

# Metropolitan Intelligent Transportation Systems (ITS) Infrastructure 2010 Freeway Management Survey

## Introduction

This survey is designed to obtain data measuring the level of Intelligent Transportation System (ITS) deployment on freeways. The results of this survey will be used to establish the extent of ITS deployment, to track deployment progress, and to report deployment status to Congress and other interested bodies.

Your participation is very important to ensuring a complete and accurate tracking of ITS deployment in the United States. Thank you for your assistance with this survey effort. Your cooperation is greatly appreciated.

## Freeway Infrastructure

1. Total freeway centerline miles operated by your agency: **TotalMiles**
2. Total number of freeway centerline miles with real-time traffic data collection technologies (Does not include Closed Circuit TV): **MilesUnderSurveillance**
- 2a. Number of these miles where real-time traffic data are collected using roadside infrastructure such as loops, radar detectors, or video imaging detector systems: **MilesUnderSurvDetectors**
- 2b. Number of these miles where real-time traffic data are collected by vehicle probes, using technology such as toll tag readers, cell phones etc.: **MilesUnderSurvProbes**

IF VEHICLE PROBE DATA ARE COLLECTED, PLEASE ANSWER 3a and 3b:

3a. Who collects the vehicle probe data? (Check all that apply)

- My agency **ProbeDataAgency**
- Other public agency **ProbeDataOtherAgency**
- Private sector **ProbeDataVendor**

3b. What type of vehicle probe readers are used to obtain traffic information? (Check all that apply)

- Toll tag readers **TypeProbeToll**
- Blue tooth readers **TypeProbeBlue**
- Cellular phone readers **TypeProbeCell**
- GPS readers **TypeProbeGPS**
- License plate recognition **TypeProbeOCR**
- Other readers (please specify): **TypeProbeOtherText**

4. Total miles of freeway centerline miles where information on traffic flow conditions are collected by agency reports ONLY (i.e., police radio reports are provided on a recurring basis to characterize traffic flow conditions, with NO roadside infrastructure or vehicle probe data collection): **MilesInfoTrafficFlow**

5a. Total number of freeway traffic surveillance detector stations deployed by your agency: **DetectorStations**

5b. For each of the following technologies, please indicate the number deployed by your agency and the approximate percentage that is operational (e.g., working):

	Number Deployed	Percent Operational
Loop stations:	<b>DetectorStationsLoopNumber</b>	<b>DetectorStationsLoopPercent</b>
Radar stations:	<b>DetectorStationsRadarNumber</b>	<b>DetectorStationsRadarPercent</b>
Video imaging detector stations:	<b>DetectorStationsVideoNumber</b>	<b>DetectorStationsVideoPercent</b>
Toll tag readers:	<b>DetectorStationsTollNumber</b>	<b>DetectorStationsTollPercent</b>
Other stations (please specify):	<b>DetectorStationsOtherNumber</b>	<b>DetectorStationsOtherPercent</b>
	<b>DetectorStationsOtherText</b>	

6. Does your agency have in-pavement sensors to detect the condition of the pavement?

- Yes **InPavementSensors** 1 = Yes, 2 = No,3 = No Response  
 No

7. Has your agency deployed any Environmental Sensor Stations? **DeployESS**

- Yes, how many? **DeployESS** 1 = Yes, 2 = No,3 = No Response

What data are collected? (Check all that apply):

- Temperature **ESSCollectTemp**  
 Humidity **ESSCollectTemp**  
 Wind speed **ESSCollectWindSpeed**  
 Wind direction **ESSCollectWindDirection**  
 Precipitation (rain) **ESSCollectRain**  
 Precipitation (snow) **ESSCollectSnow**  
 Other (please specify): **ESSCollectOtherText**

- No

8. Number of freeway centerline miles covered by Highway Advisory Radio (HAR): **MilesHAR**

9. Total Number of permanent Dynamic Message Signs (DMS) deployed on freeways: **NumberOfDMS**

10. Does your agency use the DMS in the absence of incidents or special events?

**UseDMS**  
1 = Yes, 2 = No,3 = No Response

- Yes, please describe: **UseDMSDescribe**

- No

11. Does your agency have an agreement with a private vendor to push mobile alerts regarding incidents, roadway conditions, etc. to mobile media?

