

Metropolitan Intelligent Transportation Systems (ITS) Infrastructure 2010 Transit Management Survey

Agency Characteristics

1.a. County where agency headquarters is located: **County**

1.b. Other counties in service area: **Other_Counties**

Transit Vehicle Characteristics

2. Total number of vehicles used in revenue service:	3. Total number of vehicles equipped with Automated Vehicle Location (AVL):	4. Total number of vehicles with real-time monitoring of vehicle components:
Fixed Route Bus: Buses	Buses_AVL	Buses_Real_Time
Heavy or Rapid Rail: HeavyRail	HeavyRail_AVL	HeavyRail_Real_Time
Light Rail: LightRail	LightRail_AVL	LightRail_Real_Time
Paratransit: Paratransit	Paratransit_AVL	Paratransit_Real_Time
Demand Responsive: DemandResp	DemandResp_AVL	DemandResp_Real_Time
Commuter Rail: CommuterRail	CommuterRail_AVL	CommuterRail_Real_Time
Ferry Boat: Ferry	Ferry_AVL	Ferry_Real_Time
5. Total number of vehicles where automated dispatching or control software is available:	6. Total number of vehicles equipped with mobile data terminals:	7. Total number of vehicles that have Automatic Passenger Counters (Do not include registering fareboxes):
Fixed Route Bus: Buses_CAD	Buses_Mobile	Buses_Counters
Heavy or Rapid Rail: HeavyRail_CAD	HeavyRail_Mobile	HeavyRail_Counters
Light Rail: LightRail_CAD	LightRail_Mobile	LightRail_Counters
Paratransit: Paratransit_CAD	Paratransit_Mobile	Paratransit_Counters
Demand Responsive: DemandResp_CAD	DemandResp_Mobile	DemandResp_Counters
Commuter Rail: CommuterRail_CAD	CommuterRail_Mobile	CommuterRail_Counters
Ferry Boat: Ferry_CAD	Ferry_Mobile	Ferry_Counters

Transit Signal Priority

8. Number of Fixed Route Buses that have or will have traffic signal priority capability:	traff_signal_priority_fixed_bus
9. Number of Fixed Route Buses that have or will have traffic signal pre-emption capability:	traff_signal_preemption_fixed_bus
10. Number of Light Rail vehicles that have or will have traffic signal priority capability:	traff_signal_priority_light_rail
11. Number of Demand Responsive vehicles that have or will have traffic signal priority capability:	traff_signal_priority_demand_resp
12. Number of Paratransit vehicles that have or will have traffic signal priority capability:	traff_signal_priority_paratransit
13. If your agency does not use its transit signal priority capability, please tell us why:	not_use_transit_priority

Ramp Meter Signal Priority

14. Number of Fixed Route Buses with ramp meter signal priority capability:	Ramp_meter_priority_fixed_bus
15. Number of Demand Responsive vehicles with ramp meter signal priority capability:	Ramp_meter_priority_demand_resp
16. Number of Paratransit vehicles with ramp meter signal priority capability:	Ramp_meter_priority_paratransit

17. If your agency does not use its ramp metering capability, please tell us why: **not_use_ramp_meter_priority**

Vehicles Operated As Vehicle Probes

18. Does your agency operate any vehicles as probes to collect travel time, speed or road condition information?

- Yes **operate_vehicle_probes** 1 = Yes, 2 = No,3 = No Response
 No – SKIP TO Q.23

19. Total number of Fixed Route Buses operated as vehicle probes to collect travel time, speed, and conditions on freeways: **num_of_probes_buses_freeways**

20. Total number of Fixed Route Buses operated on vehicle probes to collect travel time, speed, and conditions on arterials: **num_of_probes_buses_arterials**

21. Total number of Water Craft / Ferries operated as vehicle probes to collect travel time, speed, and conditions on waterways: **num_of_probes_ferries_waterways**

