2004 Statewide Intelligent Transportation System (ITS) Survey

Animal Warning System

1. **Number of deployed systems:**

_____

2. **Please indicate the number of systems with each of the following road classifications:**
   - Freeway or other limited access highway
   - Other multi-lane highway (non-limited access)
   - 2-lane highway

3. **What road technologies are used for roadside detection of animal presence? (Check all that apply)**
   - Radar detection of on-road objects
   - Video
   - Electric detection fence using microwave or infrared sensors
   - Radio transmitter collars for animals
   - Other (please specify) :_____

4. **What technologies are used to communicate with vehicles? (Check all that apply)**
   - Dynamic message sign
   - Highway advisory radio
   - In-vehicle
   - Flashing lights
   - Other (please specify):_____

5. **Do these systems communicate information (e.g., status, activation), in real time, to any agencies/systems?**
   - Yes.
     - Check all that apply:
     - Data archiving
     - Public safety
       - State police
       - Local agencies
     - Traffic management
     - Incident management
     - Traveler information /Information service providers
     - Other states
     - Other (please specify):_____
   - No

6. **Please provide any additional comments you may have regarding your Animal Warning System(s) in the space provided below:**

_____
_____
_____
_____
_____
_____

Bicycle Warning Systems

7. **Number of deployed systems:**

_____

8. **Please indicate the number of systems with each of the following road classifications:**
   - Freeway or other limited access highway
   - Other multi-lane highway (non-limited access)
   - 2-lane highway

9. **Please indicate the number of systems deployed at the following locations:**
   - Tunnel
   - Road section with restricted visibility
   - Other (please specify):_____

10. **What technologies are used for roadside detection of bicyclists?**
    - Manual (activated by bicyclist)
    - Automatic (sensor detects bicyclist)
    - Other (please specify):_____

11. **What technologies are used to communicate with vehicles? (Check all that apply)**
    - Dynamic message sign
    - Highway advisory radio
    - In-vehicle
    - Flashing lights
    - Other (please specify):_____

12. Do these systems communicate information (e.g., status, activation), in real time, to any agencies/systems?

Yes.

Check all that apply:

Data archiving

Public safety

State police

Local agencies

Traffic management

Incident management

Traveler information /Information service providers

Other states

Other (please specify):_____

No

13. Please provide any additional comments you may have regarding your Bicycle Warning System(s) in the space provided below:

_____

_____

_____

_____

Environmental Road Hazard Warning Systems

14. Number of deployed systems:

_____

15. Please indicate the number of systems with each of the following road classifications:

Freeway or other limited access highway

Other multi-lane highway (non-limited access)

2-lane highway

16. What hazards are detected by these systems? (Check all that apply)

Visibility

Fog Snow

Smoke

Dust/Sand

Wind

Other (please specify):_____

Road Conditions

Ice on bridge

Icy road

Wet road

Obstructions on road

Flooding

Other (please specify):_____

17. What technologies/methods are used to detect hazardous conditions? (Check all that apply)

Forecasted/Actual Conditions

National Weather
Service Weather modeling
Road Weather Information Systems (RWIS)

On-Site Sensors

Closed circuit television (CCTV)
Infrared
Particulate
Wind speed detector
In-pavement sensor
Other (please specify):_____

18. What information do these systems collect about vehicles for use in assessing the need for a warning? (Check all that apply)

Vehicle speed
Vehicle classification
Weight (weigh-in-motion)
Other (please specify):_____

19. What technologies are used to communicate with vehicles? (Check all that apply)

Dynamic message signs
Flashing lights
In-vehicle warning
Highway advisory radio
In-pavement roadside edge lights
Other (please specify):_____

20. Do the systems warning include a variable speed limit?

Yes
No

21. What type of message is provided by these systems?

Tailored information provided to specific vehicle
Generic warning message provided to all vehicles

22. Do these systems communicate information (e.g., status, activation), in real time, to any agencies/systems?

Yes.

