Los Angeles Arterial Intelligent Transportation Systems (ITS) Architecture
Configuration Management

Technical Memorandum (FINAL)
November 13, 2006

SUBJECT:
Change Request # 06-01
Incorporation of the El Segundo Area ITS Project Into the Los Angeles Arterial ITS Architecture

The purpose of this Technical Memorandum is to document the changes to the Los Angeles Arterial ITS Architecture brought about by a request to incorporate the El Segundo Area ITS Project (system(s)) into the Los Angeles Arterial ITS Architecture.

The El Segundo Area ITS Project has developed a set of traveler information services for Los Angeles County. The services are available via the Internet and a telephone traveler information system. The completed system(s) will provide “basic” traveler information to the general public free of charge, and “personalized” traveler information on a fee or subscription basis. Therefore, the general focus of the El Segundo Area ITS Project, the El Segundo Area ITS Project architecture and the changes to the Los Angeles Arterial ITS Architecture generally center on advanced traveler information services. Figure 1 is the original Change Request form, as submitted by the Los Angeles County Department of Public Works, the El Segundo Area ITS Project sponsor.

This Technical Memorandum generally follows the Configuration Management Items and Process described in the Configuration Management Plan developed for the Los Angeles Arterial ITS Architecture, dated April 10, 2005 and revised March 2006. This document can be accessed on an Internet project website that was established as part of the initial Arterial ITS Architecture development project. At the writing of this Technical Memorandum, the Internet address of that “project website” is http://www.iteris.com/la-arterial-its/index.html. The Configuration Management Plan can be found on the Deliverables page of the project website.

As part of the on-going Configuration Management activities, a set of Configuration Management webpages are currently in development that will allow electronic submittal of architecture change requests. Other pertinent information will also be posted to these webpages as appropriate. Upon completion and acceptance by Metro, the Configuration Management webpages will be published to the Metro.net website (www.metro.net). A User Identification (UID) and Password (PW) will be required to access all of the information and functionality of the Configuration Management webpages. Metro staff will work with the architecture Configuration Management consultant to assign and distribute UID’s and PW’s. As part of the Configuration Management Project the pertinent material on the project website will be migrated to the Los Angeles County Metropolitan Transportation Authority (Metro) website, though the precise Internet address is not known at this time. Depending on the final configuration of the Configuration Management webpages, some limited information may be made available without a UID and PW.

The following pages of this Technical Memorandum describe the changes to the Los Angeles Arterial ITS Architecture as a result of the incorporation of the El Segundo Area ITS Project (system(s)) into the Los Angeles Arterial ITS Architecture.
Figure 1: Change Request Form for Incorporation of the El Segundo Area ITS Project Into the Los Angeles Arterial ITS Architecture

<table>
<thead>
<tr>
<th>Stakeholder Proposing Change</th>
<th>Name</th>
<th>Title ITS Program Manager</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agency</td>
<td>Los Angeles County Department of Public Works</td>
<td></td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:jwhite@ladpw.org">jwhite@ladpw.org</a></td>
<td></td>
</tr>
<tr>
<td>Phone No.</td>
<td>626-300-2020</td>
<td>Fax No. 626-979-5319</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Title</th>
<th>Short Description (up to 25 characters)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>El Segundo Area Intelligent Transportation System Project</td>
<td>(What is to be added, deleted or modified? Attach additional documentation if necessary)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description of Change</th>
<th>Detailed Description</th>
<th>This is a new project which needs to be included in the architecture.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Type of Change</th>
<th>New Project/System</th>
<th>Deleted Project/System</th>
<th>Modified Project/System</th>
<th>New/Changed Stakeholder</th>
<th>Change in Project Status</th>
<th>Change in Project Priority</th>
<th>Change in Project Priority</th>
<th>Other</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Systems or Projects</th>
<th>Name of System(s) or Project(s) being implemented or modified (if applicable) Communityview website, Communityview Cable, Commuteview personalized service, and CommuteCall traveler information services.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Project Status</th>
<th>PROPOSED (funding not yet secured)</th>
<th>PLANNED (funding secured)</th>
<th>UNDER CONSTRUCTION (stakeholder is currently deploying system/project)</th>
<th>EXISTING</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Additional Notes (submit additional pages if necessary)</th>
<th>Submit completed form to: __________________________ at fax #: (xxx) yyy-zzzz</th>
</tr>
</thead>
</table>

- Iteris, Inc. -

2
Configuration Item:
Description of the Region:

No changes in the Description of the Region were brought about as a result of the incorporation of the El Segundo Area ITS Project (system(s)) into the Los Angeles Arterial ITS Architecture. The geographic area covered includes all of Los Angeles County, which includes 89 jurisdictions: 88 cities and the County of Los Angeles. A base map of the Los Angeles County region is shown in Figure 2.

Figure 2: Geographic Area for the Los Angeles Arterial ITS Architecture
Configuration Item:
List of Stakeholders and List of ITS Elements (Inventory)

Stakeholder Modifications:

- Changed the name of the Stakeholder “METRO Operations” to “Metro Transit Operations”
- Changed the name of the Stakeholder “RIITS” to “Metro”

Added the following Stakeholders and ITS elements to the LA Arterial ITS Architecture:

1. Caltrans Districts 7, 8, 11 and 12
   Description: State of California, Caltrans District Level TMCs
   - Freeway ATMS - ISP and TM subsystems
     Description: Caltrans Districts 7, 8, 11 and 12 serve as a primary source of video information for CommuteView and also serve as a secondary source of congestion information for CommuteView

2. Caltrans Headquarters
   Description: Caltrans Headquarters
   - Freeway Performance Measurement System (PeMS) – ISP subsystem and Other ISP terminator
     Description: Performance Monitoring System (PeMS) Server provides traffic information from Caltrans

3. CHP
   Description: California Highway Patrol (CHP) is responsible primarily for emergency management as it relates to the freeway and state highway systems. In this architecture, CHP will provide incident information as an ISP.
   - CHP Server – ISP Subsystem
     CHP Website for incident information

4. Iteris – LACO DPW
   Description: Iteris, Inc. manages the CommuteView suite of data collection and information dissemination services. They have a public/private arrangement to deliver services with Los Angeles County Department of Public Works (LACO DPW)
   - CommuteView – ISP, PIA subsystems and Telecommunications System for Traveler Information terminator
     Description: CommuteView is designed to provide the traveler with real-time ramp-to-ramp freeway travel time information, incident information, and general traffic conditions through

   Iteris, Inc.
a variety of devices (cell phone, PDA, Internet). IVR Gateways - VOXEO - (1-888-TRIP-411) is an Interactive Voice Response to provide personalized traffic information services to the public via phone. It also provides internet access through the website URL http://traffic.iteris.com/html/internal/frameset/lac.html - Iteris Traffic This Server provides traffic and incident information to the public.

5. Metro
Description: Los Angeles County Metropolitan Transportation Authority (Metro) is the administrator of the RIITS system.

- RIITS as an ITS element instead of a stakeholder
- RIITS – ISP subsystem, Other Archives, Other ISP and Other Transit Mgmt and Other Traffic Mgmt Terminators
  Description: Regional Integration of ITS (RIITS). This system collects multi-modal transportation data from various agencies and provides them to external systems. It also serves as the regional interface to the Freeway System between arterial and freeway. This interface will carry any information for coordination between the RIITS Architecture and the Arterial Architecture.

6. Traveling Public
Description: This stakeholder represents the general traveling public at large that will have access to the traveler information.

