? State, local, fire, EMS? – *mainly EMS statewide.*
- Dispatch maintenance forces?
- Prepare regular meteorological road weather forecasting
- Disseminate pre-trip and en-route traveler information?
- Manage warning and active safety systems?
- Coordination with other agencies and/or neighboring states
- Control ITS equipment
- Support goods movement, and/or commercial vehicle tracking/inspections?
- Hazardous material tracking and routing? – *track mega loads.*
- Toll road management?
- Other, specify *Amber Alerts*

#### Additional Description:

- The State Communications Center, run by Dept of Health and Welfare is ITDs center.
- Unique in that they are the communications, reporting, and point of contact for 20-25 different agencies statewide. They are collocated with Idaho State Police dispatch center.
- Very close working relationship with Homeland Security, FEMA, NWS, etc.
- Perform 511 system input for the statewide road condition report.
- Don't do any forecasting currently, but working on using RWIS to do forecasting.
- Not doing any signal timing, ACHD or ITD districts do this.

**2. What data do you collect, integrate, and store/maintain in your TOC/TMC (check all that apply)?**

- Traffic data (volume, speed, etc.)
- Incidents
- Road weather conditions and forecasts – *not forecasts, Get scheduled reports twice daily and then as needed. Save the road condition reports for about a year.*
- Variable speed limits
- Road closures
- Construction projects
- Maintenance operations
- Traveler information
- Other, specify *Point of contact to ensure federal mandate to provide real time road condition reporting.*

Additional Description:

- Commercial vehicle restrictions

**3. What organizations are represented in your TOC/TMC?**

- State Communications, ISP, and DOT (through interagency agreement fund staff in center to provide DOT services.

**4. What are your staffing levels in the TOC/TMC (employees and contracted staff)?**

- Total center – 3 staff (Day), 2 staff (night), 3 staff weekends.
- DOT is 78% of the center's workload. DOT funds 2.5 full time equivalent staff.

**5. Why/How did these organizations decide to work together in your TOC/TMC?**

- H&W and ISP – Governor mandate.
- ITD in mid 90's. Major event on interstate didn't get reported at night. Started with after-hours dispatching, then through successes went to full time. When 511 was initiated in 2005 it was natural for the center to take on the data entry since they were in contact with the maintenance forces already. Will take calls from public and other agencies to alert DOT of roadway issues.
- Maintenance dispatch – Public calls 911, 911 dispatch calls Comm center, Comm center relays info to ITD maintenance

**6. Are there other regional TMCs in your state that you interact with? What is the nature of your coordination and sharing of information?**

- Yes – ACHD in Boise area (county highway district). Share control of some ITS equipment and camera images. Two separate traveler information websites that are linked.

- Also, coordinate with Spokane, SLC, and ODOT centers.

**7. What funding sources did you use to initiate your facility and you now use to maintain your TOC/TMC?**

- Federal Aid (ITS capital and operations).

**8. What do YOU think is the most significant benefit your TOC/TMC provides?**

- 24/7 service provided by highly trained and experienced, professional staff
- High level of customer service (accurate and timely traveler information)
- Coordination between diverse agencies (ITD and emergency response)

**9. What do you think your executive management believes is the most significant benefit your TOC/TMC provides?**

- Director – Supports all three departmental strategic goals: Mobility, safety, and economic opportunity.

**10. What do you believe are national best practices being performed in your TOC/TMC?**

- Communication point of contact for a lot of agencies
- Horizontal integration of agencies (the opportunity for people to communicate with one another)

**11. Have you conducted benefit/cost studies that support your TOC/TMC or other technologies you have deployed? If so, can you share your results?**

- Not really. Very difficult to quantify benefits of an informed public.

