ISTHA Traffic Operations Performance Management Tool

Illinois Tollway

October 2013
Management Through Measurement

Objective: Accurately quantify ITS return on investments through performance metrics

- Improved Operations – Safety, Mobility, Reliability
- Improved ITS Maintenance – Reliability and Accuracy
  - Systems
  - Devices
  - Networks
- Key Performance Indicators
  - Response Time and Resolutions
  - Personnel Deployments
Operational Measurements

- Integrated Operations
  - Event Management
    - Response Times
    - ITS Asset Utilization and Gap Analysis
    - Contributing Factors
      - Weather, Construction, Secondary Events
    - Travel times and Congestion
      - Reliability
      - Alternate Routing and Capacity Measurement and Analysis
Operational Measurements

- Failure Logging
  - Raw Downtime and % availability
  - Maintenance Response and resolution
- Smart Work Zones
  - Contractor Management
- Accuracy Assessments and Behavior Analysis
  - Heat Mapping
  - Anomaly Detection
Performance related to Incidents

- Incident plotting
  - Impact
  - Event location
  - Event Type

Analysis of Traffic data corresponding to incidents
  - Clear indication of Impact
  - Time of day impact
  - Measure of event clearance time to Delay
Route Performance

- Performance analysis of route
- Valuable during major construction
- Speed profile plotted using detection data
- Graphical representation provides visual of trouble spots
- Performance change analysis
- Example: I-90 East and West analysis conducted this year

### Route Performance

#### I-90 East

<table>
<thead>
<tr>
<th>Mile Post Range</th>
<th>Date Range</th>
<th>September 2013</th>
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<tbody>
<tr>
<td>Start MP</td>
<td>2.4</td>
<td>Before: 5/1/2013 - 5/15/2013</td>
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<tr>
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#### Speed

- Graph showing speed profile with data points for different months.

#### Average Spot Speed

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Route Performance comparison

- Route performance at Key interchanges

- Summary indicators
  - Average Spot VOS

- Graphical representation of Volume, Occupancy and Speed
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