- Traveler – Traveler terminator
  Description: Traveler - general public at large

7. Weather Information Services
Description: Represents public and private sector organizations that generate weather forecasts, road weather information and other weather information related products for public consumption.

- Weather Information - Weather Service Terminator
  Description: Weather Information Dissemination

Appendix A represents the revised ITS Inventory (sorted by Stakeholder Name) for the Los Angeles Arterial ITS Architecture, after incorporation of the El Segundo Area ITS Project into the Los Angeles Arterial ITS Architecture. This is a standard output from the Turbo Architecture software tool used to document the Los Angeles Arterial ITS Architecture. Annotations have been added to indicate NEW Stakeholders, NEW ITS Elements (systems) and other modifications to stakeholder names or ITS Inventory.

Market Package Changes

Summary: Added one new Market Package (MP) ATIS2 – Probe Surveillance; and deleted one existing MP – ATMS4: Freeway Control. Otherwise, existing Market Packages were modified to include elements from the El Segundo Project Architecture in the Los Angeles Arterial ITS Architecture.
ATMS1: Network Surveillance – added CommuteView, Freeway ATMS

ATMS3: Surface Street Control - added Freeway ATMS

**ATMS4: Freeway Control – Deleted MP**

ATMS6: Traffic Information Dissemination – Added Freeway Performance Measurement System (PeMS), CHP Server, CommuteView, RIITS,

ATMS7: Regional Traffic Control – added RIITS

ATMS8: Traffic Incident Management System – added Freeway Performance Measurement System (PeMS), CHP Server, CommuteView, RIITS

ATMS13: Standard Railroad Grade Crossing – No changes

ATMS18: Reversible Lane Management – No changes

MCO3: Road Weather Data Collection – added Weather Information

MCO4: Weather Information Processing and Distribution – added Weather Information, CommuteView

MCO8: Work Zone Management – No changes

MCO10: Maintenance and Construction Activity Coordination – no changes

APTS1: Transit Vehicle Tracking – no changes

APTS7: Multi-modal Coordination – no changes

APTS8: Transit Traveler Information – no changes

ATIS1: Broadcast Traveler Information – added Freeway Performance Measurement System (PeMS), CHP Server, CommuteView, RIITS, Traveler, Weather Information

**New MP: ATIS2: Interactive Traveler Information** – added Freeway Performance Measurement System (PeMS), CHP Server, CommuteView, RIITS, Traveler and Weather Information

EM01: Emergency Call Taking and Dispatch – no change

EM02: Emergency Routing – no change

AD1: ITS Data Mart – added CommuteView
Configuration Item:  
Functional Requirements:

Prior to the incorporation of the El Segundo Area ITS Project Architecture into the Los Angeles Arterial ITS Architecture the respective Turbo Architecture databases for each of the architectures contained Functional Requirements. The El Segundo Area ITS Project Architecture Functional Requirements that were not previously a part of the Los Angeles Arterial ITS Architecture were added to the Los Angeles Arterial ITS Architecture. The newly added Functional Requirements can be found in Appendix B.

Configuration Item:  
Interfaces between Elements  
(includes mapping of ITS Elements to National ITS Architecture entities (subsystems))

In the original Los Angeles Arterial ITS Architecture there were 108 total Interconnects between ITS Elements.

In the combined Los Angeles Arterial ITS Architecture and El Segundo Area ITS Project Architecture, there are a total of 122 Interconnects between ITS Elements – only 14 added Interconnects.

Following is a list of the newly added ITS elements from the El Segundo Area ITS Project Architecture and sub-listing of the other ITS Elements in the architecture with which they are now interconnected.

- **Freeway ATMS** – ISP and TM subsystems  
  Freeway ATMS interconnects with:  
  - Caltrans PeMS  
  - CHP Server  
  - CommuteView  
  - RIITS

- **Caltrans PeMS** – ISP subsystem and Other ISP terminator  
  Caltrans PeMS interconnects with:  
  - CommuteView  
  - Freeway ATMS  
  - RIITS

- **CHP Server** – ISP Subsystem  
  CHP Server interconnects with:  
  - CommuteView  
  - Freeway ATMS  
  - RIITS
• **CommuteView** – ISP, PIA subsystems and Telecommunications System for Traveler Information terminator
  CommuteView interconnects with:
  - ATSAC/ATCS-LADOT – Existing
  - Caltrans PeMS
  - CHP Server
  - Freeway ATMS
  - IEN Workstation – 1 – Planned
  - RIITS
  - Traveler

• **RIITS** – ISP subsystem, Transit Management Subsystem, Other Archives, Other ISP and Other Transit Mgmt and Other Traffic Mgmt Terminators. *(This change also represents additional changes in the subsystem / terminator designations – the Project Architecture added ISP subsystem and Other archives terminator.)* When the original Los Angeles Arterial ITS Architecture was completed (in 2004), this ITS Element (RIITS), was originally identified as LA County Regional ITS Arch and RIITS Network, and was mapped to the following entities in the National ITS Architecture: Transit Management, Other ISP, Other Traffic Management and Other Transit Management
  RIITS interconnects with:
  - ATSAC/ATCS – LADOT – Existing
  - Caltrans PeMS
  - CHP Server
  - CommuteView
  - Countywide Signal Priority System – Metro – Exiting
  - Freeway ATMS
  - IEN Regional Server – 3 – Planned
  - Intertie – CT D7 – Existing
  - Weather Information

• **Traveler** – Traveler terminator
  Traveler interconnects with:
  - CommuteView

• **Weather Information** – Weather Service terminator
  Weather Information interconnects with:
  - CommuteView
  - RIITS

**Configuration Item:**
**Operational Concepts**

**Table 1** is a derivative of a table taken from the original Los Angeles Arterial ITS Architecture documentation. The ITS elements included in this table are new to the Los Angeles Arterial ITS Architecture by way of incorporation of the El Segundo Area ITS Project Architecture into the Los
Angeles Arterial ITS Architecture. Table 1 provides an overview of the stakeholders that are new to the Los Angeles Arterial ITS Architecture, and the regional ITS services they provide.

Operational Concepts focus on the functions of people and agencies in the context of the regional ITS architecture. The Operational Concepts are presented as “Stakeholder roles and responsibilities.” Table 2 contains the Operational Concepts (Roles and Responsibilities) for the stakeholders that are new to the Los Angeles Arterial ITS Architecture.

Table 1: Regional Services

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Archived Data Management</th>
<th>Emergency Management</th>
<th>Maintenance and Construction Management</th>
<th>Public Transportation</th>
<th>Traffic Management</th>
<th>Traveler Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caltrans Districts 7, 8, 11, 12</td>
<td></td>
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<td></td>
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<td>•</td>
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<tr>
<td>Caltrans HQ (PeMS)</td>
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<tr>
<td>California Highway Patrol (CHP)</td>
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<tr>
<td>Iteris – LACO DPW</td>
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<tr>
<td>Metro (RIITS)</td>
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<tr>
<td>Traveling Public</td>
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<tr>
<td>Weather Information Services</td>
<td></td>
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<td></td>
<td>•</td>
</tr>
<tr>
<td>Stakeholder</td>
<td>Roles and Responsibility (Organized by Service Area i.e. traffic, etc.)</td>
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</tbody>
</table>
| Caltrans Districts 7, 8, 11 and 12 | **TRAFFIC MANAGEMENT**  
• Serve as a primary source of video information for CommuteView and a secondary source of congestion information for CommuteView  
• Share traffic information with other transportation agencies  
• Control and monitor equipment for CCTV and video information for CommuteView and control equipment  
• Collect congestion information from roadways to send to CommuteView.  
• Maintain field equipment  
• Report and coordinate road closures to all relevant transportation agencies in the event of a major emergency/incident  