**12. What advice would you offer to Alaska as they consider a statewide TOC?**

- Focus on public best interest
- Start with small successes and grow from there
- Consider integration of 511 and ITS control in the center
- Engage regions – focus on their needs

## ADOT&PF TOC Needs Assessment

### Other States TOC Interview Guide

Date: 12/4/13

State DOT: Wyoming

Individual(s) Interviewed: Vince Garcia

#### 1. What functions are performed in your TOC/TMC (check all that apply)?

- Conduct incident management?
- Collect/integrate/disseminate road weather conditions and/or forecasts?
- Conduct traffic operations/manage traffic signals? – *VSL only. Don't do traditional traffic ops or traffic signal management from the center.*
- Dispatch emergency services? State, local, fire, EMS?
- Dispatch maintenance forces? – *Centralized dispatch from center. Foremans manage crews but TMC dispatches in terms of where to go and what to do.*
- Prepare regular meteorological road weather forecasting? – *Contracted meteorologists forecast wind, visibility, and surface conditions throughout the state.*
- Disseminate pre-trip and en-route traveler information? – *DMS, HAR, web cameras, 511, and traveler information website; all from center.*
- Manage warning and active safety systems?
- Coordination with other agencies and/or neighboring states
- Control ITS equipment
- Support goods movement, and/or commercial vehicle tracking/inspections? – *Do track nuclear waste shipments.*
- Hazardous material tracking and routing?
- Toll road management?
- Other, specify *Manage Variable Speed Limit (VSL) system*
- Other, specify *Manage Citizen Reporting System – 400 trained citizens call in to the center with road conditions.*

Additional Description:

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**2. What data do you collect, integrate, and store/maintain in your TOC/TMC (check all that apply)?**

- Traffic data (volume, speed, etc.) – *not traditional traffic data, but VSL data.*
- Incidents
- Road weather conditions and forecasts
- Variable speed limits – *all history*
- Road closures
- Construction projects – *all managed from TMC. Call weekly to get report from District managers.*
- Maintenance operations
- Traveler information
- Other, specify *Every phone call and radio calls kept 2-5 years.*

Additional Description:

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**3. What organizations are represented in your TOC/TMC?**

- Wyoming Highway Patrol (part of WYDOT organizationally)
- DOT (ITS), and Public Affairs (has seat but rarely there)

**4. What are your staffing levels in the TOC/TMC (employees and contracted staff)?**

- Highway Patrol – 40 positions; 24/7 operation
- DOT (ITS) – 20 full time positions +7 seasonal (winter) + 1 contractor meteorologist. Also 24/7 operation. This is only 3 more positions beyond what Districts had already – do a lot more.

**5. Why/How did these organizations decide to work together in your TOC/TMC?**

- HP needed new facility. DOT agreed to centralize operations. \$1.7m Fed grant. Great partnership.

**6. Are there other regional TMCs in your state that you interact with? What is the nature of your coordination and sharing of information?**

- NO

**7. What funding sources did you use to initiate your facility and you now use to maintain your TOC/TMC?**

- \$1.7m grant paid for equipment and communications. They lease space.
- CMAQ funds are used to operate the center

- 8. What do YOU think is the most significant benefit your TOC/TMC provides?**
- Coordination and consistency across the state
  - ITS device management – big benefits
  - Expanding operations each year – coordinate with homeland security, Gov's office, emergency management for the state, Dept of Health, etc.

- 9. What do you think your executive management believes is the most significant benefit your TOC/TMC provides?**

- Same

- 10. What do you believe are national best practices being performed in your TOC/TMC?**

- Variable speed limit system – 5 sites statewide
- Outreach to commercial vehicle operators to get them what they need to operate efficiently and safely
- Have own IT folks to support the center – don't rely on DOT IT.

- 11. Have you conducted benefit/cost studies that support your TOC/TMC or other technologies you have deployed? If so, can you share your results?**

Yes, and will forward studies:

1. 50 fewer crashes per year due to VSL operations
2. Minimum of \$8m/year savings due to center operation

- 12. What advice would you offer to Alaska as they consider a statewide TOC?**

Advocate for centralized system – its more efficient. Not originally, but now fully supported by maintenance function.

