# MEMORANDUM OF UNDERSTANDING (MOU)
# Between
# STATE OF CALIFORNIA
# DEPARTMENT OF TRANSPORTATION (CALTRANS) DISTRICT 4
# And
# METROPOLITAN TRANSPORTATION COMMISSION (MTC)
# And
# THE CITY OF OAKLAND
# And
# THE CITY OF SAN LEANDRO
# For the
# OWNERSHIP, OPERATION AND MAINTENANCE OF THE INTERSTATE 880 INTEGRATED CORRIDOR MANAGEMENT NORTH ALAMEDA SEGMENT

This Memorandum of Understanding (MOU) between the State of California, acting by and through the Department of Transportation - District 4 ("Caltrans"), and the Metropolitan Transportation Commission ("MTC"), the City of Oakland ("Oakland") and the City of San Leandro ("San Leandro"), together referred to as "PARTIES", is for the purpose of outlining and defining the roles, responsibilities, terms, and conditions for the ownership, operation, and maintenance of equipment and components that are incorporated and integrated into the Interstate 880 ("I-880") Integrated Corridor Management ("ICM"), North Alameda Segment, hereinafter referred to as "PROJECT".

## I. RECITALS

**A.** Since 2002, Caltrans, MTC, Oakland and San Leandro have been working together to develop and implement a program to improve management and operation of arterials that run parallel to I-880. This Project was identified by the PARTIES to accomplish these goals. The Technical Advisory Committee "I-880 TAC", which includes the PARTIES and other stakeholders (see Attachment C), has met and advised as to the content of this MOU.

**B.** This MOU is intended to identify the overall commitment and responsibilities regarding ownership, operations and maintenance of the proposed equipment to be located within Caltrans and city right-of-way during day-to-day operations and during Incident Conditions, as applicable. This MOU serves the following purposes:

- Articulate key operations and maintenance (O&M) principles for continuing project development;
- Clarify ownership, O&M and management responsibilities;
- Clarify the distribution of costs;

- Signify the ongoing commitment of the project partners.

**C.** The PROJECT is located along designated arterial routes in proximity to I-880 as shown in Attachment A.

**D.** The PROJECT enables the project stakeholders to implement coordinated traffic and incident management strategies through the deployment of Intelligent Transportation System (ITS) elements on project routes. The purpose of the PROJECT is to enhance the ability of the PARTIES to better manage non-recurrent congestion caused by incidents, unexpected weather events, unexpected travel demand surges, major entertainment events and major construction and maintenance activities. The ITS component will also allow the PARTIES to better manage congestion, improve mobility and efficiency along the project corridors during non-incident operations. The PROJECT does not include installation of any signs or devices on the freeway, or any measures to actively divert traffic from the freeway to local streets.

The PROJECT extends for approximately nine miles between the I-880/I-980 interchange and the I-880/Davis Street interchange within the cities of Oakland and San Leandro, including the parallel arterials of 12th Street, International Boulevard (State Route 185), San Leandro Boulevard/Street and East 14th Street along with the crossing arterials of 23rd Avenue, 29th Avenue, Fruitvale Avenue, 42nd Avenue (State Route 77), High Street, 66th Avenue, Hegenberger Road, 98th Avenue, Doolittle Drive (State Route 66), and Davis Street (State Route 112). See Attachment A for Project Map.

The PROJECT goals are stated in detail in previously developed Systems Engineering (SE) documents and in Attachment D and include the following improvements:

- Traffic Incident Management
- Interagency Coordination
- Day-to-Day Traffic Operations and Management

**E.** The new and upgraded ITS elements to be implemented for the PROJECT include the following:

- Trailblazer Signs (TBS)
- Fixed or Pan-Tilt-Zoom (PTZ) closed-circuit television cameras (CCTV)
- Vehicle Detection Systems (VDS)
- Communications Infrastructure (including but not limited to communication and interconnect cables, conductors, equipment, and wireless infrastructure
- Traffic Signal Upgrades (including new controllers and cabinets)
- Traffic Management System Software

Definitions and explanations of these and other terms are included in Attachment B.

