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San Gabriel Valley Traffic Forum ATMS Improvement Project

Local City Control Site and
Computer Systems
Alternatives Analysis Report
(Deliverable 2.5.3.2)

Final, Revision 1

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SAN GABRIEL VALLEY TRAFFIC FORUM

LOCAL CITY CONTROL SITE AND COMPUTER SYSTEMS ALTERNATIVE ANALYSIS REPORT

(Deliverable 2.5.3.2)

FINAL, Revision 1

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1. INTRODUCTION

1.1 PROJECT OVERVIEW

The San Gabriel Valley Traffic Forum (SGVTF) is one of the planned Intelligent Transportation Systems (ITS) improvement projects that the Los Angeles County Department of Public Works (County) is developing as part of the Traffic System Management (TSM) program in order to improve traffic flow and enhance arterial capacity in a cost-effective way where roadway widening is not possible. The purpose of the SGVTF project is to design, develop, and deploy an Advanced Transportation Management System (ATMS) that can be tailored to each Agency's operational needs so that traffic signals can be synchronized and ITS systems integrated across jurisdictional boundaries. The SGVTF project focuses on the specific needs of each Agency to manage their ATMS and recommends improvements to field infrastructure (e.g., controllers, detection systems, communications, etc.) and centralized Traffic Control Systems (TCSs) and/or Traffic Management Centers (TMCs) to meet those requirements. When the SGVTF is successfully completed, each of the Agencies responsible for traffic signal operations will have full access to an ATMS that monitors and controls the traffic signals within their jurisdiction. In addition, Agencies will be able to synchronize their signals and exchange traffic information in real-time with neighboring Agencies. This will allow the Agencies to respond to recurrent and non-recurrent congestion in a coordinated fashion across jurisdictional boundaries.

The SGVTF project area is generally bordered by California State Route (CA SR) 110 and I-710 freeways to the west, I-210 freeway to the north, CA SR 57 freeway to the east, and the CA SR 60 freeway to the south. It encompasses 24 municipalities as well as unincorporated portions of Los Angeles County. The traffic signals in this region are operated by many of the individual Agencies, County, and Caltrans District 7.

Developed by the County, the Countywide Information Exchange Network (IEN) is the integrated system framework that connects participating Agency ATMSs into a regional network to support the operational goals identified above. The Countywide IEN supports traffic signal operations at the Local level, Corridor level, and Regional level. The SGVTF assumes the availability of the Countywide IEN at the Corridor and Regional levels. Therefore, the SGVTF project is focused on the selection of TCSs and the integration of those systems to the Countywide IEN at the Local level. The eventual ATMS design for the SGVTF will take into account the interface to the IEN and its requirements at the Local level and encompass the following six (6) core components:

- ATMS and/or TCS (Individual Agency)
- Detection and Surveillance
- TMC and/or Workstation Layouts (ATMS and/or IEN)
- Communications Network
- SGVTF Participation/Coordination (City-specific and/or SGVTF-Regional integration)
- Operations and Maintenance (O&M)

The Countywide IEN comprises a series of computer servers, communication networks, and software applications that integrates these components for the collection and transfer of data to support Corridor and Regional functions throughout Los Angeles County.

1.2 PURPOSE OF DOCUMENT

This document provides an analysis of Local City Control Site (LCCS) and Computer System Alternatives Analysis (Deliverable 2.5.3.1), which is a deliverable related to the Alternatives Analysis Task of the SGVTF Project. As discussed in the SGVTF Concept-of-Operations document, it is envisioned that local Agencies within the San Gabriel Valley region will fall into three categories; those with an IEN workstation only, those with an IEN workstation and an ATMS workstation, and those with an ATMS system and an IEN workstation and interface. An IEN workstation is essentially a personal computer connected to the IEN network with the IEN software application installed. It can be used by a local Agency to monitor traffic conditions and provide limited control of traffic signals in its jurisdiction and for viewing those of neighboring jurisdictions. For Agencies that are more active in managing their traffic operations, but do not have their own TCS, an ATMS workstation will also be deployed that is connected to a “host” Agency’s TCS. For Agencies that do have their own TCS, the ATMS hardware would basically include a Central TCS server, an ATMS workstation, and a Command Data Interface (CDI) that allows the local TCS to communicate with the IEN Corridor Server.

This document discusses the available space and costs related to the IEN workstation and/or ATMS workstation, along with related servers, that will be located at City offices within the SGVTF region. An analysis of every City within the SGVTF is included and takes into account the “level” of each City’s traffic operations (see Section 1.4). Generalized alternatives for each Agency level have been developed, along with alternative layouts that illustrate the computer hardware associated with this project.

In order to perform the analysis described above, site visits were made to 19 of the 22 local Agencies (Cities participating in the SGVTF project). Interviews with key personnel and a review of available space were performed during these site visits. The information obtained during these site visits is provided in Appendix B. The three (3) local Agencies within the SGVTF that were not visited, and the reasons why, are summarized below.

- Arcadia – As part of another ITS project, Arcadia is in the process of developing ATMS capabilities that will take into account the space required for the computer equipment associated with the SGVTF project
- Pasadena – In the process of setting up a new TMC, which will accommodate the computer equipment associated with the SGVTF project
- San Dimas – Since they are part of the Pomona Valley Traffic Forum, it is anticipated that they can utilize the same computer equipment for the SGVTF project

1.3 REFERENCED DOCUMENTS

The following documents have been used as reference material in the preparation of this report:

- San Gabriel Valley Traffic Forum Project
 - Deliverable 2.1.2 – Operational Objectives
 - Deliverable 2.2.2 – System Needs
 - Deliverable 2.3.1.1 – Concept-of-Operations
 - Deliverable 2.3.2.1 – ATMS User Requirements
 - Deliverable 2.3.3.1 – ATMS Functional Requirements

- Deliverable 2.3.4.1 – Typical Local City Control Site Facility and Computer System Requirements
- I-5/Telegraph Road Corridor Project
 - Deliverable 3.6 – Requirements Analysis (Final - Section 8)
- Pomona Valley ITS Project
 - Deliverable 5.3.4 – Typical Local Control Center Report
 - Deliverable 6.1.4 – Typical Local Control Center Schematic Diagrams

1.4 LOCAL AGENCY LEVELS

Four (4) levels of operations have been defined in order to categorize each Agency's level of involvement in managing their traffic and responding to incidents within their jurisdiction. These levels are defined in the *Operational Objectives & System Needs* document and are briefly described below.

Level 1 Agency

- Agency does NOT operate its traffic signals
 - Agency wants to be “Agency B” on another Agency's ATMS
 - Another Agency operates its traffic signals (e.g., LA County DPW)
- Provided with an IEN W/S to monitor traffic signals & incident management activities
- No separate ATMS W/S provided

Level 2A Agency

- Agency passively manages its traffic signals
 - Establish initial signal timings, monitor system status daily, etc.
 - May operate on an exception/as-needed basis
 - Monitor mainly for alarms & malfunctions
- Agency wants to be “Agency B” on another Agency's ATMS
- Provided with an IEN W/S to monitor traffic signals & incident management activities [Regional view]
- Maintains a separate ATMS W/S connected to “host” Agency's ATMS [Local view]

Level 2B Agency

- Agency manages & operates its own ATMS
 - Actively manages ATMS during exceptions
 - Passively manages ATMS during AM & PM peak periods
- Agency may operate some other ITS devices (small amount)
- Agency may operate other Agencies' traffic signals (Level 1)

- Agency may “host” other Agencies’ traffic signals (Level 2A)
- Maintains an LCCS facility to manage traffic signals & incident management activities
 - IEN W/S [Regional view]
 - ATMS W/S [Local view]
 - CDI between the ATMS & IEN

Level 3 Agency

- Agency actively manages its own ATMS & other ITS devices (large amount)
 - Typically AM & PM peak period traffic operations & incidents
 - May support 24/7 operations
- Agency may operate other Agencies’ traffic signals (Level 1)
- Agency may “host” other Agencies’ traffic signals (Level 2A)
- Agency will have a TMC from which to operate its ATMS, the IEN, & other ITS devices
- Maintains a TMC/LCCS facility to manage ATMS & incident management activities
 - IEN W/S (Regional view)
 - ATMS W/S (Local view)
 - CDI between the ATMS & IEN

To summarize, Level 1 and 2A Agencies will passively manage their respective traffic signal systems and the IEN workstation will allow them to monitor their traffic signals and incident management activities within the SGVTF project area. The IEN workstation for these Agencies will most likely be located in the office of the individual that is most involved with traffic engineering issues. The IEN workstation would typically consist of a desktop computer connected to the IEN Wide Area Network (WAN) (isolated from other Agency networks) with a dedicated monitor, keyboard, and mouse. However, if space is limited and/or the user prefers, the IEN computer could share an existing monitor, keyboard, and mouse with the use of a keyboard-video-mouse (KVM) switch. In addition to an IEN workstation, Level 2A Agencies would have an ATMS workstation that would give them the capability to manage their traffic signal system; however, this workstation would be connected to a TCS central system that is hosted by another Agency.

Level 2B and 3 Agencies will actively manage their own, and possibly other Agencies’, traffic signal systems and other ITS devices with IEN and ATMS workstations. In this case, each workstation would consist of a new desktop computer with a dedicated monitor, keyboard, and mouse. For Level 2B Agencies, these workstations would probably be located in the City Traffic Engineer’s office or in a nearby room that is easily accessible to the primary user(s). For Level 3 Agencies, these workstations would be located within their respective TMCs and would include connections to existing and/or new wall-mounted video displays. Both Level 2B and 3 Agencies would host their own TCS central system that would include a Command Data Interface (CDI) between the IEN and TCS servers.