## ADOT&PF TOC Needs Assessment

### Other States TOC Interview Guide

Date: 12/6/13

State DOT: Utah

Individual(s) Interviewed: Glenn Blackwelder

#### 1. What functions are performed in your TOC/TMC (check all that apply)?

- Conduct incident management? *Have incident management teams in each region. Are not dispatched from center. Dispatched by highway patrol. TMC can serve coordination role.*
- Collect/integrate/disseminate road weather conditions and/or forecasts?
- Conduct traffic operations/manage traffic signals?
- Dispatch emergency services? State, local, fire, EMS? *State DPS dispatch for Salt Lake City and Utah County. Other centers throughout state handle other areas.*
- Dispatch maintenance forces? *Can call and request/make aware, but no authority to dispatch. Meteorologists in contact with maintenance stations*
- Prepare regular meteorological road weather forecasting
- Disseminate pre-trip and en-route traveler information? *Biggest function*
- Manage warning and active safety systems? – *VSL in Parley's Canyon to be activated this month*
- Coordination with other agencies and/or neighboring states - *Utah Geological Agency, DEQ, local agencies on signal timing, make connections between info and agencies*
- Control ITS equipment
- Support goods movement, and/or commercial vehicle tracking/inspections? – *provide road weather information and restrictions*
- Hazardous material tracking and routing?
- Toll road management? - *High Occupancy TOLL lanes in I-15*
- Other, specify - *Serve as UDOT EOC*
- Other, specify – *HAR, Amber alerts, Tracking of construction closures*

Additional Description:

- Also, issue Amber Alerts and manage fiber optic inventory and network management statewide.

**2. What data do you collect, integrate, and store/maintain in your TOC/TMC (check all that apply)?**

- Traffic data (volume, speed, etc.), archive data on-site
- Incidents
- Road weather conditions and forecasts
- Variable speed limits - *to start this Dec*
- Road closures – *Incident related (incl Wx) tracked separate from construction closure. Not necessarily getting all standard incidents*
- Construction projects
- Maintenance operations
- Traveler information
- Other, specify - *Toll data for HOT lanes (tags, clean fuel vehicles), ITS asset management*

Additional Description:

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**3. What organizations are represented in your TOC/TMC?**

- DOT (ITS) and Highway Patrol (SLC and Utah County)
- Includes DOT traffic engineering located in center

**4. What are your staffing levels in the TOC/TMC (employees and contracted staff)?**

- Operators – 24/7 operation. 3 shifts of 3 staff. 1 overnight operator. Traveler information operator. 11 total. Use bonus shifts, allows operators to pick up extra hours. Could get by on 1 operator most of time but having more allows flexibility to accommodate sick time, vacation.
- 13 operators plus 10 weather forecasters (8 of them under contract)

**5. Why/How did these organizations decide to work together in your TOC/TMC?**

- Always planned, but inspired (and funded) by the 2002 winter Olympics. Needed a transportation (traffic and transit) command center to deal with significant traffic and need to move people during the Olympics. Also, acted as the primary dissemination point for traveler information. Made sense to include Highway Patrol. Benefits realized has maintained the center.

**6. Are there other regional TMCs in your state that you interact with? What is the nature of your coordination and sharing of information?**

- Orem, Provo, Salt Lake City have own centers– mostly signal mgmt.
- Coordination with these centers. Have common software. Coordinate during major events
- Rural highway and traveler information statewide all come from the center.

**7. What funding sources did you use to initiate your facility and you now use to maintain your TOC/TMC?**

- Have an operating budget through transportation commission. State funding for ITS deployment. Some federal funds are used for ITS deployment enhancements. Work with MPO for additional deployment funds.

**8. What do YOU think is the most significant benefit your TOC/TMC provides?**

- Operational benefits of traffic congestion relief and response to incidents (see below)
- Maintenance labor and material savings from good weather forecasts (see below)
- Well informed travelers!! – accurate and timely information from traveler info systems
- Central point of contact and coordination during incidents and events
- 24/7 contact and support to other agencies (expanding every year)

**9. What do you think your executive management believes is the most significant benefit your TOC/TMC provides?**

Same

**10. What do you believe are national best practices being performed in your TOC/TMC?**

- Weather forecasting in the center supporting maintenance and traveler information
- Traffic signal operations
- Incident management program and DOTs strong relationship with Highway Patrol
- Traffic App with road weather forecasting as a way to disseminate traveler information