**F.** It is understood and agreed that the PROJECT elements will guide traffic on local arterials and will not actively divert traffic from I-880. The PROJECT is intended to benefit a variety of users including commuters, local traffic, and commercial vehicle and transit operators and is a continuation of the ICM that is under development in the I-80 Smart Corridor that extends from the San Francisco-Oakland Bay Bridge to the Carquinez Bridge.

**G.** PARTIES hereby set forth the terms, covenants, and conditions of this MOU, under which they will identify the overall commitment and responsibilities regarding ownership, operations, and maintenance of the PROJECT equipment.

**H.** The project will not modify the existing East Bay SMART Corridor equipment along the project corridors with the exception noted in II(3)(f), below. Alameda County Transportation Commission, the project sponsor and owner of the East Bay SMART corridor project, and has no direct responsibilities on the PROJECT other than participation on the I-880 TAC, as described in Attachment C.

## II. AGREEMENT

The PARTIES agree to the following:

1. Operating Principles:
   a. The PROJECT will not actively divert freeway traffic onto local streets at any time, including in the event of an incident on the freeway. The California Highway Patrol (CHP) has the authority to determine if active diversion is necessary to ensure public safety. The project will not modify or impact the standard operating procedures between Caltrans and law enforcement.
   b. The PARTIES shall actively participate in monitoring operations within their jurisdictions and shall be in on-going communication relative to the corridor management operations. Project Governance is described in Attachment C.
   c. Caltrans shall be responsible for operations of all I-880 ICM devices during Incident Conditions, including selecting and executing the appropriate pre-determined plans, protocols, and parameters in accordance with the Incident Response Plan (IRP). Such activities will be undertaken from the Transportation Management Center (TMC) jointly operated by Caltrans and the California Highway Patrol (available via telephone at 510-286-6915), located at 111 Grand Avenue, Oakland, and staffed on a 24/7 basis.
   d. During non-incident conditions, PARTIES shall have primary control of operations and monitoring of the I-880 ICM devices and traffic signals within their right-of -way, as described in Table 1. PARTIES shall provide contact information for a 24/7 dispatch and/or on-call personnel to be contacted for emergency activities or notification purposes.
   e. For safety reasons, under urgent and unforeseen circumstances such as being directed by law enforcement or in reaction to secondary accidents, Caltrans may be required to make short-term, spot decisions without first consulting with local agencies. Under such

circumstances, Caltrans shall promptly notify the PARTIES of the actions taken as soon as possible and practicable.

f. Under Incident Conditions, pre-approved Incident Response Plans (IRP) will be implemented by Caltrans. Caltrans shall assume control of the selected ICM devices until the incident is cleared. Non-incident operations of all devices will be resumed immediately upon incident clearance and stabilization of traffic conditions.

g. The IRPs will be discussed and approved by the PARTIES prior to implementation, and will be evaluated periodically by the PARTIES with MTC and/or Caltrans as the lead agency (at an interval to be determined or as urgent issues arise) to assess their effectiveness and need for adjustments. Any adjustments to the IRPs will be subject to approval by the PARTIES, in consultation with the I-880 TAC.

h. Trailblazer signs installed on local arterials will guide motorists that have naturally diverted to the local streets, due to an incident on I-880, back to the freeway at appropriate location(s) downstream of the incident.

i. The PARTIES shall coordinate responses to public inquiries, complaints, and concerns in a timely manner, as appropriate. The party to which the inquiry, complaint or concern was provided will contact Caltrans and Caltrans will take the lead on addressing items relating to incident conditions and/or assigning the item as appropriate. Inquiries or complaints relating to non-incident operations will be addressed by the appropriate local jurisdiction.

j. After the devices are installed, system components will be tested individually and then collectively prior to performing a full rollout by the System Integrator. Testing will be fully documented by the System Integrator. Following full roll-out, the system will be monitored extensively and minor fine tuning of signal timing will be performed as appropriate by the System Integrator in coordination with the PARTIES. A study will be done by the System Integrator to document conditions before and after the project is implemented, recommend changes, if necessary, and report on the project benefits.

