# APPENDIX F

# EXISTING SYSTEMS INVENTORY SURVEY QUESTIONNAIRE

# SURVEILLANCE REQUIREMENTS/TECHNOLOGY (SR/T)
# I-95 CORRIDOR PROJECT #3

## QUESTIONNAIRE FOR EXISTING SYSTEMS INVENTORY

[NOTE: If you have any documentation that provides any of the following information, you may choose not to fill out that portion of the questionnaire and send us the document instead.]

### 1. CONTACT PERSON:

Name _____ Title _____ Telephone _____

### 2. EXISTING AND PLANNED SENSOR INFORMATION:

Please fill out the following table with appropriate data for both existing and planned surveillance systems within your jurisdiction. For Col. 2, please provide the approximate location, in terms of milepost or intersecting streets or interchange. For a system of sensors, provide the start and end locations of the sensors.

| Highway Name (1) | Existing/ Planned (2) | Geographic Location (3) | Length (miles) (4) | Facility Type (5) Free way | Facility Type (5) Arte rial | Sensor Type (Note 1) (6) | Quan-tity (7) | Polling Rate (8) | Surveillance Data Type (Note 2) (9) | Communication Medium (from field to central computer),e.g., Fiberoptics, telephone etc. (10) | Purpose of the sensor, e.g., incident detection, ramp-metering (11) | Fulfillment of purpose with existing sensor (High/Med/ Low/None) (12) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Example I-xx* | *E* | *I-495 to Rt. 50* | *10* | *X* | | *1* | *20* | *30 sec* | *1,2,3* | *Fiberoptic* | *Incident detection* | *M* |
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If you have vendor's specifications about the above sensor systems (other than Inductive Loops), please provide us with a copy.

3. **IMPROVEMENT NEEDS OF THE EXISTING FACILITIES:** Please identify the enhancement and expansion needs of the existing systems (such as lack of sensors on some roadways):

Additional Surveillance Information Needs _____

Additional Surveillance Coverage Needs _____

_____

4. **EXISTING SYSTEM COSTS AND PERFORMANCE:** Please fill out the following table, providing us information on the cost and effectiveness of various sensor types.

| Sensor Type (Note 1) | Cost ($) | | Your satisfaction on data accuracy (High/Med/Low/None) | Rate of failure & maintenance needs (High/Medium/Low/None)) | Frequency of | | Performance sensitivity to any external factors, e.g., Electromagnetic interference | Rate the following items (0 for very easy and 5 for extremely difficult) | | | Other Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| (1) | (2) | | (3) | (4) | (5) | | (6) | (7) | | | (8) |
| | Capital | Yearly Operation & Maintenance | | | Maintenance | Preventive Maintenance | | Installation | Maintenance | Relocation | |
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5. **HUMAN SURVEILLANCE:** Please fill out the following table providing information on the human surveillance whether it is effectively used and how well it serves the function.

| Human Surveillance Type | Used? (Yes/No) | Information Provided, e.g., incident? | Effectiveness (Low/Med/High) |
|---|---|---|---|
| Police Patrol | | | |
| Freeway Service Patrol | | | |
| Motorist call-in | | | |
| Others: | | | |
| | | | |

6. **TRANSIT INFORMATION:** Please provide answers only if your agency operates a transit system (bus, subway, light rail, or ferry).

   a) Do you use any position location technology such as AVL? (please check):
      Buses ____ Light Rails ____ Ferry ____ Other (please specify) _____
   b) Do you use any automatic passenger counters onboard transit vehicles (Yes/No) ? _____

7. **AVAILABLE DOCUMENTS:** If you have documented any other information about your existing surveillance systems (including maintenance, operations, budget reports), please send us a copy of the documents. If you have a Maintenance Management System for the surveillance systems, please provide us with its reports.

# CODES FOR SENSOR TYPES AND SENSOR DATA TYPES

NOTE 1: Locate the appropriate code for the sensor types.

| Sensor Category | Sub-category | Sensor Code |
|---|---|---|
| Vehicle detector | Inductive Loop | 1 |
| | Magnetic | 2 |
| | Magnetometer | 3 |
| | Pressure | 4 |
| | Radar | 5 |
| | Sonic, pulsed | 6 |
| | Sonic, continuous wave | 7 |
| | Light emission photo-electric | 8 |
| | Infrared | 9 |
| | Video Image Processing | 10 |
| CCTV | | 11 |
| Aerial Surveillance | | 12 |
| Weigh-in-Motion (WIM) | Bending plate systems | 13 |
| | Capacitive systems | 14 |
| | Shallow weigh scales | 15 |
| | Deep-pit weigh scales | 16 |
| | Piezo-electric axle load sensors | 17 |
| Automated Vehicle Identification (AVI), including ETTM | | 18 |
| Automated Vehicle Location (AVL) | | 19 |
| Environmental | SCAN | 20 |
| | LIDAR | 21 |
| | Other | 22 |
| OTHERS (Specify) | | 23 |
| | | 24 |
| | | 25 |

NOTE 2: Locate the appropriate codes for the sensor data types.

| Data Type | Code |
|---|---|
| Volume | 1 |
| Occupancy | 2 |
| Speed | 3 |
| Classification | 4 |
| Video Image | 5 |
| Weight | 6 |
| Pavement Temperature | 7 |
| Pavement Condition (Dry/wet/icy) | 8 |
| Visibility | 9 |
| CO-level | 10 |
| NOx-level | 11 |
| HC-level | 12 |
| Other environmental (specify) | 13 |
| OTHERS (Specify) | 14 |
| | 15 |
| | 16 |