



Pomona Valley ITS Project

Project Deliverable 7.5.2 Local Control Center Report

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PROJECT DESCRIPTION

The County of Los Angeles, in cooperation with the cities within the Pomona Valley, has determined that development of an Intelligent Transportation System (ITS) in the Pomona Valley would help to reduce congestion, enhance mobility, provide traveler information during non-recurring and event traffic congestion, and manage event traffic. The Pomona Valley Intelligent Transportation Systems (PVITS) project was conceived as a recommendation from the Pomona Valley ITS Feasibility Study completed by the LACMTA in 1995. The ultimate objectives of the Project are to:

- Improve mobility by optimizing traffic management on arterials and freeways;
- Enhance Route 60 capacity by better coordinating freeway traffic with parallel arterials;
- Improve agency efficiency by coordinating management of operations and maintenance efforts among and between agencies; and
- Increase agency staff productivity by providing low-maintenance, high-quality communications and computational tools to assist in daily management and coordination activities.

Phase 1 of the PVITS project is the development of a conceptual design that defines solutions to enhance capacity, reduce congestion, and improve traveler information in the Pomona Valley.



1.0 BACKGROUND

1.1 Purpose of Report

This report identifies local control center (LCC) locations identified by the primary stakeholder agencies for the Pomona Valley. The LCC at each city is the location where that agency's traffic signal and ITS element (if applicable) control system, or advanced traffic management system (ATMS) will be located. The site need not be necessarily staffed on a regular basis, but will be accessible as needed by appropriate city staff to monitor and manage traffic in that city and to monitor the traffic in other areas of the Forum and/or County. **Deliverable 5.3.4 Typical Local Control Center Requirements/Deliverable 6.1.4 Typical Local Control Center Schematic Diagrams** outlined the requirements for each site and several sample layouts to present the background for this report.

At this time, the subregional TMC location has not been determined. As such, an LCC location has been identified at each city. Once the subregional TMC location is identified and agreed upon, that agency (if one of the cities) will have the subregional TMC and not the LCC identified in this report.

1.2 Methodology

Following the completion of the previous deliverable noted above, individual meetings were held with each of the agencies to determine where the LCC will be located. Sketches of each location, including measurement estimates, are included in this report. Any distinct issues related to operations and maintenance identified in these meetings has also been summarized in the sections below.

1.3 Report Organization

The information in this report is presented in the following sections:

Section 1 – Introduction

Section 2 – Local Control Center Locations

Section 3 – Recommendations

2.0 LOCAL CONTROL CENTER LOCATIONS

2.1 City of Claremont

The City of Claremont City Hall is located at 207 Harvard Avenue. The City engineering staff is located there. The City has identified a location for the proposed LCC in a spare space in the engineering department between the City Engineer's office and the City's electrical room. Modifications to build a wall with a locking door to secure the area that is currently being used for storage could provide more security for the LCC. The County has indicated they don't believe a wall or locking door is necessary for the LCCs, as they believe that the password protection on the workstations is adequate security. **Figure 2.1** depicts the layout of the office space and proposed City of Claremont LCC.