2. Ownership

   a. Caltrans shall own the existing and proposed systems located along the project corridors within Caltrans right-of-way, as upgraded or installed as part of the PROJECT.

   b. Oakland shall own the existing and proposed systems located within the city of Oakland right-of-way, as upgraded or installed as part of the PROJECT.

   c. San Leandro shall own the existing and proposed systems located within the city of San Leandro right-of-way, as upgraded or installed as part of the PROJECT.

3. Operations

   a. Caltrans shall operate the existing and proposed systems located within Caltrans right-of-way, as upgraded or installed as part of the PROJECT during non-incident operations.

   b. Oakland shall operate the existing and proposed systems located within the city of Oakland right-of-way, as upgraded or installed as part of the PROJECT during non-incident operations, with the exception of the TBS systems.

c. San Leandro shall operate the existing and proposed systems located within the city of San Leandro right-of-way, as upgraded or installed as part of the PROJECT during non-incident operations, with the exception of the TBS systems.

d. Caltrans shall operate the existing and proposed systems during Incident Conditions according to pre-approved Incident Response Plans (IRPs). The IRPs shall clearly specify the operating rules and guidelines on communications between the PARTIES and response timeframes.

e. TBS systems installed as part of the PROJECT shall be operated by Caltrans during non-incident operations. If the device is within the right-of-way of an agency other than Caltrans, that agency will have secondary operations during non-incident operations.

f. Oakland shall allow the PROJECT to utilize the existing East Bay SMART Corridor 3-in conduit, located along San Leandro Street between 50th Avenue and 98th Avenue at no cost.

g. San Leandro shall allow the PROJECT to utilize the existing 4-strand fiber optic cable, located along Davis Street between Doolittle Drive and International Boulevard at no cost.

h. Caltrans and Oakland shall allow the PROJECT to utilize the fiber optic cable constructed by the AC Transit East Bay Bus Rapid Transit (BRT) project along International Boulevard, 15th Street, 12th Street, 14th Street, 1st Avenue, Lake Merritt Boulevard, Martin Luther King Way, and Broadway at no cost.

i. Exceptions are made for agreements already in place.

j. The operations responsibilities are outlined in Table 1.

4. Maintenance

a. Caltrans shall maintain the existing and proposed systems located within Caltrans right-of-way, as upgraded or installed as part of the PROJECT, with the exception of the TBS systems.

b. Oakland shall maintain the existing and proposed systems located within the city of Oakland right-of-way, as upgraded or installed as part of the PROJECT, with the exception of the TBS systems.

c. San Leandro shall maintain the existing and proposed systems located within the city of San Leandro right-of-way, as upgraded or installed as part of the PROJECT, with the exception of the TBS systems.

d. TBS systems installed as part of the PROJECT shall be maintained by MTC.

e. The PARTIES agree to share costs and responsibilities for systems/software as upgraded or installed as part of the PROJECT, that serve all agencies, as appropriate, to be determined by future agreements.

f. There may be existing or future agreements between the stakeholders that include exceptions for existing equipment such as traffic signals. Those agreements are separate from this MOU and this MOU does not supersede those agreements.

g. Maintenance activities shall include but are not limited to the following: developing a regular maintenance program; performing regular maintenance, repairs and replacements; assuring equipment is functioning properly; and assuring equipment appearance is suitable.

h. Caltrans shall maintain a minimum level of functionality in accordance with the Caltrans Maintenance Manual.

5. The project development phase is funded through approximately $1.6M in Federal Congestion Mitigation and Air Quality (CMAQ) funds. The construction is funded by approximately $9.9M from Federal CMAQ funds. All funds for project development, construction, and implementation are procured and managed by MTC.