22. Does your agency share vehicle probe data with any other agency?

- Yes, select the agencies (Check all that apply) **share_probe_data** 1 = Yes, 2 = No,3 = No Response
- Freeway Management **share_probe_data_freeway**
 - Arterial Management **share_probe_data_arterial**
 - Other Transit **share_probe_data_other_transit**
 - Other (please specify): **share_probe_data_other**
- No

Organized Regional Incident Management Program

23. Does your agency's operators or dispatchers report traffic incidents (e.g., stalled vehicles, crashes)?

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

Electronic Fare Payment

24. Vehicles/Stations equipped with Magnetic Stripe Readers:

25. Vehicle/Stations equipped with Smart Card Readers (with embedded computer chip):

Fixed Route Buses:	Magnetic_Buses	Smart_Buses
Heavy or Rapid Rail Stations:	Magnetic_Heavy_Rail_Stations	Smart_Heavy_Rail_Stations
Light-Rail Stations:	Magnetic_Light_Rail_Stations	Smart_Light_Rail_Stations
Demand Responsive Vehicles:	Magnetic_Demand_Resp	Smart_Demand_Resp
Paratransit Vehicles:	Magnetic_Paratransit	Smart_Paratransit
Commuter Rail Stations:	Magnetic_Commuter_Rail_Stations	Smart_Commuter_Rail_Stations
Ferry Boat Landings:	Magnetic_Ferry_Landings	Smart_Ferry_Landings

26. Does your agency electronically store collected fare payment data for use in route and service planning?

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

27. Which of the following capabilities are available through the electronic fare payment system deployed by your agency? (Check all that apply)

- The electronic fare payment system is integrated across modes within my agency: (Check all modes that apply):
 - Train Fare_payment_integrated_train Fare_payment_integrated_modes
 - Bus Fare_payment_integrated_bus
 - Commuter Rail Fare_payment_integrated_rail
 - Ferry Fare_payment_integrated_ferry
- The electronic fare payment system is integrated with other transit agencies Fare_payment_integrated_transit
- The electronic fare payment system is integrated with parking payment systems Fare_payment_integrated_parking
- The electronic fare payment system is integrated with other toll collection systems in this metropolitan area (e.g., road tolls) Fare_payment_integrated_toll

28. Please indicate the types of electronic fare payment system operated by your agency: (Check all that apply)

- Closed loop, proprietary system Fare_payment_type_closed
- Open loop, bank card system Fare_payment_type_open
- Other (please specify): Fare_payment_type_other

Travel Reporting

29. Has your agency deployed a web-based trip planner to assist travelers in making trip related decisions?

- Yes, please answer the following questions about your agency's web-based trip planner:

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

	Yes	No
a. Does this tool incorporate multiple transit systems?	web_based_trip_planner_multiple	
b. Does this tool incorporate modes other than transit (e.g., walking, biking, auto)?	web_based_trip_planner_modes	
c. Does this tool incorporate real-time traffic condition information?	web_based_trip_planner_realtime	
- No

30. Does your agency have an agreement with a private vendor to distribute real-time transit information to travelers?

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

31. Methods used to disseminate Transit Routes, Schedules, and Fare Information to the public:	32. Methods used to disseminate Real-time Transit schedule adherence or Arrival and Departure Times to the public:
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Internet	Static_Web	Dynamic_Web
Email or alert to desktop	Static_email_desktop	Dynamic_email_desktop
Email or alert to mobile device such cell phone or smart phone	Static_email_mobile	Dynamic_email_mobile
511	Static_511	Dynamic_511
Other (non-511) telephone systems (including customer service centers)	Static_other_phone	Dynamic_other_phone
Dynamic Message Signs In-station	Static_dms_station	Dynamic_dms_station
Dynamic Message Signs In-vehicle	Static_dms_vehicle	Dynamic_dms_vehicle
Dynamic Message Signs At stop	Static_dms_stop	Dynamic_dms_stop
Kiosks	Static_Kiosks	Dynamic_Kiosks
Other: Static_Dynamic_other_text	Static_other	Dynamic_other

33. Total number of bus stops, rail stations, and bus depots:

Bus Stops **Bus_stops**
Rail Stations **Rail_stations**
Bus Depots **Bus_depots**