2. DESCRIPTION OF HARDWARE TO BE INSTALLED AT LOCAL SITES

This section includes an overview of the hardware components that will be installed at a Local site, the basic system overview, and general hardware layout in an office space.

2.1 IEN COMPONENTS

The main IEN components are described in this section.

2.1.1 IEN Corridor Server

The IEN Corridor Server is a computer that is installed and is operational at the sub-regional TMC. For this project, the SGV IEN Corridor Server will be located at the Los Angeles County Department of Public Works (LACDPW) Traffic Management Center (TMC). It collects traffic data from various Traffic Control Systems (TCS) within the SGVTF region, and then provides a regional view of the traffic condition via the IEN workstation.

2.1.2 IEN Site Server

The IEN Site Server is a software application that can reside on the same computer platform as that of the IEN workstation. It establishes the communications between the IEN workstation and the IEN Corridor Server for data exchange. The IEN workstation sends and receives traffic data and requests through the IEN Site Server software application. All participating Agencies will receive an IEN site server.

2.1.3 IEN Workstation

The IEN workstation provides a Regional view of the traffic conditions and provides limited control of local traffic signals. All participating Agencies will receive an IEN workstation. It will consist of a personal computer with monitor, mouse, and keyboard that will be dedicated to the SGVTF project. It will typically be located in the office of an individual who would be responsible for traffic operations and will utilize Microsoft Windows Operating System to run the required IEN software applications. A typical IEN workstation has the following specifications:

- Chassis
 - Minimum CPU – 2.0 MHz
 - Minimum RAM – 512 MB
 - Height = 12.7”
 - Width = 3.8”
 - Dept = 14.0”
- 17” Flat Panel Monitor
 - Height = 19.46”
 - Width = 14.80”
 - Dept = 8.37”
- Mouse
- Keyboard
- Microsoft Windows 2000 Professional Operating System
- Cost: \$2,000

2.2 ATMS WORKSTATION AND SERVERS

An ATMS workstation typically consists of a personal computer with a monitor, a keyboard, and a mouse. It provides local view and control of the traffic signals that are connected and controlled by the associated TCS (i.e., either its own TCS central server or that of a “host” Agency). It will typically be located in the office of an individual who would be responsible for traffic operations. It will run the required software application and GUI interface to the associated TCS for monitoring and control of traffic devices (e.g. traffic signal, CCTV, CMS). A typical ATMS workstation has the following specifications:

- Chassis
 - Minimum CPU – 2.0 MHz
 - Minimum RAM – 512 MB
 - Height = 12.7”
 - Width = 3.8”
 - Dept = 14.0”
- 17” Flat Panel Monitor
 - Height = 19.46”
 - Width = 14.80”
 - Dept = 8.37”
- Mouse
- Keyboard
- Microsoft Windows XP Professional Operating System
- Cost: \$2,000

The County will provide the ATMS workstation, if the Agency’s ITS devices (traffic signals, CCTV, CMS) are controlled by the County TCS. Similarly, if the participating Agency’s ITS devices are controlled by a “host” Agency, the County will purchase and provide the ATMS workstation for the “host” Agency’s system. If the participating Agency procures its own TCS, the County will assist with the procurement of the TCS and applicable ATMS workstations and servers.

2.3 ATMS SERVERS

In the case where the County assists with the procurement of the ATMS system, in addition to the workstations, there will also be a need to procure the ATMS Servers. Typically, ATMS servers are rack-mount computers whereby one is used as the application server and it is supported by a communications server that provides the connection to the field. The following describes the typical specifications of what would be included as part of ATMS servers:

- Rack-Mount Application Server (CPU- 2.5 MHz Quad Processor, RAM 2MB, RAID hard drive)
- Rack-mount Communications Server (CPU- 2.5 MHz Quad Processor, RAM 2MB, RAID hard drive)
- Equipment Rack
- Flat Panel Monitor

- Mouse
- Keyboard
- Microsoft XP Professional Operating System
- Cost: \$15,000

2.4 COMMAND DATA INTERFACE (CDI)

The CDI is a personal computer that will run the required software application to exchange data between the TCS, IEN Site Server, and IEN Corridor Server. The CDI sends and receives its traffic data through the IEN Site Server. Depending upon the TCS that the participating SGVTF Agency is using, the Local Agency and the County will determine who will provide the CDI, which consists of a personal computer with a monitor, a keyboard, and a mouse. Where possible, a switch will be provided to share the IEN workstation's keyboard, mouse, and monitor with the CDI computer (as necessary). The CDI will typically be located close to the local TCS central server. Additional system requirements are listed below:

- Chassis
 - Minimum CPU – 2.0 MHz
 - Minimum RAM – 512 MB
 - Height = 12.7”
 - Width = 3.8”
 - Dept = 14.0”
- Microsoft Windows 2000 Professional Operating System
- Cost: \$2,000

2.5 KVM SWITCH

For Agencies that do not have enough space to house all of the required equipment, a KVM switch could be provided to allow using one (1) set of a keyboard, mouse, and video with two computers.

- Cost: \$100

2.6 OVERVIEW OF THE SYSTEM ARCHITECTURE AND OFFICE EQUIPMENT LAYOUT

To better understand the overall purpose of the hardware equipment that is planned to be installed at each Agency, a brief overview of their system architecture for different Levels (1, 2A, 2B and 3) are presented in this section.

As indicated above, the SGV IEN Corridor Server will be located at the County TMC, which will collect traffic data from traffic control systems in the SGVTF region. This server will communicate with each IEN Site Server (and corresponding IEN workstation) located at each Agency via a dedicated 386 Kbps leased line communications that will be installed by the County. A software application called the IEN Site Server will reside on the same computer platform as the IEN workstation and will establish the connection to the IEN Corridor Server via this dedicated communications line for data exchange between the entire IEN network and the local Agency.

2.6.1 Level 1

The Level 1 equipment setup and their interconnections are presented in Figure 1. For an Agency that has been categorized as Level 1, the traffic signal controllers are connected to either the County TCS or to a “host” Agency TCS. This allows the County or the “host” Agency to collect traffic data, monitor, and control the Agencies’ traffic signals. The collected traffic data will then be sent to the IEN Corridor Server that communicates with the IEN Site Server and then to the IEN workstations at each Agency via a dedicated communications line. An IEN workstation will be installed by the County at each Level 1 Agency to provide a Regional view of the traffic conditions, and provide a limited control of their local signals.

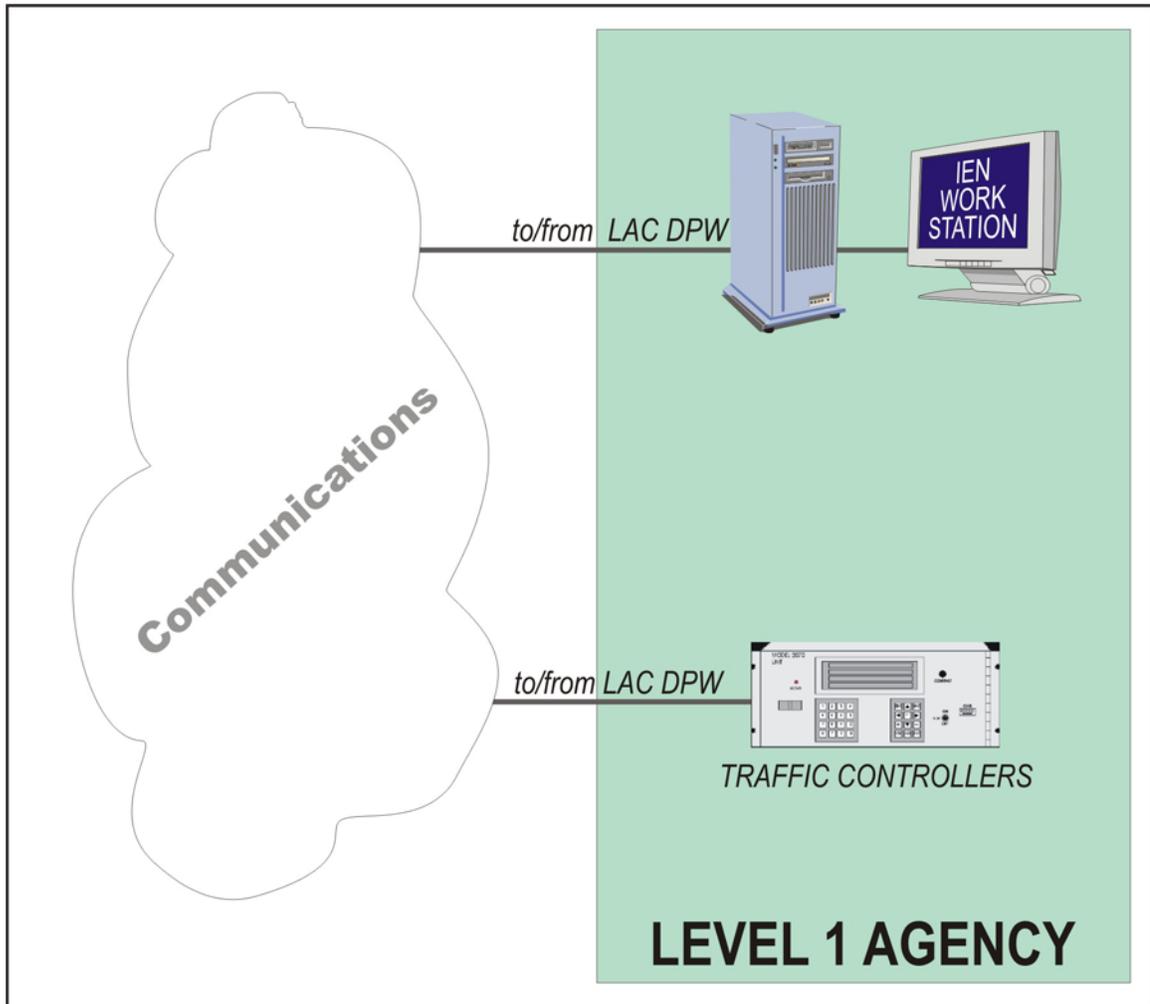


Figure 1: Level 1 - Equipment Interconnect

Figures 2 and 3 show the IEN equipment layout options in a typical office space. In Figure 3, a KVM switch is provided to use one (1) set of keyboard, video, and monitor to control both the IEN Site Server, (and associated IEN workstation) and an existing office computer.