6. The operations and maintenance responsibilities are outlined in Table 1.

7. MTC will fund the operations and maintenance of TBS on an annual basis.

8. Terms of MOU

   a. This MOU shall be effective as of the below execution date, and shall remain in full force and effect until amended or terminated.

   b. This MOU may be modified only in writing and by mutual consent of all PARTIES.

IN WITNESS WHEREOF, the PARTIES have executed this MOU on the date set forth above.

AGREED AND EXECUTED BY:

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
DISTRICT 4

By: _____
Bijan Sartipi, District Director

Date: _____

METROPOLITAN TRANSPORTATION COMMISSION

By: _____
Steve Heminger, Executive Director

Date: _____

CITY OF OAKLAND

By: _____
Sabrina Landreth, City Administrator

Date: _____

CITY OF SAN LEANDRO

By: _____
Chris Zapata, City Manager

Date: _____

## Table 1: Operations and Maintenance Roles and Responsibilities

| Item Description | I-880 ICM Equipment | | | | Operations | | | Maintenance |
|---|---|---|---|---|---|---|---|---|
| | Location | Ownership | Quantity | Unit | Normal (Daily) | | Incident | |
| | | | | | Primary | Secondary | | |
| Traffic Signals (f) | State R/W | State (f) | 68 | EA | State (f) | N/A | State | State (f) |
| | City of Oakland R/W | City of Oakland | 102 | EA | City of Oakland | N/A | State | City of Oakland |
| | City of San Leandro R/W | City of San Leandro | 1 | EA | City of San Leandro | N/A | State | City of San Leandro |
| Fixed/PTZ CCTV Cameras (a) | State R/W | State | 11 | EA | State | N/A | State | State |
| | City of Oakland R/W | City of Oakland | 15 | EA | City of Oakland | Caltrans | State | City of Oakland |
| | City of San Leandro R/W | City of San Leandro | 0 | EA | N/A | N/A | N/A | N/A |
| Trailblazer Signs (TBS) | State R/W | State | 10 | EA | State | N/A | State | MTC |
| | City of Oakland R/W | City of Oakland | 34 | EA | State | City of Oakland | State | MTC |
| | City of San Leandro R/W | City of San Leandro | 1 | EA | State | City of San Leandro | State | MTC |
| Vehicle Detection Systems (VDS) | State R/W | State | 0 | EA | N/A | N/A | N/A | N/A |
| | City of Oakland R/W | City of Oakland | 22 | EA | City of Oakland | N/A | City of Oakland | City of Oakland |
| | City of San Leandro R/W | City of San Leandro | 0 | EA | N/A | N/A | N/A | N/A |
| Communications Infrastructure (b) | State R/W | State | 1 | LS | N/A | N/A | N/A | State |
| | City of Oakland R/W | City of Oakland | 1 | LS | N/A | N/A | N/A | City of Oakland |
| | City of San Leandro R/W | City of San Leandro | 1 | LS | N/A | N/A | N/A | City of San Leandro |
| Communications Trunk Fiber Cable (c) | State ownership | State | 1 | LS | N/A | N/A | N/A | State |
| | City of Oakland ownership | City of Oakland | 1 | LS | N/A | N/A | N/A | City of Oakland |
| | City of San Leandro ownership | City of San Leandro | 1 | LS | N/A | N/A | N/A | City of San Leandro |
| Communications Network Equipment (d) | State R/W | State | 1 | LS | N/A | N/A | N/A | State |
| | City of Oakland R/W | City of Oakland | 1 | LS | N/A | N/A | N/A | City of Oakland |
| | City of San Leandro R/W | City of San Leandro | 1 | LS | N/A | N/A | N/A | City of San Leandro |
| Controller cabinets (e) | State R/W | State | 11 | EA | N/A | N/A | N/A | N/A |
| | City of Oakland R/W | City of Oakland | 24 | EA | N/A | N/A | N/A | City of Oakland |
| | City of San Leandro R/W | City of San Leandro | 0 | EA | N/A | N/A | N/A | N/A |

**Notes:**

(a) CCTV quantities are measured by each location.