Check all that apply:

Data archiving

Public safety

State police

Local agencies

Traffic management

Incident management

Traveler information /Information service providers

Other states

Other (please specify):_____

No

23. Please provide any additional comments you may have regarding your Environmental Road Hazard Warning System(s) in the space provided below:

_____

_____

_____

_____

Intersection Crossing Detection Systems

24. Number of deployed systems:

_____

25. Please indicate the number of systems with each of the following road classifications:

Freeway or other limited access highway

Other multi-lane highway (non-limited access)

2-lane highway

26. Please indicate the number of systems that have vehicle detection sensors at the following locations:

On all legs of an intersection

On the major road only

Other (please specify):_____

27. What technologies are used to communicate with vehicles? (Check all that apply)

Dynamic message sign

Flashing lights

In-vehicle

Other (please specify): _____

28. Do these systems communicate information (e.g., status, activation), in real time, to any agencies/systems?

Yes.

Check all that apply:

Data archiving

Public safety

State police

Local agencies

Traffic management

Incident management

Traveler information /Information service providers

Other states

Other (please specify):_____

No

29. Please provide any additional comments you may have regarding your Intersection Crossing Detection System(s) in the space provided below:

_____

_____

_____

Pedestrian Safety Systems

30. Number of deployed systems:

_____

31. Please indicate the number of systems with each of the following road classifications:

Freeway or other limited access highway

Other multi-lane highway (non-limited access)

2-lane highway

32. What technologies are used to detect the presence of pedestrians and/or vehicles? (Check all that apply)

Vehicle detection sensors (e.g., loops, video, acoustic)

Microwave pedestrian detector

Infrared pedestrian detector

Manually operated pedestrian detector

Other (please specify): _____

33. What technologies are used to communicate with pedestrians and/or vehicles? (Check all that apply)

In-pavement lights illuminate crosswalk

Illuminated crosswalk signs

Dynamic message signs

Flashing lights

In-vehicle warning

Other (please specify): _____

34. What type of message is provided by these systems?

Alert to approaching vehicles to pedestrian presence
Alert to pedestrian of approaching vehicle
Other (please specify): _____

35. Do these systems communicate information (e.g., status, activation), in real time, to any agencies/systems?

Yes.
Check all that apply:
Data archiving
Public safety
State police
Local agencies
Traffic management
Incident management
Traveler information /Information service providers
Other states
Other (please specify):_____
No

36. Please provide any additional comments you may have regarding your Pedestrian Safety System(s) in the space provided below:

_____
_____
_____
_____

Rail-Highway Crossing Safety Systems

37. Number of deployed systems:

_____

38. Please indicate the number of systems with each of the following road classifications:

Freeway or other limited access highway
Other multi-lane highway (non-limited access)
2-lane highway

39. What information is collected by these systems? (Check all that apply)

Train presence
Train speed
Detection of vehicle intrusion
Detection of pedestrian intrusion
Second train approaching
Other (please specify): _____

40. What technologies are used to communicate with vehicles? (Check all that apply)

Dynamic message sign
Highway advisory radio
In-vehicle warning Flashing lights
Other (please specify): _____

41. Do these systems communicate information (e.g., status, activation), in real time, to any agencies/systems?

Yes.
Check all that apply:
Data archiving
Public safety
State police
Local agencies
Traffic management
Incident management
Traveler information /Information service providers
Other states
Other (please specify):_____
No

42. Please provide any additional comments you may have regarding your Rail-Highway Safety System(s) in the space provided below:

_____
_____
_____

Road Geometry Warning Systems

43. Number of deployed systems:

_____

44. Please indicate the number of systems with each of the following road classifications:

Freeway or other limited access highway
Other multi-lane highway (non-limited access)
2-lane highway

45. What hazards are handled by these systems? (Check all that apply)

Truck roll over
Curve
Downhill
All vehicles
Curve
Downhill
Other (please specify): _____

46. What information do these systems collect about vehicles? (Check all that apply)

Vehicle speed
Vehicle classification
Vehicle weight (weigh-in-motion)
Vehicle height
Other (please specify): _____

47. What information does this system collect about environmental conditions to determine whether a warning is needed?

Road surface condition
Other (please specify): _____

48. What technologies are used to communicate with vehicles? (Check all that apply)

Dynamic message sign
Flashing lights
In-vehicle warning
Highway advisory radio
In-pavement roadside edge lights
Other (please specify): _____

49. What types of messages are provided by these systems?

Generic warning message provided to all vehicles
Tailored information provided to specific vehicle