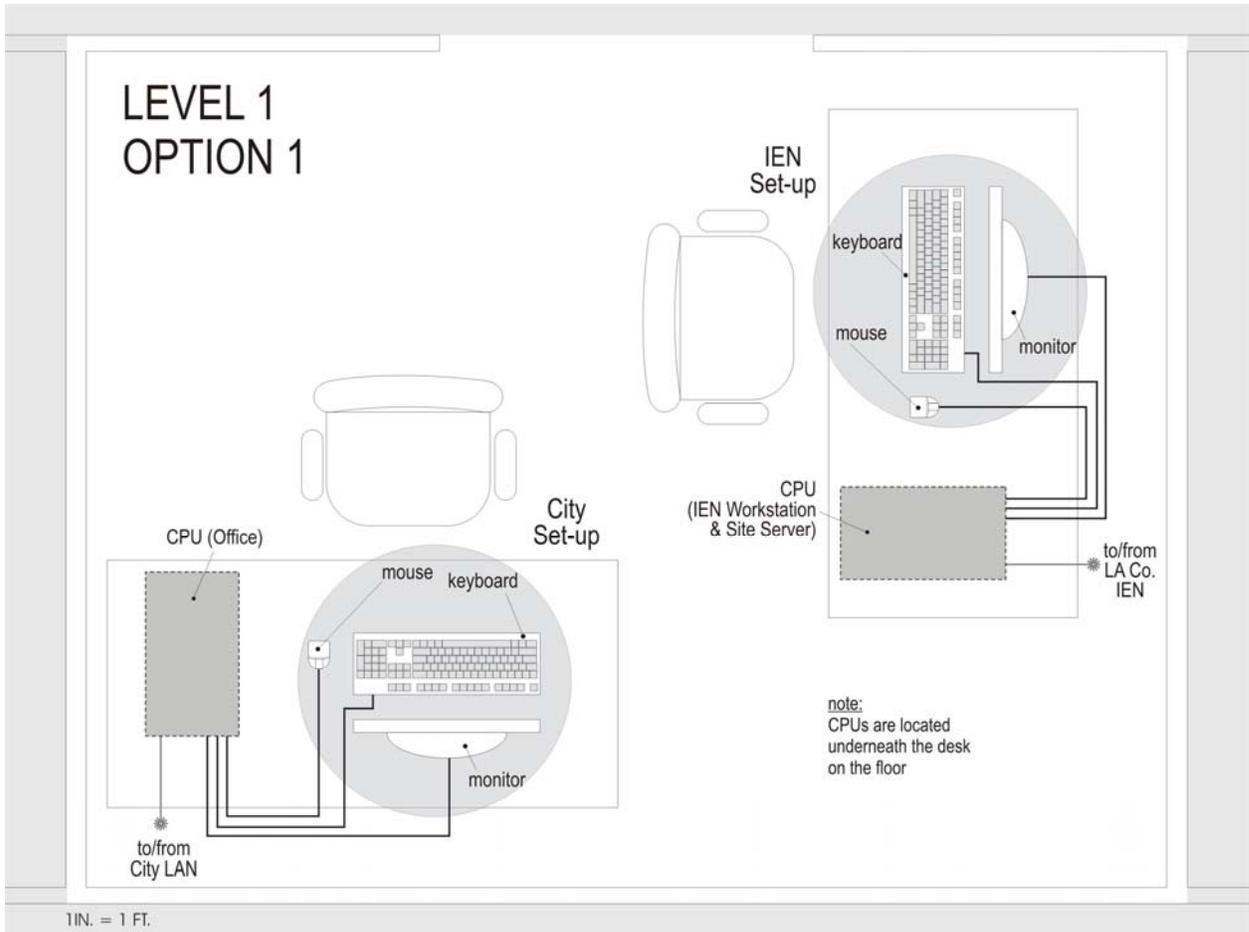


Figure 2: Level 1 – Typical Office Layout

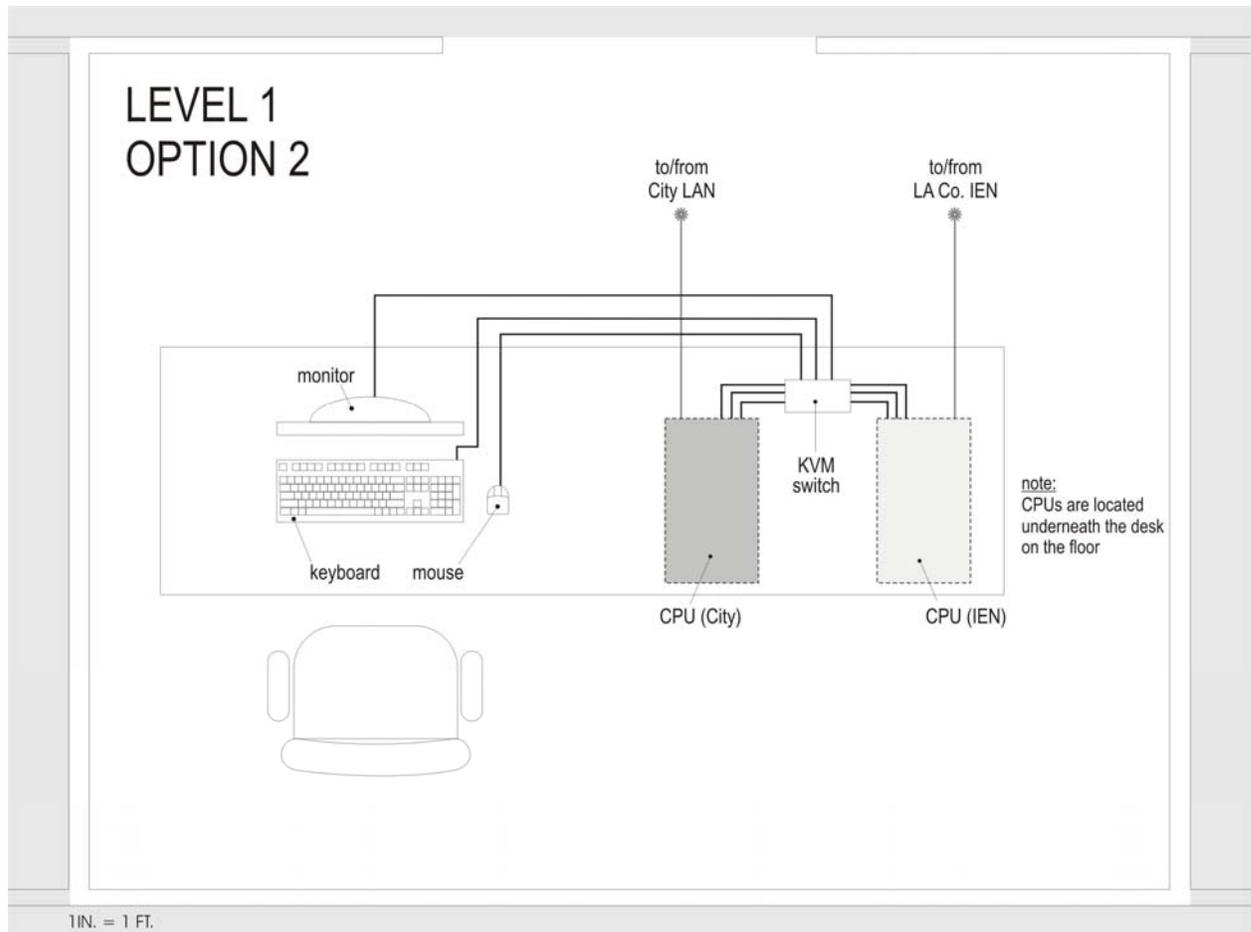


Figure 3: Level 1 – Typical Office Layout with KVM Switch

2.6.2 Level 2A

The Level 2A equipment setup and their interconnections are presented in Figure 4. Similar to Level 1 setup, traffic signal controllers are connected to the County TCS or “host” Agency TCS via a dedicated communications line, which will then ultimately forward traffic data to the IEN Corridor Server. The Level 2A Agency will receive an IEN workstation, which provides a Regional view of the traffic and provides limited control of the local signals. In addition to an IEN workstation, the Level 2A Agency will also receive an ATMS workstation, which provides a Local view of the traffic signals and greater control of their local traffic signals, than the IEN workstation.

Figures 4 and 5 show the IEN equipment layout options in an office environment. In Figure 5, a KVM switch is provided to use one (1) set of keyboard, video, and monitor to control both the IEN Server (and associated IEN workstation) and the ATMS workstation.

