

Alaska Iways Architecture Update

Standards Technical Appendix

FINAL

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1 ITS STANDARDS TECHNICAL APPENDIX

1.1 Introduction

One of the primary benefits of the Alaska Iways Architecture is the identification of system interfaces that need to be standardized to ensure the interoperability of Intelligent Transportation Systems (ITS) technologies throughout the State. Ensuring interoperability will be critical to ensure the success of the Iways program and to maximize return on ITS investment.

This Appendix identifies the ITS Standards that are applicable to the system interconnects and architecture flows of Alaska's Iways Architecture as presented in Chapter 5: Physical ITS Architecture. Additionally, a brief overview of standards and standard development activities is provided.

1.1.1 What Are ITS Standards?

ITS standards are sets of communication protocols that dictate how ITS technologies will interconnect and what types of information and data will be shared. ITS standards promote system interoperability so a wide set of ITS technologies are available to deliver transportation services more efficiently and cost effectively.

The Transportation Equity Act for the 21st Century (TEA-21) requires the United States Department of Transportation (USDOT) to identify a set of critical ITS standards to focus USDOT's ITS efforts. To date, the USDOT has identified 96 ITS standards, developed by Standards Development Organizations (SDOs), that are applicable for addressing system interfaces documented in the National ITS Architecture. Of these standards, 88 have been approved and published, with the remaining 8 either approved but not published, in ballot, or under development.

1.1.2 Why Use Standards?

There are several benefits to using ITS standards. In general, ITS standards bring value to ITS projects by making available industry consensus and recommended approaches for integrating ITS technologies, so they become more interoperable. This enables agencies to make better use of their ITS investments, reaping more value from them. Specific benefits of using ITS standards are detailed below.

Reduced Dependency on Proprietary Technology - Before standards were developed and common place in the marketplace, agencies typically deployed proprietary ITS technologies. When these technologies needed to be replaced or updated, transportation agencies often had to replace the respective technology with a similar device manufactured by the same vendor. Therefore, the transportation agency had little choice when making decisions on how to replace or update their ITS technologies. This was not a significant issue if the transportation agency only operated one, or at most a few of the ITS technologies. In these instances, the technology could often be replaced with a new technology offered by a different vendor without significant cost. However, if the technology was part of a larger system, the agency

would almost certainly need to replace the technology with one made by the same vendor, as the cost of replacing the entire system would be significant.

Reduced System Life-cycle Costs and Improved Functionality – ITS standards promote competition between vendors which gives agencies a wider choice of technologies suitable for satisfying transportation needs. Additionally, as standards become more widely deployed, integration with other systems will be simplified. This will reduce costs as technologies need to be replaced, updated, or enhanced.

FHWA Final Rule/FTA Final Policy - In early 2001, the United States Department of Transportation (USDOT) announced the release of FHWA's Final Rule and FTA's Final Policy for applying the National ITS Architecture at the regional level. The Rule/Policy requires regions that are funding ITS projects through the National Highway Trust Fund, to develop a Regional ITS Architecture that conforms with the National ITS Architecture. Among other criteria, Section 940.9D of the Final Rule/Policy states that a Regional ITS Architecture, include the "identification of ITS standards supporting regional and national interoperability". Therefore, it is required that state DOTs identify applicable ITS standards before implementing any ITS project or aspect of a project that is funded through the National Highway Trust Fund.

Since the USDOT has not formally adopted any ITS standards, it is recommended that the ADOT&PF identify and consider ITS standards approved or under development by Standards Development Organizations (SDOs).

1.1.3 Standard Development Organizations

The National ITS Architecture includes ITS standards developed by the Standards Development Organizations listed below. Frequently, architecture flows from the National ITS architecture are mapped to several standards such as communications protocol, data dictionary, and message set standards, as all are required to share information between systems. In some cases, architecture flows are only mapped to communications protocol standards where supporting data dictionaries or message sets have not yet been created. It will be crucial for the ADOT&PF to monitor these standards, participate in the appropriate committees (e.g. committees focused on road weather information systems), and continually incorporate the new standards to their ITS planning and deployments.

- **AASHTO** (American Association of State Highway and Transportation Officials) – is a nonprofit, nonpartisan association representing highway and transportation departments in the 50 states, the District of Columbia and Puerto Rico.
- **ANSI** (American National Standards Institute) – focuses on commercial vehicle operations (CVO)-related system interfaces
- **APTA** (American Public Transportation Association) – focuses on transit center to other center and transit vehicle interfaces.
- **ASTM** (American Society for Testing and Materials) – focuses on roadside to vehicle and archived data management center interfaces
- **IEEE** (Institute of Electrical and Electronics Engineers) – focuses on emergence management center to other centers
- **ITE** (Institute of Transportation Engineers) – focuses on traffic management center to other centers and roadside signal controllers
- **NEMA** (National Electrical Manufacturers Association) – focuses on transportation center to other centers and roadside ITS elements.
- **SAE** (Society of Automotive Engineers) – focuses on traveler information, such as information service provider interfaces, vehicle interfaces, and location referencing

1.2 Standards Development Process

ITS standards pass through four (4) phases from initial development through adoption by the USDOT. In the initial development phase, the SDOs coordinate the development of the standard. The SDO committee writes and documents the technical aspects of the standard. The standards then go through a balloting process, where committee or working group members review the technical merits of the standards. Standards that have passed all of the necessary ballots are approved. Approved standards are published by the SDO and made available for purchase.

In the second phase, the operation, correctness, and completeness of the standard is tested under real-world transportation operating conditions. In addition, the degree of interoperability between other standards is measured. Eventually, information about the performance of the standard is made available to the ITS community.

In the third phase, the standard matures, and vendors develop equipment that meets the standard (and then perhaps provides additional features based on proprietary solutions). Standardized components will lead to interoperability and interchangeability.

In the fourth and final stage, the USDOT will consider adopting an ITS standard through rulemaking if the standard has met, at a minimum, the following established criteria.

- The standard has been approved by a Standard Development Organization (SDO).
- The standard has been successfully tested in real world applications as appropriate.
- The standard has received a level of acceptance by the community served by the standard.
- Products exist to implement the standard.
- Adequate documentation exists to support the use of the standard.
- Training is available in the use of the standard.

These criteria are intended to produce technically and commercially viable ITS standards and equipment. To date, the USDOT has not adopted any standards; therefore, agencies are not explicitly required to use ITS standards. It is possible that the USDOT will adopt ITS standards from time to time over the next decade. ADOT&PF should continually monitor standards development activities and make appropriate decisions regarding the use of standards based on agency objectives and directives. Standards development activity can be monitored on the following website <http://www.standards.its.dot.gov>.

1.3 Strategic Directions for Implementing ITS Standards

Reviewing the following considerations, on a per-device and center-to-center basis, will help ADOT&PF decide when they should implement standards. ADOT&PF will eventually, like all agencies, adopt and implement ITS standards. The question for ADOT&PF is: *At which point in the maturity of the standards should they be implemented?* ADOT&PF must determine whether they wish to be early, mid- or late-adopters of standards approved or under development. To answer that question, ADOT&PF should review their skill set with respect to the standards and the impact of implementing (or not implementing) the standards on the State's long range plans. The risk to ADOT&PF decreases with maturity of the standard. In other words, it is relatively safe to incorporate approved and published ITS standards, however non-published ITS standards may change over time, so caution should be given when considering these standards. Regardless of whether or not standards have been approved and published or under some stage of development, the USDOT may or may not formally adopt standards. So there will always be some risk (although minimal if approved and published) that standards will be modified until the USDOT formally adopts the standard.

1.3.1 Ability to supply the needed skills to implement and operate.

ADOT&PF must ensure that they will have the skills to properly specify, test, integrate and operate standards-compliant systems. It is likely that a mix of in-house and consultant skills will be used (as is typical with other DOTs implementing ITS). Regardless, there must be adequate in-house staff skills to ensure that ADOT&PF is properly managing any procurement, and to help educate other in-house staff.

1.3.2 Importance of the particular standard (device) to ADOT&PF's long-range plans.

Even if a standard is very new (immature), ADOT&PF may decide to implement it if the particular device (or center-to-center) is important to ADOT&PF's long-range ITS plans. For example, ADOT&PF may at some point purchase a significant number of a particular device (as they have done with RWIS stations), or may be implementing center-to-center communications. Because these will require relatively large monetary outlays, ADOT&PF may wish to implement the latest, applicable ITS standards so the devices will not need to be completely modified or changed out in the future to meet standards. This approach will save money in the long-run as systems and equipment will not need to be changed out in subsequent years in order to meet standards.

A particular installation may also be the core of future integrated implementations. If this is the case, ADOT&PF should consider implementing ITS standards regardless of the level of maturity. Conversely, if an implementation is not important to long-range program objectives (as may be the case with a single device implementation, or adding a few devices to an existing system), and the ITS standard is not mature (and not required by USDOT), ADOT&PF need not implement standards-compliant devices.

1.3.3 Migrating Existing Devices to ITS Standards

Once ADOT&PF decides to deploy ITS standards-compliant devices and systems, the question of migrating existing devices comes into play. Only rarely, should all existing devices be replaced simply to migrate to ITS standards-compliant equipment. Only if the existing devices were somehow operationally in conflict with new devices should replacement be considered. Generally, replacement should occur as it would normally – at the end of the useful life of the device. For some newer devices (e.g. DMS), manufacturers may be able to replace the internal logic to upgrade devices to make them standards-compliant. This may be a viable option, depending on cost. ADOT&PF must also consider the maturity of the ITS standard in question when developing a migration plan. If ADOT&PF is implementing immature, or not fully approved, standards, they may wish to wait until the standard is revised or more mature (and more vendor devices are available) before beginning device migration.

1.3.4 Adopting Center-to-Center Standards Immediately

Center-to-center standards, such as TMDD, pose a potential exception to the implementation guidance set out above. For center-to-center applications, the project team suggests that center-to-center standards be implemented immediately, no matter what their form or maturity currently is. In the absence of any other option to help standardize center-to-center communications, ITS standards are the only choice. Implementing center-to-center ITS standards is no more straightforward than implementing standards in field devices. There are several decisions to be made regarding the technical means of implementing center-to-center standards (i.e. DATEX, XML, or CORBA), and staff must be knowledgeable regarding each applicable standard.

1.4 Real-Time System Management Program

Section 1201 of SAFETEA-LU established a Real-Time System Management (RTSM) Information Program to provide the capability to monitor, in real-time, the traffic and travel conditions of major highways in the United States. The intent of the program is to share specific types of collected data with state and local governments as well as the general public, in an overall effort to reduce congestion. It is the intent of the FHWA to require individual States to establish a real-time information program to reduce congestion through the provision of traffic and travel conditions information. States will be required to have a real-time information program in place within 2 years after the release of the RTSM Final Rule. To date the USDOT has not released its Final Rule so states are not yet required to implement real-time information programs; however, it is beneficial to incorporate guidance if applicable, so the risks associated with system development and implementation can be minimized. It is anticipated that the RTSM Final Rule will be released in late 2009 or early 2010.

In October 15, 2007, the USDOT released its publication of interim guidance on the Information Sharing Specifications and Data Exchange Formats for the Real-Time System Management Information Program. Additionally, on January 14, 2009 the USDOT released its (NPRM) concerning the RTSM. Together the interim guidance and the NPRM lay out to State and local governments the minimum parameters and requirements for making available and sharing real-time traffic and travel condition information and data. Within this guidance, a set of ITS standards were provided that address the functional specifications of the Real-Time Information Program. ADOT&PF should consider adopting these specifications for pertinent aspects of their Iways Program. To a large extent, many of the technical specifications of the RTIP overlap with the functional requirements elicited during Alaska Iways Architecture Update. However, the Alaska Iways Architecture Update, which preceded the development of this Technical Appendix, did not specifically pull out and address the RTIP. Therefore, in the future as additional ITS systems are considered for implementation, ADOT&PF should reference the standards identified in the interim guidance. For those overlapping interfaces, the standards identified in this technical appendix should be considered mutually agreeable with those identified in the interim guidance.

For additional information on the interim guidance on the Information Sharing Specification and Data Exchange Formats for the RTSM Information Program visit the following website.

<http://www.setonresourcecenter.com/register/2007/Oct/15/58347A.pdf>

For additional information on the RTSM Information Program NPRM visit the following website.

<http://edocket.access.gpo.gov/2009/pdf/E9-392.pdf>

For additional information on the RSTM, including implementation requirements, please reference Section 6.3 of Chapter 6: ITS Implementation of the Alaska Iways Architecture.

1.5 Identification of Applicable ITS Standards

ITS standards applicable to Alaska Iways program can be derived from the ITS element interconnect and architecture flows documented in the Physical ITS Architecture Chapter of Alaska's Iways Architecture. Tables 1-4 provide a summary of ITS standards applicable to the Alaska Iways Architecture. Depending on the table, applicable ITS standards are organized by source ITS element, architecture flows, or SDO.

Table 1:
Applicable ITS Standards by Source ITS Element

Source Element	Standard Document ID																										
	ITE TMDD 2.1	NTCIP C2C	NTCIP C2F	NTCIP 1201	NTCIP 1202	NTCIP 1203	NTCIP 1204	NTCIP 1205	NTCIP 1206	NTCIP 1208	NTCIP 1209	NTCIP 1210	NTCIP 1211	ANSI TS813	APTA TCIP-S-001 3.0.0	ASTM WK7604	ASTM E2468-05	DSRC 915MHz	DSRC 5GHz	IEEE IM	IEEE1455-1999	IEEE 1570-2002	ATIS Low Bandwidth	ATIS General Use	MayDay	SAE J2735	
ARRC Dispatch		•																		•							
Center/ 511 (phone and web)		•																						•	•		
Center/ ADOTPF Traffic and Safety Offices			•	•	•						•	•			•												
Center/ AMHS Dispatch and Communications		•																									
Center/ AMHS Website		•																						•	•		
Center/ Anton Anderson Tunnel Control System	•	•	•	•	•			•		•		•	•								•						
Center/ APD Headquarters and Dispatch	•	•	•	•		•															•						
Center/ Avalanche Detection System		•	•	•				•		•																	
Center/ Bridge Design Section Offices		•																•									
Center/ Bridge Management System		•																									
Center/ Bridge Scour System			•																								
Center/ Commercial Vehicle Operations Offices		•												•							•						
Center/ Computerized Materials and		•																									
Center/ Condition Acquisition and Reporting System	•	•															•				•				•		
Center/ Division of Tourism Website		•																						•	•		
Center/ EMS Dispatch Centers (Placeholder)	•	•																			•						
Center/ HazMat		•															•				•						
Center/ Highway Analysis System	•	•														•	•										
Center/ Highway Data Weather Portal		•																									
Center/ Highway Database Section Office			•	•							•																
Center/ International Border System																		•				•					
Center/ Law Enforcement Data Archives	•	•																									
Center/ Law Enforcement Dispatch	•	•	•	•				•		•					•	•	•				•						
Center/ Maintenance Management System		•																									
Center/ MOA Emergency Operations Center	•	•		•								•									•						
Center/ MOA Integrated Transportation Operations and Communications Center	•	•	•	•	•	•	•	•	•	•	•	•	•			•	•				•				•		
Center/ MOA Maintenance Dispatch Office	•	•																			•						
Center/ MOA Signal Control			•	•	•			•		•		•	•														
Center/ Motor Carrier Administrative Systems																		•									

Source Element	Standard Document ID																									
	ITE TMDD 2.1	NTCIP C2C	NTCIP C2F	NTCIP 1201	NTCIP 1202	NTCIP 1203	NTCIP 1204	NTCIP 1205	NTCIP 1206	NTCIP 1208	NTCIP 1209	NTCIP 1210	NTCIP 1211	ANSI TS813	APTA TCIP-S-001 3.0.0	ASTM WK7604	ASTM E2468-05	DSRC 915MHz	DSRC 5GHz	IEEE IM	IEEE1455-1999	IEEE 1570-2002	ATIS Low Bandwidth	ATIS General Use	MayDay	SAE J2735
Center/ MSCVE Offices			•	•		•																				
Center/ National Weather Service Offices		•															•									
Center/ Pavement Management System	•	•														•	•									
Center/ Regional Maintenance Stations	•	•	•	•			•	•		•										•						
Center/ SEPP	•	•																								
Center/ State Emergency Coordination Center		•																		•						
Center/ Transit Agency Dispatch (Placeholder)		•													•											
Center/ Transit Agency Websites		•																					•	•		
Center/ Tunnel Control System		•	•	•	•			•		•	•	•	•						•							
Center/ Vessel Tracking System		•																								
Center/ Web-Based Electronic Registration System (WeB CAT)																	•									
Emergency Alert System		•																								
Field/ Automated Bridge Anti-icing			•	•			•																			
Field/ Automatic Traffic Data Recorders			•	•							•															
Field/ AVI/WIM																		•			•					
Field/ Bridge Scour Sensors			•	•																						
Filed/ Border Data collection System																		•			•					
Field/ Cameras (at AMHS Terminals)				•				•		•					•											
Field/ Cameras (at RWIS)			•	•				•		•																
Field/ Cameras (MOA)			•	•				•		•																
Field/ Highway Advisory Radio			•	•		•																				
Field/ Integrated Roadside Operations Computer																		•			•					
Field/ Permanent Dynamic Message Signs (Anchorage)			•	•		•																				
Field/ Permanent Dynamic Message Signs (Permanent @ FOX Station)			•	•		•																				
Field/ Permanent Dynamic Message Signs (Port of Anchorage)			•	•		•																				
Field/ Remote Video Monitoring System			•	•				•		•																
Field/ Road Weather Information Systems (RWIS)	•	•	•	•		•			•		•	•														
Field/ Seismic Sensors		•	•	•				•		•																
Field/ Traffic Detectors		•			•							•														
Field/ Traffic Signal Controllers			•	•	•							•														
Field/ Train Signal System	•	•	•	•								•	•													
Field/ Train Whistle Noise Reduction																							•			

Source Element	Standard Document ID																									
	ITE TMDD 2.1	NTCIP C2C	NTCIP C2F	NTCIP 1201	NTCIP 1202	NTCIP 1203	NTCIP 1204	NTCIP 1205	NTCIP 1206	NTCIP 1208	NTCIP 1209	NTCIP 1210	NTCIP 1211	ANSI TS813	APTA TCIP-S-001 3.0.0	ASTM WK7604	ASTM E2468-05	DSRC 915MHz	DSRC 5GHz	IEEE IM	IEEE1455-1999	IEEE 1570-2002	ATIS Low Bandwidth	ATIS General Use	MayDay	SAE J2735
Sensors																										
Field/ Weather and Pavement Sensors (Military Bases)		•															•									
Field/ Weather and Pavement Sensors (NWS)		•																								
Field/ Weigh and Border Station Roadside and Handheld Equipment																	•				•					
General Public Vehicle																										•
Regional 911 System (Placeholder)		•																			•					•
Travelers/ Personal Communications/Computing Devices (en-route)		•																						•		•
Travelers/ Personal Communications/Computing Devices (pre-trip)		•																						•		
Vehicle/ Commercial Vehicle On-Board Systems																		•								
Vehicle/ EMS Vehicle On-board Systems				•								•						•	•							
Vehicle/ Ferries On-board Systems															•				•							•
Vehicle/ Law Enforcement Vehicle On-board Systems				•								•						•	•							
Vehicle/ Maintenance vehicle On-Board Systems																			•							
Vehicle/ Transit Vehicle On-board Systems (Placeholder)				•								•			•			•	•							
Weather Prediction System		•	•	•	•		•					•														