50. Do these systems communicate information (e.g., status, activation), in real time, to any agencies/systems?

Yes.
- Check all that apply:
- Data archiving
- Public safety
  - State police
  - Local agencies
- Traffic management
- Incident management
- Traveler information /Information service providers
- Other states
- Other (please specify):_____

No

51. Please provide any additional comments you may have regarding your Road Geometry Warning System(s) in the space provided below:

_____
_____
_____
_____

Road Geometry Warning Systems: Cost and Benefits

52. Is your agency willing to share COST information on ITS-related equipment (i.e., capital and O&M cost, and brief equipment description)? This information will be used to update the ITS JPO sponsored ITS unit cost database. (http://www.benefitcost.its.dot.gov/)

Yes.

Please provide name and phone number of the cost information contact if different from respondent. This person will be contacted for the cost information at a later date.

_____
_____
_____

No

53. Is your agency willing to share documented BENEFITS or LESSONS LEARNED information from ITS deployments? The information will be used to update the ITS JPO sponsored ITS benefits database.

Yes.

Please provide name and phone number of the benefits information contact if different from respondent. This person will be contacted for the benefit information at a later date.

_____
_____
_____

No

Fixed Anti-icing/Deicing Systems

54. Number of deployed systems:

_____

55. Please indicate the number of systems with each of the following road classification:

Freeway or other limited access highway
Other multi-lane highway (non-limited access)
2-lane highway

56. Please indicate the number of systems deployed at the following locations:

Bridge
Overpass
Underpass
Exit lane
Ramp
Sharp curve
Deep canyon
Road segment with high winter crash rate
Other (please specify): _____

57. Are these systems automatically activated based upon sensor data?

No.

The fixed anti-icing/deicing system is manually activated

By maintenance personnel

By traffic operations personnel

By other personnel (please specify)

What criteria are used to activate the system? (check all that apply)

Light precipitation

Slick pavement (due to water, snow or ice)

Pavement temperature (current or freeze point)

Traffic volume

Time of day

Other (please specify): _____

Yes

Is activation of the fixed anti-icing/deicing system controlled by a central computer?

No. A remote processing unit controls system activation.

Yes. Treatment strategies recommended by the central computer must be approved by maintenance or operations personnel prior to activation.

Yes. The fixed anti-icing/deicing system is fully automated with no human intervention. Maintenance or operations personnel simply monitor

58. What components are included in these systems? (check all that apply)

Chemical storage tanks

Please specify the typical number and size

_____

Please specify the type(s) of chemical(s)

_____

_____

Spray nozzles

Embedded in road surface

Embedded in bridge deck

Embedded in median barrier

Other location (please specify) : _____

Environmental Sensor Station(s) measuring the following:

Air temperature

Relative humidity

Barometric pressure

Precipitation type

Precipitation rate

Wind speed

Wind direction

Visibility distance

Cloud cover/solar radiation

Pavement surface temperature

Pavement freeze point temperature

Pavement condition (dry, wet, icy, snow-covered, flooded)

Pavement snow depth/accumulation Pavement friction coefficient

Pavement chemical concentration

Other (please specify): _____

Vehicle detectors (for volume, speed, classification, etc.)
Closed Circuit Television (CCTV) cameras
Other (please specify): _____

59. What types of services are used to warn motorists of system activation? (check all that apply)

None
Static signs with flashing beacons
Dynamic Message Signs (DMS)
Other (please specify): _____

60. What benefits of the fixed anti-icing/deicing system have been observed and/or quantified? (check all that apply)

Improved safety in winter weather
- By predicting or detecting slick pavement
- By reducing winter crash rate
- Other (please specify): _____

Improved mobility in winter weather
- By reducing delay and congestion due to winter crashes
- By maintaining higher roadway level of service
- Other (please specify): _____

Improved productivity in winter weather
- By reducing road treatment costs
- By reducing the amount of chemical applications
- By extending the life of road infrastructure
- Other (please specify): _____

Other (please specify): _____

61. Do these systems communicate information (e.g., status, activation), in real time, to any agencies/systems?

Yes.
- Check all that apply:
- Data archiving
- Public safety
  - State police
  - Local agencies
- Traffic management
- Incident management
- State DOT
- Maintenance agencies
- Traveler information /Information service providers
- Other (please specify):_____