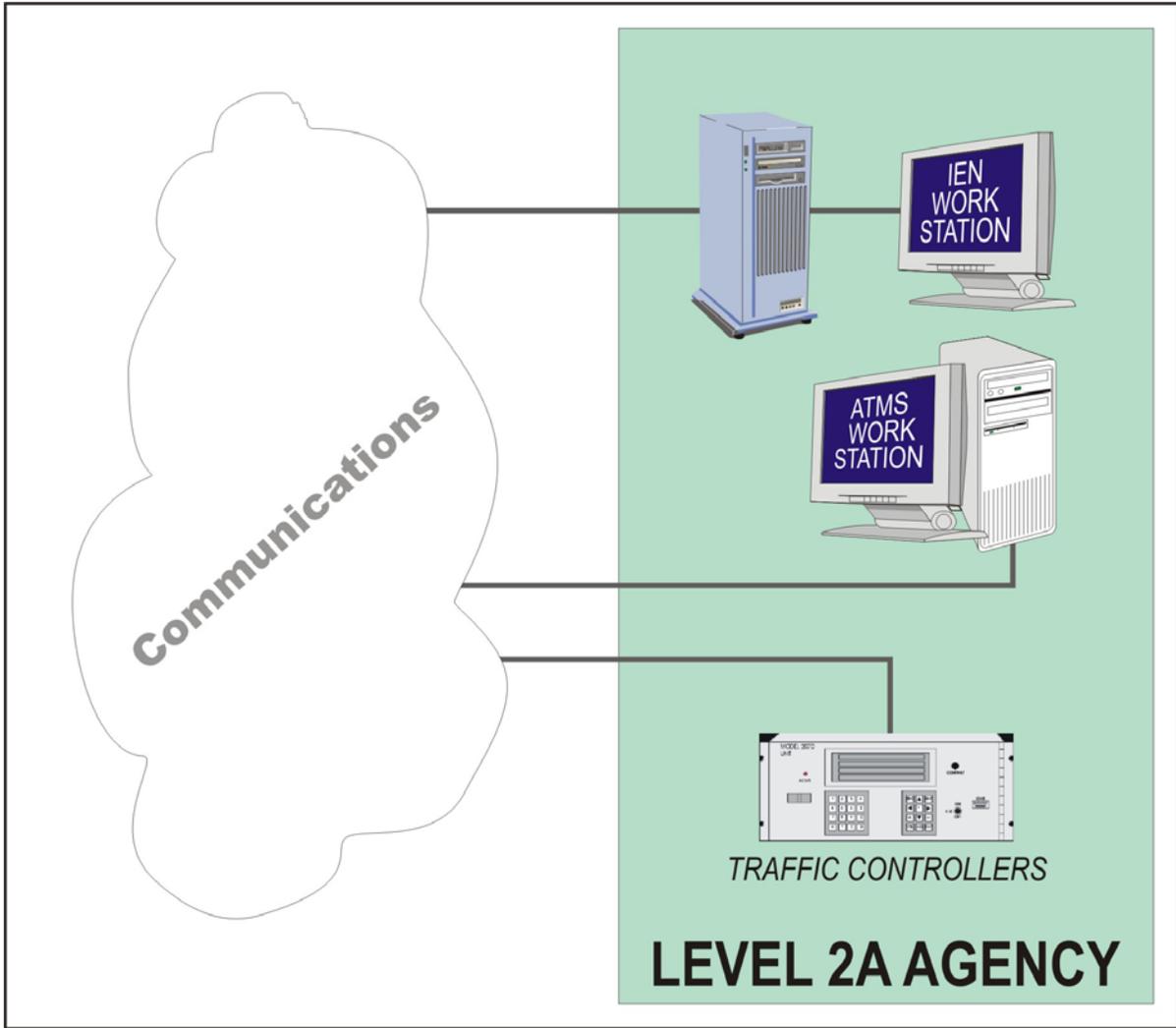


Figure 4: Level 2A - Equipment Interconnect

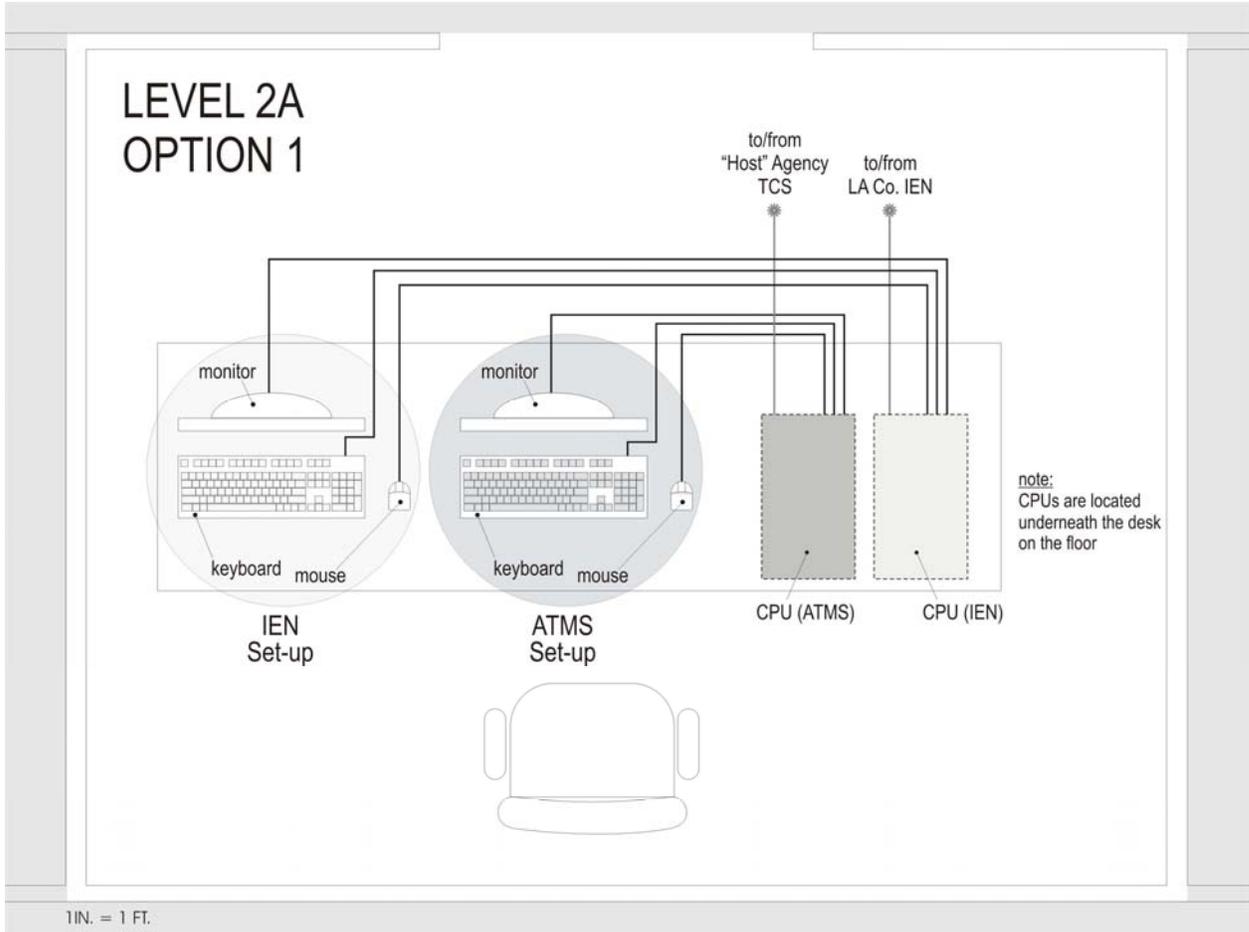


Figure 5: Level 2A – Typical Office Layout

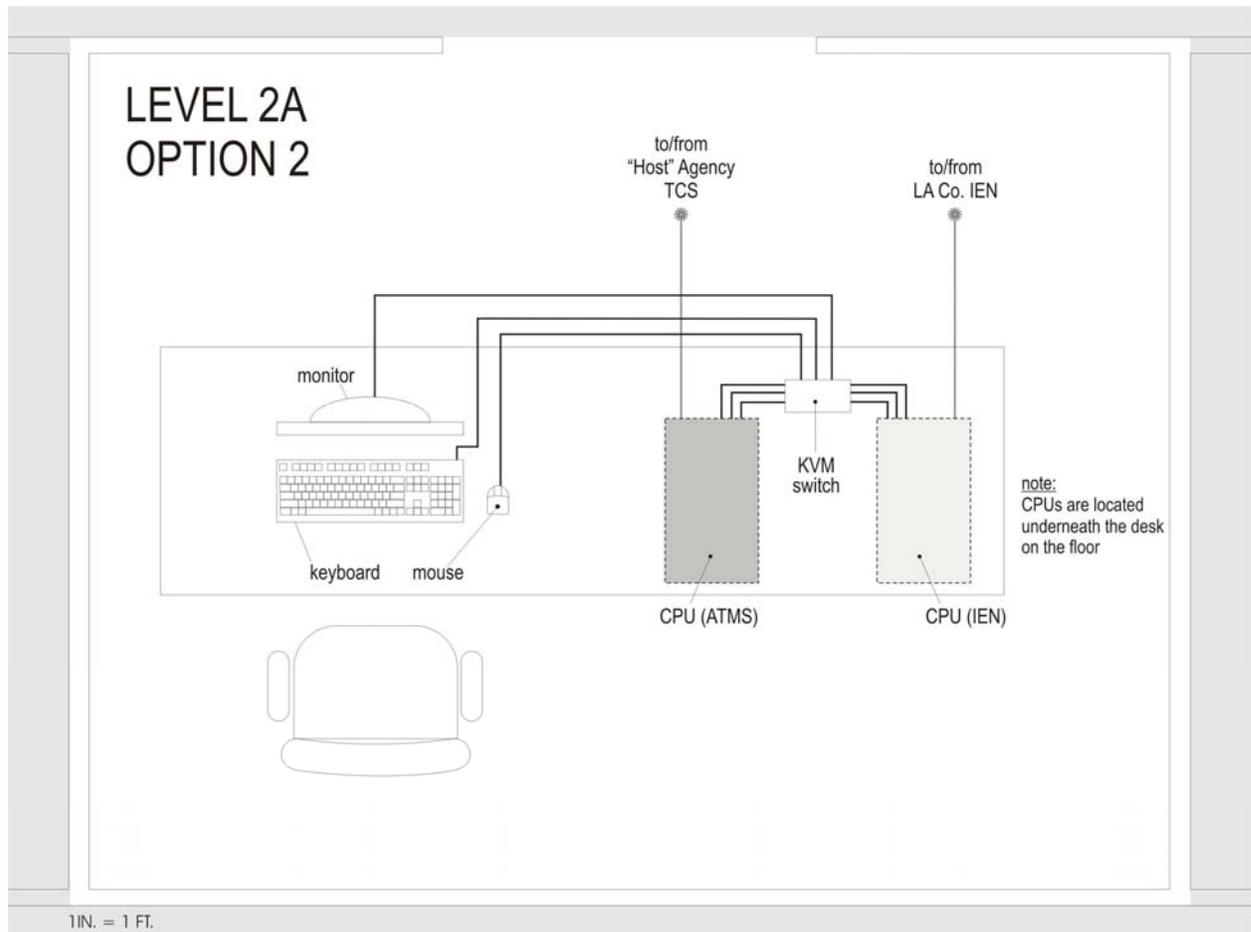


Figure 6: Level 2A – Typical Office Layout with KVM Switch

2.6.3 Level 2B And 3

The Level 2B and 3 equipment setup and their interconnections are presented in Figure 7. It is assumed that the Level 2B and 3 Agencies would have their own TCS and ATMS workstation. Therefore, depending upon the TCS that the participating SGVTF Agency is using, the Local Agency and the County will determine who is to provide the CDI to interface the local TCS with the IEN Network. The Level 2B and 3 Agencies will also receive an IEN workstation from the County to be able to view Regional traffic.

Figures 8 and 9 show the IEN equipment layout options in an office environment. In Figure 9, a KVM switch is provided to share one (1) set of keyboard, video, and monitor to control both the IEN Site Server (and associated IEN workstation) and the ATMS workstation.