**TRAVELER INFORMATION**  
• Process, store, and disseminate traveler information including traffic and incident information  
• Collect traffic data for advisory messages |
| Caltrans HQ | **TRAVELER INFORMATION**  
• Process, store, and disseminate traveler information including traffic and incident information  
• Collect traffic data for advisory messages |
| California Highway Patrol (CHP) | **TRAVELER INFORMATION**  
• Process, store, and disseminate traveler information including traffic and incident information  
• Collect traffic data for advisory messages via CHP website for incident information |
<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Roles and Responsibility (Organized by Service Area i.e. traffic, etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Iteris – Los Angeles County Department of Public Works</strong></td>
<td><strong>TRAVELER INFORMATION</strong></td>
</tr>
<tr>
<td></td>
<td>• Collect traffic data for advisory messages</td>
</tr>
<tr>
<td></td>
<td>• Process, store, and disseminate traveler information including traffic and incident information</td>
</tr>
<tr>
<td></td>
<td>• Provide the traveler with real-time ramp-to-ramp freeway travel time information, incident information, and general traffic conditions through a variety of devices (cell phone, PDA, Internet).</td>
</tr>
<tr>
<td></td>
<td>• Provide an Interactive Voice Response to provide personalized traffic information services to the public via phone.</td>
</tr>
<tr>
<td></td>
<td>• Provide traveler information through internet access through the website URL: <a href="http://traffic.iteris.com/html/internal/frameset/lac.html">http://traffic.iteris.com/html/internal/frameset/lac.html</a> - Iteris Traffic. This Server provides traffic and incident information to the public.</td>
</tr>
<tr>
<td><strong>Metro (Regional Integration of ITS)</strong></td>
<td><strong>TRAVELER INFORMATION</strong></td>
</tr>
<tr>
<td></td>
<td>• Stakeholder will collect multi-modal transportation data from various agencies.</td>
</tr>
<tr>
<td></td>
<td>• Disseminate traveler information to CommuteView and other ISPs for dissemination to the public</td>
</tr>
<tr>
<td></td>
<td><strong>TRANSIT MANAGEMENT</strong></td>
</tr>
<tr>
<td></td>
<td>• Disseminate transportation and transit data to external systems of other stakeholders.</td>
</tr>
<tr>
<td></td>
<td><strong>TRAFFIC MANAGEMENT</strong></td>
</tr>
<tr>
<td></td>
<td>• Serve as the regional interface to the Freeway System between arterial and freeway.</td>
</tr>
<tr>
<td></td>
<td>• Serve as information coordination between the regional stakeholders for RIITS Architecture and the Arterial Architecture.</td>
</tr>
<tr>
<td><strong>Traveling Public</strong></td>
<td><strong>TRAVELER INFORMATION</strong></td>
</tr>
<tr>
<td></td>
<td>• Access traveler information from public transit availability systems and make travel decisions.</td>
</tr>
<tr>
<td></td>
<td>• Access transportation systems traveler information regarding pre-trip and en-route congestion and make travel decisions.</td>
</tr>
</tbody>
</table>
Weather Information Services

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Roles and Responsibility (Organized by Service Area i.e. traffic, etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRAFFIC MANAGEMENT</td>
<td>• Provide weather, hydrologic and climate information and warnings of hazardous weather information to traffic agencies in the region and to Information Service Providers for dissemination to the traveling public.</td>
</tr>
</tbody>
</table>

In addition to the Operational Concepts added for new Stakeholders in Table 2, the following Operational Concepts are added in Table 3 for existing Stakeholders.

Table 3: Roles and Responsibilities for Existing Stakeholders

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Roles and Responsibility (Organized by Service Area i.e. traffic, etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Cities and LA County Emergency Management</td>
<td><strong>EMERGENCY MANAGEMENT (Vehicles)</strong></td>
</tr>
<tr>
<td></td>
<td>• Support local signal preemption</td>
</tr>
<tr>
<td>Metro Transit Operations</td>
<td><strong>TRAVELER INFORMATION</strong></td>
</tr>
<tr>
<td>Metro Transit Operations</td>
<td>• Collect traffic data for advisory messages</td>
</tr>
<tr>
<td></td>
<td>• Process, store, and disseminate traveler information including traffic and incident information</td>
</tr>
<tr>
<td><strong>TRANSIT MANAGEMENT</strong></td>
<td>• Provide transit services.</td>
</tr>
<tr>
<td></td>
<td>• Disseminate transportation and transit data to external systems of other stakeholders.</td>
</tr>
<tr>
<td></td>
<td>• Maintain systems for Countywide Signal Priority System – METRO – Existing.</td>
</tr>
<tr>
<td></td>
<td>• Send/receive signal priority.</td>
</tr>
<tr>
<td></td>
<td>• Service buses with transit priority systems.</td>
</tr>
<tr>
<td><strong>TRAFFIC MANAGEMENT</strong></td>
<td>• Serve as information coordination for signal priority services.</td>
</tr>
</tbody>
</table>

• Iteris, Inc. •
<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Roles and Responsibility (Organized by Service Area i.e. traffic, etc.)</th>
</tr>
</thead>
</table>
| Other Transit Agencies | **TRANSIT MANAGEMENT**  
|                      | • Access traveler information from public transit availability systems  
|                      |   to distribute to travelers.  
|                      | • Disseminate transportation and transit data to external systems of  
|                      |   other stakeholders (cities, county, etc.)  
|                      | • Send/receive signal priority.  
|                      | • Service buses with transit priority systems.                         |
| Pasadena LRT         | **TRAFFIC MANAGEMENT**  
|                      | • Operate signals at crossings with controllers running time-of-day  
|                      |   timing plans.                                                        |

**NEXT STEPS**
This Technical Memorandum will be circulated among the Los Angeles Arterial ITS Architecture Configuration Management Committee. The Committee will be requested to provide comments on the incorporation of the El Segundo Area ITS Architecture into the Los Angeles Arterial ITS Architecture. If there are any issues with the incorporation of the El Segundo Area ITS Architecture into the Los Angeles Arterial ITS Architecture, the issues will be noted and they will be resolved. Upon conclusion of the review period this Technical Memorandum, and any comments received by Configuration Management Committee members will be made a part of the Los Angeles Arterial ITS Architecture documentation as an addendum to the Architecture.
APPENDIX A

Los Angeles Arterial ITS Architecture Inventory
Los Angeles Arterial ITS Architecture
Inventory Report
(sorted by Stakeholder)

Alameda Corridor East
Element: ATIS Field Equipment - ACE - Existing
Status: Existing
Description: CMS and Trailblazer

Element: IR/RIS - ACE - Existing
Status: Existing
Description: Alameda Corridor East Intelligent Road/Rail Interface System. HRI/ATIS. Pilot project in Pomona providing travelers warnings of and alternate routes around upcoming train crossings. Pomona will operate system as it expands into other Cities in the ACE region. Customized system based on BiTrans TCS.

City of Pomona - 3 - PV

Caltrans D7
Element: CT-NET - CT D7 - Existing
Status: Existing
Description: Caltrans in-house traffic signal control system for arterials

Caltrans - CT D7 -

Element: CT-NET Field Equipment - CT D7 - Existing
Status: Existing
Description: Traffic signals, VDS, CCTV, Road Weather Information System (RWIS), etc.