- Yes **AgreementMobileAlerts** 1 = Yes, 2 = No,3 = No Response

- No

### Ramp Control

12. Total number of freeway entrance ramps operated by your agency: **TotalRamps**

13. Does your agency have freeway entrance ramp metering capability?

- Yes **HaveRampMeters** 1 = Yes, 2 = No,3 = No Response

- No, SKIP TO QUESTION 22

14. Total number of ramps with ramp metering capability: **TotalRampMeters**

15. Total number of metered ramps with priority access capability for transit vehicles: **RampMeters\_Priority\_Transit**

16. Total number of metered ramps with priority access capability for other vehicles (e.g., trucks): **RampMeters\_Priority\_Other**

17. Total number of High Occupancy Vehicle (HOV) bypass lanes at metered ramps: **RampMeters\_HOV**

18. Total number of metered ramps with preemption access capability for emergency vehicles: **RampMeters\_Preemption**

19. Does your agency deploy automated enforcement technologies to assist with the enforcement of ramp metering compliance?

- Yes **Ramp\_meter\_enforcement** 1 = Yes, 2 = No,3 = No Response

- No

20. Is ramp meter timing adjusted in coordination with traffic signal timing for queue length management?

- Yes **Ramp\_meter\_queue** 1 = Yes, 2 = No,3 = No Response

- No

21. Under what circumstances do you meter traffic on ramps as a traffic management strategy? (Check all that apply)

- Time of day (recurrent congestion) Ramp\_Meter\_TimeOfDay
- Traffic incidents Ramp\_Meter\_Incidents
- Planned special events Ramp\_Meter\_Special
- Weather (e.g., fog, rain, snow) Ramp\_Meter\_Weather
- Evacuation Ramp\_Meter\_Evacuation
- Other (please specify): Ramp\_Meter\_OtherText

22. Total number of ramps with automated ramp closure capability (e.g., during evacuations, emergencies, weather, etc.): IF 0 GO TO QUESTION 24 RampAutomatedClosure

23. Under what circumstances do you close ramps as a traffic management strategy? (Check all that apply)

- Time of day (recurrent congestion) RampClosureTimeOfDay
- Traffic incidents RampClosureIncidents
- Planned special events RampClosureSpecial
- Weather (e.g., fog, rain, snow) RampClosureWeather
- Evacuation RampClosureEvacuation
- Other (please specify): RampClosureOtherText

### Managed Lanes

24. Total number of freeway centerline miles featuring managed lanes: ManagedLanesTotal

25. Please provide the estimated number of freeway centerline miles for each type of managed lane strategy:

- |   | Freeway Centerline Miles                               |
|---|--|
| a. Occupancy control (HOV):   | ManagedLanesHOV  |
| b. High Occupancy Toll (HOT):                                       | ManagedLanesHOT  |
| c. Express lanes (reversible flow):                                 | ManagedLanesExpress                                    |
| d. Lane open/closed (traffic incidents, roadway maintenance, etc.): | ManagedLanesOpenClose                                  |
| e. Truck only:  | ManagedLanesTruck                                      |
| f. Variable speed limit:  | ManagedLanesVariableSpee                               |
| g. Hard shoulder running:   | ManagedLanesShoulder                                   |
| h. Other pricing or tolling (please specify):                       | ManagedLanesPricingToll<br>ManagedLanesPricingTollText |
| i. Other managed lane strategy (please specify):                    | ManagedLanesOther<br>ManagedLanesOtherText             |

### Automated Enforcement

26. What automated enforcement technologies does your agency deploy? (Check all that apply)

- License plate recognition AutomatedEnforcementLPR
- Video camera AutomatedEnforcementVideo
- Toll tag readers AutomatedEnforcementTollTag
- Other (please specify): AutomatedEnforcementOtherText
- None. GO TO QUESTION 29 AutomatedEnforcementNone

AgencyName

27. Does your agency deploy automated speed enforcement technologies on freeways?

- Yes      **Speed\_enforcement**      1 = Yes, 2 = No,3 = No Response  
 No

28. Does your agency deploy automated enforcement technologies to enforce High Occupancy Vehicle (HOV) restrictions on freeways?