(b) Includes conduit, fiber optic distribution and drop cables, fiber patch panels, and copper wiring, pull boxes. Excludes infrastructure covered by other agreements.

(c) Trunk fiber cable along E. 14th St/International Blvd. through other agreements. Excludes fiber distribution (device to splice enclosure at cabinet) and drop cables (trunk to field cabinet). The trunk cable responsibilities are not based upon the R/W in which they are located, but by the agency that owns and takes responsibility for the cable, as established in other agreements or the I-880 ICM North Alameda Segment plans.

(d) Includes network switches, routers, modems, wireless access radios and antennas.

(e) Not associated with traffic signals, but solely for ICM purposes. Upgrades to existing traffic signal controllers and/or cabinets included under Traffic Signals.

(f) Unless covered otherwise by a separate agreement; This item also covers the special signal timing plans for the I-880 ICM system.

# ATTACHMENT A:

## Project Area and Designated Routes

# ATTACHMENT B

## DEFINITIONS AND EXPLANATION OF TERMS

**Closed Circuit Television (CCTV) Cameras** – Fixed and pan-tilt-zoom cameras mounted on poles to monitor freeway, on-ramp, and local street traffic flow conditions as a way to confirm actual conditions and to implement appropriate traffic management strategies.

**Communication Infrastructure** – Equipment and components installed to enable data transfer and communication between devices including but not limited to conduits, conductors, fiber optic cable, and wireless infrastructure.

**East Bay SMART Corridor** – An Intelligent Transportation System designed to improve mobility along the East Bay commute corridors that includes many devices along San Leandro Street. This system is currently not operational and many of the devices remain in the field, non-operational. The project may also be referred to as Alameda CTC Smart Corridor.

**I-880 Technical Advisory Committee (I-880 TAC)** – Committee comprised of technical staff from agencies in the I-880 ICM Corridor, responsible for day-to-day transportation service, operations and management of their respective systems within the I-880 corridor.

**Incident Response Plan (IRP) -** A plan that will be prepared by the System Integrator in coordination with the I-880 TAC that identifies the devices (Trailblazer signs, detection and monitoring devices, and traffic signals, including signal timing plans and signal timing) that will be used to manage the network during an incident or special event. The plan includes various scenarios, each of which will be dependent on many different parameters including time of day, location, incident severity, and expected incident duration. The I-880 TAC will review and approve the use of each strategy. When an incident occurs, Caltrans will determine the scenario that is most appropriate for the incident and deploy the appropriate strategy.

**Incident Conditions** – An operational scenario as agreed upon by partnering agencies such as loss of fifty-percent of the through lanes on freeway for 30 minutes or more, to be defined by the I-880 TAC.

**Integrated Corridor Management (ICM) -** A program containing various strategies to manage congestion and operations along transportation corridors during Incident Conditions.

**Intelligent Transportation System (ITS)** – Technology systems, equipment and communication networks used to make travel more efficient and convenient and to better inform motorists of transportation conditions.

**Operations & Maintenance (O&M) -** The operations and maintenance responsibilities for transportation systems.

**Signal Coordination** – A traffic operations strategy of setting traffic signal timing plans and offsets such that a platoon of vehicles can travel along a corridor under a green phase as they approach each intersection. (See also Special Signal Timing Plans)

**Special Signal Timing Plans** – Special traffic signal timing plans that would be implemented at local intersections during freeway incidents in which a large amount of traffic would be expected to leave the freeway and use local streets to bypass an incident. Special signal timing plans provide a long green phase for major traffic route during an incident. Plans are stored in the local traffic signal controller and called out by a plan number. These could be a series of timing plans used for different incident severity, are triggered under specified traffic volume thresholds, and will only be in effect until congestion dissipates on the local streets. (See also Signal Coordination)

**Signal Interconnect** – Connecting traffic signals along a corridor (typically using copper, fiber-optic, or wireless radio technology) to enable data transfer and communication.