Table 2:
Applicable ITS Standards by Standard Development Organization

SDO	Document ID	Title	Type
AASHTO/ITE	ITE TMDD 2.1	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC)	Message/Data
AASHTO/ITE/NEMA	NTCIP C2C	NTCIP Center-to-Center Standards Group	Group
AASHTO/ITE/NEMA	NTCIP C2F	NTCIP Center-to-Field Standards Group	Group
AASHTO/ITE/NEMA	NTCIP 1201	Global Object Definitions	Message/Data
AASHTO/ITE/NEMA	NTCIP 1202	Object Definitions for Actuated Traffic Signal Controller (ASC) Units	Message/Data
AASHTO/ITE/NEMA	NTCIP 1203	Object Definitions for Dynamic Message Signs (DMS)	Message/Data
AASHTO/ITE/NEMA	NTCIP 1204	Object Definitions for Environmental Sensor Stations (ESS)	Message/Data
AASHTO/ITE/NEMA	NTCIP 1205	Object Definitions for Closed Circuit Television (CCTV) Camera Control	Message/Data
AASHTO/ITE/NEMA	NTCIP 1206	Object Definitions for Data Collection and Monitoring (DCM) Devices	Message/Data
AASHTO/ITE/NEMA	NTCIP 1208	Object Definitions for Closed Circuit Television (CCTV) Switching	Message/Data
AASHTO/ITE/NEMA	NTCIP 1210	Field Management Stations (FMS) - Part 1: Object Definitions for Signal System Masters	Message/Data
AASHTO/ITE/NEMA	NTCIP 1211	Object Definitions for Signal Control and Prioritization (SCP)	Message/Data
AASHTO/ITS/NEMA	NTCIP 1209	Data Element Definitions for Transportation Sensor Systems (TSS)	Message/Data
ANSI	ANSI TS813	Electronic Filing of Tax Return Data	Message/Data
APTA	APTA TCIP-S-001 3.0.0	Standard for Transit Communications Interface Profiles	Message/Data
ASTM	ASTM WK7604	Standard Specifications for Archiving ITS-Generated Traffic Monitoring Data	Message/Data
ASTM	ASTM E2468-05	Standard Practice for Metadata to Support Archived Data Management Systems	Other
ASTM	DSRC 915MHz	Dedicated Short Range Communication at 915 MHz Standards Group	Group
ASTM/IEEE/SAE	DSRC 5GHz	Dedicated Short Range Communication at 5.9 GHz Standards Group	Group
IEEE	IEEE IM	Incident Management Standards Group	Group
IEEE	IEEE 1455-1999	Standard for Message Sets for Vehicle/Roadside Communications	Message/Data
IEEE	IEEE 1570-2002	Standard for the Interface Between the Rail Subsystem and the Highway Subsystem at a Highway Rail Intersection	Message/Data
SAE	ATIS Low Bandwidth	Advanced Traveler Information Systems (ATIS) Bandwidth Limited Standards Group	Group
SAE	ATIS General Use	Advanced Traveler Information Systems (ATIS) General Use Standards Group	Group
SAE	Mayday	On-board Vehicle Mayday Standards Group	Group

Table 3:
Applicable ITS Standards by Architecture Flows in the Alaska Iways Architecture

Flow Name	Standard Title	Source Element	Destination Element
alarm notification	Standard for Transit Communications Interface Profiles	Field/ Cameras (at AMHS Terminals)	Center/ Law Enforcement Dispatch
alert notification	NTCIP Center-to-Center Standards Group	Center/ Condition Acquisition and Reporting System Center/ Law Enforcement Dispatch Center/ MOA Emergency Operations Center Center/ MOA Integrated Transportation Operations and Communications Center	Center/ 511 (phone and web) Center/ MOA Integrated Transportation Operations and Communications Center Center/ Transit Agency Dispatch (Placeholder) Center/ Transit Agency Dispatch (Placeholder) Center/ Condition Acquisition and Reporting System Center/ Regional Maintenance Stations
alert notification coordination	NTCIP Center-to-Center Standards Group	Center/ EMS Dispatch Centers (Placeholder) Center/ Law Enforcement Dispatch Center/ MOA Emergency Operations Center Center/ MOA Integrated Transportation Operations and Communications Center Center/ State Emergency Coordination Center	Center/ MOA Emergency Operations Center Center/ MOA Integrated Transportation Operations and Communications Center Center/ State Emergency Coordination Center Center/ EMS Dispatch Centers (Placeholder) Center/ Law Enforcement Dispatch Center/ Law Enforcement Dispatch
alert status	NTCIP Center-to-Center Standards Group	Center/ Anton Anderson Tunnel Control System	Center/ MOA Integrated Transportation Operations and Communications Center
alerts and advisories	NTCIP Center-to-Center Standards Group	Center/ Avalanche Detection System Center/ Condition Acquisition and Reporting System Emergency Alert System	Center/ Regional Maintenance Stations Center/ Law Enforcement Dispatch Center/ AMHS Dispatch and Communications Center/ Commercial Vehicle Operations Offices Center/ EMS Dispatch Centers (Placeholder) Center/ Law Enforcement Dispatch Center/ MOA Emergency Operations Center Center/ MOA Integrated Transportation Operations and Communications Center Center/ MOA Maintenance Dispatch Office Center/ Regional Maintenance Stations Center/ State Emergency Coordination Center Center/ Transit Agency Dispatch (Placeholder)
archive analysis requests	NTCIP Center-to-Center Standards Group	Field/ Seismic Sensors	Center/ Regional Maintenance Stations
archive analysis results	NTCIP Center-to-Center Standards Group	Travelers/ Personal Communications/Computing Devices (en-route) Center/ Pavement Management System	Center/ Highway Analysis System Travelers/ Personal Communications/Computing Devices (en-route) Travelers/ Personal Communications/Computing Devices (pre-trip)

Flow Name	Standard Title	Source Element	Destination Element
archive coordination	NTCIP Center-to-Center Standards Group	Center/ Bridge Management System	Center/ Maintenance Management System
		Center/ Condition Acquisition and Reporting System	Center/ Highway Analysis System
		Center/ Highway Analysis System	Center/ Condition Acquisition and Reporting System
			Center/ Highway Data Weather Portal
			Center/ Maintenance Management System
			Center/ Highway Data Weather Portal
archive requests	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC)	Center/ Law Enforcement Data Archives	Center/ Law Enforcement Dispatch
		Center/ MOA Integrated Transportation Operations and Communications Center	Center/ Condition Acquisition and Reporting System
		Center/ SEPP	Center/ Condition Acquisition and Reporting System
	NTCIP Center-to-Center Standards Group	Center/ Law Enforcement Data Archives	Center/ Law Enforcement Dispatch
		Center/ MOA Integrated Transportation Operations and Communications Center	Center/ Condition Acquisition and Reporting System
		Center/ SEPP	Center/ Condition Acquisition and Reporting System
archive status	NTCIP Center-to-Center Standards Group	Center/ Bridge Management System	Center/ Bridge Design Section Offices
		Center/ Condition Acquisition and Reporting System	Center/ MOA Integrated Transportation Operations and Communications Center
		Center/ Law Enforcement Data Archives	Center/ Law Enforcement Dispatch
		Center/ Law Enforcement Dispatch	Center/ MOA Integrated Transportation Operations and Communications Center
archived data product requests	NTCIP Center-to-Center Standards Group	Travelers/ Personal Communications/Computing Devices (en-route)	Center/ Highway Analysis System
		Travelers/ Personal Communications/Computing Devices (pre-trip)	Center/ Highway Analysis System
			Center/ Pavement Management System
archived data products	NTCIP Center-to-Center Standards Group	Center/ Highway Analysis System	Travelers/ Personal Communications/Computing Devices (en-route)
			Travelers/ Personal Communications/Computing Devices (pre-trip)
		Center/ Pavement Management System	Travelers/ Personal Communications/Computing Devices (pre-trip)
arriving train information	Standard for the Interface Between the Rail Subsystem and the Highway Subsystem at a Highway Rail Intersection	Field/ Train Whistle Noise Reduction Sensors	Field/ Train Whistle Noise Reduction Horns
barrier system control	NTCIP Center-to-Field Standards Group	Center/ Anton Anderson Tunnel Control System	Center/ Tunnel Control System Field/ Train Signal System
barrier system status	NTCIP Center-to-Field Standards Group	Center/ Tunnel Control System	Center/ Anton Anderson Tunnel Control System
broadcast traveler information	Advanced Traveler Information Systems (ATIS) Bandwidth Limited	Center/ 511 (phone and web)	Travelers/ Personal Communications/Computing Devices (en-route)

Flow Name	Standard Title	Source Element	Destination Element
	Standards Group		Travelers/ Personal Communications/Computing Devices (pre-trip)
		Center/ AMHS Website	Travelers/ Personal Communications/Computing Devices (en-route)
			Travelers/ Personal Communications/Computing Devices (pre-trip)
		Center/ Transit Agency Websites	Travelers/ Personal Communications/Computing Devices (en-route)
			Travelers/ Personal Communications/Computing Devices (pre-trip)
	Advanced Traveler Information Systems (ATIS) General Use Standards Group	Center/ 511 (phone and web)	Travelers/ Personal Communications/Computing Devices (en-route)
			Travelers/ Personal Communications/Computing Devices (pre-trip)
		Center/ AMHS Website	Travelers/ Personal Communications/Computing Devices (en-route)
			Travelers/ Personal Communications/Computing Devices (pre-trip)
		Center/ Transit Agency Websites	Travelers/ Personal Communications/Computing Devices (en-route)
			Travelers/ Personal Communications/Computing Devices (pre-trip)
commercial vehicle archive data	Standard Practice for Metadata to Support Archived Data Management Systems	Center/ Web-Based Electronic Registration System (Web CAT)	Center/ MOA Integrated Transportation Operations and Communications Center
current asset restrictions	NTCIP Center-to-Center Standards Group	Center/ Condition Acquisition and Reporting System	Center/ 511 (phone and web)
			Center/ Law Enforcement Dispatch
			Center/ Transit Agency Dispatch (Placeholder)
		Center/ MOA Integrated Transportation Operations and Communications Center	Center/ Condition Acquisition and Reporting System
			Center/ EMS Dispatch Centers (Placeholder)
			Center/ Law Enforcement Dispatch
			Center/ MOA Emergency Operations Center
			Center/ Transit Agency Dispatch (Placeholder)
		Center/ MOA Maintenance Dispatch Office	Center/ Condition Acquisition and Reporting System
			Center/ MOA Integrated Transportation Operations and Communications Center
		Center/ Regional Maintenance Stations	Center/ Condition Acquisition and Reporting System
			Center/ MOA Integrated Transportation Operations and Communications Center
			Center/ MSCVE Headquarters
data collection and monitoring control	NTCIP Center-to-Field Standards Group	Center/ MOA Integrated Transportation Operations and Communications Center	Field/ Remote Video Monitoring System
			Field/ Road Weather Information Systems (RWIS)
	Global Object Definitions	Center/ MOA Integrated Transportation Operations and	Field/ Remote Video Monitoring System

Flow Name	Standard Title	Source Element	Destination Element
		Communications Center	Field/ Road Weather Information Systems (RWIS)
	Object Definitions for Environmental Sensor Stations (ESS)	Center/ MOA Integrated Transportation Operations and Communications Center	Field/ Remote Video Monitoring System
			Field/ Road Weather Information Systems (RWIS)
	Object Definitions for Data Collection and Monitoring (DCM) Devices	Center/ MOA Integrated Transportation Operations and Communications Center	Field/ Remote Video Monitoring System
			Field/ Road Weather Information Systems (RWIS)
	Data Element Definitions for Transportation Sensor Systems (TSS)	Center/ MOA Integrated Transportation Operations and Communications Center	Field/ Remote Video Monitoring System
			Field/ Road Weather Information Systems (RWIS)
driver log	Dedicated Short Range Communication at 915 MHz Standards Group	Vehicle/ Commercial Vehicle On-Board Systems	Field/ AVI/WIM
driver log request	Dedicated Short Range Communication at 915 MHz Standards Group	Field/ AVI/WIM	Vehicle/ Commercial Vehicle On-Board Systems
electronic screening request	Dedicated Short Range Communication at 915 MHz Standards Group	Field/ AVI/WIM	Vehicle/ Commercial Vehicle On-Board Systems
		Field/ Weigh and Border Station Roadside and Handheld Equipment	Vehicle/ Commercial Vehicle On-Board Systems
	Standard for Message Sets for Vehicle/Roadside Communications	Field/ AVI/WIM	Vehicle/ Commercial Vehicle On-Board Systems
		Field/ Weigh and Border Station Roadside and Handheld Equipment	Vehicle/ Commercial Vehicle On-Board Systems
emergency acknowledge	On-board Vehicle Mayday Standards Group	Regional 911 System (Placeholder)	General Public Vehicle
			Travelers/ Personal Communications/Computing Devices (en-route)
emergency archive data	NTCIP Center-to-Center Standards Group	Center/ HazMat	Center/ SEPP
		Center/ Law Enforcement Dispatch	Center/ Law Enforcement Data Archives
			Center/ MOA Integrated Transportation Operations and Communications Center
	Standard Practice for Metadata to Support Archived Data Management Systems	Center/ HazMat	Center/ SEPP
		Center/ Law Enforcement Dispatch	Center/ Law Enforcement Data Archives
			Center/ MOA Integrated Transportation Operations and Communications Center
	Incident Management Standards Group	Center/ HazMat	Center/ SEPP
		Center/ Law Enforcement Dispatch	Center/ Law Enforcement Data Archives
			Center/ MOA Integrated Transportation Operations and Communications Center
emergency notification	On-board Vehicle Mayday Standards Group	General Public Vehicle	Regional 911 System (Placeholder)
		Travelers/ Personal Communications/Computing Devices (en-route)	Regional 911 System (Placeholder)
emergency plan coordination	NTCIP Center-to-Center Standards Group	ARRC Dispatch	Center/ MOA Integrated Transportation Operations and Communications Center
		Center/ Anton Anderson Tunnel Control System	Center/ MOA Integrated Transportation Operations and Communications Center
		Center/ EMS Dispatch Centers (Placeholder)	Center/ MOA Emergency Operations Center

Flow Name	Standard Title	Source Element	Destination Element
		Center/ Law Enforcement Dispatch	ARRC Dispatch
			Center/ MOA Integrated Transportation Operations and Communications Center
			Center/ State Emergency Coordination Center
		Center/ MOA Emergency Operations Center	Center/ EMS Dispatch Centers (Placeholder)
			Center/ MOA Integrated Transportation Operations and Communications Center
		Center/ MOA Integrated Transportation Operations and Communications Center	ARRC Dispatch
			Center/ Law Enforcement Dispatch
			Center/ MOA Emergency Operations Center
		Center/ State Emergency Coordination Center	Center/ Law Enforcement Dispatch
emergency routes	NTCIP Center-to-Center Standards Group	Center/ Anton Anderson Tunnel Control System	Center/ MOA Integrated Transportation Operations and Communications Center
		Center/ MOA Integrated Transportation Operations and Communications Center	Center/ MOA Emergency Operations Center
emergency traffic control information	NTCIP Center-to-Center Standards Group	Center/ Anton Anderson Tunnel Control System	Center/ MOA Integrated Transportation Operations and Communications Center
	Global Object Definitions	Center/ Anton Anderson Tunnel Control System	Center/ MOA Integrated Transportation Operations and Communications Center
	Object Definitions for Signal Control and Prioritization (SCP)	Center/ Anton Anderson Tunnel Control System	Center/ MOA Integrated Transportation Operations and Communications Center
	Incident Management Standards Group	Center/ Anton Anderson Tunnel Control System	Center/ MOA Integrated Transportation Operations and Communications Center
emergency traffic control request	NTCIP Center-to-Center Standards Group	Center/ MOA Emergency Operations Center	Center/ MOA Integrated Transportation Operations and Communications Center
	Global Object Definitions	Center/ MOA Emergency Operations Center	Center/ MOA Integrated Transportation Operations and Communications Center
	Object Definitions for Signal Control and Prioritization (SCP)	Center/ MOA Emergency Operations Center	Center/ MOA Integrated Transportation Operations and Communications Center
	Incident Management Standards Group	Center/ MOA Emergency Operations Center	Center/ MOA Integrated Transportation Operations and Communications Center
emergency transit service request	NTCIP Center-to-Center Standards Group	Center/ MOA Integrated Transportation Operations and Communications Center	Center/ Transit Agency Dispatch (Placeholder)
environmental sensor data	NTCIP Center-to-Field Standards Group	Field/ Automated Bridge Anti-icing	Center/ MOA Integrated Transportation Operations and Communications Center
			Center/ Regional Maintenance Stations
		Field/ Road Weather Information Systems (RWIS)	Center/ Highway Data Weather Portal
			Center/ MOA Integrated Transportation Operations and Communications Center
			Center/ National Weather Service Offices
			Center/ Regional Maintenance Stations
		Weather Prediction System	Center/ MOA Integrated Transportation Operations and Communications Center

Flow Name	Standard Title	Source Element	Destination Element
			Center/ Regional Maintenance Stations
	Global Object Definitions	Field/ Automated Bridge Anti-icing	Center/ MOA Integrated Transportation Operations and Communications Center
			Center/ Regional Maintenance Stations
		Field/ Road Weather Information Systems (RWIS)	Center/ Highway Data Weather Portal
			Center/ MOA Integrated Transportation Operations and Communications Center
			Center/ National Weather Service Offices
			Center/ Regional Maintenance Stations
		Weather Prediction System	Center/ MOA Integrated Transportation Operations and Communications Center
			Center/ Regional Maintenance Stations
	Object Definitions for Environmental Sensor Stations (ESS)	Field/ Automated Bridge Anti-icing	Center/ MOA Integrated Transportation Operations and Communications Center
			Center/ Regional Maintenance Stations
		Field/ Road Weather Information Systems (RWIS)	Center/ Highway Data Weather Portal
			Center/ MOA Integrated Transportation Operations and Communications Center
			Center/ National Weather Service Offices
			Center/ Regional Maintenance Stations
		Weather Prediction System	Center/ MOA Integrated Transportation Operations and Communications Center
			Center/ Regional Maintenance Stations
environmental sensors control	NTCIP Center-to-Field Standards Group	Center/ MOA Integrated Transportation Operations and Communications Center	Field/ Road Weather Information Systems (RWIS)
		Center/ Regional Maintenance Stations	Field/ Road Weather Information Systems (RWIS)
	Global Object Definitions	Center/ MOA Integrated Transportation Operations and Communications Center	Field/ Road Weather Information Systems (RWIS)
		Center/ Regional Maintenance Stations	Field/ Road Weather Information Systems (RWIS)
	Object Definitions for Environmental Sensor Stations (ESS)	Center/ MOA Integrated Transportation Operations and Communications Center	Field/ Road Weather Information Systems (RWIS)
		Center/ Regional Maintenance Stations	Field/ Road Weather Information Systems (RWIS)
evacuation information	NTCIP Center-to-Center Standards Group	Center/ Law Enforcement Dispatch	Center/ MOA Integrated Transportation Operations and Communications Center
field device status	NTCIP Center-to-Field Standards Group	Field/ Automatic Traffic Data Recorders	Center/ MOA Integrated Transportation Operations and Communications Center
		Field/ Bridge Scour Sensors	Center/ Bridge Scour System
		Field/ Remote Video Monitoring System	Center/ MOA Integrated Transportation Operations and Communications Center
		Field/ Road Weather Information Systems (RWIS)	Center/ Regional Maintenance Stations
	Global Object Definitions	Field/ Automatic Traffic Data Recorders	Center/ MOA Integrated Transportation Operations and Communications Center
		Field/ Bridge Scour Sensors	Center/ Bridge Scour System