Caltrans - Caltrans - PCH

Element: Intertie - CT D7 - Existing
Status: Existing
Description: Caltrans District 7 Intertie server provides connection to RIITS

Caltrans Districts 7, 8, 11 and 12  (NEW)
Element: Freeway ATMS  (NEW)
Status: Existing
Description: Caltrans Districts 7, 8, 11 and 12 serve as a primary source of video information for CommuteView and also serve as a secondary source of congestion information for CommuteView

Caltrans HQ  (NEW)
Element: Freeway Performance Measurement System (PeMS)  (NEW)
Status: Existing
Description: Performance Monitoring System (PeMS) Server provides traffic information from Caltrans

CHP  (NEW)
Element: CHP Server  (NEW)
Status: Existing
Description: CHP Website for incident information

Iteris - LACO DPW  (NEW)
Element: CommuteView  (NEW)
Status: Existing
Description: CommuteView is designed to provide the traveler with real-time ramp-to-ramp freeway travel time information, incident information, and general traffic conditions through a variety of devices (cell phone, PDA, Internet). IVR Gateways - VOXEO - (1-888-TRIP-411) is an Interactive Voice Response to provide personalized traffic information services to the public via phone. It also provides internet access through the website URL http://traffic.iteris.com/html/internal/frameset/lac.html - Iteris Traffic This Server provides traffic and incident information to the public.
Element: ATIS Field Equipment - LADOT - Existing  
Description: CMS, Trailblazers  
Status: Existing  
City of Los Angeles - LADOT - SB, PCH

Element: ATMS Field Equipment - LADOT - Existing  
Description: Traffic signals, VDS, CCTV, Road Weather Information System (RWIS)  
Status: Existing  
City of Culver City - LADOT - City of Culver City  
City of Los Angeles - LADOT - SB, PCH

Element: ATIS AC Website - LADOT- Existing  
Description: LADOT ATSAC website with special events, planned events, and travel time info.  
Status: Existing  
City of Los Angeles - 3 - SB, PCH

Element: ATIS AC Workstation - LADOT- Existing  
Description: Workstation providing the Agency the ability to manage signals via ATSAC.  
Status: Existing  
City of Burbank

Element: ATSAC/ATCS - LADOT - Existing  
Description: Automated Traffic Surveillance and Control System/Adaptive Traffic Control Software. In-house PC-based system controlling (about 3,000 out of 4,400) traffic signals in the City. This system also manages the changeable - reversible lane system.  
Status: Existing

Element: Reversible Lane Field Equipment - LADOT - Existing  
Description: Reversible lane control field equipment on 4th St. (I-5 to Alameda).  
Status: Existing

Element: Reversible Lane System - LADOT - Existing  
Description: Reversible lane control system on 4th St. (I-5 to Alameda).  
Status: Existing  
City of Los Angeles - 3 - SB, PCH

Element: Transit Signal Priority - LADOT - Existing  
Description: Transit Signal Priority (TSP) system to manage Bus traffic signal priority requests based upon bus location, schedule, etc.  
Status: Existing

Element: Transit Vehicles - LADOT  
Description: Transit buses for LADOT that have AVL  
Status: Existing
**Level 1**

*Element: ATIS Field Equipment - 1 - Planned*
*Status: Planned*
*Description: CMS, Trailblazers*

- City of Hawthorne - 1 - SB
- City of Lawndale - 1 - SB
- City of Manhattan Beach - 1 - SB
- City of Redondo Beach - 1 - SB

*Element: ATMS Field Equipment - 1 - Existing*
*Status: Existing*
*Description: Traffic signals, VDS, CCTV, Road Weather Information System (RWIS)*

- City of Agoura Hills - 1 - None
- City of Hawaiian Gardens - 1 - GWC/COG
- City of Hawthorne - 1 - SB
- City of Hermosa Beach - 1 - SB
- City of Industry - 1 - PV
- City of La Habra Heights - 1 - None
- City of La Mirada - 1 - GWC(I-105, I-5)
- City of Pico Rivera - 1 - GWC(I-105)
- City of Redondo Beach - 1 - SB
- City of San Marino - 1 - SGV
- City of Walnut - 1 - PV
- City of Duarte - 1 - SGV
- City of El Segundo - 1 - SB
- City of Lawndale - 1 - SB
- City of Manhattan Beach - 1 - SB

*Element: IEN Workstation - 1 - Planned*
*Status: Planned*
*Description: Workstation providing the Agency the ability to view its signals (as hosted by another agency) and to view regional traffic and incident management operations and limited control.*

- City of Agoura Hills - 1 - None
- City of Duarte - 1 - SGV
- City of El Segundo - 1 - SB
- City of Hawaiian Gardens - 1 - GWC/COG
- City of Hawthorne - 1 - SB
- City of Hermosa Beach - 1 - SB
- City of Industry - 1 - PV
- City of La Habra Heights - 1 - None
- City of La Mirada - 1 - GWC(I-105, I-5)
- City of Lawndale - 1 - SB
- City of Manhattan Beach - 1 - SB
- City of Pico Rivera - 1 - GWC(I-105)
- City of Redondo Beach - 1 - SB
- City of San Marino - 1 - SGV
- City of Walnut - 1 - PV
### Level 2A

#### Element: ATIS Field Equipment - 2A - Planned  
**Status:** Planned  
**Description:** CMS, Trailblazers

- City of Bellflower - 2A - GWC (I-105)  
- City of Paramount - 2A - GWC (I-5), I-710

#### Element: ATMS Field Equipment - 2A - Existing  
**Status:** Existing  
**Description:** Traffic signals, VDS, CCTV, Road Weather Information System (RWIS)

- City of Baldwin Park - 2A - SGV  
- City of Bellflower - 2A - GWC (I-105)  
- City of Carson - 2A - SB  
- City of Culver City - 2A - None  
- City of El Monte - 2A - SGV  
- City of Glendora - 2A - SGV  
- City of La Puente - 2A - SGV  
- City of La Verne - 2A - PV  
- City of Monrovia - 2A - SGV  
- City of Paramount - 2A - GWC (I-5), I-710  
- City of Rancho Palos Verdes - 2A - SB  
- City of South El Monte - 2A - SGV  
- City of Temple City - 2A - SGV  
- City of Whittier - 2A - GWC (I-5)  
- City of Azusa - 2A - SGV  
- City of Lomita - 2A - SB  
- City of Rolling Hills Estates - 2A - SB  
- City of Claremont - 2A - PV

#### Element: ATSAC Workstation - 2A - Existing  
**Status:** Existing  
**Description:** Workstation providing the Agency the ability to manage signals via ATSAC

- Los Angeles World Airports (LAWA) - 2A -

#### Element: ATSAC Workstation - 2A - Planned  
**Status:** Planned  
**Description:** Workstation providing the Agency the ability to manage signals via ATSAC

- City of Culver City - 2A - None

#### Element: IEN Workstation - 2A - Planned  
**Status:** Planned  
**Description:** Workstation providing the Agency the ability to view regional traffic and incident management operations and limited control

- City of Carson - 2A - SB  
- City of Claremont - 2A - PV  
- City of Azusa - 2A - SGV  
- City of Bellflower - 2A - GWC (I-105)  
- City of Culver City - 2A - None  
- City of El Monte - 2A - SGV  
- City of Glendora - 2A - SGV  
- City of La Puente - 2A - SGV  
- City of La Verne - 2A - PV  
- City of Lomita - 2A - SB
City of Monrovia - 2A - SGV
City of Paramount - 2A - GWC (I-5), I-710
City of Rancho Palos Verdes - 2A - SB
City of Rolling Hills Estates - 2A - SB
City of South El Monte - 2A - SGV
City of Temple City - 2A - SGV
City of Whittier - 2A - GWC (I-5)
City of Baldwin Park - 2A - SGV

**Element:** TCS Workstation - 2A - Planned  
**Status:** Planned  
**Description:** Traffic control system workstation to manage various ATIS and ATMS field equipment.