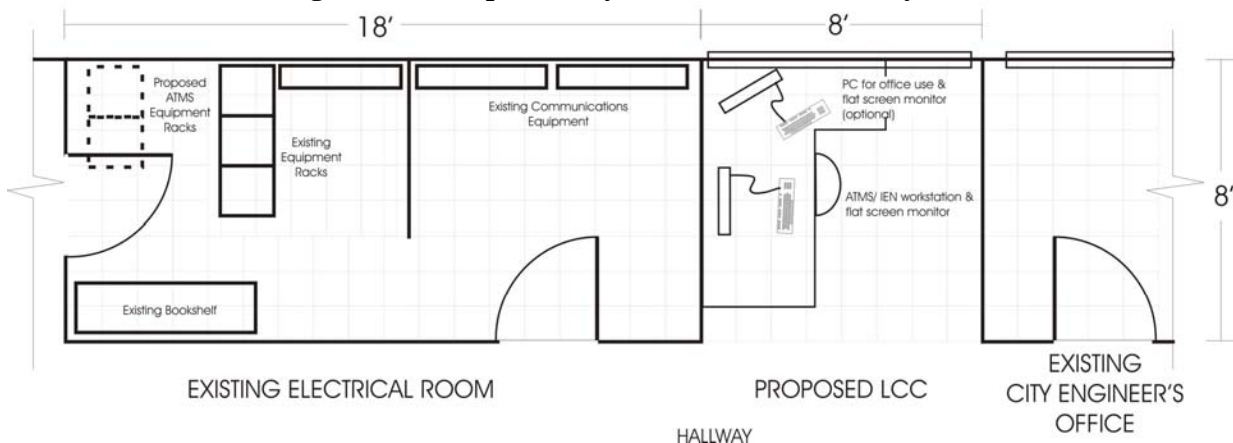


The City of Claremont LCC will include an integrated ATMS and IEN workstation. The City does not desire a dedicated video wall for CCTV monitoring, but will use the ATMS/ IEN workstation for video. New racks in the existing electrical room will contain traffic signal and CCTV camera controller and communication equipment.

Minor modifications would be required in order to develop the Claremont LCC. A new wall and locking door may be built to section off and secure the LCC. Window treatments would be required on the windows in the proposed LCC to reduce glare at the workstations. One or two 19-inch racks would be required in the existing electrical room. The existing room has adequate space but the existing layout is not conducive to adding more equipment City staff will reorganize existing equipment in the electrical room in order to fit new computer and communication equipment needed for the monitoring and control of traffic signals and CCTV cameras and data sharing with other agencies via the IEN.

The City does not intend to permanently staff the LCC, but rather, will utilize the tools provided in the LCC as needed with existing staff to monitor traffic, change signal timing, and coordinate special events.

Figure 2.1 – Proposed City of Claremont LCC Layout



2.2 City of Diamond Bar

The City of Diamond Bar City Hall is located at 21825 East Copley Drive in the Air Quality Management District (AQMD) building. The City recently entered into a ten-year lease (with an option to purchase the space) with AQMD. The City engineering staff is located at City Hall.

The City of Diamond Bar is one option being considered for the subregional TMC location. If the subregional TMC is located elsewhere, the City of Diamond Bar has several options for the proposed location of their LCC. The most desirable location is a storage room adjacent to the city's existing information systems (IS)/ communications room. The existing IS/ communications room is a locked room that houses end equipment for fiber and various phone and computer equipment in racks. There is space available in the IS/ communication room to add two 19-inch racks for City of Diamond Bar traffic signal and CCTV camera controller and communication equipment.

The City of Diamond Bar LCC will include an integrated ATMS and IEN workstation. The City desires a small dedicated video wall (approximately 67") for CCTV monitoring as well. Two new 19-inch racks would be placed in the existing IS/ communication room to contain traffic signal and CCTV camera controller and communication equipment.



The room available for the proposed LCC site is adjacent to the IS/ communications room and is approximately 225 square feet. **Figure 2.2** depicts the layout of the office space and proposed City of Diamond Bar LCC. A second option for the LCC is another storage room (approximately 20' x 9'), also adjacent to the IS/ communications room.

Modifications to develop the City of Diamond Bar LCC would be minor. Since both of the rooms are already secure (have doors with locks) and of adequate size, modifications would relate primarily to the installation of the equipment racks in the available space in the IS/ communications room and the LCC itself. If the second option is chosen, a door would be required from the IS/ communications room to the LCC for video wall maintenance access. The following photo shows the AQMD building where the LCC will be located.