**11. Have you conducted benefit/cost studies that support your TOC/TMC or other technologies you have deployed? If so, can you share your results?**

- \$10m/year savings due to reduced traffic delays
- 10:1 benefit cost ratio due to maintenance operations savings (salt and labor) with better weather forecasting
- Hard benefits of having informed travelers is hard to come by – but, DOT PR is invaluable.
- Fiber optic communications management – trading with telecoms to meet DOT needs

**12. What advice would you offer to Alaska as they consider a statewide TOC?**

- Statewide (over regional) centers makes the most sense – staffing efficiencies and one point of contact for entire state
- 24/7 staffing opens up a lot of side benefits
- MUST have good working relationship with emergency response agency (State Highway Patrol) and local governments (municipalities)
- Communication network is essential to successful operations

## ADOT&PF TOC Needs Assessment

### Other States TOC Interview Guide

Date: 12/18/13

State DOT: WSDOT

Individual(s) Interviewed: Bill Legg

#### 1. What functions are performed in your TOC/TMC (check all that apply)?

- Conduct incident management?
- Collect/integrate/disseminate road weather conditions and/or forecasts?
- Conduct traffic operations/manage traffic signals? *Can adjust signals on State facilities, but only do so in special circumstances. Have access to local systems, but not control.*
- Dispatch emergency services? State, local, fire, EMS? *In Vancouver with state police collocated*
- Dispatch maintenance forces? *Operate as radio operations for maintenance.*
- Prepare regular meteorological road weather forecasting
- Disseminate pre-trip and en-route traveler information? *Significant following on Twitter. Live tweets generated by a person. Results in dialogue. Significant effort, but public appreciates it. A business decision.*
- Manage warning and active safety systems?
- Coordination with other agencies and/or neighboring states
- Control ITS equipment
- Support goods movement, and/or commercial vehicle tracking/inspections?
- Hazardous material tracking and routing? *Not really. Only during hazmat restrictions associated with tunnel fire suppression system maintenance.*
- Toll road management? *TMC sets toll rate for HOT lanes. Does not have roll in toll administration.*
- Other, specify *Ramp metering control*
- Other, specify *Twitter, Facebook and media relationship from centers – growing activity*

#### Additional Description:

- Spokane – Multi-agency center. Plan to do signal control on local network from that center.
- 6 regional centers all operate 24/7 – variety of structures to meet the needs of the region

**What data do you collect, integrate, and store/maintain in your TOC/TMC (check all that apply)?**

- Traffic data (volume, speed, etc.)
- Incidents, *Filled out in field, logged in TMC – RadioLog (statewide, web-based)*
- Road weather conditions and forecasts
- Variable speed limits
- Road closures
- Construction projects – *Regions have construction coordinators. Coordination information is not stored in center. Closures are logged in center.*
- Maintenance operations - *RadioLog*
- Traveler information
- Other, specify *Cameras, do not record.*

Additional Description:

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2. What organizations are represented in your TOC/TMC?
  - Vancouver – Collocated with State Patrol, Spokane – Collocated with local agencies
  - Currently building new, standalone TMC in Seattle, not collocating with State Police in that center. Not sure there is value in collocating with LE if it is just a seat.
3. What are your staffing levels in the TOC/TMC (employees and contracted staff)?
  - Run centers 24/7 because a lot of construction activity is at night. Become radio operations center at night.
  - Weekday staffing – two during day, one during night. Tacoma and Seattle, three during day, two at night.
4. Why/How did these organizations decide to work together in your TOC/TMC?

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5. Are there other regional TMCs in your state that you interact with? What is the nature of your coordination and sharing of information?

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6. What funding sources did you use to initiate your facility and you now use to maintain your TOC/TMC?
  - Funding with state funds. State traffic engineer (HQ) allocates operations budget to regional centers.