- Yes      **hov\_enforcement**      1 = Yes, 2 = No,3 = No Response  
 No

### Freeway Incident Management

29. Please provide the freeway centerline miles covered by the following incident detection/verification methods:

- a. Closed Circuit Television (CCTV):      **IncidentDetectionCCTVMiles**  
b. Call boxes:      **IncidentDetectionCallBoxesMiles**  
c. Computer algorithms to detect incidents:      **IncidentDetectionComputerMiles**

30. Total number of Closed Circuit Television cameras deployed on freeways:      **IncidentDetectionCCTVNumber**

31. Please indicate which of the following technologies your agency uses to detect freeway incidents: (Check all that apply)

- Inductive loop or acoustic roadway detectors      **detect\_incident\_inductive**  
 Public Safety Computer Aided Dispatch      **detect\_incident\_public\_safety**  
 Advanced Crash Notification      **detect\_incident\_ACN**  
 Wireless enhanced 911      **detect\_incident\_E911**  
 Traveler reported photographs or video from cell phones      **detect\_incident\_traveler**  
 Other (please specify):      **detect\_incident\_OtherText**  
 Do not detect incidents using technologies      **detect\_incident\_DoNot**

32. Total number of freeway centerline miles patrolled by service patrol:      **MilesServicePatrol**

33. Have you used ITS at work zones?      **ITS\_Work\_Zones**      1 = Yes, 2 = No,3 = No Response

- Yes: What ITS technologies does your agency deploy at work zones? (Check all that apply)  
 Intrusion alarm      **ITS\_Work\_Zones\_Intrusion**  
 Dynamic lane merge system      **ITS\_Work\_Zones\_Dynamic**  
 Queue detection and alert system      **ITS\_Work\_Zones\_Queue**  
 Variable speed limit      **ITS\_Work\_Zones\_Variable**  
 Portable Dynamic Message Signs      **ITS\_Work\_Zones\_Portable**  
 Other (please specify):      **ITS\_Work\_Zones\_OtherText**  
 No

34. Has your agency deployed any of the following safety systems?

- |   | Yes                                     | No |                                 |
|---|---|----|---------------------------------|
| a. Over-height warning system                 | <b>Safety_system_over_height</b>        |    | 1 = Yes, 2 = No,3 = No Response |
| b. Automated and/or manual freeway ramp gates | <b>Safety_system_ramp_gates</b>         |    | 1 = Yes, 2 = No,3 = No Response |
| c. Reference Location Signs                   | <b>Safety_system_reference_location</b> |    | 1 = Yes, 2 = No,3 = No Response |
| d. Dynamic Curve Warning System               | <b>Safety_system_dynamic_curve</b>      |    | 1 = Yes, 2 = No,3 = No Response |

## Travel Reporting

35. What methods are used to disseminate traveler information on freeways by your agency? (Check all that apply)

- Webpage method\_traveler\_Web
- 511 method\_traveler\_511
- Other (non-511) telephone system method\_traveler\_other\_phone
- Subscription Service method\_traveler\_subscription
  - Email or alert to desktop method\_traveler\_email\_desktop
  - Email or alert to mobile device such cell phone or smart phone method\_traveler\_email\_mobile
- Posting on Twitter or other Social Networking Site method\_traveler\_social
- Highway Advisory Radio method\_traveler\_har
- Dynamic Message Signs method\_traveler\_dms
- Other (please specify): method\_traveler\_OtherText

36. Do you report travel time data on freeways using any of the methods in question 35?

- Yes, please answer the following questions: report\_travel\_time\_data 1 = Yes, 2 = No, 3 = No Response
  - a. Which freeways are reported?

report\_travel\_time\_data\_freeways

b. What travel time data are reported?

- Travel time by segment report\_travel\_time\_data\_segment
- Travel time over selected route report\_travel\_time\_data\_route
- Other (Please specify): report\_travel\_time\_OtherText
- No

37. Do you report roadway or lane blocking incidents and events on freeways using any of the methods in question 35?

- Yes, please answer the following questions: report\_blocking\_incidents 1 = Yes, 2 = No, 3 = No Response
  - a. Which freeways are reported?

report\_blocking\_incidents\_freeways

b. What roadway or lane blocking incidents and events data are reported?

- Incident location report\_blocking\_incidents\_location
- Incident duration report\_blocking\_incidents\_duration
- Other (Please specify): report\_blocking\_incidents\_OtherText
- No

38. Do you report construction activities affecting travel conditions (e.g., lane closures) on freeways using any of the methods in question 35?

- Yes, please answer the following questions: report\_construction 1 = Yes, 2 = No, 3 = No Response
  - a. Which freeways are reported?

report\_construction\_freeways

b. What construction activities affecting travel conditions data are reported?