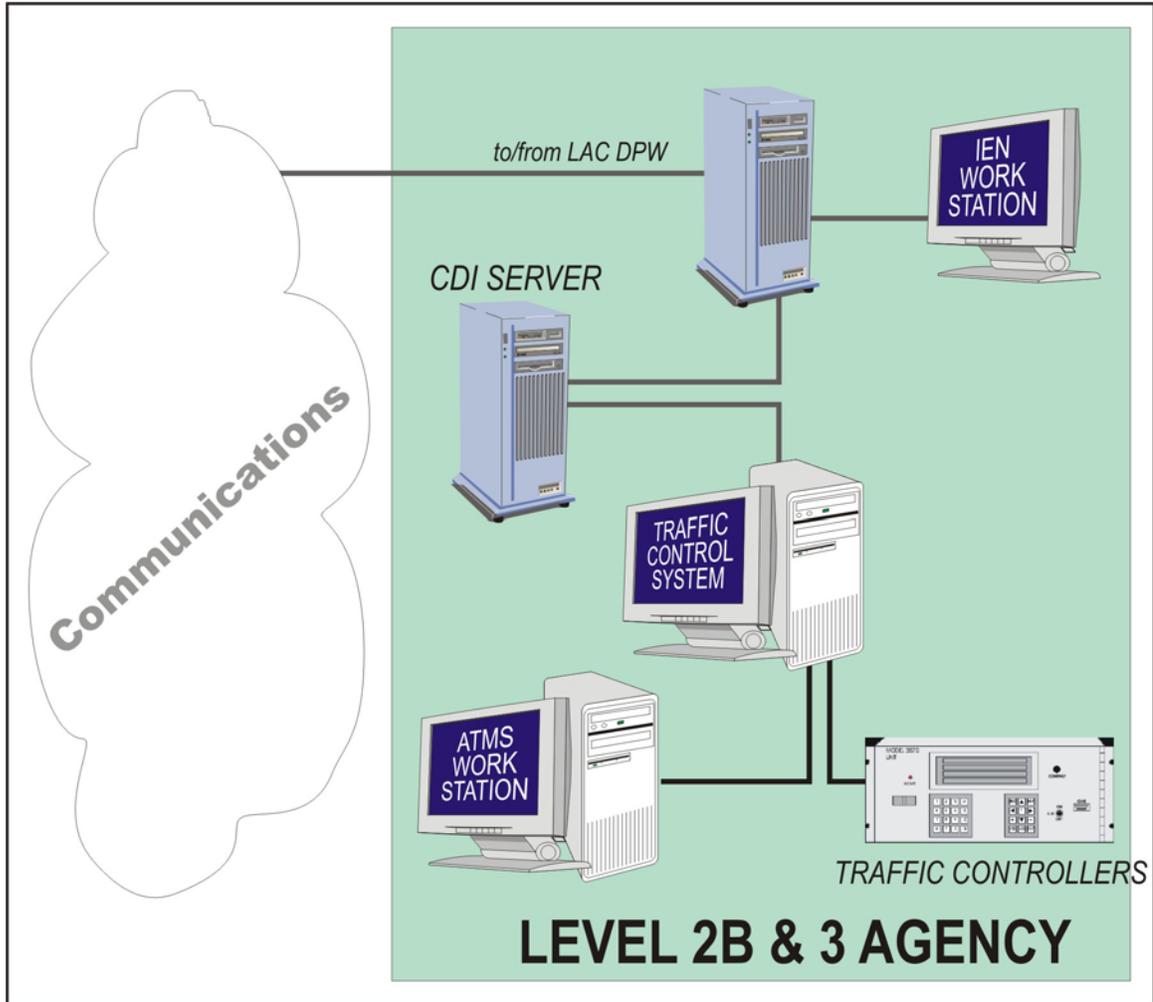


Figure 7: Level 2B and 3 Agency Interconnect

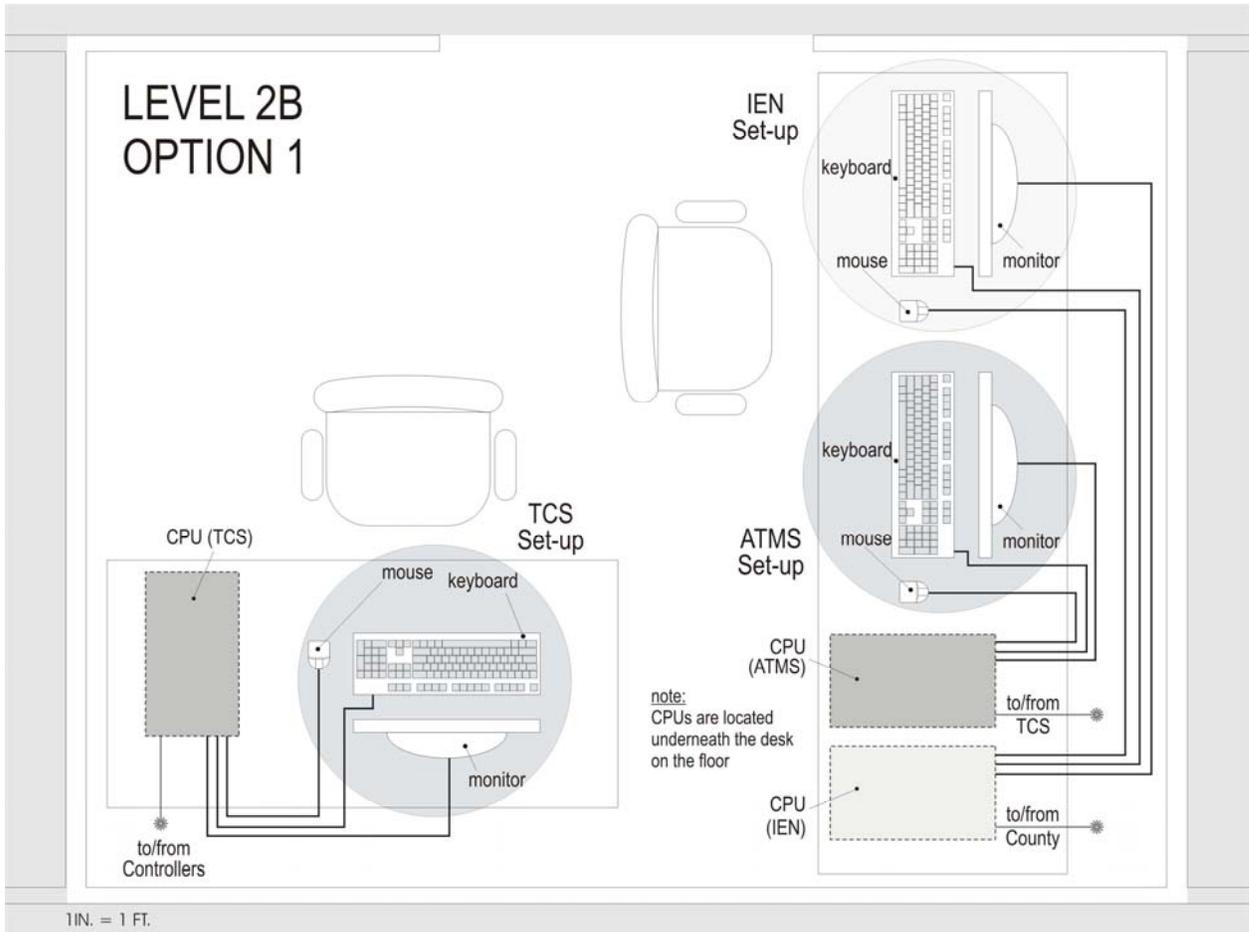


Figure 8: Level 2B and 3 Agency - Typical Office Layout

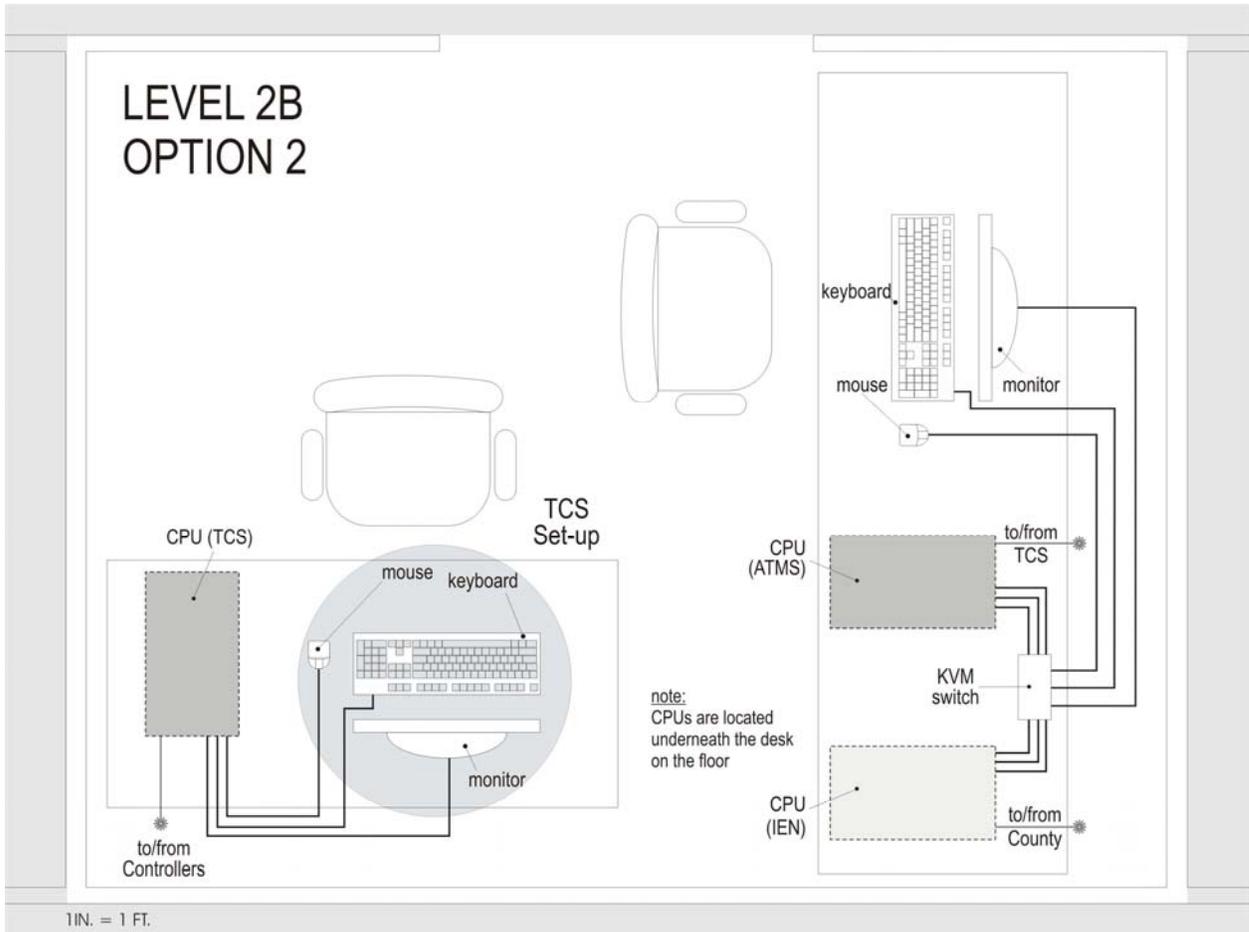


Figure 9: Level 2B and 3 Agency – Typical Office Layout

3. ANALYSIS OF EQUIPMENT TO DEPLOY AT LOCAL AGENCIES

3.1 OVERALL DEPLOYMENT STRATEGIES

As indicated in Section 2, the type of equipment that will be installed at Local Agencies as part of the SGVTF project will depend primarily on the desired level of their operations. In any case, prior to deploying equipment at a Local Agency, it will be necessary to have the required communications system in place. Communications issues related to the deployment of IEN and ATMS systems at Local Agencies are discussed in a separate report (Task 2.5 - *SGVTF Communications Alternatives Analysis*). In general, it is anticipated that the following process will be followed with respect to deploying the IEN and ATMS systems related to the SGVTF project:

1. The County and Consulting Team will work with partnering SGVTF Agencies to develop a schedule for the required communications and computer equipment. It is expected that the order in which Agencies are given priority will depend on a number of factors, including: their desire and need to have the system(s) installed; the ease of integrating the new system(s) with any existing traffic control system; and timing the installation to correspond with operational and/or facility changes that the Local Agency wants to implement prior to the installation of the new system(s).
2. Procure the required communications and computer equipment and work with telephone companies to establish the leased lines that need to be established to link together the Local Agencies with the County.
3. Install/integrate communication equipment and lines, as needed, at Local Agencies.
4. Install/integrate computer equipment with appropriate software.
5. Perform acceptance testing.

The deployment schedule, which will include prioritizing the order in which Local Agencies will receive the IEN and ATMS systems, will be developed during the conceptual design phase of the SGVTF project. As part of the preliminary design, the following sections of this report provide recommendations concerning how the new system hardware should be deployed within existing facilities at all of the Local Agencies within the SGVTF. The information presented below is based on site visits to the Local Agencies (except for Arcadia, Pasadena, and San Dimas), which included interviews with key personnel, conducted between November 30th and December 16th, 2004. More detailed information concerning the site visits and related interviews are provided in Appendix B.

As part of the San Gabriel Valley Pilot Project (SGVPP) – Early Deployment Project (EDP) in early 2000, a number of Cities along I-210 received EDP workstations, and a dedicated communication line to the County TMC. To the extent possible, the communication lines that were installed for the SGVPP project will be used for the IEN workstation.

3.2 LEVEL 1 AGENCIES

As indicated previously, all Level 1 Agencies will be provided with an IEN workstation to monitor traffic signals and support incident management activities within their own jurisdiction and throughout the SGVTF area. A list of the Cities that are anticipated to operate as Level 1 Agencies, along with relevant information about where they would like to locate the IEN workstation, facility space issues, and who the primary user(s) would be, are provided below.

Duarte

A new IEN CPU would be located in Engineering Division Manager's office (small cubicle). Due to space limitations, it is recommended to have the IEN CPU connected to the existing office workstation with a KVM switch.