City of Carson - 2A - SB
City of Claremont - 2A - PV
City of Azusa - 2A - SGV
City of Baldwin Park - 2A - SGV
City of Bellflower - 2A - GWC (I-105)
City of El Monte - 2A - SGV
City of Glendora - 2A - SGV
City of La Puente - 2A - SGV
City of La Verne - 2A - PV
City of Lomita - 2A - SB
City of Monrovia - 2A - SGV
City of Paramount - 2A - GWC (I-5), I-710
City of Rancho Palos Verdes - 2A - SB
City of Rolling Hills Estates - 2A - SB
City of South El Monte - 2A - SGV
City of Temple City - 2A - SGV
City of Whittier - 2A - GWC (I-5)

**Level 2B**

**Element:** ATIS Field Equipment - 2B - Planned  
**Status:** Planned  
**Description:** CMS, Trailblazers

City of Arcadia - 2B - SGV
City of Norwalk - 2B - GWC(I-105, I-5)
City of San Dimas - 2B - PV, SGV

**Element:** ATMS Field Equipment - 2B - Existing  
**Status:** Existing  
**Description:** Traffic signals, VDS, CCTV, Road Weather Information System (RWIS)

City of Alhambra - 2B - SGV
City of Bell - 2B - I-710
City of Bell Gardens - 2B - I-710
City of Beverly Hills - 2B - None
City of Calabasas - 2B - PCH
City of Compton - 2B - GWC (I-105), I-710
City of Cudahy - 2B - I-710
City of Diamond Bar - 2B - PV
City of Gardena - 2B - SB
City of Huntington Park - 2B - I-710
City of La Canada/Flintridge - 2B - None
City of Lakewood - 2B - GWC/COG
City of Lancaster - 2B - NLA
City of Lynwood - 2B - GWC (I-105), I-710
City of Malibu - 2B - PCH
City of Maywood - 2B - I-710
City of Montebello - 2B - GWC (I-5), SGV
City of Monterey Park - 2B - SGV
City of Norwalk - 2B - GWC(I-105, I-5)
City of Palmdale - 2B - NLA
City of Rosemead - 2B - SGV
City of San Dimas - 2B - PV, SGV
City of San Fernando - 2B - None
City of San Gabriel - 2B - SGV
City of Santa Clarita - 2B - NLA
City of Santa Fe Springs - 2B - GWC(I-105, I-5)
City of Santa Monica - 2B - PCH
City of Signal Hill - 2B - I-710
City of South Gate - 2B - GWC (I-105), I-710
City of South Pasadena - 2B - SGV
City of Torrance - 2B - SB
City of Vernon - 2B - I-710
City of West Covina - 2B - SGV
City of West Hollywood - 2B - None
City of Westlake Village - 2B - None
City of Cerritos - 2B - GWC/COG
City of Commerce - 2B - GWC (I-5), I-710
City of Arcadia - 2B - SGV
City of Artesia - 2B - GWC/COG
City of Covina - 2B - SGV
City of Irwindale - 2B - SGV

Element: ATMS Field Equipment - 2B - Planned
Status: Planned
Description: Traffic signals, VDS, CCTV, Road Weather Information System (RWIS)

City of Palmdale - 2B - NLA
LACO - 3 -

Element: IEN Workstation - 2B - Planned
Status: Planned
Description: Workstation providing the Agency the ability to view regional traffic and incident management operations and limited control.