No

62. Please provide any additional comments you may have regarding your Fixed Anti-Icing/Deicing Systems System(s) in the space provided below:

_____
_____
_____
_____

Avalanche/Slide Management Systems

63. Number of deployed systems:

_____

64. Please indicate the number of systems with each of the following road classification.

Freeway or other limited access highway
Other multi-lane highway (non-limited access)
2-lane highway

65. What are the key reasons for deploying these systems? (check all that apply)

Evaluation
Road curvature
Road grade
High accident history
Other (please specify):_____

66. What information is collected by these systems?

Avalanche/slide detection sensors
Vehicle detection sensors on corridors prone to avalanches
Other (please specify):_____

67. What technologies are used to communicate with vehicles?

Traveler alerts
- Dynamic message sign
- Highway advisory radio
- In-vehicle warning
- Flashing lights

Radio contact with maintenance vehicles
Other (please specify):_____

68. What methods are used to limit access to avalanche/slide area?

Coupled gate to close road
Other (please specify):_____

69. Do these systems communicate information (e.g., status, activation), in real time, to any agencies/systems?

Yes.

Check all that apply:

Data archiving

Public safety

State police

Local agencies

Traffic management

Incident management

State DOT

Maintenance agencies

Traveler information /Information service providers

Other (please specify):_____

No

70. Please provide any additional comments you may have regarding your Automatic Avalanche/Slide Warning System(s) in the space provided below:

_____

_____

_____

_____

Maintenance Fleet Management Systems

71. The system is used to monitor:

Snowplows

Street sweepers

Other maintenance vehicles (please specify) :_____

72. The system allows central managers to:

Monitor vehicle location data using Automated Vehicle Location (AVL) technology

Monitor vehicle status data

Plow position (e.g., up/down)

Chemical application rate Inventory level of chemicals

Engine diagnostic sensors

Monitor mobile environmental sensor data

Air temperature

Pavement temperature

Pavement condition (dry, wet, icy, snow-covered)

Send messages to vehicle drivers using in-vehicle display devices

Send pre-programmed messages

Send customized messages

Send messages to a single plow, group of plows or all plows

Make scheduling and routing decisions using optimization software

Share road treatment data with neighboring jurisdictions/agencies

Other (please specify) :_____

73. What communication technologies are used?

Cell phones
Pagers
Mobile data terminals
Two-way radios - voice only
Two-way radios - voice and data
Interoperable with regional service vehicles (transit, maintenance, public safety)
Other (please specify) :_____

74. What benefits of the system have been observed and/or quantified?

Improved safety
Please specify how: :_____
Improved mobility
Please specify how): :_____
Improved productivity in winter weather
By reducing road treatment costs
By identifying the most efficient treatment routes
By facilitating real-time communication between maintenance managers and vehicle drivers
By fostering interagency communication
Other (please specify) :_____
Other (please specify) :_____

75. Please provide any additional comments you may have regarding your Maintenance Fleet Management System(s) in the space provided below:

_____
_____
_____
_____

Work Zone Management Systems

76. What is the road classification where these systems are located? (Check all that apply)

Freeway or other limited access highway
Other multi-lane highway (non-limited access)
2-lane highway

77. What type of traffic management center manages traffic for work zones? (Check all that apply)

Portable traffic management center
Permanent traffic management center
None
Other (please specify) :_____

78. What types of deployments are these? (Check all that apply)

Temporary
Permanent
Temporary deployments to take over functions of permanent systems that degraded or were made inoperable by construction activities
Other (please specify) :_____

79. What technologies are employed? (Check all that apply)

Intrusion alarm
Dynamic lane merge system
Queue detection and alert system
Travel time system
Advanced speed information system (ASIS)
Other (please specify) :_____

80. What are the reasons for deployment? (Check all that apply)

Reduce crashes
Improve workers safety
Reduce congestion
Provide traveler information to reduce frustration
Other (please specify) :_____

81. What technologies are used to communicate with vehicles? (Check all that apply)

Portable message sign
Permanent dynamic message sign
Highway advisory radio
In-vehicle warning Flashing lights
Series of warning signs activated progressively farther from the work site as sensors detect increases in traffic volume
Temporary speed limits
Temporary vehicle width, height, or width restrictions
Other (please specify) :_____

82. Which other systems or agencies receive data on work zone status? (Check all that apply)

Data archiving
Public safety
State police
Local agencies
Traffic management
Incident management
Traveler information / Information service providers
Other states
Other (please specify) :_____

83. Please provide any additional comments you may have regarding your Work Zone Management System(s) in the space provided below:

_____
_____
_____
_____

Work Zone Management Systems: Cost and Benefits

84. Is your agency willing to share COST information on ITS-related equipment (i.e., capital and O&M cost, and brief equipment description)? This information will be used to update the ITS JPO sponsored ITS unit cost database. (http://www.benefitcost.its.dot.gov/)

Yes.