34. Total number of bus stops, rail stations, and bus depots where automated or dynamic traveler information (e.g., schedule and system information) is electronically displayed to the public:

Bus Stops **Bus_stops_trav_info**
Rail Stations **Rail_stations_trav_info**
Bus Depots **Bus_depots_trav_info**

35. Total number of fixed route buses that electronically display automated or dynamic traveler information (e.g., schedule and system information) to the public:

Buses_trav_info

Safety and Security

36. Total number of fixed route buses with audio or video surveillance to enhance security: **Buses_Audio_Video**

37. Total number of facilities with audio or video surveillance to enhance security:

Bus Stops **Bus_stops_Audio_Video**
Rail Stations **Railstations_Audio_Video**
Bus Depots **Bus_depots_Audio_Video**

38. Total number of vehicles that can be remotely shut down via wireless communication:

Fixed Route Bus **Buses_remote_shutdown**
Heavy or Rapid Rail **HeavyRail_remote_shutdown**

39. Does your agency use advanced video technologies to re-create crashes for accident review?

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

Transportation Demand Management

40. Does your agency use data from technologies such as AVL/CAD systems and automatic passenger counter systems, to assist in planning?

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

41. Does your agency employ automated vehicle location, combined with dispatching and reservation technologies to provide flexible routing and scheduling?

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

42. Does your agency employ vehicle monitoring and communication technologies to facilitate the coordination of passenger transfers between vehicles or between transit systems?

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

43. Does your agency provide ride sharing and carpool matching services?

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

44. Does your agency operate a transportation management travel coordination center and/or participate in a brokerage service that coordinates travel requests or performs vehicle dispatching, or billing for multiple agencies (e.g., social service agencies, Health and Human Services, other transit agencies)?

Yes, operates a transportation management travel coordination center operate_trans_coord_center

Which of the following functions does this center perform? (Check all that apply)

- Coordinates travel information coord_travel_info
- Performs vehicle dispatching perform_vehicle_dispatch
- Performs billing perform_billing
- Other (please describe): coord_participate_other

Yes, participates in a brokerage service participate_brokerage

No no_coordinate_participate

Communications Technology

45. What type of radio system does your agency have? (Check all that apply)

- Radio system is Digital radio_digital
- Radio system is Analog radio_analog
- Radio system is Regular radio_regular
- Radio system is Trunked radio_trunked

46. For each of the following communications updates, please indicate whether you have implemented it, whether you are planning to implement it, or whether you have no plans to implement.

	Implemented	Plan to Implement	No Plans to Implement
a. Updating your 150 or 450 MHz to a digital system?	updating_implemented	updating_plan	updating_no_plan
b. Converting to a dedicated 800 MHz system?	converting_implemented	converting_plan	converting_no_plan
c. Joining an area wide 800 MHz system?	joining_implemented	joining_plan	joining_no_plan

47. Do you communicate with public safety agencies? communicate_public_safety 1=Yes, 2=No, 3 = No Response

Yes, what methods of communication do you use? (Check all that apply)

- A partner in a joint interoperable system comm_method_partner
- Have a dedicated radio channel comm_method_dedicated
- Other (please specify): comm_method_other

No, are you considering adding the capability of interoperability with public safety agencies? (Check all that apply)

- Yes, by use of a communication switch (such as the ACU-1000 or other brand) comm_adding_switch
- Yes, by becoming part of an area-wide interoperable system comm_adding_area_wide
- Other (please specify): comm_adding_other
- No plans to add capability comm_adding_no_plans

48. Does your agency use a radio system either in range VHF 150 MHz - 174 MHz OR in range UHF 421 MHz -512 MHz?

Yes, does your agency or your agency's license holder operate under FCC license? user_radio_in_range

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

No

No

49. Is your agency aware of narrowbanding and rebanding requirements that will become effective January 1, 2013?

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

50. Does your system meet the FCC Narrowbanding Requirement (12.5 KHz channel capable)?

- Yes **meet_fcc_narrowbanding** 1 = Yes, 2 = No, 3 = No Response
 No, do you plan to assess and procure Narrowband capable equipment?
 Yes **plann_access_narrowband** 1 = Yes, 2 = No, 3 = No Response
 No