MTA - 2B -
City of Cerritos - 2B - GWC/COG
City of Commerce - 2B - GWC (I-5), I-710
City of Alhambra - 2B - SGV
City of Arcadia - 2B - SGV
City of Artesia - 2B - GWC/COG
City of Bell - 2B - I-710
City of Bell Gardens - 2B - I-710
City of Beverly Hills - 2B - None
City of Calabasas - 2B - PCH
City of Compton - 2B - GWC (I-105), I-710
City of Covina - 2B - SGV
City of Cudahy - 2B - I-710
<table>
<thead>
<tr>
<th>City</th>
<th>2B</th>
<th>Element</th>
<th>Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Diamond Bar</td>
<td>PV</td>
<td>TCS - Existing</td>
<td>Existing</td>
<td>Traffic control system to manage various ATIS and ATMS field equipment.</td>
</tr>
<tr>
<td>City of Gardena</td>
<td>SB</td>
<td>TCS - Existing</td>
<td>Existing</td>
<td>Traffic control system to manage various ATIS and ATMS field equipment.</td>
</tr>
<tr>
<td>City of Huntington Park</td>
<td>I-710</td>
<td>TCS - Planned</td>
<td>Planned</td>
<td>Traffic control system to manage various ATIS and ATMS field equipment.</td>
</tr>
<tr>
<td>City of Irwindale</td>
<td>SGV</td>
<td>TCS - Planned</td>
<td>Planned</td>
<td>Traffic control system to manage various ATIS and ATMS field equipment.</td>
</tr>
<tr>
<td>City of La Canada/Flintridge</td>
<td>None</td>
<td>TCS - Planned</td>
<td>Planned</td>
<td>Traffic control system to manage various ATIS and ATMS field equipment.</td>
</tr>
<tr>
<td>City of Lakewood</td>
<td>GWC/COG</td>
<td>TCS - Planned</td>
<td>Planned</td>
<td>Traffic control system to manage various ATIS and ATMS field equipment.</td>
</tr>
<tr>
<td>City of Lancaster</td>
<td>NLA</td>
<td>TCS - Planned</td>
<td>Planned</td>
<td>Traffic control system to manage various ATIS and ATMS field equipment.</td>
</tr>
<tr>
<td>City of Lynwood</td>
<td>GWC (I-105), I-710</td>
<td>TCS - Planned</td>
<td>Planned</td>
<td>Traffic control system to manage various ATIS and ATMS field equipment.</td>
</tr>
<tr>
<td>City of Malibu</td>
<td>PCH</td>
<td>TCS - Planned</td>
<td>Planned</td>
<td>Traffic control system to manage various ATIS and ATMS field equipment.</td>
</tr>
<tr>
<td>City of Maywood</td>
<td>1-710</td>
<td>TCS - Planned</td>
<td>Planned</td>
<td>Traffic control system to manage various ATIS and ATMS field equipment.</td>
</tr>
<tr>
<td>City of Montebello</td>
<td>GWC (I-5), SGV</td>
<td>TCS - Planned</td>
<td>Planned</td>
<td>Traffic control system to manage various ATIS and ATMS field equipment.</td>
</tr>
<tr>
<td>City of Monterey Park</td>
<td>SGV</td>
<td>TCS - Planned</td>
<td>Planned</td>
<td>Traffic control system to manage various ATIS and ATMS field equipment.</td>
</tr>
<tr>
<td>City of Norwalk</td>
<td>GWC(I-105, I-5)</td>
<td>TCS - Planned</td>
<td>Planned</td>
<td>Traffic control system to manage various ATIS and ATMS field equipment.</td>
</tr>
<tr>
<td>City of Palmdale</td>
<td>NLA</td>
<td>TCS - Planned</td>
<td>Planned</td>
<td>Traffic control system to manage various ATIS and ATMS field equipment.</td>
</tr>
<tr>
<td>City of Pomona</td>
<td>PV</td>
<td>TCS - Planned</td>
<td>Planned</td>
<td>Traffic control system to manage various ATIS and ATMS field equipment.</td>
</tr>
<tr>
<td>City of Rosemead</td>
<td>SGV</td>
<td>TCS - Planned</td>
<td>Planned</td>
<td>Traffic control system to manage various ATIS and ATMS field equipment.</td>
</tr>
<tr>
<td>City of San Dimas</td>
<td>PV, SGV</td>
<td>TCS - Planned</td>
<td>Planned</td>
<td>Traffic control system to manage various ATIS and ATMS field equipment.</td>
</tr>
<tr>
<td>City of San Fernando</td>
<td>None</td>
<td>TCS - Planned</td>
<td>Planned</td>
<td>Traffic control system to manage various ATIS and ATMS field equipment.</td>
</tr>
<tr>
<td>City of San Gabriel</td>
<td>SGV</td>
<td>TCS - Planned</td>
<td>Planned</td>
<td>Traffic control system to manage various ATIS and ATMS field equipment.</td>
</tr>
<tr>
<td>City of Santa Clarita</td>
<td>NLA</td>
<td>TCS - Planned</td>
<td>Planned</td>
<td>Traffic control system to manage various ATIS and ATMS field equipment.</td>
</tr>
<tr>
<td>City of Santa Fe Springs</td>
<td>GWC(I-105, I-5)</td>
<td>TCS - Planned</td>
<td>Planned</td>
<td>Traffic control system to manage various ATIS and ATMS field equipment.</td>
</tr>
<tr>
<td>City of Santa Monica</td>
<td>PCH</td>
<td>TCS - Planned</td>
<td>Planned</td>
<td>Traffic control system to manage various ATIS and ATMS field equipment.</td>
</tr>
<tr>
<td>City of Signal Hill</td>
<td>I-710</td>
<td>TCS - Planned</td>
<td>Planned</td>
<td>Traffic control system to manage various ATIS and ATMS field equipment.</td>
</tr>
<tr>
<td>City of South Gate</td>
<td>GWC (I-105), I-710</td>
<td>TCS - Planned</td>
<td>Planned</td>
<td>Traffic control system to manage various ATIS and ATMS field equipment.</td>
</tr>
<tr>
<td>City of South Pasadena</td>
<td>SGV</td>
<td>TCS - Planned</td>
<td>Planned</td>
<td>Traffic control system to manage various ATIS and ATMS field equipment.</td>
</tr>
<tr>
<td>City of Torrance</td>
<td>SB</td>
<td>TCS - Planned</td>
<td>Planned</td>
<td>Traffic control system to manage various ATIS and ATMS field equipment.</td>
</tr>
<tr>
<td>City of Vernon</td>
<td>I-710</td>
<td>TCS - Planned</td>
<td>Planned</td>
<td>Traffic control system to manage various ATIS and ATMS field equipment.</td>
</tr>
<tr>
<td>City of West Covina</td>
<td>SGV</td>
<td>TCS - Planned</td>
<td>Planned</td>
<td>Traffic control system to manage various ATIS and ATMS field equipment.</td>
</tr>
<tr>
<td>City of West Hollywood</td>
<td>None</td>
<td>TCS - Planned</td>
<td>Planned</td>
<td>Traffic control system to manage various ATIS and ATMS field equipment.</td>
</tr>
<tr>
<td>City of Westlake Village</td>
<td>None</td>
<td>TCS - Planned</td>
<td>Planned</td>
<td>Traffic control system to manage various ATIS and ATMS field equipment.</td>
</tr>
</tbody>
</table>

City of Palmdale - 2B - NLA
City of Cerritos - 2B - GWC/COG
City of Commerce - 2B - GWC (I-5), I-710
City of Alhambra - 2B - SGV
City of Beverly Hills - 2B - None
City of Calabasas - 2B - PCH
City of Gardena - 2B - SB
City of Lancaster - 2B - NLA
City of Santa Clarita - 2B - NLA
City of Santa Monica - 2B - PCH
City of South Gate - 2B - GWC (I-105), I-710
City of Vernon - 2B - I-710
City of West Covina - 2B - SGV
City of West Hollywood - 2B - None

City of Westlake Village - 2B - None
City of Cerritos - 2B - GWC/COG
City of Beverly Hills - 2B - None
City of Malibu - 2B - PCH
City of San Fernando - 2B - None
City of West Hollywood - 2B - None
City of Commerce - 2B - GWC (I-5), I-710
City of Cudahy - 2B - I-710
City of Alhambra - 2B - SGV
City of Arcadia - 2B - SGV
City of Artesia - 2B - GWC/COG
City of Bell - 2B - I-710
City of Bell Gardens - 2B - I-710
City of Compton - 2B - GWC (I-105), I-710
City of Covina - 2B - SGV
City of Diamond Bar - 2B - PV
City of Huntington Park - 2B - I-710
City of Irwindale - 2B - SGV
City of La Canada/Flintridge - 2B - None
City of Lakewood - 2B - GWC/COG
City of Lynwood - 2B - GWC (I-105), I-710
City of Maywood - 2B - I-710
City of Montebello - 2B - GWC (I-5), SGV
City of Monterey Park - 2B - SGV
City of Norwalk - 2B - GWC (I-105, I-5)
City of Rosemead - 2B - SGV
City of San Dimas - 2B - PV, SGV
City of San Gabriel - 2B - SGV
City of Santa Fe Springs - 2B - GWC (I-105, I-5)
City of Signal Hill - 2B - I-710
City of South Gate - 2B - GWC (I-105), I-710
City of South Pasadena - 2B - SGV
City of Torrance - 2B - SB
City of Vernon - 2B - I-710
City of West Covina - 2B - SGV

Level 3
Element: ATIS Field Equipment - 3 - Existing
Status: Existing
Description: CMS, Trailblazers

City of Glendale - 3 - Arroyo/Verdugo
City of Los Angeles - 3 - SB, PCH
City of Pasadena - 3 - Arroyo/Verdugo, SGV
City of Pomona - 3 - PV
LACO - 3 -
City of Inglewood - 3 - SB

Element: ATIS Field Equipment - 3 - Planned
Status: Planned
Description: CMS, Trailblazers

LACO - 3 -
City of Burbank - 3
City of Downey - 3 - GWC (I-105, I-5)
City of Long Beach - 3 - GWC/COG, I-710, SB
**Element:** ATMS Field Equipment - 3 - Existing
**Status:** Existing
**Description:** Traffic signals, VDS, CCTV, Road Weather Information System (RWIS)

- City of Burbank - 3 - SGV
- City of Downey - 3 - GWC(I-105, I-5)
- City of Glendale
- City of Inglewood - SB
- City of Long Beach - 3 - GWC/COG, I-710, SB
- City of Los Angeles - 3 - SB, PCH
- City of Pasadena - 3 - Arroyo/Verdugo, SGV
- City of Pomona - 3 - PV
- LACO - 3 - RWIS on Angeles Crest Hwy.