AQMD Building in the City of Diamond Bar



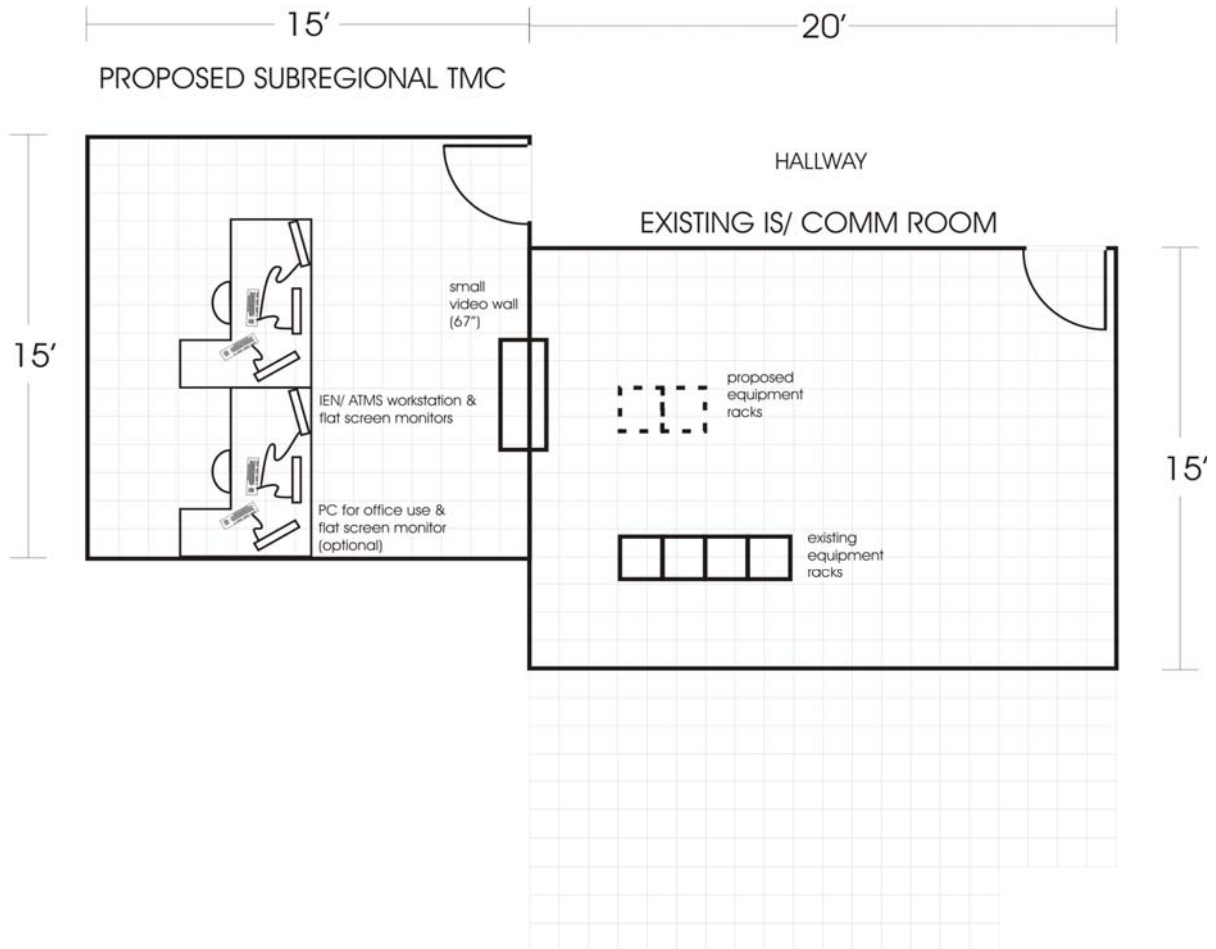


Figure 2.2 – Proposed City of Diamond Bar LCC Layout

2.3 City of Industry

The City of Industry City Hall is located at 15651 East Stafford Street. The City engineering staff is at the same location. The City has identified three possible locations for the LCC. The most preferred site identified is the existing computer communications room. This room is lockable and houses a 19-inch rack with the city’s computer server and network connections to it. The second alternative is on an existing desk in the open area where staff is located. The third possibility is in the filing room. The room is oblong and can be locked. Filing cabinets would have to be rearranged. Since the County does not require a locked location for the LCC, the existing desk in the open area can be used.