Flow Name	Standard Title	Source Element	Destination Element
		Field/ Remote Video Monitoring System	Center/ MOA Integrated Transportation Operations and Communications Center
		Field/ Road Weather Information Systems (RWIS)	Center/ Regional Maintenance Stations
hazmat information	NTCIP Center-to-Center Standards Group	Center/ Commercial Vehicle Operations Offices	Center/ Law Enforcement Dispatch
	Incident Management Standards Group	Center/ Commercial Vehicle Operations Offices	Center/ Law Enforcement Dispatch
hri advisories	NTCIP Center-to-Center Standards Group	Center/ Anton Anderson Tunnel Control System	ARRC Dispatch
hri control data	NTCIP Center-to-Field Standards Group	Center/ MOA Integrated Transportation Operations and Communications Center	Field/ Train Signal System
hri request	NTCIP Center-to-Field Standards Group	Center/ MOA Integrated Transportation Operations and Communications Center	Field/ Train Signal System
hri status	NTCIP Center-to-Field Standards Group	Field/ Train Signal System	Center/ MOA Integrated Transportation Operations and Communications Center
incident command information coordination	NTCIP Center-to-Center Standards Group	Center/ EMS Dispatch Centers (Placeholder)	Center/ Law Enforcement Dispatch
		Center/ Law Enforcement Dispatch	Center/ MOA Emergency Operations Center
			Center/ EMS Dispatch Centers (Placeholder)
			Center/ MOA Emergency Operations Center
			Center/ MOA Integrated Transportation Operations and Communications Center
			Center/ State Emergency Coordination Center
		Center/ MOA Emergency Operations Center	Center/ EMS Dispatch Centers (Placeholder)
			Center/ Law Enforcement Dispatch
			Center/ MOA Integrated Transportation Operations and Communications Center
			Center/ State Emergency Coordination Center
		Center/ MOA Integrated Transportation Operations and Communications Center	Center/ Law Enforcement Dispatch
		Center/ State Emergency Coordination Center	Center/ MOA Emergency Operations Center
	Incident Management Standards Group	Center/ EMS Dispatch Centers (Placeholder)	Center/ Law Enforcement Dispatch
		Center/ Law Enforcement Dispatch	Center/ MOA Emergency Operations Center
			Center/ EMS Dispatch Centers (Placeholder)
			Center/ MOA Emergency Operations Center
			Center/ MOA Integrated Transportation Operations and Communications Center
			Center/ State Emergency Coordination Center
		Center/ MOA Emergency Operations Center	Center/ EMS Dispatch Centers (Placeholder)
			Center/ Law Enforcement Dispatch
			Center/ MOA Integrated Transportation Operations and Communications Center

Flow Name	Standard Title	Source Element	Destination Element
incident information	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC)	Center/ MOA Integrated Transportation Operations and Communications Center	Center/ State Emergency Coordination Center
		Center/ State Emergency Coordination Center	Center/ Law Enforcement Dispatch
		Center/ APD Headquarters and Dispatch	Center/ MOA Emergency Operations Center
		Center/ Condition Acquisition and Reporting System	Center/ Law Enforcement Dispatch
		Center/ APD Headquarters and Dispatch	Center/ MOA Emergency Operations Center
		Center/ Law Enforcement Dispatch	Center/ MOA Integrated Transportation Operations and Communications Center
		Center/ MOA Integrated Transportation Operations and Communications Center	Center/ Condition Acquisition and Reporting System
		Center/ Regional Maintenance Stations	Center/ APD Headquarters and Dispatch
		Center/ EMS Dispatch Centers (Placeholder)	Center/ Law Enforcement Dispatch
		Center/ Law Enforcement Dispatch	Center/ MOA Integrated Transportation Operations and Communications Center
		Center/ MOA Integrated Transportation Operations and Communications Center	Center/ Condition Acquisition and Reporting System
		Center/ Regional Maintenance Stations	Center/ MOA Maintenance Dispatch Office
		Center/ Regional Maintenance Stations	Center/ Regional Maintenance Stations
		Center/ Regional Maintenance Stations	Center/ MOA Integrated Transportation Operations and Communications Center
		Center/ Regional Maintenance Stations	Center/ Law Enforcement Dispatch
		Center/ Regional Maintenance Stations	Center/ MOA Integrated Transportation Operations and Communications Center
		Center/ Regional Maintenance Stations	Center/ Law Enforcement Dispatch
		Center/ Regional Maintenance Stations	Center/ MOA Integrated Transportation Operations and Communications Center
		Center/ Regional Maintenance Stations	Center/ Law Enforcement Dispatch
		NTCIP Center-to-Center Standards Group	ARRC Dispatch
Center/ Anton Anderson Tunnel Control System	Center/ MOA Integrated Transportation Operations and Communications Center		
Center/ APD Headquarters and Dispatch	Center/ Condition Acquisition and Reporting System		
Center/ Condition Acquisition and Reporting System	Center/ 511 (phone and web)		
Center/ APD Headquarters and Dispatch	Center/ Law Enforcement Dispatch		
Center/ MOA Integrated Transportation Operations and Communications Center	Center/ MOA Integrated Transportation Operations and Communications Center		
Center/ MOA Maintenance Dispatch Office	Center/ MOA Maintenance Dispatch Office		
Center/ Regional Maintenance Stations	Center/ Regional Maintenance Stations		
Center/ EMS Dispatch Centers (Placeholder)	Center/ MOA Integrated Transportation Operations and Communications Center		
Center/ EMS Dispatch Centers (Placeholder)	Center/ MOA Integrated Transportation Operations and Communications Center		

Flow Name	Standard Title	Source Element	Destination Element
		Center/ Law Enforcement Dispatch	ARRC Dispatch
			Center/ Condition Acquisition and Reporting System
			Center/ MOA Integrated Transportation Operations and Communications Center
			Center/ Transit Agency Dispatch (Placeholder)
		Center/ MOA Integrated Transportation Operations and Communications Center	ARRC Dispatch
			Center/ Condition Acquisition and Reporting System
			Center/ EMS Dispatch Centers (Placeholder)
			Center/ Law Enforcement Dispatch
			Center/ MOA Emergency Operations Center
			Center/ MOA Maintenance Dispatch Office
			Center/ Regional Maintenance Stations
		Center/ Regional Maintenance Stations	Center/ Law Enforcement Dispatch
			Center/ MOA Integrated Transportation Operations and Communications Center
	Incident Management Standards Group	ARRC Dispatch	Center/ MOA Integrated Transportation Operations and Communications Center
		Center/ Anton Anderson Tunnel Control System	Center/ MOA Integrated Transportation Operations and Communications Center
		Center/ APD Headquarters and Dispatch	Center/ Condition Acquisition and Reporting System
		Center/ Condition Acquisition and Reporting System	Center/ 511 (phone and web)
			Center/ APD Headquarters and Dispatch
			Center/ Law Enforcement Dispatch
			Center/ MOA Integrated Transportation Operations and Communications Center
			Center/ MOA Maintenance Dispatch Office
			Center/ Regional Maintenance Stations
		Center/ EMS Dispatch Centers (Placeholder)	Center/ MOA Integrated Transportation Operations and Communications Center
		Center/ Law Enforcement Dispatch	ARRC Dispatch
			Center/ Condition Acquisition and Reporting System
			Center/ MOA Integrated Transportation Operations and Communications Center
			Center/ Transit Agency Dispatch (Placeholder)
		Center/ MOA Integrated Transportation Operations and Communications Center	ARRC Dispatch
			Center/ Condition Acquisition and Reporting System
			Center/ EMS Dispatch Centers (Placeholder)
			Center/ Law Enforcement Dispatch
			Center/ MOA Emergency Operations Center
			Center/ MOA Maintenance Dispatch Office
			Center/ Regional Maintenance Stations

Flow Name	Standard Title	Source Element	Destination Element
		Center/ Regional Maintenance Stations	Center/ Law Enforcement Dispatch Center/ MOA Integrated Transportation Operations and Communications Center
incident information for media	NTCIP Center-to-Center Standards Group	Center/ Law Enforcement Dispatch	Media Systems (T.V. and Radio)
		Center/ MOA Integrated Transportation Operations and Communications Center	Media Systems (T.V. and Radio)
	Incident Management Standards Group	Center/ Law Enforcement Dispatch	Media Systems (T.V. and Radio)
		Center/ MOA Integrated Transportation Operations and Communications Center	Media Systems (T.V. and Radio)
incident report	NTCIP Center-to-Center Standards Group	Center/ APD Headquarters and Dispatch	Center/ Condition Acquisition and Reporting System
		Center/ Condition Acquisition and Reporting System	Center/ APD Headquarters and Dispatch
		Center/ Law Enforcement Dispatch	Center/ Law Enforcement Dispatch
		Center/ EMS Dispatch Centers (Placeholder)	Center/ MOA Emergency Operations Center
		Center/ Law Enforcement Dispatch	Center/ Condition Acquisition and Reporting System
			Center/ EMS Dispatch Centers (Placeholder)
			Center/ MOA Emergency Operations Center
			Center/ MOA Integrated Transportation Operations and Communications Center
			Center/ State Emergency Coordination Center
		Center/ MOA Emergency Operations Center	Center/ EMS Dispatch Centers (Placeholder)
			Center/ State Emergency Coordination Center
		Center/ MOA Integrated Transportation Operations and Communications Center	Center/ Law Enforcement Dispatch
		Center/ State Emergency Coordination Center	Center/ Law Enforcement Dispatch
		Regional 911 System (Placeholder)	Center/ EMS Dispatch Centers (Placeholder)
			Center/ Law Enforcement Dispatch
	Incident Management Standards Group	Center/ APD Headquarters and Dispatch	Center/ Condition Acquisition and Reporting System
		Center/ Condition Acquisition and Reporting System	Center/ APD Headquarters and Dispatch
		Center/ Law Enforcement Dispatch	Center/ Law Enforcement Dispatch
		Center/ EMS Dispatch Centers (Placeholder)	Center/ MOA Emergency Operations Center
		Center/ Law Enforcement Dispatch	Center/ Condition Acquisition and Reporting System
			Center/ EMS Dispatch Centers (Placeholder)
			Center/ MOA Emergency Operations Center
			Center/ MOA Integrated Transportation Operations and Communications Center
			Center/ State Emergency Coordination Center
		Center/ MOA Emergency Operations Center	Center/ EMS Dispatch Centers (Placeholder)
			Center/ State Emergency Coordination Center
		Center/ MOA Integrated Transportation Operations and Communications Center	Center/ Law Enforcement Dispatch
		Center/ State Emergency Coordination Center	Center/ Law Enforcement Dispatch

Flow Name	Standard Title	Source Element	Destination Element		
		Regional 911 System (Placeholder)	Center/ EMS Dispatch Centers (Placeholder) Center/ Law Enforcement Dispatch		
incident response coordination	NTCIP Center-to-Center Standards Group	Center/ EMS Dispatch Centers (Placeholder)	Center/ Law Enforcement Dispatch Center/ MOA Emergency Operations Center		
		Center/ Law Enforcement Dispatch	Center/ EMS Dispatch Centers (Placeholder) Center/ MOA Emergency Operations Center Center/ MOA Integrated Transportation Operations and Communications Center Center/ State Emergency Coordination Center		
		Center/ MOA Emergency Operations Center	Center/ EMS Dispatch Centers (Placeholder) Center/ Law Enforcement Dispatch Center/ MOA Integrated Transportation Operations and Communications Center		
		Center/ MOA Integrated Transportation Operations and Communications Center	Center/ Law Enforcement Dispatch Center/ MOA Emergency Operations Center		
		Center/ State Emergency Coordination Center	Center/ Law Enforcement Dispatch		
		Incident Management Standards Group	Center/ EMS Dispatch Centers (Placeholder)	Center/ Law Enforcement Dispatch Center/ MOA Emergency Operations Center	
			Center/ Law Enforcement Dispatch	Center/ EMS Dispatch Centers (Placeholder) Center/ MOA Emergency Operations Center Center/ MOA Integrated Transportation Operations and Communications Center Center/ State Emergency Coordination Center	
	Center/ MOA Emergency Operations Center		Center/ EMS Dispatch Centers (Placeholder) Center/ Law Enforcement Dispatch Center/ MOA Integrated Transportation Operations and Communications Center		
	Center/ MOA Integrated Transportation Operations and Communications Center		Center/ Law Enforcement Dispatch Center/ MOA Emergency Operations Center		
	Center/ State Emergency Coordination Center		Center/ Law Enforcement Dispatch		
	incident response status		Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC)	Center/ Condition Acquisition and Reporting System	Center/ APD Headquarters and Dispatch Center/ MOA Integrated Transportation Operations and Communications Center
				Center/ Law Enforcement Dispatch	Center/ MOA Integrated Transportation Operations and Communications Center
		Center/ MOA Integrated Transportation Operations and Communications Center		Center/ Regional Maintenance Stations	
	incident response status	NTCIP Center-to-Center Standards Group	Center/ Condition Acquisition and Reporting System	Center/ APD Headquarters and Dispatch Center/ MOA Integrated Transportation Operations and Communications Center	
Center/ Law Enforcement Dispatch			ARRC Dispatch		

Flow Name	Standard Title	Source Element	Destination Element
			Center/ MOA Integrated Transportation Operations and Communications Center
			Center/ Transit Agency Dispatch (Placeholder)
		Center/ MOA Integrated Transportation Operations and Communications Center	Center/ Regional Maintenance Stations
	Incident Management Standards Group	Center/ Condition Acquisition and Reporting System	Center/ APD Headquarters and Dispatch
			Center/ MOA Integrated Transportation Operations and Communications Center
		Center/ Law Enforcement Dispatch	ARRC Dispatch
			Center/ MOA Integrated Transportation Operations and Communications Center
			Center/ Transit Agency Dispatch (Placeholder)
		Center/ MOA Integrated Transportation Operations and Communications Center	Center/ Regional Maintenance Stations
infrastructure monitoring sensor control	NTCIP Center-to-Field Standards Group	Center/ Bridge Scour System	Field/ Bridge Scour Sensors
		Center/ Law Enforcement Dispatch	Center/ Avalanche Detection System
			Field/ Seismic Sensors
infrastructure monitoring sensor data	NTCIP Center-to-Field Standards Group	Field/ Bridge Scour Sensors	Center/ Bridge Design Section Offices
			Center/ Bridge Scour System
		Field/ Seismic Sensors	Center/ Law Enforcement Dispatch
interactive traveler information	Advanced Traveler Information Systems (ATIS) General Use Standards Group	Center/ 511 (phone and web)	Travelers/ Personal Communications/Computing Devices (en-route)
			Travelers/ Personal Communications/Computing Devices (pre-trip)
		Center/ AMHS Website	Travelers/ Personal Communications/Computing Devices (en-route)
			Travelers/ Personal Communications/Computing Devices (pre-trip)
		Center/ Division of Tourism Website	Travelers/ Personal Communications/Computing Devices (en-route)
			Travelers/ Personal Communications/Computing Devices (pre-trip)
		Center/ Transit Agency Websites	Travelers/ Personal Communications/Computing Devices (en-route)
			Travelers/ Personal Communications/Computing Devices (pre-trip)
ISP coordination	NTCIP Center-to-Center Standards Group	Center/ 511 (phone and web)	Center/ AMHS Website
			Center/ Division of Tourism Website
		Center/ AMHS Website	Center/ 511 (phone and web)
			Center/ Division of Tourism Website
		Center/ Division of Tourism Website	Center/ 511 (phone and web)
			Center/ AMHS Website
	Advanced Traveler Information	Center/ 511 (phone and web)	Center/ AMHS Website

Flow Name	Standard Title	Source Element	Destination Element
	Systems (ATIS) General Use Standards Group	Center/ AMHS Website	Center/ Division of Tourism Website
		Center/ Division of Tourism Website	Center/ 511 (phone and web)
		Center/ AMHS Website	Center/ Division of Tourism Website
		Center/ Division of Tourism Website	Center/ 511 (phone and web)
local signal preemption request	Global Object Definitions	Vehicle/ EMS Vehicle On-board Systems	Field/ Pre-emption and Priority Systems (Fairbanks)
			Field/ Pre-emption and Priority Systems (MOA)
		Vehicle/ Law Enforcement Vehicle On-board Systems	Field/ Pre-emption and Priority Systems (State)
			Field/ Pre-emption and Priority Systems (Fairbanks)
	Object Definitions for Signal Control and Prioritization (SCP)	Vehicle/ EMS Vehicle On-board Systems	Field/ Pre-emption and Priority Systems (MOA)
			Field/ Pre-emption and Priority Systems (State)
		Vehicle/ Law Enforcement Vehicle On-board Systems	Field/ Pre-emption and Priority Systems (Fairbanks)
			Field/ Pre-emption and Priority Systems (MOA)
	Dedicated Short Range Communication at 915 MHz Standards Group	Vehicle/ EMS Vehicle On-board Systems	Field/ Pre-emption and Priority Systems (State)
			Field/ Pre-emption and Priority Systems (Fairbanks)
		Vehicle/ Law Enforcement Vehicle On-board Systems	Field/ Pre-emption and Priority Systems (MOA)
			Field/ Pre-emption and Priority Systems (State)
	Dedicated Short Range Communication at 5.9 GHz Standards Group	Vehicle/ EMS Vehicle On-board Systems	Field/ Pre-emption and Priority Systems (Fairbanks)
			Field/ Pre-emption and Priority Systems (MOA)
		Vehicle/ Law Enforcement Vehicle On-board Systems	Field/ Pre-emption and Priority Systems (State)
			Field/ Pre-emption and Priority Systems (Fairbanks)
local signal priority request	Global Object Definitions	Vehicle/ Transit Vehicle On-board Systems (Placeholder)	Field/ Pre-emption and Priority Systems (MOA)
			Field/ Pre-emption and Priority Systems (State)
		Vehicle/ Transit Vehicle On-board Systems (Placeholder)	Field/ Pre-emption and Priority Systems (Fairbanks)
			Field/ Pre-emption and Priority Systems (MOA)
	Standard for Transit Communications Interface Profiles	Vehicle/ Transit Vehicle On-board Systems (Placeholder)	Field/ Pre-emption and Priority Systems (State)
			Field/ Pre-emption and Priority Systems (Fairbanks)
		Vehicle/ Transit Vehicle On-board Systems (Placeholder)	Field/ Pre-emption and Priority Systems (MOA)
			Field/ Pre-emption and Priority Systems (State)
	Dedicated Short Range Communication at 915 MHz	Vehicle/ Transit Vehicle On-board Systems (Placeholder)	Field/ Pre-emption and Priority Systems (Fairbanks)
			Field/ Pre-emption and Priority Systems (MOA)

Flow Name	Standard Title	Source Element	Destination Element
	Standards Group		Field/ Pre-emption and Priority Systems (State)
	Dedicated Short Range Communication at 5.9 GHz Standards Group	Vehicle/ Transit Vehicle On-board Systems (Placeholder)	Field/ Pre-emption and Priority Systems (Fairbanks)
			Field/ Pre-emption and Priority Systems (MOA)
			Field/ Pre-emption and Priority Systems (State)
maint and constr administrative information	NTCIP Center-to-Center Standards Group	Center/ Maintenance Management System	Center/ Regional Maintenance Stations
maint and constr administrative request	NTCIP Center-to-Center Standards Group	Center/ Regional Maintenance Stations	Center/ Maintenance Management System
maint and constr archive data	NTCIP Center-to-Center Standards Group	Center/ Bridge Design Section Offices	Center/ Bridge Management System
		Center/ MOA Integrated Transportation Operations and Communications Center	Center/ Maintenance Management System
	Standard Practice for Metadata to Support Archived Data Management Systems	Center/ Bridge Design Section Offices	Center/ Bridge Management System
		Center/ MOA Integrated Transportation Operations and Communications Center	Center/ Maintenance Management System
maint and constr resource coordination	NTCIP Center-to-Center Standards Group	Center/ MOA Integrated Transportation Operations and Communications Center	Center/ MOA Maintenance Dispatch Office
		Center/ Regional Maintenance Stations	Center/ Regional Maintenance Stations
		Center/ Regional Maintenance Stations	Center/ MOA Integrated Transportation Operations and Communications Center
			Center/ MOA Maintenance Dispatch Office
maint and constr resource request	NTCIP Center-to-Center Standards Group	Center/ Anton Anderson Tunnel Control System	Center/ MOA Integrated Transportation Operations and Communications Center
		Center/ MOA Integrated Transportation Operations and Communications Center	Center/ MOA Maintenance Dispatch Office
			Center/ Regional Maintenance Stations
	Incident Management Standards Group	Center/ MOA Integrated Transportation Operations and Communications Center	Center/ MOA Maintenance Dispatch Office
			Center/ Regional Maintenance Stations
maint and constr resource response	NTCIP Center-to-Center Standards Group	Center/ MOA Maintenance Dispatch Office	Center/ Condition Acquisition and Reporting System
		Center/ Regional Maintenance Stations	Center/ Condition Acquisition and Reporting System
			Center/ Law Enforcement Dispatch
	Incident Management Standards Group	Center/ MOA Maintenance Dispatch Office	Center/ Condition Acquisition and Reporting System
		Center/ Regional Maintenance Stations	Center/ Condition Acquisition and Reporting System
			Center/ Law Enforcement Dispatch
maint and constr work performance	NTCIP Center-to-Center Standards Group	Center/ Regional Maintenance Stations	Center/ Maintenance Management System
maint and constr work plans	NTCIP Center-to-Center Standards Group	Center/ Condition Acquisition and Reporting System	Center/ 511 (phone and web)
		Center/ MOA Integrated Transportation Operations and Communications Center	ARRC Dispatch
			Center/ Law Enforcement Dispatch
		Center/ MOA Maintenance Dispatch Office	Center/ Condition Acquisition and Reporting System
			Center/ MOA Integrated Transportation Operations and Communications Center
			Media Systems (T.V. and Radio)
		Center/ Regional Maintenance Stations	ARRC Dispatch

