

**Advanced Transportation and Congestion Management Technologies (AID)  
Deployment Initiative (ATCMTD)**

**Maine Department of Transportation**



a.)

<b>Project Name: Maine ITS Communication and</b>	
<b>Eligible Entity Applying to Receive Federal Funding</b>	<b>Maine Department of Transportation</b>
<b>Total Project Cost (from all sources)</b>	<b>\$7,420,000</b>
<b>ATCMTD Request</b>	<b>\$3,710,000</b>
<b>Are matching funds restricted to a specific project component ?</b>	<b>No</b>
<b>State(s) in which the project is located</b>	<b>Maine</b>
<b>Is the project currently programmed in the :</b> <ul style="list-style-type: none"> <li>• <b>Transportation Improvement Program (TIP)</b></li> <li>• <b>Statewide Transportation Improvement Program (STIP)</b></li> <li>• <b>MPO Long Range Transportation Plan</b></li> <li>• <b>State Long Range Transportation Plan</b></li> </ul>	<b>This is in Maine’s Strategic Highway Safety Plan and Maine’s statewide system architecture. There are portions that are now in the STIP</b>
<b>Technologies Proposed To Be Deployed (briefly list)</b>	<b>1. Changeable Message Signs (CMS) Fixed and Portable and</b>

	<p><b>Real Time Messaging Signs</b></p> <p><b>2. Road Weather Information Systems (RWIS)</b></p> <p><b>3. Variable Speed Limit Signs</b></p> <p><b>4. Wrong Way Communications</b></p>
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**b.) PROJECT NARRATIVE:**

MaineDOT has congestion issues along several rural roadways in the state, I-295 being the worst. These roadways are rural in nature and lead to some of our largest population centers. In the case of I-295 the congestion has manifested into crashes. Crash rates have increased by almost 30% over the past two years. The congestion and associated crashes have led some to call for widening of I-295. The congestion issue is technically a two month period in the summer months. In lieu of widening, MaineDOT is looking to use ITS devices to convey messages to the traveling public in order to inform the public of the delay and give the traveling public advance notice to make a decision to take an alternate route. MaineDOT is requesting this grant to move towards the latest technology in order to minimize the impact to the traveling public and to not expend precious resources on what to now has been a seasonal problem.

**1. Changeable Message Signs and Real Time Message Signs**

MaineDOT plans to purchase and install sixteen (16) fixed Changeable Message Signs 54 character (CMS) along the Interstate 295 Corridor and the I-95 Corridor between Augusta and Old Town. These new fixed CMS would allow MaineDOT to replace (6) existing units that have reached the end of their life expectancy and the remaining (10) ten new units would be installed at key locations bracketing the larger population areas along I-95 and I-295. MaineDOT is seeking ATCMTD funding to assist us in replacing older equipment and in demonstrating the benefits of providing motorists with “real-time” information and thereby improving the performance of our Interstate.

MaineDOT plans to purchase and deploy 40 portable 24 character CMS at fixed locations along major non-interstate highways in the state. The new portable units will allow us to communicate weather, incident and safety messages to a larger cross-section of the traveling public. We are anticipating to deploy these additional new units along the following rural State routes: 1, 2, 3, 4, 9, 11, 26, 27, 111, 161, 201, 202, 236 and 302.

The need to convey accurate, real-time travel information to road users has long been recognized by transportation engineers. The information has become more important with the increase in traffic volume and the lack of additional roadway capacity. MaineDOT is proposing to install Real Time Messaging signs comprised of static signage with dynamic components. The static portion of the sign will include the destination and the mileage, while the dynamic portion of the sign will indicate travel time. MaineDOT proposes to install these signs along the rural sections of I-95, I-295, Mid-Coast Route 1, Route 3, Route 27, Route 236, and Route 302.

The objective of providing the information via CMS and Real Time Messaging Signs is to allow the motorist time to avoid an incident, prepare for unavoidable conditions, keep the

traveler informed or to give travel directions. For all information displayed the goal is to have a positive impact on the motorist's safety, travel time and overall experience on the roadway.

The Interstate 295 Corridor between Portland and Augusta is the most heavily travelled roadway system managed by the MaineDOT. The units MaineDOT will purchase shall be installed as post-mounted structures on the Interstate.