**Element:** ATMS Field Equipment - 3 - Planned
**Status:** Planned
**Description:** Traffic signals, VDS, CCTV, Road Weather Information System (RWIS)

- City of Burbank

**Element:** IEN Corridor Server - 3 - Existing
**Status:** Existing
**Description:** Facilitates the exchange of real-time arterial traffic information between potentially disparate TCSs, and limited signal control between Agencies in the TF. This server is located at LACO DPW.

- LACO - 3 -

**Element:** IEN Corridor Server - 3 - Planned
**Status:** Planned
**Description:** Facilitates the exchange of real-time arterial traffic information between potentially disparate TCSs, and limited signal control between Agencies in the TF.

- City of Los Angeles - 3 - SB, PCH
- City of Burbank
- LACO - 3 - GWC
- LACO - 3 - I-710
- LACO - 3 - PV
- LACO - 3 - SB

**Element:** IEN Regional Server - 3 - Planned
**Status:** Planned
**Description:** IEN server for multiple TFs/Corridors. Facilitates the exchange of real-time arterial traffic information between corridors, and limited signal control between participating Agencies. Also facilitates exchange of traffic information with Agencies not part of any TF (e.g., Caltrans, etc.).

- LACO - 3 -

**Element:** IEN Workstation - 3 - Existing
**Status:** Existing
**Description:** Workstation providing the Agency the ability to view regional traffic and incident management operations and limited control.

- City of Pasadena - 3 - Arroyo/Verdugo, SGV
- LACO - 3
Element: IEN Workstation - 3 - Planned  
Status: Planned  
Description: Workstation providing the Agency the ability to view regional traffic and incident management operations and limited control.

City of Downey - 3 - GWC(I-105, I-5)  
City of Long Beach - 3 - GWC/COG, I-710, SB  
City of Los Angeles - LADOT - SB, PCH  
City of Inglewood - 3 -  
City of Pomona - 3 -  
City of Pasadena - 3 -  

Element: TCS - 3 - Existing  
Status: Existing  
Description: Traffic control system to manage various ATIS and ATMS field equipment.

City of Long Beach - 3 - GWC/COG, I-710, SB  
City of Pasadena - 3 - Arroyo/Verdugo, SGV  
City of Los Angeles - 3 - SB, PCH  
City of Burbank - 3 - SGV  
City of Glendale - 3 - Arroyo/Verdugo  
City of Inglewood - 3 - SB  
City of Pomona - 3 - PV  

Element: TCS - 3 - Planned  
Status: Planned  
Description: Traffic control system to manage various ATIS and ATMS field equipment.

Caltrans - 3 - PCH  
City of Downey - 3 - GWC(I-105, I-5)  
City of Long Beach - 3 - GWC/COG, I-710, SB  
City of Burbank - 3 - SGV  
City of Pomona - 3 - PV  

Local Cities and LA County Emergency Management

Element: Fire and Police Vehicles - Local Cities/County EM  
Status: Existing  
Description: Local Cities and L.A. County who have emergency pre-emption or priority functions for police and fire vehicles (i.e., Opticom). Pre-emption happens at the roadside between vehicle and signals.

Metro (CHANGED NAME FROM RIITS TO METRO)

Element: RIITS (CHANGED NAME)  
Status: Existing  
Description: Regional Integration of ITS (RIITS). This system collects multi-modal transportation data from various agencies and provides them to external systems. It also serves as the regional interface to the Freeway System between arterial and freeway. This interface will carry any information for coordination between the RIITS Architecture and the Arterial Architecture.

Metro Transit Operations (CHANGED NAME FROM METRO OPERATIONS TO METRO TRANSIT OPERATIONS)

Element: Countywide Signal Priority System - METRO - Existing  
Status: Existing  
Description: Metro Operations Signal Priority Systems
Element: IEN Workstation - METRO - Existing  Status: Existing
Description: Workstation providing the Agency the ability to view regional traffic and incident management operations and limited control.

Element: Transit Vehicles - METRO  Status: Existing
Description: Metro Operations has a Bus Rapid Transit (BRT) system and this element represents the METRO buses that are equipped with AVL and participate in the transit priority system.

Other Transit Agencies
Element: Transit Mgmt. Systems - Other Transit Agencies  Status: Existing
Description: Local Cities transit priority systems.

Element: Transit Vehicles - Other Transit Agencies  Status: Existing
Description: Local City and private transit vehicles that have priority system capabilities.

Pasadena LRT
Element: LRT TCS - Pasadena - Existing  Status: Existing
Description: BiTrans QuicNet IV TCS to operate signals located at 18 MTA LRT (Gold Line) crossings with 2070 BiTrans controllers running BiTrans LRT and time of day (TOD) timing plans.

City of Pasadena - 3 - Arroyo/Verdugo, SGV

Element: LRT TCS Field Equipment - Pasadena - Existing  Status: Existing
Description: Signals located at 18 MTA LRT (Gold Line) crossings with 2070 BiTrans controllers running BiTrans LRT and time of day (TOD) timing plans.

City of Pasadena - 3 - Arroyo/Verdugo, SGV

Traveling Public  (NEW)
Element: Traveler (NEW)  Status: Existing
Description: Traveler - general public at large

Weather Information Services  (NEW)
Element: Weather Information (NEW)  Status: Planned
Description: Weather Information Dissemination
APPENDIX B

Newly Added Functional Requirements
Los Angeles Arterial ITS Architecture
Functional Requirements
(new Inventory Elements only)

Caltrans Districts 7, 8, 11 and 12

Element: Freeway ATMS

Entity: Information Service Provider

Functional Area: ISP Traveler Data Collection.
Collects Traveler information from other centers, consolidates and refines the collected data, and makes this data available to travelers information applications.

Requirement:
The center shall collect, process, and store traffic and highway condition information, including incident information, detours and road closures, event information recommended routes, and current speeds on specific routes. Existing

Requirement:
The center shall collect, process and store maintenance and construction information, including scheduled maintenance and construction work activities and work zone activities. Existing

Functional Area: Basic Information Broadcast
Collection, processing, storage, and broadcast dissemination of traffic, transit, maintenance and construction event, and weather information to traveler interface systems and vehicles.

Requirement:
The center shall collect, process, store and disseminate maintenance and construction information to travelers, including scheduled maintenance and construction work activities and work zone activities. Existing

Requirement:
The center shall collect, process, store and disseminate traffic and highway Condition information to travelers, including incident information, detours and road closures, even information, recommended routes, and current speeds on specific route. Existing
Requirement:
The center shall collect, process, store and disseminate transit routes and schedules, transit transfer options, transit fares, and real-time schedule Adherence information to travelers. Existing

Requirement:
The center shall collect, process, store and disseminate air quality information to travelers. Existing

Requirement:
The center shall provide the capability to support requests from the media for traffic and incident data. Existing

Requirement:
The center shall provide the capability for a system operator to control the Type and update frequency of broadcast traveler information. Existing

Functional Area: Traveler Telephone Information
Collection and distribution of traveler information and wide-are alerts to traveler telephone information systems such as 511, based on voice-based traveler requests.

Requirement:
The center shall provide the capability to process voice-formatted requests for traveler information from a traveler telephone information system, and return the information system and returns the information to the requested format. Existing

Requirement:
The center shall provide the capability to process dual tone multi-frequency (DTMF) – based requests (touch-tone) for traveler information from a traveler telephone information system. Existing

Requirement:
The center shall provide the capability to process traveler information requests from a traveler telephone information system. Existing

Requirement:
The center shall collect and provide information on traffic conditions in the requested voice format and for the requested location. Existing
Entity: Traffic Management

Functional Area: Collect Traffic Surveillance
Management of traffic sensors and surveillance (CCTV) equipment, and distribution of the collected information to other centers and operators.