7. What do YOU think is the most significant benefit your TOC/TMC provides?
  - Meet public expectations to respond to incidents and report information. Can't do that without a center to own that responsibility.
  - ATM management in Seattle (advanced traffic management)
  - Radio operations and coordination of maintenance operations
8. What do you think your executive management believes is the most significant benefit your TOC/TMC provides?
  - Executive management believes in the value. Would have same response
9. What do you believe are national best practices being performed in your TOC/TMC?
  - If you build a center in an urban area, it is difficult to give the non-urban areas the attention they deserve (AZDOT example). Caution for Alaska. Will they end up needing a center in Fairbanks?
  - Worth looking at a public/private model. Contractor run centers.
10. Have you conducted benefit/cost studies that support your TOC/TMC or other technologies you have deployed? If so, can you share your results?
  - Easy to document work done/performance metrics (E.g., number of messages posted).
  - Difficult to determine benefit to public and direct impact of center on measures such as clearing incidents more quickly or reducing congestion. Don't have control over what is going on in the field. Disingenuous to claim sole responsibility for benefits.
11. What advice would you offer to Alaska as they consider a statewide TOC?
  - Can't see how a center wouldn't be useful to Alaska.

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Appendix C  
Stakeholder Meeting #1  
Summary



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# Meeting Agenda

## Alaska Statewide Transportation Operations Center

Needs Assessment

February 19, 2014

Large Conference Room ADOT&PF

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1. Introductions
2. Background and Needs Assessment Process
  - a. Background
  - b. Needs Assessment Process
  - c. Is there a need for a center? – Yes but concerns expressed
  - d. Types of centers
  - e. Lessons learned from other State TOCs
    - i. Questions and comments (*italics indicate project team's responses*)
      1. Jill Reese
        - a. Are the options of virtual and physical being looked into? Virtual seems to be the cheaper option based on set up costs. *Virtual will be considered. Use of existing/established buildings will be looked into if it is a physical implementation.*
      2. Randy Hahn
        - a. Statewide or regional TOCs each have drawbacks; why isn't statewide TOCs meeting local needs? *Didn't specifically ask that but it is possible to go back and ask; the regions are very different and require different needs*
      3. Scott Thomas
        - a. Alaska operates more regionally than statewide. *Possible to start small and build on successes; maybe start with statewide and move to regional*

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4. Val Radar

- a. It seems that more populous areas chose regional; we would want regional but we don't have enough people to man it. Less populous areas chose statewide to be more cost effective.
- b. Scott Thomas response – Alaska has a history of trying to do regional but it doesn't necessarily work.

5. Jeff, Juneau

- a. Why did the meteorologist (Utah's TOC) pay off? *Most of the savings was in maintenance costs; able to allocate resources based off of forecasts*
- b. Would that work in Alaska? We have far fewer information centers for weather. *We would need to look into it to see if it makes sense; having better forecasts would be beneficial; could also look into using the existing weather forecast resources and improving them*

6. Jack, Juneau

- a. Utah uses weather information differently. They put out information to stagger business let outs; traffic management is where the savings are coming from in part

7. Juneau

- a. Has there been any coordination with aviation or marine? *That topic will come up later but there hasn't been integrated elsewhere. They are more of an issue here than anywhere else. Generally, they are operated separately in other states.*
- b. Has there been any communication with Canada? Coordination with other states? Along I-90, etc? *No one that was interviewed coordinated with Canada but Wyoming coordinates with surrounding states, and there is coordination on I-90.*

8. Murray Walsh

- a. Are there relationships with Emergency Operations Center/Incident Management Centers? Do they drill

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together? *Yes, each state is different; generally traffic sends someone to EOC so there is a direct connection between the two.*

- b. Are there any examples of major incidents? *We didn't talk specifically about any but it is possible to go back and get more information.*

9. Lisa, Juneau

- a. Was Border Control interviewed? *No*

10. Dan

- a. There are well established connections between statewide Maintenance and Operations

11. Matt LeVeque

- a. This could be next generation 911, PSAP; we need to look ahead to next generations and data acceptance needs. *Three of the states interviewed have statewide networks that regions share.*
- b. Anchorage currently dispatches for Valdez, it would be good to look for interconnections.