Flow Name	Standard Title	Source Element	Destination Element
			Center/ ADOTPF Traffic and Safety Offices
			Center/ Condition Acquisition and Reporting System
			Center/ Law Enforcement Dispatch
			Center/ MOA Integrated Transportation Operations and Communications Center
			Media Systems (T.V. and Radio)
pass/pull-in	Dedicated Short Range Communication at 915 MHz Standards Group	Field/ AVI/WIM	Vehicle/ Commercial Vehicle On-Board Systems
		Field/ Weigh and Border Station Roadside and Handheld Equipment	Vehicle/ Commercial Vehicle On-Board Systems
	Standard for Message Sets for Vehicle/Roadside Communications	Field/ AVI/WIM	Vehicle/ Commercial Vehicle On-Board Systems
		Field/ Weigh and Border Station Roadside and Handheld Equipment	Vehicle/ Commercial Vehicle On-Board Systems
qualified environmental conditions data	NTCIP Center-to-Center Standards Group	Center/ National Weather Service Offices	Center/ Condition Acquisition and Reporting System
		Field/ Weather and Pavement Sensors (Military Bases)	Center/ MOA Integrated Transportation Operations and Communications Center
			Center/ Regional Maintenance Stations
rail incident response status	NTCIP Center-to-Center Standards Group	ARRC Dispatch	Center/ MOA Integrated Transportation Operations and Communications Center
railroad advisories	NTCIP Center-to-Center Standards Group	ARRC Dispatch	Center/ Anton Anderson Tunnel Control System
			Center/ MOA Integrated Transportation Operations and Communications Center
			Center/ Anton Anderson Tunnel Control System
remote surveillance control	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC)	Center/ MOA Emergency Operations Center	Center/ MOA Integrated Transportation Operations and Communications Center
	NTCIP Center-to-Center Standards Group	Center/ MOA Emergency Operations Center	Center/ MOA Integrated Transportation Operations and Communications Center
request for right-of-way	NTCIP Center-to-Field Standards Group	Center/ Tunnel Control System	Center/ Anton Anderson Tunnel Control System
		Field/ Train Signal System	Center/ Anton Anderson Tunnel Control System
	Global Object Definitions	Center/ Tunnel Control System	Center/ Anton Anderson Tunnel Control System
		Field/ Train Signal System	Center/ Anton Anderson Tunnel Control System
	Object Definitions for Actuated Traffic Signal Controller (ASC) Units	Center/ Tunnel Control System	Center/ Anton Anderson Tunnel Control System
		Field/ Train Signal System	Center/ Anton Anderson Tunnel Control System
	Object Definitions for Signal Control and Prioritization (SCP)	Center/ Tunnel Control System	Center/ Anton Anderson Tunnel Control System
		Field/ Train Signal System	Center/ Anton Anderson Tunnel Control System
request tag data	Dedicated Short Range Communication at 915 MHz Standards Group	Field/ AVI/WIM	Vehicle/ Commercial Vehicle On-Board Systems
		Field/ Weigh and Border Station Roadside and Handheld Equipment	Vehicle/ Commercial Vehicle On-Board Systems
request transit information	NTCIP Center-to-Center Standards Group	Center/ MOA Integrated Transportation Operations and Communications Center	Center/ Transit Agency Dispatch (Placeholder)
resource coordination	NTCIP Center-to-Center Standards	Center/ EMS Dispatch Centers (Placeholder)	Center/ MOA Emergency Operations Center

Flow Name	Standard Title	Source Element	Destination Element	
	Group	Center/ Law Enforcement Dispatch	Center/ State Emergency Coordination Center	
		Center/ MOA Emergency Operations Center	Center/ EMS Dispatch Centers (Placeholder)	
		Center/ MOA Integrated Transportation Operations and Communications Center	Center/ MOA Integrated Transportation Operations and Communications Center	
		Center/ MOA Emergency Operations Center	Center/ MOA Emergency Operations Center	
		Center/ State Emergency Coordination Center	Center/ Law Enforcement Dispatch	
	Incident Management Standards Group	Center/ EMS Dispatch Centers (Placeholder)	Center/ MOA Emergency Operations Center	
		Center/ Law Enforcement Dispatch	Center/ State Emergency Coordination Center	
		Center/ MOA Emergency Operations Center	Center/ EMS Dispatch Centers (Placeholder)	
		Center/ MOA Integrated Transportation Operations and Communications Center	Center/ MOA Integrated Transportation Operations and Communications Center	
		Center/ MOA Emergency Operations Center	Center/ MOA Emergency Operations Center	
resource deployment status	NTCIP Center-to-Center Standards Group	Center/ MOA Integrated Transportation Operations and Communications Center	Center/ Law Enforcement Dispatch	
	Incident Management Standards Group	Center/ EMS Dispatch Centers (Placeholder)	Center/ EMS Dispatch Centers (Placeholder)	
resource request	NTCIP Center-to-Center Standards Group	Center/ MOA Integrated Transportation Operations and Communications Center	Center/ MOA Emergency Operations Center	
	Incident Management Standards Group	Center/ EMS Dispatch Centers (Placeholder)	Center/ MOA Integrated Transportation Operations and Communications Center	
reversible lane control	NTCIP Center-to-Field Standards Group	Center/ Anton Anderson Tunnel Control System	Center/ Tunnel Control System Field/ Train Signal System	
road network conditions	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC)	Center/ Anton Anderson Tunnel Control System	Center/ MOA Integrated Transportation Operations and Communications Center	
		Center/ APD Headquarters and Dispatch	Center/ Condition Acquisition and Reporting System	
		Center/ Condition Acquisition and Reporting System	Center/ 511 (phone and web)	
			Center/ APD Headquarters and Dispatch	
			Center/ Law Enforcement Dispatch	
			Center/ MOA Maintenance Dispatch Office	
			Center/ Regional Maintenance Stations	
			Center/ Transit Agency Dispatch (Placeholder)	
			Center/ Law Enforcement Dispatch	Center/ Condition Acquisition and Reporting System
			Center/ MOA Integrated Transportation Operations and Communications Center	Center/ Condition Acquisition and Reporting System
		Center/ EMS Dispatch Centers (Placeholder)		
		Center/ Law Enforcement Dispatch		
		Center/ MOA Emergency Operations Center		
		Center/ Transit Agency Dispatch (Placeholder)		
		Media Systems (T.V. and Radio)		

Flow Name	Standard Title	Source Element	Destination Element	
		Center/ MOA Maintenance Dispatch Office	Center/ Condition Acquisition and Reporting System	
		Center/ Regional Maintenance Stations	Center/ Condition Acquisition and Reporting System	
	NTCIP Center-to-Center Standards Group	Center/ Anton Anderson Tunnel Control System	Center/ MOA Integrated Transportation Operations and Communications Center	
		Center/ APD Headquarters and Dispatch	Center/ Condition Acquisition and Reporting System	
		Center/ Condition Acquisition and Reporting System	Center/ 511 (phone and web)	
			Center/ APD Headquarters and Dispatch	
			Center/ Law Enforcement Dispatch	
			Center/ MOA Maintenance Dispatch Office	
			Center/ Regional Maintenance Stations	
			Center/ Transit Agency Dispatch (Placeholder)	
			Center/ Law Enforcement Dispatch	Center/ Condition Acquisition and Reporting System
			Center/ MOA Integrated Transportation Operations and Communications Center	Center/ Condition Acquisition and Reporting System
				Center/ EMS Dispatch Centers (Placeholder)
				Center/ Law Enforcement Dispatch
				Center/ MOA Emergency Operations Center
				Center/ Transit Agency Dispatch (Placeholder)
			Media Systems (T.V. and Radio)	
		Center/ MOA Maintenance Dispatch Office	Center/ Condition Acquisition and Reporting System	
		Center/ Regional Maintenance Stations	Center/ Condition Acquisition and Reporting System	
road network status assessment	NTCIP Center-to-Center Standards Group	Center/ Anton Anderson Tunnel Control System	Center/ MOA Integrated Transportation Operations and Communications Center	
		Center/ Regional Maintenance Stations	Center/ MOA Integrated Transportation Operations and Communications Center	
road weather information	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC)	Center/ Condition Acquisition and Reporting System	Center/ 511 (phone and web)	
		Center/ Condition Acquisition and Reporting System	Center/ Law Enforcement Dispatch	
		Center/ MOA Integrated Transportation Operations and Communications Center	Center/ Condition Acquisition and Reporting System	
			Center/ MOA Emergency Operations Center	
			Media Systems (T.V. and Radio)	
		Center/ Regional Maintenance Stations	Center/ Condition Acquisition and Reporting System	
			Center/ MOA Integrated Transportation Operations and Communications Center	
		NTCIP Center-to-Center Standards Group	Center/ Condition Acquisition and Reporting System	Center/ 511 (phone and web)
				Center/ Law Enforcement Dispatch
			Center/ MOA Integrated Transportation Operations and Communications Center	Center/ Condition Acquisition and Reporting System
			Center/ MOA Emergency Operations Center	
			Media Systems (T.V. and Radio)	
		Center/ Regional Maintenance Stations	Center/ Condition Acquisition and Reporting System	
			Center/ MOA Integrated Transportation Operations and Communications Center	

Flow Name	Standard Title	Source Element	Destination Element
roadside archive data	NTCIP Center-to-Field Standards Group	Field/ Road Weather Information Systems (RWIS)	Center/ Condition Acquisition and Reporting System
	Global Object Definitions	Field/ Road Weather Information Systems (RWIS)	Center/ Condition Acquisition and Reporting System
	Object Definitions for Environmental Sensor Stations (ESS)	Field/ Road Weather Information Systems (RWIS)	Center/ Condition Acquisition and Reporting System
	Object Definitions for Data Collection and Monitoring (DCM) Devices	Field/ Road Weather Information Systems (RWIS)	Center/ Condition Acquisition and Reporting System
	Data Element Definitions for Transportation Sensor Systems (TSS)	Field/ Road Weather Information Systems (RWIS)	Center/ Condition Acquisition and Reporting System
roadway equipment coordination	NTCIP Center-to-Center Standards Group	Center/ Tunnel Control System	Field/ Train Signal System
		Field/ Road Weather Information Systems (RWIS)	Weather Prediction System
		Field/ Traffic Detectors	Field/ Traffic Signal Controllers
		Field/ Train Signal System	Center/ Tunnel Control System
		Weather Prediction System	Field/ Road Weather Information Systems (RWIS)
	Object Definitions for Actuated Traffic Signal Controller (ASC) Units	Center/ Tunnel Control System	Field/ Train Signal System
		Field/ Road Weather Information Systems (RWIS)	Weather Prediction System
		Field/ Traffic Detectors	Field/ Traffic Signal Controllers
		Field/ Train Signal System	Center/ Tunnel Control System
		Weather Prediction System	Field/ Road Weather Information Systems (RWIS)
	Field Management Stations (FMS) - Part 1: Object Definitions for Signal System Masters	Center/ Tunnel Control System	Field/ Train Signal System
		Field/ Road Weather Information Systems (RWIS)	Weather Prediction System
		Field/ Traffic Detectors	Field/ Traffic Signal Controllers
		Field/ Train Signal System	Center/ Tunnel Control System
		Weather Prediction System	Field/ Road Weather Information Systems (RWIS)
roadway information system data	NTCIP Center-to-Field Standards Group	Center/ APD Headquarters and Dispatch	Field/ Permanent Dynamic Message Signs (Anchorage)
		Center/ MOA Integrated Transportation Operations and Communications Center	Field/ Highway Advisory Radio
		Center/ MSCVE Offices	Field/ Permanent Dynamic Message Signs (Permanent @ FOX Station)
		Center/ MSCVE Offices	Field/ Permanent Dynamic Message Signs (Port of Anchorage)
		Global Object Definitions	Center/ APD Headquarters and Dispatch
	Object Definitions for Dynamic Message Signs (DMS)	Center/ MOA Integrated Transportation Operations and Communications Center	Field/ Highway Advisory Radio
		Center/ MSCVE Offices	Field/ Permanent Dynamic Message Signs (Permanent @ FOX Station)
		Center/ MSCVE Offices	Field/ Permanent Dynamic Message Signs (Port of Anchorage)
		Center/ APD Headquarters and Dispatch	Field/ Permanent Dynamic Message Signs (Anchorage)
		Center/ MOA Integrated Transportation Operations and Communications Center	Field/ Permanent Dynamic Message Signs (Anchorage)

Flow Name	Standard Title	Source Element	Destination Element
		Center/ MSCVE Offices	Field/ Permanent Dynamic Message Signs (Permanent @ FOX Station)
			Field/ Permanent Dynamic Message Signs (Port of Anchorage)
roadway information system status	NTCIP Center-to-Field Standards Group	Field/ Highway Advisory Radio	Center/ MOA Integrated Transportation Operations and Communications Center
		Field/ Permanent Dynamic Message Signs (Anchorage)	Center/ APD Headquarters and Dispatch
			Center/ MOA Integrated Transportation Operations and Communications Center
		Field/ Permanent Dynamic Message Signs (Permanent @ FOX Station)	Center/ MSCVE Offices
		Field/ Permanent Dynamic Message Signs (Port of Anchorage)	Center/ MSCVE Offices
	Global Object Definitions	Field/ Highway Advisory Radio	Center/ MOA Integrated Transportation Operations and Communications Center
		Field/ Permanent Dynamic Message Signs (Anchorage)	Center/ APD Headquarters and Dispatch
			Center/ MOA Integrated Transportation Operations and Communications Center
		Field/ Permanent Dynamic Message Signs (Permanent @ FOX Station)	Center/ MSCVE Offices
		Field/ Permanent Dynamic Message Signs (Port of Anchorage)	Center/ MSCVE Offices
	Object Definitions for Dynamic Message Signs (DMS)	Field/ Highway Advisory Radio	Center/ MOA Integrated Transportation Operations and Communications Center
		Field/ Permanent Dynamic Message Signs (Anchorage)	Center/ APD Headquarters and Dispatch
			Center/ MOA Integrated Transportation Operations and Communications Center
		Field/ Permanent Dynamic Message Signs (Permanent @ FOX Station)	Center/ MSCVE Offices
		Field/ Permanent Dynamic Message Signs (Port of Anchorage)	Center/ MSCVE Offices
roadway maintenance status	NTCIP Center-to-Center Standards Group	Center/ Condition Acquisition and Reporting System	Center/ 511 (phone and web)
			Center/ APD Headquarters and Dispatch
			Center/ Law Enforcement Dispatch
			Center/ Transit Agency Dispatch (Placeholder)
		Center/ MOA Maintenance Dispatch Office	Center/ Condition Acquisition and Reporting System
			Center/ MOA Integrated Transportation Operations and Communications Center
		Center/ Regional Maintenance Stations	Center/ Condition Acquisition and Reporting System
			Center/ Law Enforcement Dispatch
			Center/ MOA Integrated Transportation Operations and Communications Center
			Media Systems (T.V. and Radio)

Flow Name	Standard Title	Source Element	Destination Element
roadway treatment system control	NTCIP Center-to-Field Standards Group	Center/ MOA Integrated Transportation Operations and Communications Center	Field/ Automated Bridge Anti-icing
		Center/ Regional Maintenance Stations	Field/ Automated Bridge Anti-icing
	Global Object Definitions	Center/ MOA Integrated Transportation Operations and Communications Center	Field/ Automated Bridge Anti-icing
		Center/ Regional Maintenance Stations	Field/ Automated Bridge Anti-icing
Object Definitions for Environmental Sensor Stations (ESS)	Center/ MOA Integrated Transportation Operations and Communications Center	Field/ Automated Bridge Anti-icing	
	Center/ Regional Maintenance Stations	Field/ Automated Bridge Anti-icing	
roadway treatment system status	NTCIP Center-to-Field Standards Group	Field/ Automated Bridge Anti-icing	Center/ MOA Integrated Transportation Operations and Communications Center
			Center/ Regional Maintenance Stations
	Global Object Definitions	Field/ Automated Bridge Anti-icing	Center/ MOA Integrated Transportation Operations and Communications Center
			Center/ Regional Maintenance Stations
Object Definitions for Environmental Sensor Stations (ESS)	Field/ Automated Bridge Anti-icing	Center/ MOA Integrated Transportation Operations and Communications Center	
		Center/ Regional Maintenance Stations	
safety inspection record	Dedicated Short Range Communication at 915 MHz Standards Group	Field/ Weigh and Border Station Roadside and Handheld Equipment	Vehicle/ Commercial Vehicle On-Board Systems
		Vehicle/ Commercial Vehicle On-Board Systems	Field/ Weigh and Border Station Roadside and Handheld Equipment
screening event record	Dedicated Short Range Communication at 915 MHz Standards Group	Field/ Weigh and Border Station Roadside and Handheld Equipment	Vehicle/ Commercial Vehicle On-Board Systems
		Field/ Weigh and Border Station Roadside and Handheld Equipment	Vehicle/ Commercial Vehicle On-Board Systems
secure area sensor control	NTCIP Center-to-Field Standards Group	Center/ Law Enforcement Dispatch	Center/ Avalanche Detection System
			Field/ Seismic Sensors
secure area sensor data	NTCIP Center-to-Field Standards Group	Center/ Avalanche Detection System	Center/ Law Enforcement Dispatch
secure area surveillance control	Global Object Definitions	Center/ Law Enforcement Dispatch	Field/ Cameras (at AMHS Terminals)
		Center/ Law Enforcement Dispatch	Field/ Cameras (at AMHS Terminals)
		Center/ Law Enforcement Dispatch	Field/ Cameras (at AMHS Terminals)
secure area surveillance data	Global Object Definitions	Field/ Cameras (at AMHS Terminals)	Center/ Law Enforcement Dispatch
		Field/ Cameras (at AMHS Terminals)	Center/ Law Enforcement Dispatch
		Field/ Cameras (at AMHS Terminals)	Center/ Law Enforcement Dispatch
signal control data	NTCIP Center-to-Field Standards	Center/ ADOTPF Traffic and Safety Offices	Field/ Traffic Signal Controllers

Flow Name	Standard Title	Source Element	Destination Element	
	Group	Center/ Anton Anderson Tunnel Control System	Center/ Tunnel Control System	
			Field/ Train Signal System	
		Center/ MOA Integrated Transportation Operations and Communications Center	Field/ Traffic Signal Controllers	
	Global Object Definitions	Center/ MOA Signal Control		Field/ Train Signal System
				Field/ Traffic Signal Controllers
		Center/ ADOTPF Traffic and Safety Offices	Field/ Traffic Signal Controllers	
		Center/ Anton Anderson Tunnel Control System	Center/ Tunnel Control System	
			Field/ Train Signal System	
		Center/ MOA Integrated Transportation Operations and Communications Center	Field/ Traffic Signal Controllers	
	Object Definitions for Actuated Traffic Signal Controller (ASC) Units	Center/ MOA Signal Control		Field/ Train Signal System
				Field/ Traffic Signal Controllers
		Center/ ADOTPF Traffic and Safety Offices	Field/ Traffic Signal Controllers	
Center/ Anton Anderson Tunnel Control System		Center/ Tunnel Control System		
		Field/ Train Signal System		
Center/ MOA Integrated Transportation Operations and Communications Center		Field/ Traffic Signal Controllers		
Field Management Stations (FMS) - Part 1: Object Definitions for Signal System Masters	Center/ MOA Signal Control		Field/ Traffic Signal Controllers	
			Field/ Train Signal System	
	Center/ ADOTPF Traffic and Safety Offices	Field/ Traffic Signal Controllers		
	Center/ Anton Anderson Tunnel Control System	Center/ Tunnel Control System		
		Field/ Train Signal System		
	Center/ MOA Integrated Transportation Operations and Communications Center	Field/ Traffic Signal Controllers		
Object Definitions for Signal Control and Prioritization (SCP)	Center/ MOA Signal Control		Field/ Traffic Signal Controllers	
			Field/ Train Signal System	
	Center/ ADOTPF Traffic and Safety Offices	Field/ Traffic Signal Controllers		
	Center/ Anton Anderson Tunnel Control System	Center/ Tunnel Control System		
		Field/ Train Signal System		
	Center/ MOA Integrated Transportation Operations and Communications Center	Field/ Traffic Signal Controllers		
signal control status	NTCIP Center-to-Field Standards Group	Center/ Tunnel Control System	Center/ Anton Anderson Tunnel Control System	
		Field/ Traffic Signal Controllers	Center/ ADOTPF Traffic and Safety Offices	
			Center/ MOA Integrated Transportation Operations and Communications Center	
			Center/ MOA Signal Control	
		Field/ Train Signal System	Center/ Anton Anderson Tunnel Control System	
	Global Object Definitions		Center/ MOA Integrated Transportation Operations and Communications Center	Center/ MOA Integrated Transportation Operations and Communications Center
		Center/ Tunnel Control System	Center/ Anton Anderson Tunnel Control System	
		Field/ Traffic Signal Controllers	Center/ ADOTPF Traffic and Safety Offices	