Requirement:
The center shall monitor, analyze, and store traffic sensor data (speed, volume, occupancy) collected from field elements under remote control of the center. Existing

Requirement:
The Center shall monitor, analyze and distribute traffic images from CCTV systems under remote control of the center. Existing

Functional Area: Traffic Information Dissemination
Controls dissemination of traffic related data and other centers, the media and travelers via the driver information systems (DMS, HAR) that it operates.

Requirement:
The center shall remotely control dynamic messages signs for dissemination of traffic and other information to drivers. Existing

Requirement:
The Center shall retrieve locally stored traffic information including current and forecasted traffic information, road and weather conditions, traffic incident information, information on diversions and alternate routes, closures, and special traffic restrictions (lane/shoulder use, weight restrictions, width restrictions, HOV requirements) etc. Existing

Caltrans Headquarters

Element: Freeway Performance Measurement System (PeMS)

Entity: Information Service Provider

Functional Area: Basic Information Broadcast
Collection, processing, storage, and broadcast dissemination of traffic, transit, maintenance and construction event, and weather information to traveler interface systems and vehicles.
Requirement:
The center shall collect, process, store and disseminate traffic and highway condition information to travelers, including incident information, detours and road closures, even information, recommended routes, and current speeds on specific routes. Existing

Metro

**Element:** RIITS

**Entity:** Information Service Provider

**Functional Area: Basic Information Broadcast**
Collection, processing, storage, and broadcast dissemination of traffic, transit, maintenance and construction event, and weather information to traveler interface systems and vehicles.

Requirement:
The center shall collect, process, store and disseminate traffic and highway condition information to travelers, including incident information, detours and road closures, even information, recommended routes, and current speeds on specific routes. Existing

Requirement:
The center shall collect, process, store and disseminate maintenance and construction information to travelers, including scheduled maintenance and construction work activities and work zone activities. Existing

California Highway Patrol (CHP)

**Element:** CHP Server

**Entity:** Information Service Provider

**Functional Area: Basic Information Broadcast**
Collection, processing, storage, and broadcast dissemination of traffic, transit, maintenance and construction event, and weather information to traveler interface systems and vehicles.
Requirement:
The center shall collect, process, store and disseminate traffic and highway condition information to travelers, including incident information, detours and road closures, even information, recommended routes, and current speeds on specific routes. **Existing**

Requirement:
The center shall provide the capability to support requests from the media for traffic and incident data. **Existing**

**Iteris – LACO DPW**

**Element:** CommuteView

**Entity:** Information Service Provider

**Functional Area: Basic Information Broadcast**
Collection, processing, storage, and broadcast dissemination of traffic, transit, maintenance and construction event, and weather information to traveler interface systems and vehicles.

Requirement:
The center shall collect, process, store and disseminate traffic and highway condition information to travelers, including incident information, detours and road closures, even information, recommended routes, and current speeds on specific routes. **Existing**

Requirement:
The center shall collect, process, store and disseminate maintenance and construction information to travelers, including scheduled maintenance and construction work activities and work zone activities. **Planned**

Requirement:
The center shall collect, process, store and disseminate traffic and highway condition information to travelers, including incident information, detours and road closures, even information, recommended routes, and current speeds on specific routes. **Planned**

Requirement:
The center shall collect, process, store and disseminate transit routes and Schedules, transit transfer options, transit fares, and real-time schedule adherence information to travelers. **Planned**
Requirement:
The center shall collect, process, store and disseminate parking information to travelers, including location, availability and fees. **Planned**

Requirement:
The center shall collect, process, store and disseminate weather information to travelers. **Planned**

Requirement:
The center shall collect, process, store and disseminate event information to travelers. **Existing**

Requirement:
The center shall collect, process, store and disseminate air quality information to travelers. **Planned**

Requirement:
The center shall provide the capability to support requests from the media for Traffic and incident data. **Existing**

Requirement:
The center shall provide the capability for a system operator to control the type and update frequency of broadcast traveler information. **Existing**

**Functional Area: Interactive Infrastructure Information**
Collection, processing, storage, and personalized dissemination of traffic, transit, maintenance and construction, multimodal, event and weather information to traveler interface systems and vehicles, upon request.

Requirement:
The center shall collect, process, store and disseminate customized traffic and highway condition information to travelers, including incident information, detours and road closures, recommended routes, and current speeds on specific routes upon request. **Existing**

Requirement:
The center shall collect, process, store and disseminate customized maintenance and construction information to travelers, including scheduled maintenance and construction work activities and work zone activities upon request. **Planned**
Requirement:
The center shall collect, process, store and disseminate customized transit routes and schedules, transit transfer options, transit fares, and real-time schedule adherence information to travelers upon request. **Planned**

Requirement:
The center shall collect, process, store and disseminate customized event information to travelers upon request. **Planned**

Requirement:
The center shall provide information based on traveler’s current location or a specific location identified by the traveler, and filter or customize the provided information accordingly. **Existing**

Requirement:
The center shall accept traveler profiles for determining the type of personalized data to send to the traveler. **Existing**

Requirement:
The center shall manage updates of digitized map data and provide updates to traveler interface systems upon request. **Planned**

Requirement:
The center shall provide the capability to support requests from the media for traffic and incident data. **Existing**

Requirement:
The center shall provide the capability for a system operator to control the type and update frequency of traveler information. **Existing**

**Entity: Personal Information Access**

**Functional Area: Personal Basic Information Reception**
Personal traveler interface that provides formatted traffic advisories, transit, event, and other traveler Information as well as broadcast alerts. Devices include personal computers and personal portable devices such as PDAs and pagers.

Requirement:
The personal traveler interface shall receive traffic information from a center and present it to the traveler. **Existing**

Requirement:
The personal traveler interface shall receive transit information from a center and present it to the traveler. **Planned**
Requirement:
The personal traveler interface shall receive event information from a center and present it to the traveler. **Existing**

Requirement:
The personal traveler interface shall receive wide-area-alerts from a center and present it to the traveler. **Planned**

Requirement:
The personal traveler interface shall provide the capability for digitized map data to act as the background to the information presented to the traveler. **Existing**

**Functional Area: Personal Basic Information Reception**
Personal traveler interface that provides formatted traffic, transit, yellow pages, event and trip planning information and other personalized traveler information services upon request. Devices include personal computers and Personal portable devices such as PDAs.

Requirement:
The personal traveler interface shall receive traffic information from a center and present it to the traveler. **Existing**

Requirement:
The personal traveler interface shall receive transit information from a center and present it to the traveler. **Planned**

Requirement:
The personal traveler interface shall receive wide-area-alerts from a center and present it to the traveler. **Planned**

Requirement:
The personal traveler interface shall base requests from the traveler on the traveler’s current location or a specific location identified by the traveler, and filter the provided information accordingly. **Existing**

Requirement:
The personal traveler interface shall provide for digitized map data to act as the background to the information presented to the traveler. **Existing**
**Functional Area: Personal Trip Planning and Route Guidance**

Personal traveler interface that coordinates with a traveler information center to provide a trip plan that is tailored to the traveler’s preferences. During the trip, the route plan can be modified to account for new information. Devices include desktop computers at home, work, or at major trip generation sites, plus personal portable devices such as PDAs and pagers.

**Requirement:**

The personal traveler interface shall provide the capability for a traveler to request and confirm multi-modal route guidance from a specified source to a specified destination. **Planned**
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