**System Integrator –** Consultant to be procured by MTC to develop Incident Response Plans, System Integration Plan, Performance Evaluation Plan, Configuration Management Plan and Outreach Plan to govern the implementation of the project as described in Attachment E.

**Traffic Signal Upgrades** – Installation of new hardware and software to enable communication and data transfer between traffic signals and transportation management central facilities.

**Traffic Management System Software** – Computer programs developed by System Integrator to enable the data transfer and communication among the ITS components as well as deployment of traffic management strategies to improve traffic flow.

**Trailblazer Signs (TBS) –**Devices that are located at critical decision points along potential local routes to efficiently guide traffic that has left the freeway along a dedicated route past an incident.

**Transportation Management Center (TMC) –** Central facility at Caltrans or local agencies that houses software, workstations, and staff to operate the system.

**Vehicle Detection System (VDS)** – Equipment to detect a moving vehicle; typically video, microwave, wireless in-pavement, or inductive loop systems.

**Wireless Infrastructure** – Hardware (network switches, wireless modems, routers, wireless access radios and antennas) and software installed to transmit and receive data through wireless technology.

# ATTACHMENT C:

# PROJECT GOVERNANCE

This project is developed through a partnership amount Caltrans, Metropolitan Transportation Commission (MTC), Alameda County Transportation Commission (Alameda CTC), AC Transit and the Cities of Oakland and San Leandro.

It is the intent that all technical and operational matters be resolved among the partnering agencies at the lowest working level. In general, the I-880 integrated corridor management activities will be directed the Technical Advisory Committee (I-880 TAC) as needed.

**Technical Advisory Committee (I-880 TAC):**

The I-880 TAC will be comprised of technical staff responsible for day-to-day transportation service, operations and management of their respective systems within the I-880 corridor. The I-880 TAC will consist of representatives from Caltrans/District 4, Metropolitan Transportation Commission (MTC), Alameda CTC, AC Transit, and the Cities of Oakland and San Leandro. In consultation with the I-880 TAC, the PARTIES will develop operational strategies needed for integrated corridor system management.

The PARTIES, in consultation with the I-880 TAC, will ensure efficient monitoring and enhanced day-to-day arterial operations, incident management, and timely implementation of incident scenarios.

The I-880 TAC will directly interact, communicate, and exchange information and cooperatively assist in resolving issues.

While Caltrans will be responsible for 24/7 deployment of the ICM components, the I-880 TAC members will, on an ongoing basis, provide input and concurrence on operational strategies such as special signal timing plans, traffic signal modifications and coordination, and activation of trailblazer signs on local arterials during incidents or major events that affect transportation.

The I-880 TAC will meet monthly or as needed. At these meetings, the I-880 TAC will review available traffic data and recommend solutions to issues relating to the integrated corridor management and incident response. The I-880 TAC will discuss operational issues that were reported by the local agencies and how these issues were resolved.

If needed, discussions of the I-880 TAC may be elevated to the executive levels of the participating agencies to resolve outstanding operational issues.

Table C1 below shows all of the partner agencies that will be represented by the I-880 TAC.

Table C1: I-880 ICM TAC Member Agencies

| Member Agencies |
|---|
| California Department of Transportation (Caltrans) |
| Metropolitan Transportation Commission (MTC) |
| Alameda County Transportation Commission (Alameda CTC) |
| AC Transit |
| City of Oakland |
| City of San Leandro |
| CHP (as needed) |

# ATTACHMENT D:

# PROJECT GOALS & OBJECTIVES

The goals of the project are as shown below and as stated in previously in the Systems Engineering documents developed as part of the planning phase of the PROJECT.

