ITS Element Performance Measurement

Asset Type: ITS Elements

Scope of Data Included in Performance Measure

The following ITS Elements, Vehicle Detection Stations (VDS), Ramp Meters (RM) and Changeable Message Signs (CMS), are the asset classes identified by the California Transportation Commission (CTC) as prescribed in SB 486 . ITS elements exist only on the State Highway System (SHS).

Vehicle Detection Stations are electronic devices that monitor traffic conditions on a freeway segment. The real-time data that the monitoring stations collect are the traffic volumes and occupancy. These data are then used for incident detection, ramp metering control, and data collection/analysis through the Central Management Applications for efficient incident response. Detection types include: loop detectors, Microwave Vehicle Detection, Wireless Vehicle Detection and Video Detection.

Ramp meters are signalized devices installed on freeway on-ramps to regulate the rate traffic enters freeways in congested urban corridors. Ramp Meter systems monitor mainline traffic conditions and adjust the on ramp flow rates. This process allows demand on the mainline to be managed as to delay or eliminate the onset of recurrent congestion.

Changeable Message Signs are electronic messaging devices that are installed along the freeway prior to major traveler "decision points" such as freeway-to-freeway interchanges or freeway splits. These signs relay important traveler information including traffic conditions, travel time, incidents, advisory messages and safety messages.

Data Update Frequency

Data are updated continuously and reported annually.

Summary of Performance Measure

The performance measure will be the number of each of the ITS elements that need to be replaced because they are non-operational or operational and have exceeded their useful life. Non-operational is generally defined as elements that have deficiencies that exceed routine maintenance.

This measure does not include future or new ITS element needs.

Performance Measure Calculation Detail

Element counts are derived by searching the TMS database. Locations and elements are categorized as "good" or "poor." "Good" will indicate items and locations where elements are present and functional. "Poor" will indicate items and locations where elements are non-operational or beyond their useful life.