f. Identified needs

3. Feedback on Needs Assessment

a. Randy Vanderwood

- i. Big thing that public wants is more accurate information. It is hard to get accurate information out with how 511 is working. Information could be more streamlined to get out to the public; more frequent, more accurate, and more current. It is difficult with the resources available.

b. Jack, Juneau

- i. There is a patent warning/cease and desist/patent infringement for mobile data collect. Be aware.

c. Jill Reese

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- i. There are a lot of complaints about not enough information about construction and maintenance; 511 is used for big construction and maintenance but not small lane closures and the like.
  - ii. Traffic cameras are popular. People would be able to see road conditions and make a decision whether or not to stay home. Cameras are a passive form of information sharing. Possibly put cameras on trucks to see how the roads are and what traffic is like. *Cameras are very popular with most streams being online. They give a sense of comfort; it is one thing to read about it, another thing to see it.*
- d. Rob Campbell
- i. Cameras and other passive ways of communication are more cost effective and people respond to them. We don't want maintenance working out on the road and having to call in and update 511.
  - ii. Incident response needs to be more active; needs to be able to adjust and inform. Incidents on Glenn Highway between Anchorage and the Mat-Su need to be a main focus; need some sort of incident response system.
- e. Kim Rice
- i. Train individuals outside of the department – drivers and users – to add information. Fastest way to disseminate information. *Wyoming has 400 trained people that call in and add information. They are working on an app that would go right to the TOC*
    - 1. Juneau
      - a. People could post on Facebook about traffic issues; it could come in handy if no one is working or checking
      - b. Jennifer Witt – We are talking no review, just adding information. *Wyoming has review of all information.*
      - c. Idaho has trained people adding information – could be a possible idea
    - ii. We need to educate the public and manage expectations; set, meet, and manage public expectations. People will want more information as we give them more.
- f. Randy Hahn

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- i. Project team captured all the concerns and information the Troopers presented and the priorities are really good. We need balanced/joint/coordinated priorities which we have.
    - ii. Need to look to the future – how do we get and push out information? We need to train public to go to one location to get updated information. A joint center with M&O, engineering, and others can produce more rapid response to address issues better
  - g. David Hanson
    - i. Fairbanks is working on multi-disciplinary training. We need to spearhead to get all entities working together
  - h. Scott Thomas
    - i. All treatments take care and feeding and money and people. Worried about developing a system with lots of manual feeding and costs and not having the funding or people for it. Automated system would be the best.
    - ii. Discussion about proactive over reactive approaches.
      - 1. DOT HQ is working on coordinating with the weather system to forecast and prepare for weather events.
      - 2. DOT is working on getting speed sensors; problem is maintaining them.
  - i. Tom
    - i. Wants a system with good and accurate information
  - j. Matt LeVeque
    - i. Troopers get calls asking about road conditions; cameras would be great.
    - ii. Need to keep up with public expectation – build what we can maintain.
  - k. Murray Walsh
    - i. Discussed the Richardson avalanche
      - 1. Jill Reese responded with how one person (Jeremy) was designated to keep everyone updated; need to maintain one gate keeper for all information.

- ii. Thoughts on anticipation of events? Ability to anticipate issues? *Many centers are doing that, ie meteorologists used to forecast weather events. There are efforts to be proactive as opposed to reactive. Speed is key signal of impending issues.*

I. Val Radar

- i. People call 911 to find out information and clog up emergency lines. Information needs to be coming from elsewhere and needs to be up to date.

m. Lisa, Juneau

- i. We want to reach out and market 511 but we need to improve the system first.
- ii. MOA isn't looking at collocating? Troopers are. *It is an opportunity we've mentioned but haven't discussed. Troopers are a very willing partner*

n. Jennifer Witt

- i. If we want to build on successes, cameras are really good options and they are currently being used. Need to maintain what we have and what works.
- ii. 511 isn't working for commuters. APD isn't using it. Set up is not done on the Anchorage side to be used effectively or at all.

o. Jill, Juneau

- i. Need to outline roles and responsibilities with this center – a formal document – identifying backups and standardizing inputs