**Table D1 – I-880 ICM North Alameda Segment Project Goals**

| Goal Area | I-880 ICM Program Goals |
|---|---|
| Traffic Incident Management | • Proactive management of traffic that naturally diverts from the freeway during Incident Conditions to minimize impacts on local arterials, and return regional traffic back to the freeway as soon as possible by:<br>o Actively manage traffic signal operations on selected routes to maximize traffic flow around an incident and minimize delays caused by diverted freeway traffic.<br>o Improve collection of current travel condition information along local arterials on the alternate routes.<br>o Provide accurate and timely route guidance information about the corridors to agency transportation managers.<br>o Minimize the intrusion of freeway traffic on local streets due to freeway incidents.<br>o Provide enhanced incident response on local arterials through improved communications, additional data sources and more accurate real-time information for distribution. |
| Interagency Coordination | • Provide the capability for shared control, operation, maintenance and management of the ICM components by the agencies.<br>• Improve sharing of resources between agencies for more unified transportation management operations across jurisdictions.<br>• Improve communications between the agencies during freeway incidents and periods of high congestion.<br>• Provide framework to ensure on-going communication among stakeholder agencies for timely review and adjustment of activities as needed.<br>• Develop communication processes to inform appropriate stakeholder agency staff, media, public and elected officials during incidents and periods of high congestion.<br>• Establish hierarchy for responding to incidents. |
| Day-to-Day Traffic Operations and Management | • Share traffic information between the agencies to improve coordination and management of traffic during non-incident operations.<br>• Improve collection of current travel condition information along local arterials on the alternate routes.<br>• Improve communications between the agencies during non-incident operations.<br>• Improve real-time information provided to traveling public. |

# ATTACHMENT E:

# PROJECT DEVELOPMENT PRINCIPLES

The following documents have been prepared to design the project:

**Environmental Document:**
For a capital project to proceed, it must receive official federal, state, and environmental approvals as well as consensus from all the stakeholders and the public. This was prepared as part of the PR/PSR.

**Project Report / Project Study Report (PR/PSR):**
Defines the purpose and need for the project, identifies the alternative selected, describes how that alternative was decided upon, and describes how consensus was reached among stakeholders.

**Concept of Operations Report (Con Ops):**
Concept for proposed system, user-oriented operational description, operational needs, system overview, operational and support environment, operational scenarios, summary of impacts.

**Corridor Systems Management Plan (CSMP):**
Overall corridor operational conditions, existing and future conditions, list of future projects, and recommendations.

The following documents will govern the implementation of the project:

**Operations and Maintenance (O&M) Plan:**
The I-880 TAC, led by MTC and Caltrans, will prepare this plan to identify the operational scenarios and cost of operations, maintenance and management.

**Incident Response Plan (IRP):**
The System Integrator (SI) with input from the I-880 TAC, will prepare this plan to define the overall incident response plans of various incident scenarios and procedures for managing traffic congestion during incidents, including special signal timing plans.

**System Integration Plan:**
The System Integrator (SI) with input from the I-880 TAC, will prepare this plan to specify the procedures, methods and strategies to implement the required project elements based on project documents and system requirements.

**Performance Evaluation Plan:**
The System Integrator (SI) with input from the I-880 TAC, will prepare this plan to detail the process to evaluate the effectiveness of the I-880 ICM North Alameda Segment project's strategies. The process will include identifying potential performance measures, the locations where evaluations will take place, the hardware and/or software necessary to perform the evaluation, the timeframes for evaluation, and the outputs from the process.

**Configuration Management Plan:**
The System Integrator (SI) with input from the I-880 TAC, will prepare this plan to detail the process to establish and maintain the integrity and control of software and hardware products.

**Outreach Plan:**
The System Integrator (SI) with input from the I-880 TAC, will prepare this plan to outline strategies to disseminate periodic project information and updates to various stakeholders. This plan will complement the outreach processes already undertaken during the planning and design phases of the PROJECT.