Please provide name and phone number of the cost information contact if different from respondent. This person will be contacted for the cost information at a later date:

_____

No

85. Is your agency willing to share documented BENEFITS or LESSONS LEARNED information from ITS deployments? The information will be used to update the ITS JPO sponsored ITS benefits database.

Yes.

Please provide name and phone number of the benefits information contact if different from respondent. This person will be contacted for the cost information at a later date:

_____

No

Statewide Web Site

86. Has your agency deployed a Web Site that distributes traveler information?

Yes.

Please provide the web address (URL):_____

No

87. What information is disseminated by this web site? (Check all that apply)

Roadway Information

Road closure
Detours
Alternate routes
Work zones/construction events
Weather
Road surface conditions
Road restrictions Incidents
Congestion
Speeds
Travel times
CCTV images
Other

Traveler and Tourist Information

Maps
Directions Special events
Points of interest
Hotel accommodations
Restaurants Recreational areas
National Parks information
Local event calendars
Trail information
Parking information
Parking space availability
Other

Public Transportation Information

Transit schedules
Transit adherence to schedules
Rail schedules
Ferry schedules
Other

Other information

Air quality alerts
AMBER (child abduction) alerts
Safety campaign messages
Other

88. What is the geographic coverage of the information provided?

Regional.
Describe coverage:_____
Statewide
Multi-state.
States included:_____

89. What is the highway coverage of the information provided?

Freeways
Multi-lane (not limited access)
State routes
Other

90. What is the usage of the web site?

Monthly use sessions:
Other (e.g., hits, page views) :_____
Do not track usage

91. Who is the information service provider for your web site?

_____

92. Please provide any comments regarding you web site in the space provided below:

_____
_____
_____

Statewide 511 System

93. Has your state deployed a 511 traveler information system?

Yes
No

94. What is the geographic coverage of the information?

Regional.
    Describe coverage:_____
Statewide
Multi-state.
    States included: :_____

95. What is the highway coverage of the information provided?

Freeways
Multi-lane (not limited access)
State routes
Other

96. What is the content of the 511 system? (Check all that apply)

Basic service provided free of charge
    Traveler and tourist information
    Roadway information
    Public transportation
Optional content (premium service) for specific users provided for a fee
    Describe optional content: :_____

97. What are the sources of data for your statewide 511 systems? (Check all that apply)

Public safety (incident information)
    State Police
    Local agencies
Traffic management
Operations and maintenance
    Work zones
    Construction areas
Incident management service patrols
Private traveler information
    Cellular phone calls
Information service providers
News Media
National Weather Service
Weather sensor data
Road surface condition detectors
Public transportation Inductive loop detectors CCTV
Microwave radar detectors
Other (Please specify):_____

98. Does the system incorporate a voice recognition service?

Yes
No

99. Is the system multi-lingual?

Yes
No

100. What are the operating hours?

24 hours
Other

101. Number of calls per month:

_____

102. Please provide any comments regarding your 511 system in the space provided below:

_____
_____
_____
_____

Other Means of Disseminating Traveler Information

103. Please check any other means by which your state disseminates statewide traveler information:

Highway advisory radio (HAR)
Automated telephone (non-511)
Staffed telephone (non-511)
Permanent dynamic message signs (DMS)
Portable dynamic message signs (DMS)
In-vehicle devices
E-mail
Personal data assistants (PDA)
Interactive kiosks
Television broadcast - dedicated TV channel
Television broadcast - media
Fax
Other (Please specify):_____
Do not disseminate traveler information (go to question 108)

104.Who is the information service provider for each media type?