- Construction location report\_construction\_location
- Construction duration report\_construction\_duration
- Number of lanes closed report\_construction\_lanes\_closed
- Other (please specify): report\_construction\_OtherText
- No

39. Do you report roadway weather observations on freeway segments using any of the methods in question 35?

Yes, please answer the following questions: **report\_weather** 1 = Yes, 2 = No,3 = No Response

a. Which freeways are reported?

**report\_weather\_freeways**

b. What roadway weather observations data are reported?

Temperature **report\_weather\_temperature**

Precipitation **report\_weather\_precipitation**

Visibility restrictions **report\_weather\_visibility**

High winds **report\_weather\_winds**

Other (please specify): **report\_weather\_OtherText**

No

### Corridor Management

40. Have you identified corridors for the purpose of integrating operations across freeways, major arterials, and/or public transit services?

**identified\_corridors** 1 = Yes, 2 = No,3 = No Response

Yes, please describe the corridor(s):

**identified\_corridors\_describe**

With which agencies do you coordinate operations related to the corridor?

**identified\_corridors\_agencies**

No. GO TO QUESTION 42

41. What type of services are currently coordinated across the corridor, and what type of services are envisioned for the future: (Please check all that apply for each column)

	Currently Coordinated	Future
a. Cross Jurisdictional Traffic Signal Coordination	<b>serv_coord_traffic_signal_current</b>	<b>serv_coord_traffic_signal_future</b>
b. Traffic Incident Management	<b>serv_coord_incident_current</b>	<b>serv_coord_incident_future</b>
c. Real-time transfer of performance information	<b>serv_coord_perf_current</b>	<b>serv_coord_perf_future</b>
d. Electronic toll tags used by other toll road operators	<b>serv_coord_toll_tags_current</b>	<b>serv_coord_toll_tags_future</b>
e. Traffic responsive signal timing	<b>serv_coord_traffic_resp_current</b>	<b>serv_coord_traffic_resp_future</b>
f. Ramp control	<b>serv_coord_ramp_current</b>	<b>serv_coord_ramp_future</b>
g. Inclement weather traffic control strategies, treatments, warnings, or road closures	<b>serv_coord_weather_current</b>	<b>serv_coord_weather_future</b>
h. Transit operations	<b>serv_coord_transit_current</b>	<b>serv_coord_transit_future</b>
i. Other (please specify): <b>serv_coord_other_text</b>	<b>serv_coord_other_current</b>	<b>serv_coord_other_future</b>

### Level of Integration

42. Does your agency receive, in real-time, incident information (e.g., clearance activities, type, severity, etc.) from any public safety agency?

Incident Clearance **ReceiveIncidentClearanceInfo**

Incident Severity and Type **ReceiveIncidentSeverityInfo**

1 = Yes, 2 = No,3 = No Response

43. Does your agency provide, in real-time, incident information (e.g., type, severity, etc.) and/or freeway information (e.g., travel times, speed and conditions) to the following types of agencies? (Check all that apply)

	Incident Information (e.g., type, severity, etc.)		Freeway Information (e.g., travel times, speed, etc.)	
	Yes	No	Yes	No
	1 = Yes, 2 = No, 3 = No Response			
Freeway Management Agencies	Receive	IncidentSeverityInfo	Send	FreewayInfoToFreeway
Arterial Management Agencies	Send	IncidentInfoToArterial	Send	FreewayInfoToArterial
Public Transit Agencies	Send	IncidentInfoToTransit	Send	FreewayInfoToTransit
Law Enforcement Public Safety Agencies	Send	IncidentInfoToLaw	Send	FreewayInfoToLaw
Fire Rescue Public Safety Agencies	Send	IncidentInfoToFire	Send	FreewayInfoToFire

44. Does your agency have any formal Agreements or Partnerships with private sector organizations or firms?

- Yes, please answer subquestions a-c Formal\_agreement 1 = Yes, 2 = No, 3 = No Response
- a. What is the purpose of the agreement or partnership? (Check all that apply)
- Funding or financing transportation project Formal\_agreement\_purpose\_funding
  - Operating transportation assets Formal\_agreement\_purpose\_operating
  - Other (please specify): Formal\_agreement\_purpose\_othertext
- b. Please specify what type(s) of agreement(s): (Check all that apply)
- Partnership Formal\_agreement\_type\_partnership
  - Memorandum of Agreement Formal\_agreement\_type\_memorandum
  - Other (please specify): Formal\_agreement\_type\_othertext
- c. Are any of the Agreements the result of legislation (e.g. required by state law or mandate)?
- Yes Formal\_agreement\_legislation 1 = Yes, 2 = No, 3 = No Response
  - No
- No