Figure 2.3 depicts the options for LCC location at the City of Industry. The proposed location, on the existing desk, would not require any modifications. A new layout is not provided, as the existing desk can be used. The City of Industry LCC will include one integrated ATMS and IEN workstation. The City does not desire a dedicated video wall for CCTV monitoring, but will use the combined ATMS and IEN workstation for viewing and monitoring only. The city does not desire to control any CCTV cameras, VMS’s or traffic signals at this stage and the workstation would only be used for viewing. Since the City intends to view only at this stage, no modification will be necessary to the equipment room either. The City does not intend to permanently staff the



LCC, but rather, will utilize the tools provided in the LCC to monitor traffic only. Existing staff will be used on an as needed basis.

Figure 2.3 – Options for City of Industry LCC Location

Possible location for LCC in open area on filing cabinet



Proposed location of LCC in existing equipment room.





Possible location for LCC in filing room



2.4 City of La Verne

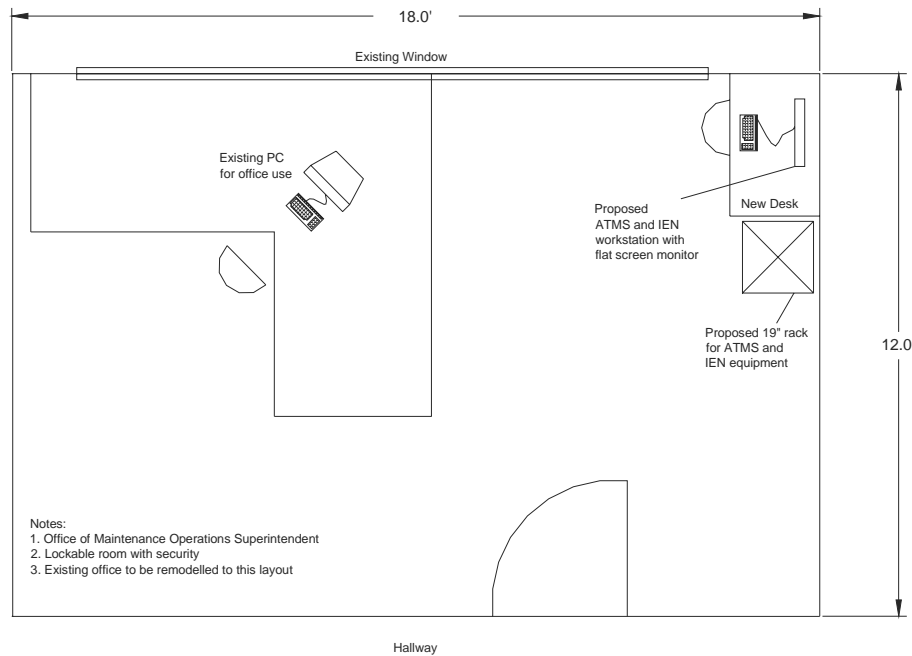
The City of La Verne Maintenance Facility is located at 2620 First Street. The Maintenance Operations Manager is located here. The City has identified a location for the LCC in the office of the Maintenance Operations Manager. The office can be locked if required and has security surveillance for entry and smoke/fire. **Figure 2.4** depicts the layout of the office space and proposed City of La Verne LCC.

The City of La Verne LCC will include a combined ATMS and IEN workstation. The City does not desire a dedicated video wall for CCTV monitoring, but will use the ATMS/IEN workstation for control and video. A rack would have to be installed and will contain traffic signal and CCTV camera controller and communication equipment. Space is available for a 19-inch rack. The city also required that, if possible, a link for viewing only be provided to the local Police Department. This would most likely require additional ATMS and IEN workstation and communication equipment. The Police Department operates only from a Mobile Command Center that the Police Department parks at different locations, depending on the event being managed. The City has confirmed that communication to the Mobile Command Center will need to be wireless due to the frequency of relocation and flexibility of location desired by the City.

The existing office will be reorganized by the City to accommodate the additional equipment. A desk may be required for the workstation. The City does not intend to permanently staff the LCC, but rather, will utilize the tools provided in the LCC as needed to monitor traffic, change signal timing, and coordinate special events. Existing staff will be used on an as needed basis.