Flow Name	Standard Title	Source Element	Destination Element
			Center/ MOA Integrated Transportation Operations and Communications Center
			Center/ MOA Signal Control
		Field/ Train Signal System	Center/ Anton Anderson Tunnel Control System
			Center/ MOA Integrated Transportation Operations and Communications Center
	Object Definitions for Actuated Traffic Signal Controller (ASC) Units	Center/ Tunnel Control System	Center/ Anton Anderson Tunnel Control System
		Field/ Traffic Signal Controllers	Center/ ADOTPF Traffic and Safety Offices
			Center/ MOA Integrated Transportation Operations and Communications Center
			Center/ MOA Signal Control
		Field/ Train Signal System	Center/ Anton Anderson Tunnel Control System
			Center/ MOA Integrated Transportation Operations and Communications Center
	Field Management Stations (FMS) - Part 1: Object Definitions for Signal System Masters	Center/ Tunnel Control System	Center/ Anton Anderson Tunnel Control System
		Field/ Traffic Signal Controllers	Center/ ADOTPF Traffic and Safety Offices
			Center/ MOA Integrated Transportation Operations and Communications Center
			Center/ MOA Signal Control
		Field/ Train Signal System	Center/ Anton Anderson Tunnel Control System
			Center/ MOA Integrated Transportation Operations and Communications Center
tag data	Dedicated Short Range Communication at 915 MHz Standards Group	Vehicle/ Commercial Vehicle On-Board Systems	Field/ AVI/WIM
			Field/ Border Data Collection System
			Field/ Weigh and Border Station Roadside and Handheld Equipment
tax filing	Electronic Filing of Tax Return Data	Center/ Commercial Vehicle Operations Offices	Center/ Customs and Border Protection
			Center/ MSCVE Headquarters
			Center/ Web-Based Electronic Registration System (Web CAT)
threat information	NTCIP Center-to-Center Standards Group	Center/ Law Enforcement Dispatch	ARRC Dispatch
			Center/ MOA Integrated Transportation Operations and Communications Center
			Center/ Transit Agency Dispatch (Placeholder)
			Emergency Alert System
		Center/ MOA Emergency Operations Center	ARRC Dispatch
			Center/ AMHS Dispatch and Communications
			Center/ Law Enforcement Dispatch
			Center/ MOA Integrated Transportation Operations and Communications Center
			Center/ MOA Maintenance Dispatch Office
			Center/ Regional Maintenance Stations

Flow Name	Standard Title	Source Element	Destination Element
			Center/ Transit Agency Dispatch (Placeholder)
			Emergency Alert System
		Center/ MOA Integrated Transportation Operations and Communications Center	ARRC Dispatch
			Center/ AMHS Dispatch and Communications
			Center/ Law Enforcement Dispatch
			Center/ MOA Maintenance Dispatch Office
			Center/ Regional Maintenance Stations
			Center/ Transit Agency Dispatch (Placeholder)
			Emergency Alert System
		Center/ State Emergency Coordination Center	Emergency Alert System
threat information coordination	NTCIP Center-to-Center Standards Group	Center/ Law Enforcement Dispatch	Center/ MOA Emergency Operations Center
		Center/ MOA Emergency Operations Center	Center/ MOA Integrated Transportation Operations and Communications Center
			Center/ State Emergency Coordination Center
		Center/ MOA Integrated Transportation Operations and Communications Center	Center/ MOA Emergency Operations Center
		Center/ State Emergency Coordination Center	Center/ MOA Emergency Operations Center
track status	Standard for the Interface Between the Rail Subsystem and the Highway Subsystem at a Highway Rail Intersection	Field/ Train Whistle Noise Reduction Sensors	Field/ Train Whistle Noise Reduction Horns
traffic archive data	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC)	Center/ Law Enforcement Dispatch	Center/ Law Enforcement Data Archives
		Center/ MOA Integrated Transportation Operations and Communications Center	Center/ Condition Acquisition and Reporting System
			Center/ Law Enforcement Dispatch
	NTCIP Center-to-Center Standards Group	Center/ Law Enforcement Dispatch	Center/ Law Enforcement Data Archives
		Center/ MOA Integrated Transportation Operations and Communications Center	Center/ Condition Acquisition and Reporting System
			Center/ Law Enforcement Dispatch
	Standard Practice for Metadata to Support Archived Data Management Systems	Center/ Law Enforcement Dispatch	Center/ Law Enforcement Data Archives
		Center/ MOA Integrated Transportation Operations and Communications Center	Center/ Condition Acquisition and Reporting System
			Center/ Law Enforcement Dispatch
	Standard Specifications for Archiving ITS-Generated Traffic Monitoring Data	Center/ Law Enforcement Dispatch	Center/ Law Enforcement Data Archives
		Center/ MOA Integrated Transportation Operations and Communications Center	Center/ Condition Acquisition and Reporting System
			Center/ Law Enforcement Dispatch
traffic flow	NTCIP Center-to-Field Standards Group	Center/ Tunnel Control System	Center/ Anton Anderson Tunnel Control System
		Field/ Automatic Traffic Data Recorders	Center/ Highway Database Section Office
			Center/ MOA Integrated Transportation Operations and Communications Center
	Global Object Definitions	Center/ Tunnel Control System	Center/ Anton Anderson Tunnel Control System
		Field/ Automatic Traffic Data Recorders	Center/ Highway Database Section Office
			Center/ MOA Integrated Transportation Operations and Communications Center

Flow Name	Standard Title	Source Element	Destination Element
	Data Element Definitions for Transportation Sensor Systems (TSS)	Center/ Tunnel Control System Field/ Automatic Traffic Data Recorders	Center/ Anton Anderson Tunnel Control System Center/ Highway Database Section Office Center/ MOA Integrated Transportation Operations and Communications Center
traffic images	NTCIP Center-to-Center Standards Group	Center/ Anton Anderson Tunnel Control System Center/ MOA Integrated Transportation Operations and Communications Center	Center/ MOA Integrated Transportation Operations and Communications Center Center/ EMS Dispatch Centers (Placeholder) Center/ Law Enforcement Dispatch Center/ MOA Emergency Operations Center
	NTCIP Center-to-Field Standards Group	Center/ Tunnel Control System Field/ Cameras (at RWIS) Field/ Cameras (MOA) Field/ Remote Video Monitoring System	Center/ Anton Anderson Tunnel Control System Center/ Regional Maintenance Stations Center/ MOA Integrated Transportation Operations and Communications Center Center/ MOA Signal Control Center/ MOA Integrated Transportation Operations and Communications Center
	Global Object Definitions	Center/ Tunnel Control System Field/ Cameras (at RWIS) Field/ Cameras (MOA) Field/ Remote Video Monitoring System	Center/ Anton Anderson Tunnel Control System Center/ Regional Maintenance Stations Center/ MOA Integrated Transportation Operations and Communications Center Center/ MOA Signal Control Center/ MOA Integrated Transportation Operations and Communications Center
	Object Definitions for Closed Circuit Television (CCTV) Camera Control	Center/ Tunnel Control System Field/ Cameras (at RWIS) Field/ Cameras (MOA) Field/ Remote Video Monitoring System	Center/ Anton Anderson Tunnel Control System Center/ Regional Maintenance Stations Center/ MOA Integrated Transportation Operations and Communications Center Center/ MOA Signal Control Center/ MOA Integrated Transportation Operations and Communications Center
	Object Definitions for Closed Circuit Television (CCTV) Switching	Center/ Tunnel Control System Field/ Cameras (at RWIS) Field/ Cameras (MOA) Field/ Remote Video Monitoring System	Center/ Anton Anderson Tunnel Control System Center/ Regional Maintenance Stations Center/ MOA Integrated Transportation Operations and Communications Center Center/ MOA Signal Control Center/ MOA Integrated Transportation Operations and Communications Center
traffic information coordination	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC)	Center/ Anton Anderson Tunnel Control System	Center/ MOA Integrated Transportation Operations and Communications Center
	NTCIP Center-to-Center Standards Group	Center/ Anton Anderson Tunnel Control System	Center/ MOA Integrated Transportation Operations and Communications Center

Flow Name	Standard Title	Source Element	Destination Element
traffic sensor control	NTCIP Center-to-Field Standards Group	Center/ Highway Database Section Office	Field/ Automatic Traffic Data Recorders
		Center/ MOA Integrated Transportation Operations and Communications Center	Field/ Automatic Traffic Data Recorders
	Global Object Definitions	Center/ Highway Database Section Office	Field/ Automatic Traffic Data Recorders
		Center/ MOA Integrated Transportation Operations and Communications Center	Field/ Automatic Traffic Data Recorders
	Data Element Definitions for Transportation Sensor Systems (TSS)	Center/ Highway Database Section Office	Field/ Automatic Traffic Data Recorders
		Center/ MOA Integrated Transportation Operations and Communications Center	Field/ Automatic Traffic Data Recorders
transit and fare schedules	NTCIP Center-to-Center Standards Group	Center/ AMHS Dispatch and Communications	Center/ AMHS Website
		Center/ Transit Agency Dispatch (Placeholder)	Center/ Transit Agency Websites
		Center/ Vessel Tracking System	Center/ AMHS Website
transit incident information	NTCIP Center-to-Center Standards Group	Center/ AMHS Dispatch and Communications	Center/ AMHS Website
		Center/ Transit Agency Dispatch (Placeholder)	Center/ Condition Acquisition and Reporting System
		Center/ Transit Agency Dispatch (Placeholder)	Center/ Condition Acquisition and Reporting System
transit incidents for media	NTCIP Center-to-Center Standards Group	Center/ Transit Agency Dispatch (Placeholder)	Center/ Transit Agency Websites
		Center/ Transit Agency Dispatch (Placeholder)	Media Systems (T.V. and Radio)
transit information request	NTCIP Center-to-Center Standards Group	Center/ AMHS Website	Center/ Vessel Tracking System
		Center/ Transit Agency Websites	Center/ Transit Agency Dispatch (Placeholder)
	Advanced Traveler Information Systems (ATIS) General Use Standards Group	Center/ AMHS Website	Center/ Vessel Tracking System
		Center/ Transit Agency Websites	Center/ Transit Agency Dispatch (Placeholder)
transit schedule information	Standard for Transit Communications Interface Profiles	Center/ AMHS Dispatch and Communications	Vehicle/ Ferries On-board Systems
transit system data	NTCIP Center-to-Center Standards Group	Center/ AMHS Dispatch and Communications	Center/ Condition Acquisition and Reporting System
transit vehicle location data	Standard for Transit Communications Interface Profiles	Vehicle/ Ferries On-board Systems	Center/ AMHS Dispatch and Communications
		Vehicle/ Transit Vehicle On-board Systems (Placeholder)	Center/ Vessel Tracking System
		Vehicle/ Transit Vehicle On-board Systems (Placeholder)	Center/ Transit Agency Dispatch (Placeholder)
transit vehicle operator information	Standard for Transit Communications Interface Profiles	Center/ AMHS Dispatch and Communications	Vehicle/ Ferries On-board Systems
		Center/ Transit Agency Dispatch (Placeholder)	Vehicle/ Transit Vehicle On-board Systems (Placeholder)
transit vehicle schedule performance	Standard for Transit Communications Interface Profiles	Vehicle/ Ferries On-board Systems	Center/ AMHS Dispatch and Communications
		Vehicle/ Transit Vehicle On-board Systems (Placeholder)	Center/ Vessel Tracking System
		Vehicle/ Transit Vehicle On-board Systems (Placeholder)	Center/ Transit Agency Dispatch (Placeholder)
transportation system status	NTCIP Center-to-Center Standards Group	Center/ Condition Acquisition and Reporting System	Center/ 511 (phone and web)
		Center/ Condition Acquisition and Reporting System	Center/ APD Headquarters and Dispatch
		Center/ Condition Acquisition and Reporting System	Center/ Law Enforcement Dispatch
		Center/ Condition Acquisition and Reporting System	Center/ MOA Maintenance Dispatch Office
		Center/ Condition Acquisition and Reporting System	Center/ Regional Maintenance Stations
		Center/ MOA Integrated Transportation Operations and	Center/ MOA Emergency Operations Center

Flow Name	Standard Title	Source Element	Destination Element	
traveler archive data	NTCIP Center-to-Center Standards Group	Communications Center	Center/ Transit Agency Dispatch (Placeholder)	
		Center/ Condition Acquisition and Reporting System	Center/ SEPP	
		Center/ MOA Integrated Transportation Operations and Communications Center	Center/ Condition Acquisition and Reporting System Center/ Law Enforcement Dispatch Center/ Maintenance Management System	
	Standard Practice for Metadata to Support Archived Data Management Systems	Center/ Condition Acquisition and Reporting System	Center/ SEPP	
		Center/ MOA Integrated Transportation Operations and Communications Center	Center/ Condition Acquisition and Reporting System Center/ Law Enforcement Dispatch Center/ Maintenance Management System	
		Advanced Traveler Information Systems (ATIS) General Use Standards Group	Center/ Condition Acquisition and Reporting System Center/ MOA Integrated Transportation Operations and Communications Center	Center/ SEPP Center/ Condition Acquisition and Reporting System Center/ Law Enforcement Dispatch Center/ Maintenance Management System
	traveler profile	Advanced Traveler Information Systems (ATIS) General Use Standards Group	Travelers/ Personal Communications/Computing Devices (en-route)	Center/ 511 (phone and web)
				Center/ AMHS Website
				Center/ Division of Tourism Website
Travelers/ Personal Communications/Computing Devices (pre-trip)			Center/ Transit Agency Websites	
			Center/ 511 (phone and web)	
			Center/ AMHS Website	
traveler request	Advanced Traveler Information Systems (ATIS) General Use Standards Group	Travelers/ Personal Communications/Computing Devices (en-route)	Center/ Division of Tourism Website	
			Center/ Transit Agency Websites	
			Center/ 511 (phone and web)	
		Travelers/ Personal Communications/Computing Devices (pre-trip)	Center/ AMHS Website	
			Center/ Division of Tourism Website	
			Center/ Transit Agency Websites	
trip log	Dedicated Short Range Communication at 915 MHz Standards Group	Vehicle/ Commercial Vehicle On-Board Systems	Center/ Motor Carrier Administrative Systems	
trip log request	Dedicated Short Range Communication at 915 MHz Standards Group	Center/ Motor Carrier Administrative Systems	Vehicle/ Commercial Vehicle On-Board Systems	
trip plan	Advanced Traveler Information Systems (ATIS) General Use Standards Group	Center/ AMHS Website	Travelers/ Personal Communications/Computing Devices (en-route) Travelers/ Personal Communications/Computing Devices (pre-trip)	
video surveillance control	NTCIP Center-to-Field Standards Group	Center/ Anton Anderson Tunnel Control System	Center/ Tunnel Control System	
			Field/ Train Signal System	

Flow Name	Standard Title	Source Element	Destination Element
		Center/ MOA Integrated Transportation Operations and Communications Center	Field/ Cameras (MOA) Field/ Remote Video Monitoring System
		Center/ MOA Signal Control	Field/ Cameras (MOA)
		Center/ Regional Maintenance Stations	Field/ Cameras (at RWIS)
	Global Object Definitions	Center/ Anton Anderson Tunnel Control System	Center/ Tunnel Control System Field/ Train Signal System
		Center/ MOA Integrated Transportation Operations and Communications Center	Field/ Cameras (MOA) Field/ Remote Video Monitoring System
		Center/ MOA Signal Control	Field/ Cameras (MOA)
		Center/ Regional Maintenance Stations	Field/ Cameras (at RWIS)
	Object Definitions for Closed Circuit Television (CCTV) Camera Control	Center/ Anton Anderson Tunnel Control System	Center/ Tunnel Control System Field/ Train Signal System
		Center/ MOA Integrated Transportation Operations and Communications Center	Field/ Cameras (MOA) Field/ Remote Video Monitoring System
		Center/ MOA Signal Control	Field/ Cameras (MOA)
		Center/ Regional Maintenance Stations	Field/ Cameras (at RWIS)
	Object Definitions for Closed Circuit Television (CCTV) Switching	Center/ Anton Anderson Tunnel Control System	Center/ Tunnel Control System Field/ Train Signal System
		Center/ MOA Integrated Transportation Operations and Communications Center	Field/ Cameras (MOA) Field/ Remote Video Monitoring System
		Center/ MOA Signal Control	Field/ Cameras (MOA)
		Center/ Regional Maintenance Stations	Field/ Cameras (at RWIS)
weather archive data	NTCIP Center-to-Center Standards Group	Center/ National Weather Service Offices	Center/ Condition Acquisition and Reporting System Center/ State Emergency Coordination Center
		Field/ Weather and Pavement Sensors (Military Bases)	Center/ MOA Integrated Transportation Operations and Communications Center
	Standard Practice for Metadata to Support Archived Data Management Systems	Center/ National Weather Service Offices	Center/ Condition Acquisition and Reporting System Center/ State Emergency Coordination Center
		Field/ Weather and Pavement Sensors (Military Bases)	Center/ MOA Integrated Transportation Operations and Communications Center
weather information	NTCIP Center-to-Center Standards Group	Center/ National Weather Service Offices	Center/ MOA Emergency Operations Center Center/ Regional Maintenance Stations
		Field/ Weather and Pavement Sensors (Military Bases)	Center/ Regional Maintenance Stations
		Field/ Weather and Pavement Sensors (NWS)	Center/ National Weather Service Offices
work plan coordination	NTCIP Center-to-Center Standards Group	Center/ Regional Maintenance Stations	Center/ MOA Maintenance Dispatch Office
work zone information	NTCIP Center-to-Center Standards Group	Center/ Condition Acquisition and Reporting System	Center/ 511 (phone and web)
		Center/ MOA Integrated Transportation Operations and Communications Center	Center/ EMS Dispatch Centers (Placeholder) Center/ Law Enforcement Dispatch
		Center/ MOA Maintenance Dispatch Office	Center/ MOA Integrated Transportation Operations and Communications Center

Flow Name	Standard Title	Source Element	Destination Element
		Center/ Regional Maintenance Stations	Center/ Condition Acquisition and Reporting System Center/ MOA Integrated Transportation Operations and Communications Center Media Systems (T.V. and Radio)
yellow pages information	Advanced Traveler Information Systems (ATIS) General Use Standards Group	Center/ AMHS Website	Travelers/ Personal Communications/Computing Devices (en-route) Travelers/ Personal Communications/Computing Devices (pre-trip)
		Center/ Division of Tourism Website	Travelers/ Personal Communications/Computing Devices (en-route) Travelers/ Personal Communications/Computing Devices (pre-trip)
yellow pages request	Advanced Traveler Information Systems (ATIS) General Use Standards Group	Travelers/ Personal Communications/Computing Devices (en-route)	Center/ AMHS Website Center/ Division of Tourism Website
		Travelers/ Personal Communications/Computing Devices (pre-trip)	Center/ AMHS Website Center/ Division of Tourism Website

Table 4:
Applicable ITS Standards by Source and Destination ITS Elements and Respective Architecture Flows