45. Does your agency operate a Transportation Management Center (TMC)?

- Yes operate\_tmc 1 = Yes, 2 = No, 3 = No Response

TMC Name:

operate\_tmc\_name

TMC Coverage:

operate\_tmc\_coverage

- No

### Data Collection and Archiving

46. Does your agency archive any operations data?

archive

1 = Yes, 2 = No, 3 = No Response

- Yes

- No, SKIP TO QUESTION 50

47. What information does your agency archive from sensors? (Check all that apply)

- Traffic volumes archive\_traffic\_volumes
- Traffic speeds archive\_traffic\_speeds
- Lane occupancy archive\_lane\_occupancy
- Vehicle classification archive\_vehicle\_class
- Travel Time archive\_travel\_time
- Road conditions (e.g., wet, icy, etc.) archive\_road\_conditions
- Weather conditions (e.g., snow, fog, rain, etc.) archive\_weather\_conditions
- Video surveillance archive\_video\_surv
- Other (please specify): archive\_otherText
- None archive\_none

48. What information does your agency archive from other sources? (Check all that apply)

- Route designations (snow emergency, etc.) archive\_other\_route
- Current road work zones archive\_other\_current
- Scheduled road work zones archive\_other\_scheduled
- Messages from Dynamic Message Signs (DMS) archive\_other\_messages
- Intermodal (air, rail, water) connections archive\_other\_intermodal
- Emergency/evacuation routes and procedures archive\_other\_emergency
- Vehicle occupancy archive\_other\_vehicle
- Violation rates for HOV lanes archive\_other\_violation
- Incident type archive\_other\_incident\_type
- Incident detection time archive\_other\_incident\_detection
- Incident response time archive\_other\_response\_time
- Incident clearance time archive\_other\_clearance\_time
- Secondary incident information archive\_other\_secondary\_inci
- Other (please specify): archive\_other\_otherText
- None archive\_other\_none

49. What are the data used for? (Check all that apply)

- Traffic analysis archive\_data\_used\_traffic\_analysis
- Construction impact determination archive\_data\_used\_construction
- Capital planning/analysis archive\_data\_used\_capital
- Operation planning/analysis archive\_data\_used\_operation
- Incident detection algorithm development archive\_data\_used\_incident
- Roadway impact analysis archive\_data\_used\_roadway
- Accident prediction models archive\_data\_used\_accident
- Dissemination to the public archive\_data\_used\_dissemination
- Monitor system performance archive\_data\_used\_monitor
- Safety analysis archive\_data\_used\_safety
- Traffic simulation modeling archive\_data\_used\_traffic\_simulation
- Traffic control archive\_data\_used\_traffic\_control
- Travel time prediction archive\_data\_used\_travel
- Other (please specify): archive\_data\_used\_otherText

## System Performance

50. Which of the following measures are used to report on the performance of the freeway system? (Check all that apply)

- Travel time performance\_travel\_time
- Travel time reliability performance\_travel\_reliability
- Vehicles per lane per mile performance\_vehicle\_lane
- Vehicles per hour performance\_vehicle\_hour
- Person throughput per lane per hour performance\_person\_lane
- Person throughput per hour performance\_person\_hour
- Average auto occupancy performance\_average
- Other (please specify): performance\_otherText
- Performance measures are not used performance\_not\_used

51. Have you established performance goals for the following types of incident clearance?

	Yes	No	
Major	<input type="checkbox"/>	<input type="checkbox"/>	1 = Yes, 2 = No, 3 = No Response
Moderate	<input type="checkbox"/>	<input type="checkbox"/>	1 = Yes, 2 = No, 3 = No Response
Minor	<input type="checkbox"/>	<input type="checkbox"/>	1 = Yes, 2 = No, 3 = No Response

52. Does your agency have a separate budget for ITS? its\_budget 1 = Yes, 2 = No, 3 = No Response

- Yes: Please indicate whether you track the budget separately for each of the following categories (Check all that apply)
  - ITS Deployments its\_budget\_deployments
  - ITS Operations and Maintenance its\_budget\_operations
  - Traffic Management or Operations Center its\_budget\_tmc
  - Other (please specify): its\_budget\_OtherText
  - Do not track categories separately its\_budget\_do\_not\_track
- No