Figure 2.4 – Proposed City of La Verne LCC Layout



2.5 City of Pomona

The City of Pomona City Hall is located at 505 South Garey Avenue. The traffic engineering staff is located at City Hall. The City LCC will be located at the City Transit Center located at 1460 East Holt Avenue in order to accommodate computer and communications equipment necessary for traffic signals, CCTV camera and other ITS elements. Additionally, the City will have a combined ATMS/ IEN workstation at City Hall in the Traffic Engineer’s office to provide more frequent access to the system on an as-needed basis.

The space available for use as the City’s LCC at the Transit Center is approximately 200 square feet and currently contains equipment for communications and operations of traffic signals and other ITS field devices associated with the Alameda Corridor-East (ACE) Construction Authority IR/RIS project. This equipment will be operated by the City of Pomona on a daily, as-needed basis; no ACE staff will be present in the LCC.

The City does not intend to relocate staff to the LCC at the Transit Center, but does intend for staff to utilize the tools located there on a regular, daily basis. This, combined with the workstation located at City Hall will provide the City with ample access to the system for its optimum use.

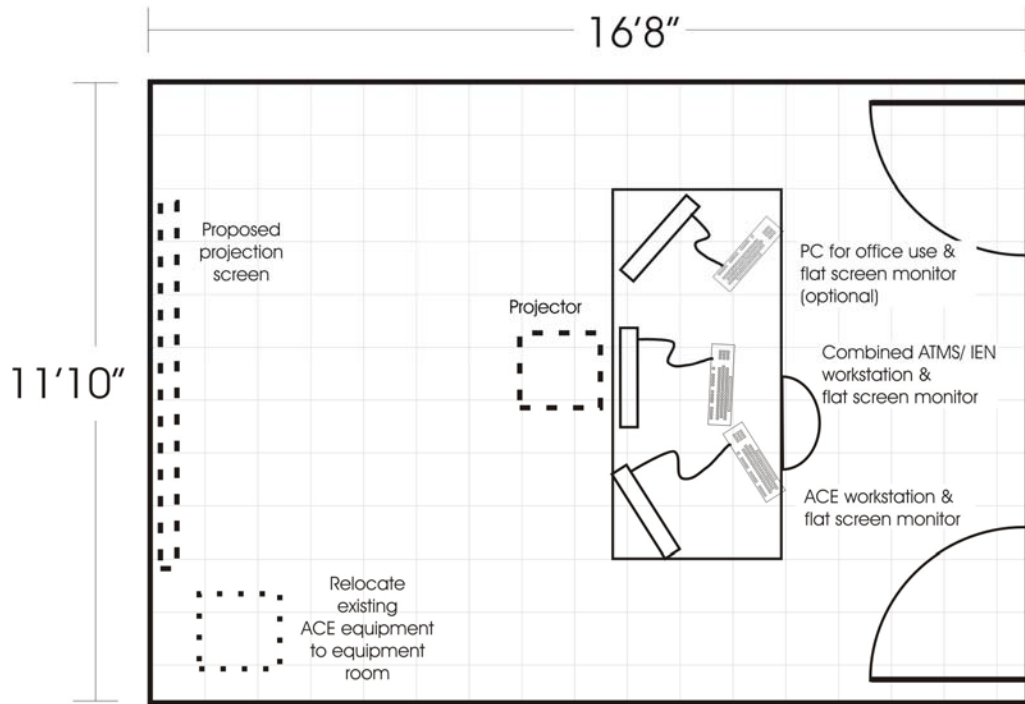
The City of Pomona LCC will include a combined ATMS and IEN workstation and a small dedicated video wall (67”) for CCTV monitoring. Limited space will allow for an LCD front-projection system to be installed for the video wall. Two new 19-inch racks would be placed in the LCC or in an adjacent space to contain traffic signal and CCTV camera controller and communication equipment. **Figure 2.5** depicts the layout of the space and proposed City of Pomona LCC.