Source Element	Destination Element	Flow Name	Standard Title
ARRC Dispatch	Center/ Anton Anderson Tunnel Control System	railroad advisories	NTCIP Center-to-Center Standards Group
		railroad schedules	NTCIP Center-to-Center Standards Group
	Center/ MOA Integrated Transportation Operations and Communications Center	emergency plan coordination	NTCIP Center-to-Center Standards Group
		incident information	NTCIP Center-to-Center Standards Group
		Incident Management Standards Group	
		rail incident response status	NTCIP Center-to-Center Standards Group
railroad advisories	NTCIP Center-to-Center Standards Group		
Center/ 511 (phone and web)	Center/ AMHS Website	ISP coordination	NTCIP Center-to-Center Standards Group
		Advanced Traveler Information Systems (ATIS) General Use Standards Group	
	Center/ Division of Tourism Website	ISP coordination	NTCIP Center-to-Center Standards Group
		Advanced Traveler Information Systems (ATIS) General Use Standards Group	
	Travelers/ Personal Communications/Computing Devices (en-route)	broadcast traveler information	Advanced Traveler Information Systems (ATIS) Bandwidth Limited Standards Group
			Advanced Traveler Information Systems (ATIS) General Use Standards Group
		interactive traveler information	Advanced Traveler Information Systems (ATIS) General Use Standards Group
			Advanced Traveler Information Systems (ATIS) General Use Standards Group
	Travelers/ Personal Communications/Computing Devices (pre-trip)	broadcast traveler information	Advanced Traveler Information Systems (ATIS) Bandwidth Limited Standards Group
			Advanced Traveler Information Systems (ATIS) General Use Standards Group
		interactive traveler information	Advanced Traveler Information Systems (ATIS) General Use Standards Group
			Advanced Traveler Information Systems (ATIS) General Use Standards Group
Center/ ADOTPF Traffic and Safety Offices	Field/ Traffic Signal Controllers	signal control data	NTCIP Center-to-Field Standards Group
		Global Object Definitions	
		Object Definitions for Actuated Traffic Signal Controller (ASC) Units	
		Field Management Stations (FMS) - Part 1: Object Definitions for Signal System Masters	
		Object Definitions for Signal Control and Prioritization (SCP)	
Center/ AMHS Dispatch and Communications	Center/ AMHS Website	transit and fare schedules	NTCIP Center-to-Center Standards Group
		transit incident information	NTCIP Center-to-Center Standards Group
	Center/ Condition Acquisition and Reporting System	transit incident information	NTCIP Center-to-Center Standards Group
		transit system data	NTCIP Center-to-Center Standards Group
	Vehicle/ Ferries On-board Systems	transit schedule information	Standard for Transit Communications Interface Profiles
		transit vehicle operator information	Standard for Transit Communications Interface Profiles

Source Element	Destination Element	Flow Name	Standard Title	
Center/ AMHS Website	Center/ 511 (phone and web)	ISP coordination	NTCIP Center-to-Center Standards Group	
			Advanced Traveler Information Systems (ATIS) General Use Standards Group	
	Center/ Division of Tourism Website	ISP coordination	NTCIP Center-to-Center Standards Group	
			Advanced Traveler Information Systems (ATIS) General Use Standards Group	
	Center/ Vessel Tracking System	transit information request	NTCIP Center-to-Center Standards Group	
			Advanced Traveler Information Systems (ATIS) General Use Standards Group	
	Travelers/ Personal Communications/Computing Devices (en-route)	broadcast traveler information	Advanced Traveler Information Systems (ATIS) Bandwidth Limited Standards Group	
			Advanced Traveler Information Systems (ATIS) General Use Standards Group	
			Advanced Traveler Information Systems (ATIS) General Use Standards Group	
			Advanced Traveler Information Systems (ATIS) General Use Standards Group	
	Travelers/ Personal Communications/Computing Devices (pre-trip)	broadcast traveler information	Advanced Traveler Information Systems (ATIS) Bandwidth Limited Standards Group	
			Advanced Traveler Information Systems (ATIS) General Use Standards Group	
			Advanced Traveler Information Systems (ATIS) General Use Standards Group	
			Advanced Traveler Information Systems (ATIS) General Use Standards Group	
	Center/ Anton Anderson Tunnel Control System	ARRC Dispatch	hri advisories	NTCIP Center-to-Center Standards Group
		Center/ MOA Integrated Transportation Operations and Communications Center	alert status	NTCIP Center-to-Center Standards Group
emergency plan coordination			NTCIP Center-to-Center Standards Group	
emergency routes			NTCIP Center-to-Center Standards Group	
emergency traffic control information			NTCIP Center-to-Center Standards Group	
			Global Object Definitions	
Object Definitions for Signal Control and Prioritization (SCP)				
incident information		Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC)		
		NTCIP Center-to-Center Standards Group		
		Incident Management Standards Group		
maint and constr resource request		NTCIP Center-to-Center Standards Group		
road network conditions		Traffic Management Data Dictionary and Message Sets for		

Source Element	Destination Element	Flow Name	Standard Title	
			External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group	
		road network status assessment	NTCIP Center-to-Center Standards Group	
		traffic images	NTCIP Center-to-Center Standards Group	
		traffic information coordination	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group	
		Center/ Tunnel Control System	barrier system control	NTCIP Center-to-Field Standards Group
		reversible lane control	NTCIP Center-to-Field Standards Group	
		signal control data	NTCIP Center-to-Field Standards Group Global Object Definitions Object Definitions for Actuated Traffic Signal Controller (ASC) Units Field Management Stations (FMS) - Part 1: Object Definitions for Signal System Masters Object Definitions for Signal Control and Prioritization (SCP)	
		video surveillance control	NTCIP Center-to-Field Standards Group Global Object Definitions Object Definitions for Closed Circuit Television (CCTV) Camera Control Object Definitions for Closed Circuit Television (CCTV) Switching	
	Field/ Train Signal System	barrier system control	NTCIP Center-to-Field Standards Group	
		reversible lane control	NTCIP Center-to-Field Standards Group	
		signal control data	NTCIP Center-to-Field Standards Group Global Object Definitions Object Definitions for Actuated Traffic Signal Controller (ASC) Units Field Management Stations (FMS) - Part 1: Object Definitions for Signal System Masters Object Definitions for Signal Control and Prioritization (SCP)	
		video surveillance control	NTCIP Center-to-Field Standards Group Global Object Definitions Object Definitions for Closed Circuit Television (CCTV) Camera Control Object Definitions for Closed Circuit Television (CCTV) Switching	
	Center/ APD Headquarters and Dispatch	Center/ Condition Acquisition and Reporting System	incident information	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group Incident Management Standards Group
			incident report	NTCIP Center-to-Center Standards Group

Source Element	Destination Element	Flow Name	Standard Title
		road network conditions	Incident Management Standards Group Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group
		roadway information system data	NTCIP Center-to-Field Standards Group Global Object Definitions Object Definitions for Dynamic Message Signs (DMS)
	Field/ Permanent Dynamic Message Signs (Anchorage)	secure area sensor data	NTCIP Center-to-Field Standards Group
		alerts and advisories	NTCIP Center-to-Center Standards Group
Center/ Avalanche Detection System	Center/ Law Enforcement Dispatch	secure area sensor data	NTCIP Center-to-Field Standards Group
	Center/ Regional Maintenance Stations	alerts and advisories	NTCIP Center-to-Center Standards Group
Center/ Bridge Design Section Offices	Center/ Bridge Management System	maint and constr archive data	NTCIP Center-to-Center Standards Group Standard Practice for Metadata to Support Archived Data Management Systems
Center/ Bridge Management System	Center/ Bridge Design Section Offices	archive status	NTCIP Center-to-Center Standards Group
	Center/ Maintenance Management System	archive coordination	NTCIP Center-to-Center Standards Group
Center/ Bridge Scour System	Field/ Bridge Scour Sensors	infrastructure monitoring sensor control	NTCIP Center-to-Field Standards Group
Center/ Commercial Vehicle Operations Offices	Center/ Customs and Border Protection	tax filing	Electronic Filing of Tax Return Data
	Center/ Law Enforcement Dispatch	hazmat information	NTCIP Center-to-Center Standards Group Incident Management Standards Group
		tax filing	Electronic Filing of Tax Return Data
	Center/ Web-Based Electronic Registration System (WeB CAT)	tax filing	Electronic Filing of Tax Return Data
Center/ Condition Acquisition and Reporting System	Center/ 511 (phone and web)	alert notification	NTCIP Center-to-Center Standards Group
		current asset restrictions	NTCIP Center-to-Center Standards Group
		incident information	NTCIP Center-to-Center Standards Group
			Incident Management Standards Group
		maint and constr work plans	NTCIP Center-to-Center Standards Group
		road network conditions	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC)
			NTCIP Center-to-Center Standards Group
		road weather information	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC)
			NTCIP Center-to-Center Standards Group
		roadway maintenance status	NTCIP Center-to-Center Standards Group
	transportation system status	NTCIP Center-to-Center Standards Group	
	work zone information	NTCIP Center-to-Center Standards Group	
	Center/ APD Headquarters and Dispatch	incident information	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC)
NTCIP Center-to-Center Standards Group			
Incident Management Standards Group			

Source Element	Destination Element	Flow Name	Standard Title
		incident report	NTCIP Center-to-Center Standards Group Incident Management Standards Group
		incident response status	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group Incident Management Standards Group
		road network conditions	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group
		roadway maintenance status	NTCIP Center-to-Center Standards Group
		transportation system status	NTCIP Center-to-Center Standards Group
	Center/ Highway Analysis System	archive coordination	NTCIP Center-to-Center Standards Group
	Center/ Law Enforcement Dispatch	alerts and advisories	NTCIP Center-to-Center Standards Group
		current asset restrictions	NTCIP Center-to-Center Standards Group
		incident information	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group Incident Management Standards Group
		incident report	NTCIP Center-to-Center Standards Group Incident Management Standards Group
		road network conditions	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group
		road weather information	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group
		roadway maintenance status	NTCIP Center-to-Center Standards Group
		transportation system status	NTCIP Center-to-Center Standards Group
	Center/ MOA Integrated Transportation Operations and Communications Center	archive status	NTCIP Center-to-Center Standards Group
		incident information	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group Incident Management Standards Group
		incident response status	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group Incident Management Standards Group
	Center/ MOA Maintenance Dispatch Office	incident information	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group Incident Management Standards Group

Source Element	Destination Element	Flow Name	Standard Title		
		road network conditions	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group		
		transportation system status	NTCIP Center-to-Center Standards Group		
	Center/ Regional Maintenance Stations	incident information	road network conditions	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group Incident Management Standards Group	
			road network conditions	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group	
		transportation system status	road network conditions	NTCIP Center-to-Center Standards Group	
			transportation system status	NTCIP Center-to-Center Standards Group	
	Center/ SEPP	traveler archive data	traveler archive data	NTCIP Center-to-Center Standards Group Standard Practice for Metadata to Support Archived Data Management Systems Advanced Traveler Information Systems (ATIS) General Use Standards Group	
			current asset restrictions	NTCIP Center-to-Center Standards Group	
			road network conditions	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group	
	Center/ Transit Agency Dispatch (Placeholder)	roadway maintenance status	roadway maintenance status	NTCIP Center-to-Center Standards Group	
			road network conditions	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group	
			roadway maintenance status	NTCIP Center-to-Center Standards Group	
	Center/ Division of Tourism Website	Center/ 511 (phone and web)	ISP coordination	ISP coordination	NTCIP Center-to-Center Standards Group Advanced Traveler Information Systems (ATIS) General Use Standards Group
				ISP coordination	NTCIP Center-to-Center Standards Group Advanced Traveler Information Systems (ATIS) General Use Standards Group
Travelers/ Personal Communications/Computing Devices (en-route)		interactive traveler information	interactive traveler information	Advanced Traveler Information Systems (ATIS) General Use Standards Group	
			yellow pages information	Advanced Traveler Information Systems (ATIS) General Use Standards Group	
Travelers/ Personal Communications/Computing Devices (pre-trip)		interactive traveler information	interactive traveler information	Advanced Traveler Information Systems (ATIS) General Use Standards Group	
			yellow pages information	Advanced Traveler Information Systems (ATIS) General Use Standards Group	
Center/ EMS Dispatch Centers (Placeholder)		Center/ Law Enforcement Dispatch	incident command information coordination	NTCIP Center-to-Center Standards Group Incident Management Standards Group	
			incident response coordination	NTCIP Center-to-Center Standards Group Incident Management Standards Group	
	Center/ MOA Emergency Operations Center	alert notification coordination	NTCIP Center-to-Center Standards Group		
		emergency plan coordination	NTCIP Center-to-Center Standards Group		

Source Element	Destination Element	Flow Name	Standard Title	
		incident command information coordination	NTCIP Center-to-Center Standards Group Incident Management Standards Group	
		incident report	NTCIP Center-to-Center Standards Group Incident Management Standards Group	
		incident response coordination	NTCIP Center-to-Center Standards Group Incident Management Standards Group	
		resource coordination	NTCIP Center-to-Center Standards Group Incident Management Standards Group	
	Center/ MOA Integrated Transportation Operations and Communications Center	incident information	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group Incident Management Standards Group	
		resource request	NTCIP Center-to-Center Standards Group Incident Management Standards Group	
	Center/ HazMat	Center/ SEPP	emergency archive data	NTCIP Center-to-Center Standards Group Standard Practice for Metadata to Support Archived Data Management Systems Incident Management Standards Group
	Center/ Highway Analysis System	Center/ Condition Acquisition and Reporting System	archive coordination	NTCIP Center-to-Center Standards Group
		Center/ Highway Data Weather Portal	archive coordination	NTCIP Center-to-Center Standards Group
		Center/ Maintenance Management System	archive coordination	NTCIP Center-to-Center Standards Group
Travelers/ Personal Communications/Computing Devices (en-route)		archive analysis results	NTCIP Center-to-Center Standards Group	
		archived data products	NTCIP Center-to-Center Standards Group	
Travelers/ Personal Communications/Computing Devices (pre-trip)	archived data products	NTCIP Center-to-Center Standards Group		
Center/ Highway Data Weather Portal	Center/ Highway Analysis System	archive coordination	NTCIP Center-to-Center Standards Group	
Center/ Highway Database Section Office	Field/ Automatic Traffic Data Recorders	traffic sensor control	NTCIP Center-to-Field Standards Group Global Object Definitions Data Element Definitions for Transportation Sensor Systems (TSS)	
			archive requests	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group
			archive status	NTCIP Center-to-Center Standards Group
Center/ Law Enforcement Data Archives	Center/ Law Enforcement Dispatch	emergency plan coordination	NTCIP Center-to-Center Standards Group	
		incident information	NTCIP Center-to-Center Standards Group Incident Management Standards Group	
Center/ Law Enforcement Dispatch	ARRC Dispatch	incident response status	NTCIP Center-to-Center Standards Group	

Source Element	Destination Element	Flow Name	Standard Title
			Incident Management Standards Group
		threat information	NTCIP Center-to-Center Standards Group
	Center/ Avalanche Detection System	infrastructure monitoring sensor control	NTCIP Center-to-Field Standards Group
		secure area sensor control	NTCIP Center-to-Field Standards Group
	Center/ Condition Acquisition and Reporting System	incident information	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC)
			NTCIP Center-to-Center Standards Group
			Incident Management Standards Group
		incident report	NTCIP Center-to-Center Standards Group
			Incident Management Standards Group
		road network conditions	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC)
			NTCIP Center-to-Center Standards Group
	Center/ EMS Dispatch Centers (Placeholder)	incident command information coordination	NTCIP Center-to-Center Standards Group
			Incident Management Standards Group
		incident report	NTCIP Center-to-Center Standards Group
			Incident Management Standards Group
		incident response coordination	NTCIP Center-to-Center Standards Group
			Incident Management Standards Group
	Center/ Law Enforcement Data Archives	emergency archive data	NTCIP Center-to-Center Standards Group
			Standard Practice for Metadata to Support Archived Data Management Systems
			Incident Management Standards Group
		traffic archive data	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC)
			NTCIP Center-to-Center Standards Group
			Standard Practice for Metadata to Support Archived Data Management Systems
			Standard Specifications for Archiving ITS-Generated Traffic Monitoring Data
	Center/ MOA Emergency Operations Center	incident command information coordination	NTCIP Center-to-Center Standards Group
			Incident Management Standards Group
		incident report	NTCIP Center-to-Center Standards Group
			Incident Management Standards Group
		incident response coordination	NTCIP Center-to-Center Standards Group
			Incident Management Standards Group
		threat information coordination	NTCIP Center-to-Center Standards Group
	Center/ MOA Integrated Transportation Operations and Communications Center	alert notification	NTCIP Center-to-Center Standards Group
		alert notification coordination	NTCIP Center-to-Center Standards Group
		archive status	NTCIP Center-to-Center Standards Group
		emergency archive data	NTCIP Center-to-Center Standards Group

Source Element	Destination Element	Flow Name	Standard Title
			Standard Practice for Metadata to Support Archived Data Management Systems Incident Management Standards Group
		emergency plan coordination	NTCIP Center-to-Center Standards Group
		evacuation information	NTCIP Center-to-Center Standards Group
		incident command information coordination	NTCIP Center-to-Center Standards Group Incident Management Standards Group
		incident information	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group Incident Management Standards Group
		incident report	NTCIP Center-to-Center Standards Group Incident Management Standards Group
		incident response coordination	NTCIP Center-to-Center Standards Group Incident Management Standards Group
		incident response status	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group Incident Management Standards Group
		threat information	NTCIP Center-to-Center Standards Group
	Center/ State Emergency Coordination Center	alert notification coordination	NTCIP Center-to-Center Standards Group
		emergency plan coordination	NTCIP Center-to-Center Standards Group
		incident command information coordination	NTCIP Center-to-Center Standards Group Incident Management Standards Group
		incident report	NTCIP Center-to-Center Standards Group Incident Management Standards Group
		incident response coordination	NTCIP Center-to-Center Standards Group Incident Management Standards Group
		resource coordination	NTCIP Center-to-Center Standards Group Incident Management Standards Group
	Center/ Transit Agency Dispatch (Placeholder)	alert notification	NTCIP Center-to-Center Standards Group
		incident information	NTCIP Center-to-Center Standards Group Incident Management Standards Group
		incident response status	NTCIP Center-to-Center Standards Group Incident Management Standards Group
		threat information	NTCIP Center-to-Center Standards Group
	Emergency Alert System	threat information	NTCIP Center-to-Center Standards Group
	Field/ Cameras (at AMHS Terminals)	secure area surveillance control	Global Object Definitions Object Definitions for Closed Circuit Television (CCTV) Camera Control Object Definitions for Closed Circuit Television (CCTV)

Source Element	Destination Element	Flow Name	Standard Title
			Switching
	Field/ Seismic Sensors	infrastructure monitoring sensor control	NTCIP Center-to-Field Standards Group
		secure area sensor control	NTCIP Center-to-Field Standards Group
	Media Systems (T.V. and Radio)	incident information for media	NTCIP Center-to-Center Standards Group
			Incident Management Standards Group
Center/ Maintenance Management System	Center/ Bridge Management System	archive coordination	NTCIP Center-to-Center Standards Group
	Center/ Highway Analysis System	archive coordination	NTCIP Center-to-Center Standards Group
	Center/ Regional Maintenance Stations	maint and constr administrative information	NTCIP Center-to-Center Standards Group
Center/ MOA Emergency Operations Center	ARRC Dispatch	threat information	NTCIP Center-to-Center Standards Group
	Center/ AMHS Dispatch and Communications	threat information	NTCIP Center-to-Center Standards Group
	Center/ EMS Dispatch Centers (Placeholder)	alert notification coordination	NTCIP Center-to-Center Standards Group
		emergency plan coordination	NTCIP Center-to-Center Standards Group
		incident command information coordination	NTCIP Center-to-Center Standards Group
			Incident Management Standards Group
		incident report	NTCIP Center-to-Center Standards Group
			Incident Management Standards Group
		incident response coordination	NTCIP Center-to-Center Standards Group
			Incident Management Standards Group
		resource coordination	NTCIP Center-to-Center Standards Group
			Incident Management Standards Group
	Center/ Law Enforcement Dispatch	incident command information coordination	NTCIP Center-to-Center Standards Group
			Incident Management Standards Group
		incident response coordination	NTCIP Center-to-Center Standards Group
			Incident Management Standards Group
		threat information	NTCIP Center-to-Center Standards Group
	Center/ MOA Integrated Transportation Operations and Communications Center	emergency plan coordination	NTCIP Center-to-Center Standards Group
		emergency traffic control request	NTCIP Center-to-Center Standards Group
			Global Object Definitions
			Object Definitions for Signal Control and Prioritization (SCP)
			Incident Management Standards Group
		incident command information coordination	NTCIP Center-to-Center Standards Group
			Incident Management Standards Group
		incident response coordination	NTCIP Center-to-Center Standards Group
			Incident Management Standards Group
		remote surveillance control	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC)
			NTCIP Center-to-Center Standards Group
		resource coordination	NTCIP Center-to-Center Standards Group