The Engineering Division Manager and an Assistant Civil Engineer are proposed to be the primary users of the IEN workstation on an exception, or as-needed, basis.

La Puente

A new IEN workstation is proposed to be installed in an office located downstairs (in basement) within the Public Works Section of City Hall. Although space is limited, there should be enough space on an existing built-in desk countertop for the IEN workstation.

It is anticipated that the City Planner or the City Engineer, who is currently a contract employee from AAE, INC, are proposed to use the IEN workstation on an occasional, or as-needed, basis.

San Marino

The City has requested to put one IEN workstation in Director of Parks and Public Works office, which is located in the Department of Public Works (DPW) area of City Hall. Due to limited office space, it is recommended to have the IEN workstation with a KVM switch to share the IEN monitor, keyboard, and mouse, with the existing office computer.

The City has requested a second IEN CPU, a wall-mounted flat panel monitor, and a KVM switch in the dispatch room of the Police Department.

The Director of Parks and Public Works is proposed as the primary user of the IEN system within the City DPW. Police dispatch personnel are proposed to use the IEN workstation as needed to facilitate and/or enhance police operations.

South El Monte

A new IEN CPU is recommended to be installed in an office located downstairs (in basement) near the communications room. In order to conserve space, the City has requested the IEN CPU be connected to an existing workstation with a KVM switch.

At the current time, the City has not designated any particular staff to use the IEN workstation.

South Pasadena

The Deputy Director of Public Works has requested an IEN workstation installed at his office in the City Hall building. Because of some remodeling that is being done at both locations, it is not possible to make precise comments concerning the space that will be available for the planned equipment. However, it is anticipated that there will be sufficient space available to easily accommodate the workstation.

The Deputy Director of Public Works and Facility Maintenance Supervisor will be the primary users of the IEN workstation.

Temple City

A new IEN CPU is proposed to be installed in Maintenance Superintendent's office or nearby in a small auxiliary office. Due to limited office space, it is recommended to have the IEN workstation with a KVM switch to share the IEN monitor, keyboard, and mouse, with the

existing office computer. However, if space becomes available prior to deployment of the IEN system, a complete workstation would be requested.

It is anticipated that the Maintenance Superintendent, his staff or the City's Consulting Traffic Engineer would use the IEN workstation occasionally.

3.3 LEVEL 2A AGENCIES

In addition to an IEN workstation, Level 2A Agencies will be provided with a separate ATMS workstation (connected to a "host" Agency's TCS central system). Most of the Level 2A Agencies indicated a preference to be hosted by LA County's TCS central system, although they were also open-minded about the possibility of connecting to a different local Agency's TCS central system if there was a good reason to do so. Level 2A Agencies within the SGVTF are listed below along with information about where these Agencies would like their IEN and ATMS workstations located, related facility space issues, and who the primary user(s) would be.

Azusa

The City has requested to have the IEN and ATMS workstations located in the Engineering Department after it is relocated from the west wing of City Hall to the Corporate Yard (to occur by December 2006). There is expected to be plenty of office space available for these workstations at the Corporate Yard offices.