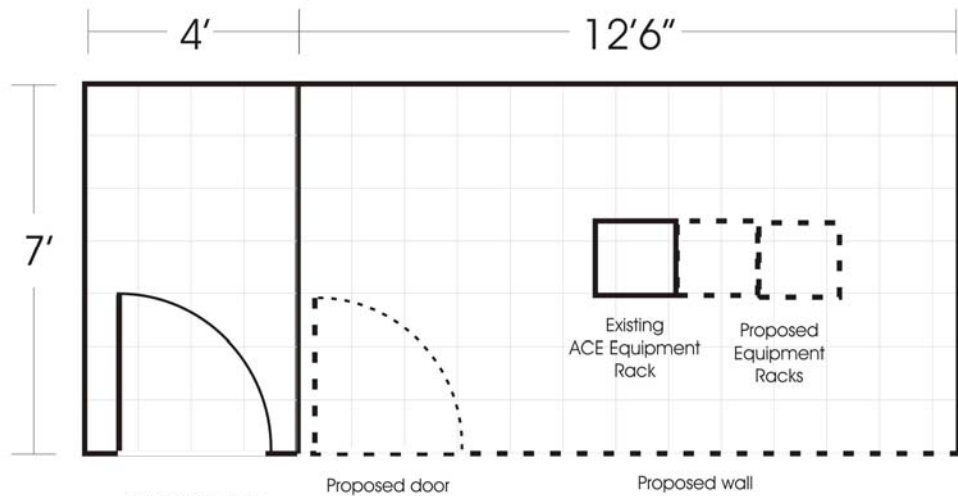
No major modifications would be necessary to establish the LCC, with the possible exception of establishing a secure (air conditioned) space for the equipment if it is decided not to locate it in the control room itself. The proposed equipment room, just upstairs from the LCC, would require a wall and door to be built. This configuration is depicted in the figure below.



Figure 2.5 – Proposed City of Pomona LCC Layout



PROPOSED CONTROL ROOM



**EXISTING
PHONE
ROOM**

**PROPOSED EQUIPMENT ROOM
(One floor above control room)**



2.6 City of San Dimas

The City of San Dimas City Hall is located at 245 East Bonita Avenue. The City engineering staff is located at the same address. The City has identified a location for the LCC in a spare space in the public works department adjacent to the City Engineer's office. The area is currently being used as an office and there is a City PC and a LA County dedicated computer in the office. The computer dedicated to the City has access to the web site for the East San Gabriel Valley Traffic Signal Synchronization Operations and Maintenance Pilot Project. It is possible to share this workstation between the Pomona Valley ITS project and the East San Gabriel Valley Traffic Signal Synchronization Operations and Maintenance Pilot Project. **Figure 2.6** depicts the layout of the office space and proposed City of San Dimas LCC.

The City of San Dimas LCC will utilize this existing workstation as the combined ATMS/ IEN workstation. The City does not desire a dedicated video wall for CCTV monitoring, but will use the ATMS/ IEN workstation for video, signal and VMS control and viewing. Racks in the existing equipment room will contain traffic signal and CCTV camera controller and communication equipment. The City does not intend to permanently staff the LCC, but rather, will utilize the tools provided in the LCC as needed to monitor traffic, change signal timing, and coordinate special events making use of existing staff on an as needed basis.