Highway advisory radio: _____
Automated telephone (non-511): _____
Staffed telephone (non-511): _____
Permanent dynamic message signs: _____
Portable dynamic message signs: _____
In-vehicle devices: _____
E-mail: _____
Personal data assistants: _____
Interactive kiosks: _____
Television broadcast - dedicated TV channel: _____
Television broadcast - media: _____
Fax: _____
Other (Please specify): _____

105.How are message sets developed?

Media Type	Data Dictionary	Local Policy	Ad-hoc
Highway advisory radio			
Automated telephone (non-511)			
Staffed telephone (non-511)			
Permanent dynamic message signs			
Portable dynamic message signs			
In-vehicle devices E-mail			
Personal data assistants			
Interactive kiosks			
Television broadcast - dedicated TV channel			
Television broadcast - media			
Fax			
Other (Please specify:)			

106.What is the process for selecting message sets for dissemination?

Media Type	Manual	Semi-Automatic	Fully Automatic	None
Highway advisory radio				
Automated telephone (non-511)				
Staffed telephone (non-511)				
Permanent dynamic message signs				
Portable dynamic message signs				
In-vehicle devices E-mail				
Personal data assistants				
Interactive kiosks				
Television broadcast - dedicated TV channel				
Television broadcast - media				
Fax				
Other (Please specify:)				

107.How are message sets approved for dissemination?

Media Type	Supervisor Approved all Messages	Supervisor Approved Manually Generated Messages	Operator Approved All Messages	Operator Approved Manually Generated Messages	Operator Approved Pre-Programmed Messages	Automated Selection No Approval Required
Highway advisory radio						
Automated telephone (non-511)						
Staffed telephone (non-511)						
Permanent dynamic message signs						
Portable dynamic message signs						
In-vehicle devices E-mail						
Personal data assistants						
Interactive kiosks						
Television broadcast - dedicated TV channel						
Television broadcast - media						
Fax						
Other (Please specify:)						

108.Please provide any comments you may have regarding your statewide traveler information system(s) in the space provided below:

_____
_____
_____
_____

Traveler Information: Cost and Benefits

109.Is your agency willing to share COST information on ITS-related equipment (i.e., capital and O&M cost, and brief equipment description)? This information will be used to update the ITS JPO sponsored ITS unit cost database. (http://www.benefitcost.its.dot.gov/)

Yes.

Please provide name and phone number of the cost information contact if different from respondent. This person will be contacted for the cost information at a later date:

_____

No

110.Is your agency willing to share documented BENEFITS or LESSONS LEARNED information from ITS deployments? The information will be used to update the ITS JPO sponsored ITS benefits database.

Yes.

Please provide name and phone number of the benefits information contact if different from respondent. This person will be contacted for the cost information at a later date:

_____

No

Surface Transportation Weather Systems

111. Under what area of responsibility does your job apply? (Check all that apply)

Traffic Management
Traveler Information Dissemination
Maintenance
Construction
Other (please specify):_____

112. What weather events and impacts significantly affect the operation and maintenance of roads in your jurisdiction? (Check all that apply)

Liquid precipitation (i.e., rain)
Frozen precipitation (e.g., snow, sleet, freezing rain)
Low visibility due to fog
Low visibility due to wind-blown snow
Low visibility due to wind-blown dust
Low visibility due to smoke
High winds Flooding
Tropical storms and hurricanes Tornadoes
Slick pavement (due to water, snow or ice, black ice)
Sand or dust
Landslides (mudslides, rockslides)
Snow slides (avalanches)
Other (please specify):_____
None

113. What types of road weather information does your agency use to make operational decisions? (Check all that apply)

Atmospheric data (e.g., precipitation, air temperature, visibility distance)
Pavement condition data (e.g., wet, freeze point temperature, chemical concentration)
Water level data (e.g., stream levels, river forecasts, tide levels)
Other (please specify) :_____

114. What environmental data are collected by your agency to support operational decisions? (Check all that apply)

- Air temperature
- Air quality
- Dew point and relative humidity
- Barometric pressure
- Precipitation type
- Precipitation rate
- Wind speed and gusts
- Wind direction
- Visibility distance
- Cloud cover/solar radiation
- Pavement surface temperature
- Pavement freezing point
- Pavement condition (wet, dry, icy, snow-covered, flooded)
- Pavement snow depth
- Pavement friction coefficient
- Pavement chemical concentration
- Subsurface conditions (e.g., soil temperature, depth of frost level)
- Water level (in streams, rivers, and lakes near roads)
- Other (please specify:_____
- Do not collect environmental data

115. Does your agency use Environmental Sensor Stations (ESS) that are field components of a State DOT Road Weather Information System (RWIS) to gather road weather information?