## ITS Purchase Decisions

53. Please rate the importance of each of the following factors to your agency's decision to purchase ITS technologies:

<i>Factor</i>	Not at all Important	Not very Important	Neutral	Somewhat Important	Very Important
Price of equipment	Price_NotAtAll	Price_NotVery	Price_Neutral	Price_Somewhat	Price_Very
Public/constituent's involvement	Public_NotAtAll	Public_NotVery	Public_Neutral	Public_Somewhat	Public_Very
Funding/grant availability	Funding_NotAtAll	Funding_NotVery	Funding_Neutral	Funding_Somewhat	Funding_Very
Mobility benefits (e.g., to address congestion)	Mobility_NotAtAll	Mobility_NotVery	Mobility_Neutral	Mobility_Somewhat	Mobility_Very
Safety benefits	Safety_NotAtAll	Safety_NotVery	Safety_Neutral	Safety_Somewhat	Safety_Very
Environmental benefits	Environmental_NotAtAll	Environmental_NotVery	Environmental_Neutral	Environmental_Somewhat	Environmental_Very
Integration with other agencies	Int_agencies_NotAtAll	Int_agencies_NotVery	Int_agencies_Neutral	Int_agencies_Somewhat	Int_agencies_Very
Integration with your current technologies	Int_tech_NotAtAll	Int_tech_NotVery	Int_tech_Neutral	Int_tech_Somewhat	Int_tech_Very
Already used by other agencies	Already_NotAtAll	Already_NotVery	Already_Neutral	Already_Somewhat	Already_Very
Other (please specify):	Already_NotAtAll	Already_NotVery	Already_Neutral	Already_Somewhat	Already_Very

Other\_Factor

54. Does your agency have any plans to invest in new ITS technology or to expand current ITS coverage in 2010 through 2013?

- Yes: (Check all that apply.) invest\_its 1 = Yes, 2 = No,3 = No Response
- Invest in new ITS, please describe: invest\_its\_new invest\_its\_describe
- Expand current ITS coverage invest\_its\_expand
- No

**Benefits of Technologies**

55. Based on your agency's experience, please rate the benefit of the following ITS technologies:

Technology	No Benefit		Moderate Benefit		Significant Benefit		No Experience
	1	2	3	4	5		
Sensors Loops	Sensors_loops_1	Sensors_loops_2	Sensors_loops_3	Sensors_loops_4	Sensors_loops_5	Sensors_loops_NA	
Vehicle Probes	Vehicle_Probes_1	Vehicle_Probes_2	Vehicle_Probes_3	Vehicle_Probes_4	Vehicle_Probes_5	Vehicle_Probes_NA	
Toll Tags	Toll_Tags_1	Toll_Tags_2	Toll_Tags_3	Toll_Tags_4	Toll_Tags_5	Toll_Tags_NA	
Cameras	Cameras_1	Cameras_2	Cameras_3	Cameras_4	Cameras_5	Cameras_NA	
Ramp Control	Ramp_Control_1	Ramp_Control_2	Ramp_Control_3	Ramp_Control_4	Ramp_Control_5	Ramp_Control_NA	
Lane Management	Lane_Management_1	Lane_Management_2	Lane_Management_3	Lane_Management_4	Lane_Management_5	Lane_Management_NA	
Traveler Information	Traveler_Information_1	Traveler_Information_2	Traveler_Information_3	Traveler_Information_4	Traveler_Information_5	Traveler_Information_NA	
Automated Enforcement	Automated_Enforcement_1	Automated_Enforcement_2	Automated_Enforcement_3	Automated_Enforcement_4	Automated_Enforcement_5	Automated_Enforcement_NA	
Archived Data	Archived_Data_1	Archived_Data_2	Archived_Data_3	Archived_Data_4	Archived_Data_5	Archived_Data_NA	

56. Please use the space below to provide any additional comments regarding your agency's deployment, operations or maintenance of ITS. (Please be as specific as possible when commenting on particular ITS technologies.)

additonal\_comments

**Modeling and Decision Support**

57. Does your agency use any analysis, modeling and simulation tools to model the freeway systems?

- Yes, please describe: modeling\_tool 1 = Yes, 2 = No,3 = No Response
- No modeling\_toolText

58. Has your agency deployed a decision support system to assist in operations of the following? (Check all that apply)

- Corridors decision\_corridors
- Road weather management decision\_road
- Incident management decision\_incident
- Emergency management decision\_emergency
- Evacuation decision\_evacuation
- Maintenance decision\_maintenance
- No decision support system deployed decision\_nosystem
- Other (please specify): decision\_otherText