San Dimas LCC and existing SGVSSOM Pilot Project workstation and Office PC

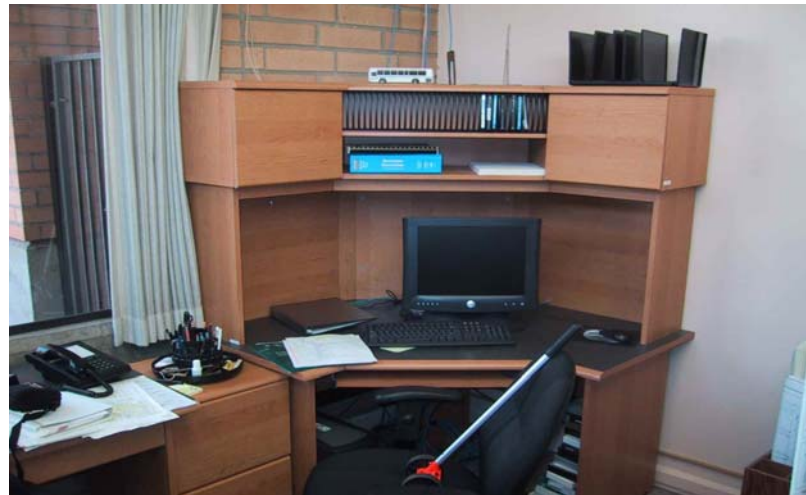
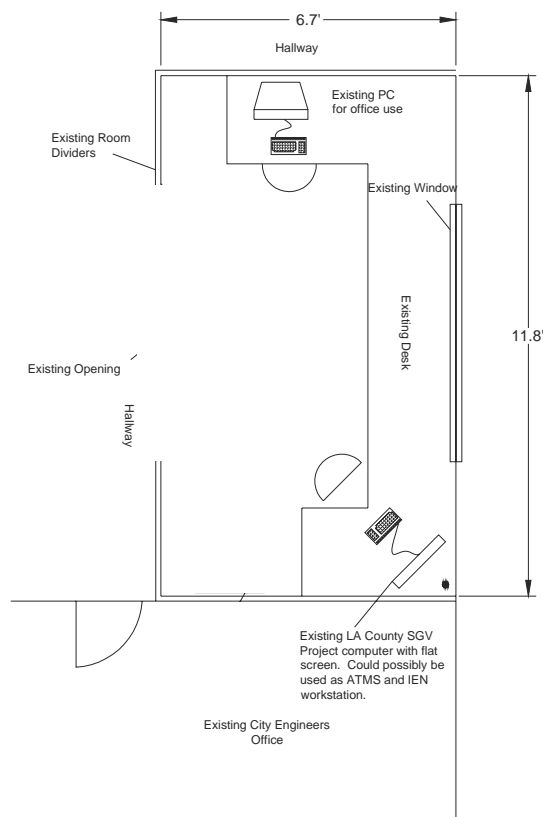




Figure 2.6 – Proposed City of San Dimas LCC Layout



2.7 City of Walnut

The City of Walnut is planning a new City Hall at 2101 La Puente Road and no detail plans are available as yet. It was decided to provide the layout of a typical LLC taking into consideration



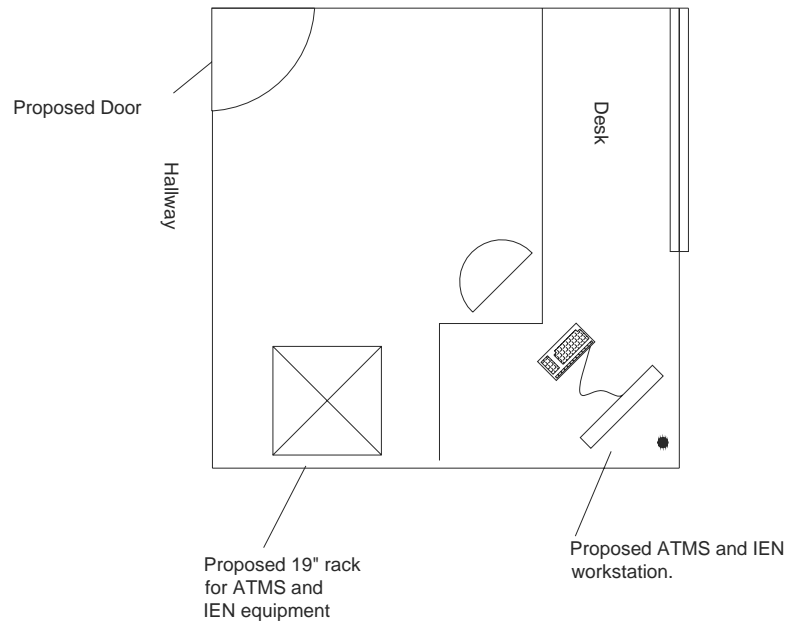
the City’s requirements. Once detail on the location of the room is available, the design can be modified as required.

Figure 2.7 depicts the proposed layout of the office space.