Corridor Management

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

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

a. Please describe the corridor(s):

corridors_describe

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

corridors_coordinate

- No (GO TO QUESTION 53)

52. What type of services are currently coordinated across the corridor, and what type of services are envisioned for the future? (Check all that apply)

	Currently Coordinated	Future
Cross jurisdictional traffic signal coordination	serv_coord_traffic_signal_current	serv_coord_traffic_signal_future
Traffic incident management	serv_coord_incident_current	serv_coord_incident_future
Real-time transfer of performance information	serv_coord_perf_current	serv_coord_perf_future
Electronic toll tags used by other toll road operators	serv_coord_toll_tags_current	serv_coord_toll_tags_future
Traffic responsive signal timing	serv_coord_traffic_resp_current	serv_coord_traffic_resp_future
Ramp control	serv_coord_ramp_current	serv_coord_ramp_future
Inclement weather traffic control strategies, treatments, warnings, or road closures	serv_coord_weather_current	serv_coord_weather_future
Transit operations	serv_coord_transit_current	serv_coord_transit_future
Planned special events	serv_coord_events_current	serv_coord_events_future
Coordinate traffic signal operations with freeway congestion or value pricing	serv_coord_freeway_current	serv_coord_freeway_future
Other (please specify): serv_coord_other_text	serv_coord_other_current	serv_coord_other_future

Data Collection and Archiving

53. Does your agency have an archived data management system?

- Yes **archive** 1 = Yes, 2 = No, 3 = No Response
 No (GO TO QUESTION 58)

54. What information does your agency collect/archive in real time? (Check all that apply)

- Vehicle time and location **archive_vehicle_time_location**
 Vehicle diagnostics and health **archive_vehicle_diag**
 Passenger count **archive_passenger_count**
 Trip Itinerary planning records **archive_trip_itinerary**
 Passenger information **archive_passenger_information**
 Vehicle monitoring status **archive_vehicle_monitoring**
 Road conditions (e.g., wet, icy, etc.) **archive_road_conditions**
 Emergency vehicle signal preemption events **archive_emergency_preemption**
 Transit vehicle signal priority events **archive_transit_priority**
 Weather conditions (e.g., snow, fog, rain, etc.) **archive_weather_conditions**
 Incidents **archive_incidents**
 Other (please specify): **archive_otherText**
 Do not collect/archive data in real time **archive_dont**

55. What information does your agency collect/archive electronically? (Check all that apply)

- Route designations (snow emergency, etc.) **archive_elect_route**
 Current road work zones for transit **archive_elect_current_wz**
 Scheduled road work zones for transit **archive_elect_scheduled_wz**
 Intermodal (air, rail, water) connections **archive_elect_intermodal**
 Emergency/evacuation routes and procedures **archive_elect_emergency**
 Highway operations coordination information **archive_elect_highway**
 Transit operations coordination information **archive_elect_transit_operation**
 Other (please specify): **archive_elect_otherText**
 Do not collect/archive information electronically **archive_elect_dont**

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

- Operation planning/analysis **archive_used_operation_analysis**
 Construction impact determination **archive_used_construction**
 Capital planning/analysis **archive_used_capital**
 Incident detection algorithm development **archive_used_indicent**
 Roadway impact analysis **archive_used_roadway**
 Accident prediction models **archive_used_accident**
 Dissemination to the public **archive_used_dissemination**
 Traffic management **archive_used_traffic_mgt**
 Measurement of performance **archive_used_measurement**
 Safety analysis **archive_used_safety**
 Other (please specify): **archive_used_otherText**

57. Are any data provided to third parties so they can create transit traveler information applications?

- Yes, check all that apply: **data_provided_third_party** 1 = Yes, 2 = No,3 = No Response
- My agency has developed data sharing boilerplate agreements **sharing_boilerplate**
 - My agency places restrictions on the data provided outside the agency (please describe):
restrictions_data
restrictions_data_describe
 - Applications have been developed by third party application developers (please describe):
apps_developed_third_party
apps_developed_third_party_describe
- No