Source Element	Destination Element	Flow Name	Standard Title	
			Incident Management Standards Group	
		threat information	NTCIP Center-to-Center Standards Group	
		threat information coordination	NTCIP Center-to-Center Standards Group	
	Center/ MOA Maintenance Dispatch Office		threat information	NTCIP Center-to-Center Standards Group
	Center/ Regional Maintenance Stations		threat information	NTCIP Center-to-Center Standards Group
	Center/ State Emergency Coordination Center		incident command information coordination	NTCIP Center-to-Center Standards Group Incident Management Standards Group
			incident report	NTCIP Center-to-Center Standards Group
			threat information coordination	Incident Management Standards Group NTCIP Center-to-Center Standards Group
	Center/ Transit Agency Dispatch (Placeholder)		alert notification	NTCIP Center-to-Center Standards Group
			threat information	NTCIP Center-to-Center Standards Group
	Emergency Alert System		threat information	NTCIP Center-to-Center Standards Group
	Center/ MOA Integrated Transportation Operations and Communications Center	ARRC Dispatch	emergency plan coordination	NTCIP Center-to-Center Standards Group
incident information			NTCIP Center-to-Center Standards Group Incident Management Standards Group	
maint and constr work plans			NTCIP Center-to-Center Standards Group	
threat information			NTCIP Center-to-Center Standards Group	
Center/ AMHS Dispatch and Communications			threat information	NTCIP Center-to-Center Standards Group
Center/ Condition Acquisition and Reporting System			alert notification	NTCIP Center-to-Center Standards Group
			archive requests	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group
		current asset restrictions	NTCIP Center-to-Center Standards Group	
		incident information		Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group Incident Management Standards Group
		road network conditions		Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group
		road weather information		Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group
		traffic archive data		Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group
			Standard Practice for Metadata to Support Archived Data Management Systems	

Source Element	Destination Element	Flow Name	Standard Title
			Standard Specifications for Archiving ITS-Generated Traffic Monitoring Data
		traveler archive data	NTCIP Center-to-Center Standards Group Standard Practice for Metadata to Support Archived Data Management Systems
			Advanced Traveler Information Systems (ATIS) General Use Standards Group
	Center/ EMS Dispatch Centers (Placeholder)	current asset restrictions	NTCIP Center-to-Center Standards Group
		incident information	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group Incident Management Standards Group
		resource deployment status	NTCIP Center-to-Center Standards Group Incident Management Standards Group
		road network conditions	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group
		traffic images	NTCIP Center-to-Center Standards Group
		work zone information	NTCIP Center-to-Center Standards Group
	Center/ Law Enforcement Dispatch	alert notification coordination	NTCIP Center-to-Center Standards Group
		current asset restrictions	NTCIP Center-to-Center Standards Group
		emergency plan coordination	NTCIP Center-to-Center Standards Group
		incident command information coordination	NTCIP Center-to-Center Standards Group Incident Management Standards Group
		incident information	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group Incident Management Standards Group
		incident report	NTCIP Center-to-Center Standards Group Incident Management Standards Group
		incident response coordination	NTCIP Center-to-Center Standards Group Incident Management Standards Group
		maint and constr work plans	NTCIP Center-to-Center Standards Group
		road network conditions	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group
		threat information	NTCIP Center-to-Center Standards Group
		traffic archive data	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group Standard Practice for Metadata to Support Archived Data Management Systems

Source Element	Destination Element	Flow Name	Standard Title
			Standard Specifications for Archiving ITS-Generated Traffic Monitoring Data
		traffic images	NTCIP Center-to-Center Standards Group
		traveler archive data	NTCIP Center-to-Center Standards Group
			Standard Practice for Metadata to Support Archived Data Management Systems
			Advanced Traveler Information Systems (ATIS) General Use Standards Group
		work zone information	NTCIP Center-to-Center Standards Group
	Center/ Maintenance Management System	maint and constr archive data	NTCIP Center-to-Center Standards Group
			Standard Practice for Metadata to Support Archived Data Management Systems
		traveler archive data	NTCIP Center-to-Center Standards Group
			Standard Practice for Metadata to Support Archived Data Management Systems
			Advanced Traveler Information Systems (ATIS) General Use Standards Group
	Center/ MOA Emergency Operations Center	current asset restrictions	NTCIP Center-to-Center Standards Group
		emergency plan coordination	NTCIP Center-to-Center Standards Group
		emergency routes	NTCIP Center-to-Center Standards Group
		incident command information coordination	NTCIP Center-to-Center Standards Group
			Incident Management Standards Group
		incident information	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC)
			NTCIP Center-to-Center Standards Group
			Incident Management Standards Group
		incident response coordination	NTCIP Center-to-Center Standards Group
			Incident Management Standards Group
		resource coordination	NTCIP Center-to-Center Standards Group
			Incident Management Standards Group
		resource deployment status	NTCIP Center-to-Center Standards Group
			Incident Management Standards Group
		road network conditions	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC)
			NTCIP Center-to-Center Standards Group
		road weather information	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC)
			NTCIP Center-to-Center Standards Group
		threat information coordination	NTCIP Center-to-Center Standards Group
		traffic images	NTCIP Center-to-Center Standards Group
		transportation system status	NTCIP Center-to-Center Standards Group
	Center/ MOA Maintenance Dispatch	incident information	Traffic Management Data Dictionary and Message Sets for

Source Element	Destination Element	Flow Name	Standard Title
	Office		External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group Incident Management Standards Group
		maint and constr resource coordination	NTCIP Center-to-Center Standards Group
		maint and constr resource request	NTCIP Center-to-Center Standards Group Incident Management Standards Group
		threat information	NTCIP Center-to-Center Standards Group
		Center/ Regional Maintenance Stations	alert notification
		incident information	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group Incident Management Standards Group
		incident response status	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group Incident Management Standards Group
		maint and constr resource coordination	NTCIP Center-to-Center Standards Group
		maint and constr resource request	NTCIP Center-to-Center Standards Group Incident Management Standards Group
		threat information	NTCIP Center-to-Center Standards Group
	Center/ Transit Agency Dispatch (Placeholder)	current asset restrictions	NTCIP Center-to-Center Standards Group
		emergency transit service request	NTCIP Center-to-Center Standards Group
		request transit information	NTCIP Center-to-Center Standards Group
		road network conditions	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group
		threat information	NTCIP Center-to-Center Standards Group
		transportation system status	NTCIP Center-to-Center Standards Group
	Emergency Alert System	threat information	NTCIP Center-to-Center Standards Group
	Field/ Automated Bridge Anti-icing	roadway treatment system control	NTCIP Center-to-Field Standards Group Global Object Definitions Object Definitions for Environmental Sensor Stations (ESS)
	Field/ Automatic Traffic Data Recorders	traffic sensor control	NTCIP Center-to-Field Standards Group Global Object Definitions Data Element Definitions for Transportation Sensor Systems (TSS)
	Field/ Cameras (MOA)	video surveillance control	NTCIP Center-to-Field Standards Group Global Object Definitions Object Definitions for Closed Circuit Television (CCTV) Camera Control Object Definitions for Closed Circuit Television (CCTV)

Source Element	Destination Element	Flow Name	Standard Title
			Switching
	Field/ Highway Advisory Radio	roadway information system data	NTCIP Center-to-Field Standards Group
			Global Object Definitions
			Object Definitions for Dynamic Message Signs (DMS)
	Field/ Permanent Dynamic Message Signs (Anchorage)	roadway information system data	NTCIP Center-to-Field Standards Group
			Global Object Definitions
			Object Definitions for Dynamic Message Signs (DMS)
	Field/ Remote Video Monitoring System	data collection and monitoring control	NTCIP Center-to-Field Standards Group
			Global Object Definitions
			Object Definitions for Environmental Sensor Stations (ESS)
			Object Definitions for Data Collection and Monitoring (DCM) Devices
			Data Element Definitions for Transportation Sensor Systems (TSS)
		video surveillance control	NTCIP Center-to-Field Standards Group
			Global Object Definitions
			Object Definitions for Closed Circuit Television (CCTV) Camera Control
			Object Definitions for Closed Circuit Television (CCTV) Switching
	Field/ Road Weather Information Systems (RWIS)	data collection and monitoring control	NTCIP Center-to-Field Standards Group
			Global Object Definitions
			Object Definitions for Environmental Sensor Stations (ESS)
			Object Definitions for Data Collection and Monitoring (DCM) Devices
			Data Element Definitions for Transportation Sensor Systems (TSS)
		environmental sensors control	NTCIP Center-to-Field Standards Group
			Global Object Definitions
			Object Definitions for Environmental Sensor Stations (ESS)
	Field/ Traffic Signal Controllers	signal control data	NTCIP Center-to-Field Standards Group
			Global Object Definitions
			Object Definitions for Actuated Traffic Signal Controller (ASC) Units
			Field Management Stations (FMS) - Part 1: Object Definitions for Signal System Masters
			Object Definitions for Signal Control and Prioritization (SCP)
	Field/ Train Signal System	hri control data	NTCIP Center-to-Field Standards Group
		hri request	NTCIP Center-to-Field Standards Group
		signal control data	NTCIP Center-to-Field Standards Group
			Global Object Definitions

Source Element	Destination Element	Flow Name	Standard Title
	Media Systems (T.V. and Radio)	incident information for media	Object Definitions for Actuated Traffic Signal Controller (ASC) Units
			Field Management Stations (FMS) - Part 1: Object Definitions for Signal System Masters
			Object Definitions for Signal Control and Prioritization (SCP)
		road network conditions	NTCIP Center-to-Center Standards Group
			Incident Management Standards Group
			Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC)
road weather information	NTCIP Center-to-Center Standards Group		
	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC)		
	NTCIP Center-to-Center Standards Group		
Center/ MOA Maintenance Dispatch Office	Center/ Condition Acquisition and Reporting System	current asset restrictions	NTCIP Center-to-Center Standards Group
		maint and constr resource response	NTCIP Center-to-Center Standards Group
		Incident Management Standards Group	
		maint and constr work plans	NTCIP Center-to-Center Standards Group
		road network conditions	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC)
	NTCIP Center-to-Center Standards Group		
	Center/ MOA Integrated Transportation Operations and Communications Center	roadway maintenance status	NTCIP Center-to-Center Standards Group
		current asset restrictions	NTCIP Center-to-Center Standards Group
		maint and constr work plans	NTCIP Center-to-Center Standards Group
		roadway maintenance status	NTCIP Center-to-Center Standards Group
work zone information		NTCIP Center-to-Center Standards Group	
Media Systems (T.V. and Radio)	maint and constr work plans	NTCIP Center-to-Center Standards Group	
Center/ MOA Signal Control	Field/ Cameras (MOA)	video surveillance control	NTCIP Center-to-Field Standards Group
			Global Object Definitions
			Object Definitions for Closed Circuit Television (CCTV) Camera Control
			Object Definitions for Closed Circuit Television (CCTV) Switching
			NTCIP Center-to-Field Standards Group
	Field/ Traffic Signal Controllers	signal control data	Global Object Definitions
			Object Definitions for Actuated Traffic Signal Controller (ASC) Units
			Field Management Stations (FMS) - Part 1: Object Definitions for Signal System Masters
			Object Definitions for Signal Control and Prioritization (SCP)
			NTCIP Center-to-Field Standards Group
Center/ Motor Carrier Administrative Systems	Vehicle/ Commercial Vehicle On-Board Systems	trip log request	Dedicated Short Range Communication at 915 MHz Standards Group
Center/ MSCVE Offices	Field/ Permanent Dynamic Message	roadway information system data	NTCIP Center-to-Field Standards Group

Source Element	Destination Element	Flow Name	Standard Title
	Signs (Permanent @ FOX Station)		Global Object Definitions Object Definitions for Dynamic Message Signs (DMS)
	Field/ Permanent Dynamic Message Signs (Port of Anchorage)	roadway information system data	NTCIP Center-to-Field Standards Group
			Global Object Definitions
			Object Definitions for Dynamic Message Signs (DMS)
Center/ National Weather Service Offices	Center/ Condition Acquisition and Reporting System	qualified environmental conditions data	NTCIP Center-to-Center Standards Group
		weather archive data	NTCIP Center-to-Center Standards Group Standard Practice for Metadata to Support Archived Data Management Systems
		weather information	NTCIP Center-to-Center Standards Group
	Center/ Regional Maintenance Stations	weather information	NTCIP Center-to-Center Standards Group
	Center/ State Emergency Coordination Center	weather archive data	NTCIP Center-to-Center Standards Group
			Standard Practice for Metadata to Support Archived Data Management Systems
Center/ Pavement Management System	Travelers/ Personal Communications/Computing Devices (pre-trip)	archive analysis results	NTCIP Center-to-Center Standards Group
		archived data products	NTCIP Center-to-Center Standards Group
Center/ Regional Maintenance Stations	ARRC Dispatch	maint and constr work plans	NTCIP Center-to-Center Standards Group
	Center/ ADOTPF Traffic and Safety Offices	maint and constr work plans	NTCIP Center-to-Center Standards Group
	Center/ Condition Acquisition and Reporting System	current asset restrictions	NTCIP Center-to-Center Standards Group
		maint and constr resource response	NTCIP Center-to-Center Standards Group Incident Management Standards Group
		maint and constr work plans	NTCIP Center-to-Center Standards Group
		road network conditions	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group
		road weather information	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group
		roadway maintenance status	NTCIP Center-to-Center Standards Group
		work zone information	NTCIP Center-to-Center Standards Group
	Center/ Law Enforcement Dispatch	incident information	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC) NTCIP Center-to-Center Standards Group Incident Management Standards Group
		maint and constr resource response	NTCIP Center-to-Center Standards Group Incident Management Standards Group
		maint and constr work plans	NTCIP Center-to-Center Standards Group
		roadway maintenance status	NTCIP Center-to-Center Standards Group
		Center/ Maintenance Management	maint and constr administrative request

Source Element	Destination Element	Flow Name	Standard Title
	System	maint and constr work performance	NTCIP Center-to-Center Standards Group
	Center/ MOA Integrated Transportation Operations and Communications Center	current asset restrictions	NTCIP Center-to-Center Standards Group
		incident information	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC)
			NTCIP Center-to-Center Standards Group
			Incident Management Standards Group
		maint and constr resource coordination	NTCIP Center-to-Center Standards Group
		maint and constr work plans	NTCIP Center-to-Center Standards Group
		road network status assessment	NTCIP Center-to-Center Standards Group
		road weather information	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC)
	NTCIP Center-to-Center Standards Group		
	roadway maintenance status	NTCIP Center-to-Center Standards Group	
	Center/ MOA Integrated Transportation Operations and Communications Center	work zone information	NTCIP Center-to-Center Standards Group
	Center/ MOA Maintenance Dispatch Office	maint and constr resource coordination	NTCIP Center-to-Center Standards Group
		work plan coordination	NTCIP Center-to-Center Standards Group
	Center/ MSCVE Headquarters	current asset restrictions	NTCIP Center-to-Center Standards Group
	Field/ Automated Bridge Anti-icing	roadway treatment system control	NTCIP Center-to-Field Standards Group
			Global Object Definitions
			Object Definitions for Environmental Sensor Stations (ESS)
	Field/ Cameras (at RWIS)	video surveillance control	NTCIP Center-to-Field Standards Group
			Global Object Definitions
			Object Definitions for Closed Circuit Television (CCTV) Camera Control
			Object Definitions for Closed Circuit Television (CCTV) Switching
	Field/ Road Weather Information Systems (RWIS)	environmental sensors control	NTCIP Center-to-Field Standards Group
Global Object Definitions			
Object Definitions for Environmental Sensor Stations (ESS)			
Media Systems (T.V. and Radio)	maint and constr work plans	NTCIP Center-to-Center Standards Group	
	roadway maintenance status	NTCIP Center-to-Center Standards Group	
	work zone information	NTCIP Center-to-Center Standards Group	
Center/ SEPP	Center/ Condition Acquisition and Reporting System	archive requests	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC)
Center/ State Emergency Coordination Center	Center/ Law Enforcement Dispatch	alert notification coordination	NTCIP Center-to-Center Standards Group
		emergency plan coordination	NTCIP Center-to-Center Standards Group
		incident command information coordination	NTCIP Center-to-Center Standards Group
			Incident Management Standards Group
		incident report	NTCIP Center-to-Center Standards Group

Source Element	Destination Element	Flow Name	Standard Title	
		incident response coordination	Incident Management Standards Group NTCIP Center-to-Center Standards Group Incident Management Standards Group	
		resource coordination	NTCIP Center-to-Center Standards Group Incident Management Standards Group	
		Center/ MOA Emergency Operations Center	incident command information coordination	NTCIP Center-to-Center Standards Group Incident Management Standards Group
			threat information coordination	NTCIP Center-to-Center Standards Group
	Emergency Alert System	threat information	NTCIP Center-to-Center Standards Group	
	Center/ Transit Agency Dispatch (Placeholder)	Center/ Condition Acquisition and Reporting System	transit incident information	NTCIP Center-to-Center Standards Group
		Center/ Transit Agency Websites	transit and fare schedules	NTCIP Center-to-Center Standards Group
transit incident information			NTCIP Center-to-Center Standards Group	
Media Systems (T.V. and Radio)		transit incidents for media	NTCIP Center-to-Center Standards Group	
Vehicle/ Transit Vehicle On-board Systems (Placeholder)		transit vehicle operator information	Standard for Transit Communications Interface Profiles	
Center/ Transit Agency Websites	Center/ Transit Agency Dispatch (Placeholder)	transit information request	NTCIP Center-to-Center Standards Group Advanced Traveler Information Systems (ATIS) General Use Standards Group	
		Travelers/ Personal Communications/Computing Devices (en-route)	broadcast traveler information	Advanced Traveler Information Systems (ATIS) Bandwidth Limited Standards Group Advanced Traveler Information Systems (ATIS) General Use Standards Group
	interactive traveler information		Advanced Traveler Information Systems (ATIS) General Use Standards Group	
	Travelers/ Personal Communications/Computing Devices (pre-trip)	broadcast traveler information	Advanced Traveler Information Systems (ATIS) Bandwidth Limited Standards Group Advanced Traveler Information Systems (ATIS) General Use Standards Group	
		interactive traveler information	Advanced Traveler Information Systems (ATIS) General Use Standards Group	
	Center/ Tunnel Control System	Center/ Anton Anderson Tunnel Control System	barrier system status	NTCIP Center-to-Field Standards Group
request for right-of-way			NTCIP Center-to-Field Standards Group Global Object Definitions Object Definitions for Actuated Traffic Signal Controller (ASC) Units Object Definitions for Signal Control and Prioritization (SCP)	
			signal control status	NTCIP Center-to-Field Standards Group Global Object Definitions Object Definitions for Actuated Traffic Signal Controller (ASC) Units Field Management Stations (FMS) - Part 1: Object Definitions