The City of Walnut LCC will include a combined ATMS and IEN workstation. The City does not desire a dedicated video wall for CCTV monitoring, but will use the ATMS and IEN workstation for control, monitoring and video. A new 19-inch rack will contain traffic signal and CCTV camera controller and communication equipment.

The City does not intend to permanently staff the LCC, but rather, will utilize the tools provided in the LCC as needed to monitor traffic, change signal timing, and coordinate special events. Existing staff will be used on an as needed basis.

Figure 2.7 – Proposed City of Walnut LCC Layout





3.0 RECOMMENDATIONS

Each of the Pomona Valley Cities can accommodate a LCC. The Cities of Pomona and Diamond Bar are being considered for the subregional TMC location. The feasibility of these cities (along with Fairplex and LA County DPW's Alhambra facility) as a subregional TMC location are addressed in Deliverable 7.3.1 Subregional TMC Analysis Report.

The LCC in Claremont will be located in an available space in the engineering department. It will include an integrated ATMS and IEN workstation. The City does not desire a dedicated video wall for CCTV monitoring, but will use the ATMS/ IEN workstation for video. Minor modifications to the identified space in the engineering department (window coverings in the LCC and remodel/ reorganization of equipment in the equipment room to accommodate new equipment) will be required to develop the Claremont LCC.

The City of Diamond Bar LCC is recommended to be located in an existing storage room adjacent to the existing IS/ Communications room. The LCC will include a combined ATMS and IEN workstation. The City desires a small dedicated video wall for CCTV monitoring. No modifications would be necessary except for furnishing the room, cabling, and installation of the small video wall and other equipment.

The City of Industry has an existing equipment room that will be used for the LCC. The LCC will include one combined ATMS and IEN workstation. The city does not wish to have control and would only use the workstation for viewing. The City does not require a dedicated video wall for CCTV monitoring.

The City of La Verne LCC will include a combined ATMS and IEN workstation. The City does not require a dedicated video wall for CCTV monitoring. The LCC will be located in the existing Maintenance Operations Manager's office.

The City of Pomona LCC will include a combined ATMS and IEN workstation if the subregional TMC is located elsewhere. The City desires a small dedicated video wall for CCTV monitoring. An office and equipment room at the Transit Center will be used as the LCC site and equipment may be located in that room or upstairs. Minor modifications would be required to locate equipment upstairs. Modifications to the LCC would relate to furnishing, cabling, and installation of the small video wall.

The City of San Dimas LCC will utilize the existing County workstation as the ATMS/ IEN workstation. The city will use the workstation for CCTV monitoring (they do not desire a dedicated video wall for monitoring). The LCC will be located in the space current being used for the existing County workstation.

The City of Walnut is planning a new City Hall. A conceptual layout for the LCC is provided in this report, including a combined ATMS and IEN workstation. The city will use the workstation for control and CCTV monitoring.



List of Acronyms

ACE	Alameda Corridor East Construction Authority
ATIS	Advanced Traveler Information System
ATMS	Advanced Traffic Management System
Caltrans	California Department of Transportation
CAMS/IEN	Los Angeles County Countywide Arterial Management System/ Information Exchange Network
CCTV	Closed Circuit Television
DMS	Dynamic Message Sign
ITS	Intelligent Transportation System
LA	Los Angeles
LACDPW	Los Angeles County Department of Public Works
LACMTA	Los Angeles County Metropolitan Transportation Authority
LCC	Local City Control
MOU	Memorandum Of Understanding
NTCIP	National Transportation Communications for ITS Protocol
O&M	Operations and Maintenance
PC	Personal Computer
PTZ	Pan, Tilt and Zoom
PVITS	Pomona Valley Intelligent Transportation System
TMC	Traffic Management Center
TOD	Time-of-Day
UFR	User Functional Requirements
UIR	User Interjurisdictional Requirements
UOR	User Operational Requirements
USR	User Supplementary Requirements
WWV	National Institute of Standards and Technology Time & Frequency shortwave radio station that broadcast accurate real time
XML	Extensible Mark-up Language