The Engineering Associate will be the primary user of the IEN and ATMS workstations.

Baldwin Park

IEN and ATMS workstations are proposed to be located in the Associate Engineer's office. Due to limited office space, it is recommended to have the IEN workstation with a KVM switch to share the IEN monitor, keyboard, and mouse, with the existing Associate Engineer's office computer. As part of the SGVPP EDP, the City received an EDP workstation that is located on a small table in the Associate Engineer's office. The ATMS workstation is proposed to replace the existing EDP workstation and the City would like to upgrade from the existing 17-inch flat screen monitor to a 21-inch flat screen monitor.

The Associate Engineer would be the primary user of the new IEN and ATMS workstations, which he expects to use occasionally, or as-needed, to monitor the traffic signal system and traffic conditions in the Baldwin Park area.

El Monte

IEN and ATMS workstations are proposed to be installed in Facility Maintenance and Signal Maintenance Supervisor's office, which is located at the Maintenance Division office building (3527 Santa Anita Avenue in El Monte). As an alternative, these workstations could be located nearby in the Street Supervisor and Acting Yard Superintendent's office. There is plenty of space available in both offices to install these workstations; however, a new table or desk would also need to be installed to place the workstation on.

The Facility/Signal Maintenance Supervisor and the Street Supervisor/Acting Yard Superintendent would be the primary users of the IEN and ATMS workstations.

Glendora

An Econolite master controller with a desktop personal computer is currently located in the communications room in the basement at City Hall. It is anticipated that the IEN and ATMS workstations will be housed in the same room; however, a new table or desk will be required. There should not be a problem allocating space for a new desk or table within the communications room.

The Civil Engineer Assistant will be the primary user of the new equipment on an exception, or as-needed, basis.

As part of the SGVPP EDP, the City received an EDP workstation, and currently has a dedicated lease line from County to City Hall. A Dell Computer with 17" LCD, CISCO Router, and a DSU/CSU is currently installed at the traffic engineer's desk, however, it is not being used.

Monrovia

The IEN and ATMS workstations will be located in a cubical that is reserved for the City's Traffic Engineering Consultant. A 76" by 26" table is available and will be allocated for this equipment.

Although it is possible that certain personnel within the Monrovia Public Works Department would use the IEN and ATMS workstations once in awhile, the primary user of this equipment would be the traffic engineering Consultant on an exception, or as-needed, basis.

Montebello

There is currently no designated space available to install the IEN and ATMS workstations. However, the Engineering Department is being remodeled and there should be space available in a cubicle for these workstations when they become available for deployment.

It is anticipated that the Engineering Assistant and the City's Traffic Engineering Consultant will be the primary users of the IEN and ATMS workstations on an occasional, or as-needed, basis.

Monterey Park

The IEN and ATMS workstations will be located in a cubical in the City Hall. The workstations can be located on an existing 70" X 26" table.

The primary users of the workstations will be the Assistant City Engineer and his/her Assistant.

San Gabriel

The City would like to install an IEN workstation, ATMS workstation, and KVM switch in the break room next to the Electrical Foreman's office at the City Maintenance Yard. Currently, the break room has one 60" X 30" desk with one general use computer and a 17-inch monitor. Next to the desk is a 38" X 28" stand with three shelves. There are two (2) computers on the lower shelf and one (1) monitor on the second shelf. Between the desk and nearby shelf space there is enough room to install the requested equipment indicated above.

In addition to the computer equipment that would be located in the break room, the City would like to have two wall monitors installed in the Electrical Foreman's office that would be connected to the IEN and ATMS workstations located in the break room.

The primary user would be the City's Electrical Foreman.

3.4 LEVEL 2B AGENCIES

Level 2B Agencies will have IEN and ATMS workstations. The ATMS workstations will be part of the agency's own TCS system. Although these Agencies would have the capability of "hosting" another Agency's TCS, none of the Cities interviewed during our site visits expressed an interest to do so. In fact, they typically expressed some concern about the potential liability that they would be exposed to if they "hosted" another Agency's TCS. A list of the Level 2B Agencies within the SGVTF, along with the information related to where system hardware would be located, is presented below.

Alhambra

IEN and ATMS workstations, CDI server, and TCS central system is proposed to be located in Traffic Engineer Supervisor's office. Computer hardware can be set up on (CPU portion of workstation could also go under) an existing large desk/credenza located along one (1) side of the office.

Would also like to have an ATMS workstation located at the City Maintenance Yard.

The Traffic Engineer Supervisor would be primary user of the IEN and ATMS workstations on a daily basis. In addition, a maintenance technician would use the ATMS workstation located at the Maintenance Yard.

Covina

There is a small cubicle available within the Public Works area where the City would like the IEN and ATMS workstations installed. Currently, there is a drafting table that takes up about a third of the space within the cubicle; however, it would be moved out of the cubicle prior to installing the referenced workstations.

There is room for the CDI server and TCS central system within the City's existing communications room.

The City would like to have a second IEN workstation in the Watch Commander's office within the Police Department. Due to space limitations, the City is interested in utilizing a KVM switch to connect an IEN workstation to an existing keyboard, video monitor, and mouse. The IEN workstation could fit easily on the floor below the desktop near the existing Watch Commander's workstation.

The Supervising Civil Engineer and one other engineer within the Public Works Department will be the primary system users, particularly with respect to the ATMS workstation. The Watch Commander would use the IEN workstation as needed to facilitate and/or enhance police operations.

Irwindale

After the Police Department is relocated to a different office building a few blocks from City Hall, some office space will be dedicated to traffic management activities. This office space would house the IEN and ATMS workstations, the TCS central system, and the CDI server. In addition, the City would like a wall-mounted video display in this office.

City would like to locate a second IEN workstation within the Police Department once they are relocated (expected to occur sometime in 2006).

The Civil Engineer Assistant and one other engineer within the Public Works Department will be the primary users of the IEN and ATMS workstations. It is anticipated that a Traffic Officer will use the IEN workstation in the Police Department in order to facilitate and/or enhance police operations.

Rosemead

IEN and ATMS workstations, CDI server, and TCS central system, are proposed to be located in the City Engineer’s office. Computer hardware can be set up on an existing L-shaped counter that is 2-feet wide with one 8-foot leg and one 6.3-foot leg.

The City Engineer and his deputy would be the primary users of the IEN and ATMS workstations.

West Covina

It is recommended that the new IEN workstation will be located on the floor next to the Civil Engineering Associate’s desk and connected to their office workstation using a KVM switch. The ATMS workstation would be located on another desk in the same office area.

The CDI server and TCS central system server would be located in an existing computer room. Some cabinets and a television will be moved out in order to provide space for these servers.

The Civil Engineering Associate and the City Engineer would be the primary users of the IEN and ATMS workstations.

3.5 LEVEL 3 AGENCIES

Pasadena is the only Local City Agency that will have operations consistent with a Level 3 Agency. As indicated previously, Pasadena is in the process of setting up a new TMC, which will accommodate the computer equipment associated with the SGVTF project for a Level 3 Agency.

3.6 COST SUMMARY

Based on our analysis of the equipment that should be deployed at Local Agencies within the SGVTF as described above, a summary is provided below along with an estimated equipment cost for each agency.

City (Level)	IEN W/S	ATMS W/S	ATMS Servers	CDI Server	Wall-Mounted Monitor	Estimated Equipment Cost
Alhambra (2B)	One W/S	Two W/S's	Yes	Yes	No	\$23,000
Arcadia (2B)	One W/S	One W/S	---	---	Yes (1)	N/A
Azusa (2A)	One W/S	One W/S	---	---	No	\$4000
Baldwin Park (2A)	One W/S + KVM switch	One W/S w/ 21" Mon.	---	---	No	\$4,100
Covina (2B)	One W/S + One CPU, & KVM switch	One W/S	Yes	Yes	No	\$23100
Duarte (1)	One W/S		---	---	No	\$2,000
El Monte (2A)	One W/S	One W/S	---	---	No	\$4,000

APPENDIX A – ACRONYMS/DEFINITIONS

ATMS	Advanced Transportation Management System
CA SR	California State Route
CCTV	Closed Circuit Television
CDI	Command Data Interface
COTS	Commercial-Off-The-Shelf
DOW	Day-of-Week
DPW	Department of Public Works
GUI	Graphical User Interface
HVAC	Heating, Ventilation, and Air Conditioning
ID	Identification
IEN	Information Exchange Network
ITS	Intelligent Transportation System(s)
KVM	Keyboard-Video-Mouse
LA	Los Angeles
LACDPW	Los Angeles County Department of Public Works
LCCS	Local City Control Site
MOU	Memorandum of Understanding
O/S	Operating System
O&M	Operations & Maintenance
PC	Personal Computer
RDMS	Relational Database Management System
SGVTF	San Gabriel Valley Traffic Forum
TOD	Time-of-Day
TCS	Traffic Control System
TMC	Traffic Management Center
TSM	Traffic System Management
W/S	Workstation

APPENDIX B – LOCAL AGENCY INTERVIEWS
Conducted Between November 30th and December 16th, 2004

1. CITY OF ALHAMBRA

Interview Date: Wednesday, December 1, 2004 - 03:30 PM

Participants:

Edward Wright – Traffic Engineer Supervisor
Ron Dalessandro – Communication Supervisor
Tom Pinston – Phone/Radio technician
Inez Yeung – LA County
Jack Schneider – TransCore
Brian Jakubczak – TransCore
Moojan Khazra - Iteris

City Level:

Mr. Ed Wright is the traffic engineer and would like to have a TCS in their City Hall to control and monitor their signals. The City is not interested in hosting other Cities' traffic signals. He is currently monitoring and controlling the Cities' signals with a master controller that controls several traffic signals. This puts them in Level 2B. The City has about 97 traffic signals.