Source Element	Destination Element	Flow Name	Standard Title	
			for Signal System Masters	
		traffic flow	NTCIP Center-to-Field Standards Group Global Object Definitions Data Element Definitions for Transportation Sensor Systems (TSS)	
		traffic images	NTCIP Center-to-Field Standards Group Global Object Definitions Object Definitions for Closed Circuit Television (CCTV) Camera Control Object Definitions for Closed Circuit Television (CCTV) Switching	
	Field/ Train Signal System	roadway equipment coordination	NTCIP Center-to-Center Standards Group Object Definitions for Actuated Traffic Signal Controller (ASC) Units Field Management Stations (FMS) - Part 1: Object Definitions for Signal System Masters	
Center/ Vessel Tracking System	Center/ AMHS Website	transit and fare schedules	NTCIP Center-to-Center Standards Group	
Center/ Web-Based Electronic Registration System (WeB CAT)	Center/ MOA Integrated Transportation Operations and Communications Center	commercial vehicle archive data	Standard Practice for Metadata to Support Archived Data Management Systems	
Emergency Alert System	Center/ AMHS Dispatch and Communications	alerts and advisories	NTCIP Center-to-Center Standards Group	
	Center/ Commercial Vehicle Operations Offices	alerts and advisories	NTCIP Center-to-Center Standards Group	
	Center/ EMS Dispatch Centers (Placeholder)	alerts and advisories	NTCIP Center-to-Center Standards Group	
	Center/ Law Enforcement Dispatch	alerts and advisories	NTCIP Center-to-Center Standards Group	
	Center/ MOA Emergency Operations Center	alerts and advisories	NTCIP Center-to-Center Standards Group	
	Center/ MOA Integrated Transportation Operations and Communications Center	alerts and advisories	NTCIP Center-to-Center Standards Group	
	Center/ MOA Maintenance Dispatch Office	alerts and advisories	NTCIP Center-to-Center Standards Group	
	Center/ Regional Maintenance Stations	alerts and advisories	NTCIP Center-to-Center Standards Group	
	Center/ State Emergency Coordination Center	alerts and advisories	NTCIP Center-to-Center Standards Group	
	Center/ Transit Agency Dispatch (Placeholder)	alerts and advisories	NTCIP Center-to-Center Standards Group	
Field/ Automated Bridge Anti-icing	Center/ MOA Integrated Transportation Operations and Communications Center	environmental sensor data	NTCIP Center-to-Field Standards Group Global Object Definitions Object Definitions for Environmental Sensor Stations (ESS)	
			roadway treatment system status	NTCIP Center-to-Field Standards Group Global Object Definitions Object Definitions for Environmental Sensor Stations (ESS)

Source Element	Destination Element	Flow Name	Standard Title
	Center/ Regional Maintenance Stations	environmental sensor data	NTCIP Center-to-Field Standards Group
			Global Object Definitions
			Object Definitions for Environmental Sensor Stations (ESS)
		roadway treatment system status	NTCIP Center-to-Field Standards Group
			Global Object Definitions
			Object Definitions for Environmental Sensor Stations (ESS)
Field/ Automatic Traffic Data Recorders	Center/ Highway Database Section Office	traffic flow	NTCIP Center-to-Field Standards Group
			Global Object Definitions
			Data Element Definitions for Transportation Sensor Systems (TSS)
	Center/ MOA Integrated Transportation Operations and Communications Center	field device status	NTCIP Center-to-Field Standards Group
			Global Object Definitions
		traffic flow	NTCIP Center-to-Field Standards Group
		Global Object Definitions	
		Data Element Definitions for Transportation Sensor Systems (TSS)	
Field/ AVI/WIM	Vehicle/ Commercial Vehicle On-Board Systems	driver log request	Dedicated Short Range Communication at 915 MHz Standards Group
		electronic screening request	Dedicated Short Range Communication at 915 MHz Standards Group
			Standard for Message Sets for Vehicle/Roadside Communications
		pass/pull-in	Dedicated Short Range Communication at 915 MHz Standards Group
			Standard for Message Sets for Vehicle/Roadside Communications
		request tag data	Dedicated Short Range Communication at 915 MHz Standards Group
Field/ Bridge Scour Sensors	Center/ Bridge Design Section Offices	infrastructure monitoring sensor data	NTCIP Center-to-Field Standards Group
	Center/ Bridge Scour System	field device status	NTCIP Center-to-Field Standards Group
			Global Object Definitions
		infrastructure monitoring sensor data	NTCIP Center-to-Field Standards Group
Field/ Cameras (at AMHS Terminals)	Center/ Law Enforcement Dispatch	alarm notification	Standard for Transit Communications Interface Profiles
		secure area surveillance data	Global Object Definitions
			Object Definitions for Closed Circuit Television (CCTV) Camera Control
			Object Definitions for Closed Circuit Television (CCTV) Switching
Field/ Cameras (at RWIS)	Center/ Regional Maintenance Stations	traffic images	NTCIP Center-to-Field Standards Group
			Global Object Definitions
			Object Definitions for Closed Circuit Television (CCTV) Camera Control

Source Element	Destination Element	Flow Name	Standard Title			
			Object Definitions for Closed Circuit Television (CCTV) Switching			
Field/ Cameras (MOA)	Center/ MOA Integrated Transportation Operations and Communications Center	traffic images	NTCIP Center-to-Field Standards Group			
			Global Object Definitions			
			Object Definitions for Closed Circuit Television (CCTV) Camera Control			
			Object Definitions for Closed Circuit Television (CCTV) Switching			
	Center/ MOA Signal Control	traffic images	NTCIP Center-to-Field Standards Group			
			Global Object Definitions			
			Object Definitions for Closed Circuit Television (CCTV) Camera Control			
			Object Definitions for Closed Circuit Television (CCTV) Switching			
Field/ Highway Advisory Radio	Center/ MOA Integrated Transportation Operations and Communications Center	roadway information system status	NTCIP Center-to-Field Standards Group			
			Global Object Definitions			
			Object Definitions for Dynamic Message Signs (DMS)			
Field/ Permanent Dynamic Message Signs (Anchorage)	Center/ APD Headquarters and Dispatch		NTCIP Center-to-Field Standards Group			
			Global Object Definitions			
			Object Definitions for Dynamic Message Signs (DMS)			
	Center/ MOA Integrated Transportation Operations and Communications Center	roadway information system status	NTCIP Center-to-Field Standards Group			
			Global Object Definitions			
			Object Definitions for Dynamic Message Signs (DMS)			
Field/ Permanent Dynamic Message Signs (Permanent @ FOX Station)	Center/ MSCVE Offices	roadway information system status	NTCIP Center-to-Field Standards Group			
			Global Object Definitions			
			Object Definitions for Dynamic Message Signs (DMS)			
Field/ Permanent Dynamic Message Signs (Port of Anchorage)	Center/ MSCVE Offices	roadway information system status	NTCIP Center-to-Field Standards Group			
			Global Object Definitions			
			Object Definitions for Dynamic Message Signs (DMS)			
Field/ Remote Video Monitoring System	Center/ MOA Integrated Transportation Operations and Communications Center	field device status	NTCIP Center-to-Field Standards Group			
			Global Object Definitions			
		traffic images	NTCIP Center-to-Field Standards Group			
			Global Object Definitions			
			Object Definitions for Closed Circuit Television (CCTV) Camera Control			
			Object Definitions for Closed Circuit Television (CCTV) Switching			
			Field/ Road Weather Information Systems (RWIS)	Center/ Condition Acquisition and Reporting System	roadside archive data	NTCIP Center-to-Field Standards Group
						Global Object Definitions
Object Definitions for Environmental Sensor Stations (ESS)						
Object Definitions for Data Collection and Monitoring (DCM)						

Source Element	Destination Element	Flow Name	Standard Title
			Devices
			Data Element Definitions for Transportation Sensor Systems (TSS)
	Center/ Highway Data Weather Portal	environmental sensor data	NTCIP Center-to-Field Standards Group
			Global Object Definitions
			Object Definitions for Environmental Sensor Stations (ESS)
	Center/ MOA Integrated Transportation Operations and Communications Center	environmental sensor data	NTCIP Center-to-Field Standards Group
			Global Object Definitions
			Object Definitions for Environmental Sensor Stations (ESS)
	Center/ National Weather Service Offices	environmental sensor data	NTCIP Center-to-Field Standards Group
			Global Object Definitions
			Object Definitions for Environmental Sensor Stations (ESS)
	Center/ Regional Maintenance Stations	environmental sensor data	NTCIP Center-to-Field Standards Group
			Global Object Definitions
			Object Definitions for Environmental Sensor Stations (ESS)
		field device status	NTCIP Center-to-Field Standards Group
			Global Object Definitions
	Weather Prediction System	roadway equipment coordination	NTCIP Center-to-Center Standards Group
			Object Definitions for Actuated Traffic Signal Controller (ASC) Units
			Field Management Stations (FMS) - Part 1: Object Definitions for Signal System Masters
Field/ Seismic Sensors	Center/ Law Enforcement Dispatch	infrastructure monitoring sensor data	NTCIP Center-to-Field Standards Group
	Center/ Regional Maintenance Stations	alerts and advisories	NTCIP Center-to-Center Standards Group
Field/ Traffic Detectors	Field/ Traffic Signal Controllers	roadway equipment coordination	NTCIP Center-to-Center Standards Group
			Object Definitions for Actuated Traffic Signal Controller (ASC) Units
			Field Management Stations (FMS) - Part 1: Object Definitions for Signal System Masters
Field/ Traffic Signal Controllers	Center/ ADOTPF Traffic and Safety Offices	signal control status	NTCIP Center-to-Field Standards Group
			Global Object Definitions
			Object Definitions for Actuated Traffic Signal Controller (ASC) Units
			Field Management Stations (FMS) - Part 1: Object Definitions for Signal System Masters
	Center/ MOA Integrated Transportation Operations and Communications Center	signal control status	NTCIP Center-to-Field Standards Group
			Global Object Definitions
			Object Definitions for Actuated Traffic Signal Controller (ASC) Units
			Field Management Stations (FMS) - Part 1: Object Definitions for Signal System Masters
	Center/ MOA Signal Control	signal control status	NTCIP Center-to-Field Standards Group

Source Element	Destination Element	Flow Name	Standard Title	
			Global Object Definitions	
			Object Definitions for Actuated Traffic Signal Controller (ASC) Units	
			Field Management Stations (FMS) - Part 1: Object Definitions for Signal System Masters	
Field/ Train Signal System	Center/ Anton Anderson Tunnel Control System	request for right-of-way	NTCIP Center-to-Field Standards Group	
			Global Object Definitions	
			Object Definitions for Actuated Traffic Signal Controller (ASC) Units	
		signal control status	Object Definitions for Signal Control and Prioritization (SCP)	
			NTCIP Center-to-Field Standards Group	
			Global Object Definitions	
	Center/ MOA Integrated Transportation Operations and Communications Center	hri status	Object Definitions for Actuated Traffic Signal Controller (ASC) Units	
			Field Management Stations (FMS) - Part 1: Object Definitions for Signal System Masters	
		signal control status	NTCIP Center-to-Field Standards Group	
			Global Object Definitions	
		Center/ Tunnel Control System	roadway equipment coordination	Object Definitions for Actuated Traffic Signal Controller (ASC) Units
				Field Management Stations (FMS) - Part 1: Object Definitions for Signal System Masters
Field/ Train Whistle Noise Reduction Sensors	Field/ Train Whistle Noise Reduction Horns	arriving train information	Standard for the Interface Between the Rail Subsystem and the Highway Subsystem at a Highway Rail Intersection	
		track status	Standard for the Interface Between the Rail Subsystem and the Highway Subsystem at a Highway Rail Intersection	
Field/ Weather and Pavement Sensors (Military Bases)	Center/ MOA Integrated Transportation Operations and Communications Center	qualified environmental conditions data	NTCIP Center-to-Center Standards Group	
		weather archive data	NTCIP Center-to-Center Standards Group	
	Center/ Regional Maintenance Stations	qualified environmental conditions data	Standard Practice for Metadata to Support Archived Data Management Systems	
		weather information	NTCIP Center-to-Center Standards Group	
Field/ Weather and Pavement Sensors (NWS)	Center/ National Weather Service Offices	weather information	NTCIP Center-to-Center Standards Group	
Field/ Weigh and Border Station Roadside and Handheld Equipment	Vehicle/ Commercial Vehicle On-Board Systems	electronic screening request	Dedicated Short Range Communication at 915 MHz Standards Group	
			Standard for Message Sets for Vehicle/Roadside	

Source Element	Destination Element	Flow Name	Standard Title
			Communications
		pass/pull-in	Dedicated Short Range Communication at 915 MHz Standards Group Standard for Message Sets for Vehicle/Roadside Communications
		request tag data	Dedicated Short Range Communication at 915 MHz Standards Group
		safety inspection record	Dedicated Short Range Communication at 915 MHz Standards Group
		screening event record	Dedicated Short Range Communication at 915 MHz Standards Group Standard for Message Sets for Vehicle/Roadside Communications
General Public Vehicle	Regional 911 System (Placeholder)	emergency notification	On-board Vehicle Mayday Standards Group
Regional 911 System (Placeholder)	Center/ EMS Dispatch Centers (Placeholder)	incident report	NTCIP Center-to-Center Standards Group Incident Management Standards Group
	Center/ Law Enforcement Dispatch	incident report	NTCIP Center-to-Center Standards Group Incident Management Standards Group
	General Public Vehicle	emergency acknowledge	On-board Vehicle Mayday Standards Group
	Travelers/ Personal Communications/Computing Devices (en-route)	emergency acknowledge	On-board Vehicle Mayday Standards Group
Travelers/ Personal Communications/Computing Devices (en-route)	Center/ 511 (phone and web)	traveler profile	Advanced Traveler Information Systems (ATIS) General Use Standards Group
		traveler request	Advanced Traveler Information Systems (ATIS) General Use Standards Group
	Center/ AMHS Website	traveler profile	Advanced Traveler Information Systems (ATIS) General Use Standards Group
		traveler request	Advanced Traveler Information Systems (ATIS) General Use Standards Group
		yellow pages request	Advanced Traveler Information Systems (ATIS) General Use Standards Group
	Center/ Division of Tourism Website	traveler profile	Advanced Traveler Information Systems (ATIS) General Use Standards Group
		traveler request	Advanced Traveler Information Systems (ATIS) General Use Standards Group
		yellow pages request	Advanced Traveler Information Systems (ATIS) General Use Standards Group
	Center/ Highway Analysis System	archive analysis requests	NTCIP Center-to-Center Standards Group
		archived data product requests	NTCIP Center-to-Center Standards Group
	Center/ Transit Agency Websites	traveler profile	Advanced Traveler Information Systems (ATIS) General Use Standards Group
		traveler request	Advanced Traveler Information Systems (ATIS) General Use Standards Group

Source Element	Destination Element	Flow Name	Standard Title
	Regional 911 System (Placeholder)	emergency notification	On-board Vehicle Mayday Standards Group
Travelers/ Personal Communications/Computing Devices (pre-trip)	Center/ 511 (phone and web)	traveler profile	Advanced Traveler Information Systems (ATIS) General Use Standards Group
		traveler request	Advanced Traveler Information Systems (ATIS) General Use Standards Group
	Center/ AMHS Website	traveler profile	Advanced Traveler Information Systems (ATIS) General Use Standards Group
		traveler request	Advanced Traveler Information Systems (ATIS) General Use Standards Group
		yellow pages request	Advanced Traveler Information Systems (ATIS) General Use Standards Group
	Center/ Division of Tourism Website	traveler profile	Advanced Traveler Information Systems (ATIS) General Use Standards Group
		traveler request	Advanced Traveler Information Systems (ATIS) General Use Standards Group
		yellow pages request	Advanced Traveler Information Systems (ATIS) General Use Standards Group
	Center/ Highway Analysis System	archived data product requests	NTCIP Center-to-Center Standards Group
	Center/ Pavement Management System	archived data product requests	NTCIP Center-to-Center Standards Group
Center/ Transit Agency Websites	traveler profile	Advanced Traveler Information Systems (ATIS) General Use Standards Group	
	traveler request	Advanced Traveler Information Systems (ATIS) General Use Standards Group	
Vehicle/ Commercial Vehicle On-Board Systems	Center/ Motor Carrier Administrative Systems	trip log	Dedicated Short Range Communication at 915 MHz Standards Group
	Field/ AVI/WIM	driver log	Dedicated Short Range Communication at 915 MHz Standards Group
		tag data	Dedicated Short Range Communication at 915 MHz Standards Group
	Field/ Border Data Collection System	tag data	Dedicated Short Range Communication at 915 MHz Standards Group
	Field/ Weigh and Border Station Roadside and Handheld Equipment	safety inspection record	Dedicated Short Range Communication at 915 MHz Standards Group
		tag data	Dedicated Short Range Communication at 915 MHz Standards Group
Vehicle/ EMS Vehicle On-board Systems	Field/ Pre-emption and Priority Systems (Fairbanks)	local signal preemption request	Global Object Definitions
			Object Definitions for Signal Control and Prioritization (SCP)
			Dedicated Short Range Communication at 915 MHz Standards Group
			Dedicated Short Range Communication at 5.9 GHz Standards Group
	Field/ Pre-emption and Priority Systems (MOA)	local signal preemption request	Global Object Definitions
			Object Definitions for Signal Control and Prioritization (SCP)
			Dedicated Short Range Communication at 915 MHz Standards

Source Element	Destination Element	Flow Name	Standard Title
			Group
			Dedicated Short Range Communication at 5.9 GHz Standards Group
	Field/ Pre-emption and Priority Systems (State)	local signal preemption request	Global Object Definitions
			Object Definitions for Signal Control and Prioritization (SCP)
			Dedicated Short Range Communication at 915 MHz Standards Group
			Dedicated Short Range Communication at 5.9 GHz Standards Group
Vehicle/ Ferries On-board Systems	Center/ AMHS Dispatch and Communications	transit vehicle location data	Standard for Transit Communications Interface Profiles
		transit vehicle schedule performance	Standard for Transit Communications Interface Profiles
	Center/ Vessel Tracking System	transit vehicle location data	Standard for Transit Communications Interface Profiles
		transit vehicle schedule performance	Standard for Transit Communications Interface Profiles
Vehicle/ Law Enforcement Vehicle On-board Systems	Field/ Pre-emption and Priority Systems (Fairbanks)	local signal preemption request	Global Object Definitions
			Object Definitions for Signal Control and Prioritization (SCP)
			Dedicated Short Range Communication at 915 MHz Standards Group
			Dedicated Short Range Communication at 5.9 GHz Standards Group
	Field/ Pre-emption and Priority Systems (MOA)	local signal preemption request	Global Object Definitions
			Object Definitions for Signal Control and Prioritization (SCP)
			Dedicated Short Range Communication at 915 MHz Standards Group
			Dedicated Short Range Communication at 5.9 GHz Standards Group
	Field/ Pre-emption and Priority Systems (State)	local signal preemption request	Global Object Definitions
			Object Definitions for Signal Control and Prioritization (SCP)
			Dedicated Short Range Communication at 915 MHz Standards Group
			Dedicated Short Range Communication at 5.9 GHz Standards Group
Vehicle/ Transit Vehicle On-board Systems (Placeholder)	Center/ Transit Agency Dispatch (Placeholder)	transit vehicle location data	Standard for Transit Communications Interface Profiles
		transit vehicle schedule performance	Standard for Transit Communications Interface Profiles
	Field/ Pre-emption and Priority Systems (Fairbanks)	local signal priority request	Global Object Definitions
			Object Definitions for Signal Control and Prioritization (SCP)
			Standard for Transit Communications Interface Profiles
			Dedicated Short Range Communication at 915 MHz Standards Group
			Dedicated Short Range Communication at 5.9 GHz Standards Group
	Field/ Pre-emption and Priority Systems (MOA)	local signal priority request	Global Object Definitions
			Object Definitions for Signal Control and Prioritization (SCP)

Source Element	Destination Element	Flow Name	Standard Title
	Field/ Pre-emption and Priority Systems (State)	local signal priority request	Standard for Transit Communications Interface Profiles
			Dedicated Short Range Communication at 915 MHz Standards Group
			Dedicated Short Range Communication at 5.9 GHz Standards Group
			Global Object Definitions
			Object Definitions for Signal Control and Prioritization (SCP)
			Standard for Transit Communications Interface Profiles
			Dedicated Short Range Communication at 915 MHz Standards Group
Weather Prediction System	Center/ MOA Integrated Transportation Operations and Communications Center	environmental sensor data	NTCIP Center-to-Field Standards Group
			Global Object Definitions
			Object Definitions for Environmental Sensor Stations (ESS)
	Center/ Regional Maintenance Stations	environmental sensor data	NTCIP Center-to-Field Standards Group
			Global Object Definitions
			Object Definitions for Environmental Sensor Stations (ESS)
	Field/ Road Weather Information Systems (RWIS)	roadway equipment coordination	NTCIP Center-to-Center Standards Group
			Object Definitions for Actuated Traffic Signal Controller (ASC) Units
			Field Management Stations (FMS) - Part 1: Object Definitions for Signal System Masters