- No. Go to question 127
- Yes

116. How many ESS are in the RWIS?

_____

117. Is a map with ESS deployment data available?

- No
- Yes.
  - Where can the map be obtained?_____

118. What other sections within your agency are involved with the operation of or have responsibility for ESS? (Check all that apply)

- Traffic Management
- Traveler Information Dissemination
- Maintenance
- Construction
- None
- Other (please specify) :_____

119.Select the entity or entities with which your agency shares ESS observational data. (Check all that apply)

NOAA's Forecast System Laboratory to the Meteorological Assimilation Data Ingest System (MADIS)
National Weather Service through local forecast offices
Private meteorological services
Other (please specify) :_____
Do not share ESS observational data

120.If your agency DOES NOT share ESS observational data, what is/are the barrier(s)? (Check all that apply)

Cost
Proprietary restraints from private meteorological service providers
Never considered
Other (please specify) :_____

121.Who OWNS the ESS that you have access to?

My agency only
My agency and other public or private agencies (please specify):
Other public or private agencies (please specify) :_____

122.Who OPERATES the ESS that you have access to?

My agency only
My agency and other public or private agencies (please specify):
Other public or private agencies (please specify) :_____

123.Who MAINTAINS the ESS that you have access to?

My agency only
My agency and other public or private agencies (please specify):
Other public or private agencies (please specify) :_____

124.Please identify the private vendor for ESS data collection, RWIS network operation, or RWIS network maintenance.

ESS data collection:
RWIS network operation:
RWIS network maintenance:
Do not use private vendors
Other (please specify) :_____

125.During what periods are your ESS operational? (Check all that apply)

Year-round
Winter
Spring
Summer
Fall
Other (please specify) :_____

126. Please indicate which parameter(s) your ESS measures, and the source of any siting or performance standards that have been specified for each type of sensors (e.g., agency vendor, other- please specify). For siting and performance standards, please cite a URL or publicly available document (if available) to which we may refer.

Measure	Siting Standards	Performance Standards
Air quality		
Atmospheric pressure		
Cloud height		
Lightning		
Pavement condition (wet, dry, icy, snow-covered, flooded)		
Pavement friction coefficient		
Pavement chemical concentration		
Precipitation occurrence		
Precipitation type discrimination (rain)		
Precipitation type discrimination (freezing vs. non-freezing)		
Precipitation type discrimination (sleet-specific)		
Precipitation type discrimination (snow specific)		
Precipitation rate		
Precipitation, amount of accumulation		
Relative humidity		
Snowfall		
Snow depth		
Sky condition		
Temperature (ambient air)		
Temperature (dew point)		
Temperature (pavement freeze point)		
Temperature (pavement surface)		
Temperature (subsurface)		
Visibility		
Wind direction		
Wind speed		

127. What are the barrier(s) to obtaining or implementing Environmental Sensor Stations? (Check all that apply)

No perceived need
Cost
Use other source(s)
Other (please specify) :_____
No barriers

128. What SYSTEM(S), besides ESS, are used by your agency to gather road weather information? (Check all that apply)

- Agricultural monitoring networks
- Air quality sensing stations
- Airport monitoring stations (e.g., ASOS stations, AWOS stations)
- Closed Circuit Television (CCTV) cameras
- Mobile environmental sensor
  - On maintenance vehicles with Automated Vehicle Location (AVL) technology
  - On other vehicles (please specify type) :_____

  What data are collected by the mobile environmental sensors? (Check all that apply)
    - Air temperature
    - Pavement surface temperature
    - Pavement freeze point temperature
    - Pavement condition (wet, dry, icy, snow-covered, flooded)
    - Pavement friction coefficient
    - Other (please specify) :_____
- State-owned mesoscale environmental monitoring network (mesonet)
- Other system state owned
- Other mesonet (e.g., university) :_____
- Other monitoring system:_____
- Do not gather road weather information