It is expected that by providing real-time information on the I295 Corridor, CMS and Real Time Messaging signs can improve vehicles' route selection, reduce travel time, mitigate the occurrence of secondary crashes and decrease the duration of incidents in order to improve the performance of the MaineDOT transportation network.

## **2. Road Weather Information Systems**

Maine DOT plans to further expand and update our current RWIS program. This will include the replacement of ten (10) existing systems that have reached service life expectancy. It will also include new installations at ten (10) locations to include the interstate corridor and along some other State Routes that typically experience "micro-climate" weather conditions. The locations along the interstate corridor will be strategically located to be in close proximity to Maine DOT maintenance camps.

Transportation managers utilize roadway weather information systems, 511, and web sites to disseminate road weather information to travelers in order to influence their decisions. This information allows travelers to make choices about travel mode, departure time, route selection, vehicle type and equipment, and driving behavior. MaineDOT would like to have the option of having the system communicate with our message boards. Enhanced communication between the RWIS and the message boards will be part of the proposal.

The use of weather information can reduce resource usage, which in turn can reduce degradation of the surrounding environment, corrosion effects on motor vehicles, and infrastructure damage. In addition, it will benefit motorists with reduced delay and improved safety as the road surface returns to a normal condition more quickly, as well as save MaineDOT significant money on maintenance.

## **3. Variable Speed limit Signs**

MaineDOT has seen an increase of crashes along I-295 since the speed limit was increased in 2015. The increased speed limit happened at about the same time that the state experienced significant increases to daily traffic. MaineDOT has recognized that during our peak congestion periods, that the Department will need to look at variable speed limits. There are similar issues at times in Bangor on I-95 and MaineDOT is proposing to install signs along that stretch also. MaineDOT plans to purchase and deploy forty four (44) Variable speed limit signs (VSL) for purposes of reducing vehicle speeds along the highway for high congestion times which could be hours of the day, days of the week or time of year



## **Performance Measures**

The proposed measures to evaluate the Advanced Transportation and Congestion Management Technologies Deployment installations are noted below. Documentation of each measure will be completed.

### **Safety:**

Crash data three years prior to and following CMS installation will be compiled and analyzed to determine actual safety improvement. MaineDOT will also look at congestion reduction as a performance measure to determine the impacts of the ITS on vehicle rerouting/diversion. We will also like to determine the impact our messaging has on weather related crashes as well as secondary crashes when there are primary crashes along the roadway.

### **Improved User Experience:**

We will conduct a survey of motorists using the roadways where installations and deployment have occurred to determine satisfaction and utilization of the targeted technologies. Through the installation and deployment of new and additional technologies, the goal is to have the most positive impact on motorist safety and travel experience on our roadway system. Using this innovation to connect with motor vehicles to give them real time messaging, should result in a more satisfied traveling public.

## **APPLICANT INFORMATION:**

The Maine Department of Transportation (MaineDOT) is the lead agency associated with this application.

### **FUNDING REQUEST:**

MaineDOT is requesting \$3,710,000 to be funded in this application and used towards the purchase and installation of the following:

- Sixteen (16) permanent Changeable Message Boards (CMS).
- Forty (40) Portable Changeable Message Signs
- Twenty (20) Real Time Message Signs
- Twenty (20) RWIS Stations
- Forty Four (44) Variable Speed Limit Signs
- Ten (10) Wrong Way Communication enhancements

Understanding this program provides funding at a 50/50 match, MaineDOT will provide the remaining funding of \$3,710,000 necessary to complete this project estimated at a cost of \$7,420,000.

## **ELIGIBILITY AND SELECTION CRITERIA:**

**Eligibility:** The Department has reviewed the Federal Register Notice of Funding Availability for Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD), Eligibility, and determined that this has been met.

**Project Readiness:** We will be putting out to bid an RFP for the following:

<u>Technology Description</u>	<u>Quantity</u>	<u>Anticipated Bid</u>	<u>Deployment/Installation</u>
Permanent CMS	16	December 2017	May- August 2018
Portable CMS	40	December 2017	May- August 2018
Real Time Management Information Signs	20	December 2017	May- August 2018
RWIS Stations	20	December 2017	June - August 2018
Variable Speed Limit Signs	44	December 2017	June- August 2018
Wrong Way Detection and Communications	10	December 2017	May - October 2018