4. 4 Major Themes from Stakeholder Comments/Feedback

- a. In favor of more passive data collection
- b. Want more interagency coordination – TOC can help with that
- c. ITS requires appropriate funding and investment
- d. Better public direction to the appropriate information

5. Decision Maker Session

- a. Review of stakeholder feedback
- b. Initial reactions on moving forward

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i. Questions and Comments

1. Commissioner

- a. Seward highway was the genesis of this project. Data signs were original desires
- b. Communications on the remote highways is important. With long, desolate roads how do we let people know the conditions.
- c. We need consistency. Parks highway is an issue; we go through APD but APD isn't up to date.
- d. Comes down to money. This is the optimal time with legislators in the Mat-Su and Girdwood.
  - i. This is going to be a project to trek along with
- e. Take control of portable information signs from APD. Use correct language based on sign language guidelines.
- f. Gain support by using words like "safety"
- g. What about adding cell towers?
  - i. Dan – There is a project out there with ETS but there has been some hold ups
- h. Last year was the lowest fatalities in a long time; attribute to the 3 E's??
  - i. Jeff Jeffers – Seeing a long term trend in reduced number of crashes; enforcement, enhanced emergency response, and education all played parts. Improvements to the roadway also helped.
  - ii. Randy Hahn – Caution on looking at one specific year; look at trends. It is a partnership between the Muni and the E's that is helping. There is a substantial amount of coordination.
  - iii. Matt LeVeque – Enforcement is perceived to be a bigger part but may not be accurate

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- iv. Scott Thomas – 2009 Safety Corridor Report shows when staff levels are up that is when crashes start to trend lower; higher enforcements is good.
  - i. Can we take some of the high priority streets off the high priority list?
    - i. Scott Thomas – Yes, report discusses which roadways are eligible
    - ii. Rob – want at least a 5-7 year trend before we take a roadway off the list.
  - j. What about schools on KBG?
    - i. Rob – can't make schools do anything off of their property
  - k. Where to get coverage for project? Need to evaluate all positions for efficiency and correct usage. PCN is more important than funding; what's the best use of PCN?
    - i. Jill, Juneau – Possibly share PCN with emergency contact? 511/911?
    - ii. *Next step is to look at alternatives which can include staffing levels. Specifics will come out of next stage*
    - iii. Randy Hahn – where do we get PCNs from? Can we get traction with net zero costs; can we use current contracts?
      - 1. Commissioner – We need to talk to legislators
  - l. Go forward with the process with the assumption that we can get somebody and figure it out. Do incremental steps.
2. Jeff, Juneau
- a. Somewhere someone knows what is going on, how do we get that information to the people?
  - b. What about variable speed signs?
    - i. Val – requires a lot of traffic to make it useful

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c. Federal aid is available

3. Jill, Juneau

- a. We need the department to support the project
- b. Need weekend and after hour operations. The majority of complaints are about these unmanned times
  - i. Maybe troopers help with weekend and after hours 511 information
- c. There is a lot of demand for 511 on Glenn, Seward, and Parks Highways
- d. If we don't go with TOC, what are the low hanging fruit that we can do?

4. Val Radar

- a. Project started to get portable information signs. Next big step – if we are going to try to give more information, it needs to be timely, accurate, and actionable.
- b. Who operates the center is a good discussion to have but it is too early to talk about it.

5. Rob

- a. A lot of heat for the Glenn from Anchorage to Mat-Su and Seward from Anchorage to Girdwood; these would be good areas to focus on to begin with – target areas to start our initiative.
- b. If a framework is developed and we could take it to APD, we may be able to get their support.
- c. Is there a realistic funding source?

6. Randy Hahn

- a. Troopers are hoping for a joint commitment. They want a dedicated center. Traffic portion is important but a smaller part over public safety. Troopers have funding and positions to go toward this effort.

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- i. Commissioner – we want to work hand and hand for this

7. Kim Rice

- a. What is the low hanging fruit?

- i. Jill, Juneau – want to tackle 511 issues