ITS Standards

58. Please check any of the following transit-related ITS standards implemented by your agency: (Check all that apply)

- Contactless Fare Media System Standard (CFMS) **std_cfms**
- Traffic Management Data Dictionary (TMDD) **std_tmdd**
- Message Sets for External Traffic Management Center Communications **std_message_sets**
- Standards for Transit Communications Interface Profiles APTA TCIP-S-001 3.0.0 **std_apta_tcip**
- Standard for Traffic Incident Management Message Sets for Use by Emergency Management Centers IEEE 1512.1-2006 **std_ieee_1512**
- Standard for the Interface Between the Rail Subsystem and the Highway Subsystem at a Highway Rail Intersection IEEE 1570-2002 **std_ieee_1570**
- Serial Data Communications Between Microcomputer Systems in Heavy-Duty Vehicle Applications SAE J1708 **std_sae_j1780**
- Standard for ATIS Message Set Delivered Over Reduced Bandwidth Media SAE J2369 **std_sae_j2369**
- ITS In-Vehicle Message Priority SAE J2395 **std_sae_j2395**
- My agency has not implemented any of these standards **std_do_not**

ITS Funding

59. Does your agency have a separate budget for ITS? **separate_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 **separate_its_budget_deployments**
 - ITS Operations and Maintenance **separate_its_budget_operations**
 - Traffic Management or Operations Center **separate_its_budget_tmc**
 - Other (please specify): **separate_its_budget_otherText**
 - Do not track categories separately **separate_its_budget_do_not**
- No

ITS Purchase Decisions

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

<i>Factor</i>	<i>Not at all Important</i>	<i>Not very Important</i>	<i>Neutral</i>	<i>Somewhat Important</i>	<i>Very Important</i>
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
TCIP compliant	TCIP_NotAtAll	TCIP_NotVery	TCIP_Neutral	TCIP_Somewhat	TCIP_Very
Already used by other agencies	Already_NotAtAll	Already_NotVery	Already_Neutral	Already_Somewhat	Already_Very
Other (please specify): <i>Other_Factor</i>	Other_NotAtAll	Other_NotVery	Other_Neutral	Other_Somewhat	Other_Very

61. 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

62. Based on your agency's experience, please rate the benefits of the following technologies:

<i>Technology</i>	<i>No Benefit 1</i>	<i>2</i>	<i>Moderate Benefit 3</i>	<i>4</i>	<i>Major Benefit 5</i>	<i>No Experience</i>
Automatic Vehicle Location	AVL_1	AVL_2	AVL_3	AVL_4	AVL_5	AVL_NA
Communications	Comm_1	Comm_2	Comm_3	Comm_4	Comm_5	Comm_NA
Traveler Information	Traveler_1	Traveler_2	Traveler_3	Traveler_4	Traveler_5	Traveler_NA
Data Management – GIS	GIS_1	GIS_2	GIS_3	GIS_4	GIS_5	GIS_NA
Computer Aided Dispatch and Scheduling	CAD_1	CAD_2	CAD_3	CAD_4	CAD_5	CAD_NA
Maintenance Tracking	Maintenance_1	Maintenance_2	Maintenance_3	Maintenance_4	Maintenance_5	Maintenance_NA
Electronic Fare Payment	EFP_1	EFP_2	EFP_3	EFP_4	EFP_5	EFP_NA
Security Cameras	Cameras_1	Cameras_2	Cameras_3	Cameras_4	Cameras_5	Cameras_NA
Weather Information System	Weather_1	Weather_2	Weather_3	Weather_4	Weather_5	Weather_NA
Automatic Passenger	APC_1	APC_2	APC_3	APC_4	APC_5	APC_NA
Transit Signal Priority	Priority_1	Priority_2	Priority_3	Priority_4	Priority_5	Priority_NA

63. 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.)

additional_comments