129. What source(s) of weather information does your agency use to gather road weather information? (Check all that apply)

- National Weather Service (NWS) (e.g., general weather forecasts)
- Federal Aviation Administration (FAA) (e.g., ASOS/AWOS data)
- U.S. Geological Survey (USGS) (e.g., stream gauge data)
- National Hurricane Center (NHC) (e.g., storm track and landfall forecasts)
- Department of Defense
- Reports from field personnel
- Private weather information service:_____

  Are weather products tailored to your operational requirements? (e.g., route-specific)
    - Yes
    - No
- Other (please specify) :_____
- Do not gather road weather information

130. Do you coordinate data gathering with other states?

- No
- Yes.
  - Please list them:_____

131. Which personnel in your agency use road weather information to make operational decisions? (Check all that apply)

Traffic management personnel
Traveler information dissemination personnel
Winter maintenance personnel (for snow and ice control activities)
Summer maintenance personnel (for weed control, patching, etc.)
Construction personnel (for paving operations, concrete pouring, etc.)
Do not use road weather information to make operational decisions
Other (please specify) :_____

132. Does your agency SHARE road weather information with other agencies/entities?

No
Yes

Please specify the other agencies/entities (Check all that apply)
Emergency management
Public safety (e.g., law enforcement, highway patrol)
Transit operators
Information service providers
Commercial vehicle operators
School districts
Traffic management centers
Maintenance crews
Other (please specify) :_____

133. Does your agency RECEIVE road weather information from non-weather agencies/entities?

No
Yes

Please specify the other agencies/entities (Check all that apply)
Emergency management
Public safety (e.g., law enforcement, highway patrol)
Transit operators
Information service providers
Commercial vehicle operators
School districts
Traffic management centers
Maintenance crews
Other (please specify) :_____

134.Does your agency provide road weather information to the traveling public?

No

Yes

Please specify the type of dissemination system(s) (Check all that apply)

Roadside warning devices (e.g., DMS, HAR)
In-vehicle devices
Interactive kiosks
Personal communication devices (e.g., PDAs, pagers)
Dedicated television channel Fax
E-mail
Internet/web site. What is the URL?
511 Telephone system
Telephone number other than 511.
What is/are the number(s)?_____
Does the telephone system use interactive voice response technology?
Yes
No
Other dissemination system (please specify):_____

Please specify the type of road weather information disseminated to the traveling public. (Check all that apply)

Atmospheric observations (e.g., precipitation and air temperature from ESS)
Route-specific pavement condition data (e.g., dry, wet, plowed, flooded)
Video images of selected routes
Weather-related travel restrictions (e.g., tire chain requirements, closed routes)
General weather forecast data (e.g., National Weather Service warnings)
Route-specific weather forecast data
Other (please specify) :_____

135.Is weather information provided in a format that can be integrated with existing GIS and overlaid on a road network?

Yes

No

136.Are any or all-weather data archived in a way that would permit their re-use in forensics or validation studies?

Yes

How have archived weather data been used by your agency?

_____

No

137. The U.S. DOT is interested in networking with evaluators of Intelligent Transportation Systems (ITS) nationwide. Is there a point of contact in your state for ITS evaluations?

Yes

Please provide the name, e-mail, and phone number

_____

No

Don't know

138. The U.S. DOT ITS JPO actively collects data on the benefits and costs of ITS implementations and makes this information available at the following URL: http://www.benefitcost.its.dot.gov/. Are you aware of any locally produced and funded evaluations that could be added to this national database?

Yes

Please provide a point of contact (name, phone number and e-mail) or reference (e.g., URL) for the evaluation report.

_____

No

Don't know

139. Is your agency willing to share COST information on ITS-related equipment and projects (i.e., capital and O&M cost, project component breakdown, and brief description)? This information will be used to update the ITS JPO sponsored ITS costs database.

Yes

Please provide name, phone number, and e-mail of the cost information contact if different from respondent. This person will be contacted for the cost information at a later date.

_____

_____

_____

_____

No

140. Is your agency willing to share BENEFITS information from ITS deployments? This information will be used to update the ITS JPO sponsored ITS benefits database.

Yes

Please provide name and phone number of the benefits information contact if different from respondent. This person will be contacted for the benefits information at a later date.

_____

_____

_____

_____

No