Primary Users:

Mr. Ed Wright would be the primary user and would like to put a local TCS workstation in the yard. The yard is a few miles away from the City Hall and does not have a direct connection to City Hall. The IEN workstation, TCS server, and ATMS workstation will be located in Mr. Wright's office.

Space for IEN and TCS Equipment:

Ed's office has an 8' X 25" table that can house the computers and monitors

2. CITY OF AZUSA

Interview Date: Thursday, December 2, 2004 - 11:00 AM

Participants:

Lance Miller – Azusa – Engineering Associate
Richard Cabildo – Azusa - Information Technology Analyst
Jane White – LA County
Chuck Dankocsik – TransCore
Brian Jakubczak – TransCore
George Hatstrup - Iteris

Overview of City Traffic Operations:

The City wants to have the capability to control their signals (i.e. adjust timing or change timing plan) on an exception basis, in addition to the capability of monitoring their own, and neighboring Cities, traffic signals. Thus, Azusa plans on operating as a Level 2A Agency.

Primary Users:

Lance Miller will be the primary user.

Space for IEN and ATMS Equipment:

The Engineering Department will be relocated to the Corporate Yard (809 Angeleno Avenue in Azusa) in the near future. Dedicated space (either in a cubicle or an office) will be available in the Corporate Yard for the IEN and ATMS workstations.

Other Information:

- Fiber optic cable runs between the various City buildings (City Hall, Light & Power Building, and the Corporate Yard).
- Lance would like to have the capability to view video images (stills or snapshots would be okay)

3. CITY OF BALDWIN PARK

Interview Date: Tuesday, December 14, 2004 - 10:00 AM

Participants:

Arjan Idnani – Baldwin Park – Assistant Director Dept. of Public Works
David Lopez – Baldwin Park – Associate Engineer
Inez Yeung – LA County
Chuck Dankocsik – TransCore
George Hatstrup - Iteris

Overview of City Traffic Operations:

The City wants to have the capability to control their signals (i.e. adjust timing or change timing plan) on an exception basis, in addition to the capability of monitoring their own, and neighboring Cities, traffic signals. Thus, Baldwin Park plans on operating as a Level 2A Agency. Sometime in the future, Baldwin Park might be interested in operating as a Level 2B Agency (no definite plans concerning when this might happen).

Primary Users:

David Lopez will be the primary user. He anticipates using the IEN and ATMS workstations on an occasional, or as-needed, basis.

Space for IEN and ATMS Equipment:

IEN and ATMS workstations would be located in David Lopez's office. Due to limited space, the new IEN CPU would be located near David's office workstation and would be connected to existing monitor, keyboard, and mouse using a KVM switch. As part of the SGVPP EDP, the City received an EDP workstation that is located on a small table in David's office. The ATMS workstation would replace the existing EDP workstation and the City would like to upgrade from the existing 17-inch flat screen monitor to a 21-inch flat screen monitor.

Other Information:

- Communications room is in the basement at City Hall, located two levels below Public Works area (approximately 150 to 200 feet from David Lopez's office)
- The City has a back-up generator and UPS capabilities
- There is a plan to install a "Red-Light Running" system and David would like to be able to view video images from this system on their ATMS workstation

4. CITY OF COVINA

Interview Date: Tuesday, December 7, 2004 - 2:30 PM

Participants:

Vince Mastrosimone – Covina – Public Works Director
Michael Scott – Covina – Supervising Civil Engineer
Clarence Miu – Covina – Network Supervisor
Inez Yeung – LA County
Chuck Dankocsik – TransCore
George Hatstrup - Iteris

Overview of City Traffic Operations:

Although the City does not currently have a centralized TCS, it would like to have the capability to actively manage their traffic signals and any other ITS devices that might be installed in the future. Thus, Covina would like to operate as a Level 2B Agency and have an IEN workstation, ATMS workstation, and TCS central system. The City wants to work cooperatively with LA County with respect to signal timing and coordination on major arterials that cross through Covina. However, the City is not interested in “hosting” another Agency’s TCS.

Primary Users:

Within the Public Works Department, Michael Scott and Mr. Tolentino would be the primary system users. In addition, the City requested that a second IEN workstation be located in the Watch Commander’s office located within the Covina Police Department.

Space for IEN and TCS Equipment:

There is a small cubicle available within the Public Works office area where the City would like the IEN and ATMS workstations installed. Currently, there is a drafting table that takes up about a third of the space within the cubicle; however, it would be moved out of the cubicle prior to installing the referenced workstations. There is room for the IEN workstation, CDI server, and TCS central system within the City’s existing communications room.

With respect to having an IEN workstation in the Watch Commander’s office, due to space limitations, the City is interested in utilizing a KVM switch to connect an IEN CPU to an existing keyboard, video monitor, and mouse. The IEN CPU could fit easily on the floor below the desktop near the existing Watch Commander’s workstation.

Other Information:

- City has UPS and back-up generator
- Would like to view video images from CCTV cameras or traffic video detectors (discrete images okay)
- Would like to have split screen capabilities so up to four (4) video images could be viewed at one time

5. CITY OF DUARTE

Interview Date: Tuesday, December 7, 2004 - 1:30 PM

Participants:

Steve Esbenshade – Duarte – Engineering Division Manager

Christina Sidrow – Duarte – Police Officer

Ernie Hall – Duarte

Inez Yeung – LA County

Chuck Dankocsik – TransCore

George Hatstrup - Iteris

Overview of City Traffic Operations:

The City is not interested in actively operating or managing their traffic signal system; however, they would like the capability of monitoring their own, and neighboring Cities, traffic signals. Thus, Duarte plans on operating as a Level 1 Agency. At the present time, they are happy to have LA County “host”, operate, and manage their traffic signal system.

Primary Users:

Steve Esbenshade and an Assistant Civil Engineer will be the primary users. He anticipates that the IEN capabilities will be used on an occasional, or as-needed, basis.

Space for IEN Equipment:

New IEN CPU would be located in Steve Esbenshade’s office, which consists of a small cubicle in the Engineering Division of City Hall. Due to space limitations, he would prefer having the IEN CPU connected to his existing office workstation with a KVM switch rather than an entirely new IEN workstation.

Other Information:

- No problems running connections from communications room to Steve’s office.
- The City has a back-up power generator

6. CITY OF EL MONTE

Interview Date: Wednesday, December 15, 2004 - 10:00 AM

Participants:

Kev Tcharkoutian – El Monte – City Engineer
Cesar Roldan – El Monte – Senior Engineer
Ken Ballinger – El Monte – Facility Maintenance & Signal Maintenance Supervisor
Joe Espinosa – El Monte – Street Supervisor and Acting Yard Superintendent
Inez Yeung – LA County
Chuck Dankocsik – TransCore
George Hatstrup - Iteris

Overview of City Traffic Operations:

The City wants to have the capability to control their signals (i.e. adjust timing or change timing plan) on an exception basis, in addition to the capability of monitoring their own, and neighboring Cities, traffic signals. They are particularly interested in being able to know if a traffic signal is malfunctioning or a traffic light goes out so that the maintenance process can be expedited. El Monte would like to operate as a Level 2A Agency and wants LA County to “host” their TCS central system.

Primary Users:

Ken Ballinger and Joe Espinosa will be the primary users (mostly for maintenance purposes).

Space for IEN and ATMS Equipment:

IEN and ATMS workstations would probably be installed in Ken Ballinger’s office, which is located at the Maintenance Division office building (3527 Santa Anita Avenue in El Monte). As an alternative, these workstations could be located nearby in Joe Espinosa’s office. There is plenty of space available in both offices to install these workstations; however, a new table or desk would also need to be installed in order to have something to place the workstations on.

Other Information:

- At the current time, there is no need to have video images available on workstations
- Would like to have some means of notifying Kev and the Police Department if a traffic signal malfunctions or goes into an “all-red” condition
- The City would like to be given a high priority with respect to system deployment

7. CITY OF GLENDORA

Interview Date: Thursday, December 9, 2004 - 03:00 PM

Participants:

Chad Veinot – Traffic Engineering Consultant
Michael Maston – Civil Engineer Assistant
Matt Jester – IT Technician
Inez Yeung – LA County
Jack Schneider – TransCore
Moojan Khazra - Iteris

Overview of City Traffic Operations:

The City currently has two (2) Econolite masters, one is located in the communication room in the basement of the City Hall and the other is located in the field. The City has total of 40 signals, where seven (7) signals are currently on-line and a project is under way to bring another 12 on-line. The signals that are and will be on-line have dial-up connection and can be controlled through a central computer located at the City Hall. In addition, the City has two (2) Autoscope video detectors that are cable of sending video images through a dial-up line.

Based on the definition of Agency levels, Glendora is a Level 2A Agency, however, they envision expanding their operations to 2B sometime in the future. For this reason, they would like to bring the communication lines from the signal controllers to the TCS into the communication room at the City Hall. Due to staffing and available resource, Glendora would like the County to “host” their traffic signals at the current time.

The City currently contracts for signal maintenance. Their budget for preventive maintenance is \$30,000 per year and \$100,000 per year for corrective maintenance calls.

Primary Users:

The primary user will be Michael Maston.

Space for IEN and TCS Equipment:

Currently the Econolite controller with a desktop PC is located in the communication room in the basement of the City Hall. The IEN and ATMS workstations will be housed in the same room. A new table is required for the IEN and ATMS workstations. There is enough room to put a table in the communication room for the new equipment.

Other Information:

- As part of the SGVPP EDP, the City received an EDP workstation, and currently has a dedicated lease line from County to City Hall
- A Dell Computer with 17” LCD, CISCO Router, and a DSU/CSU is currently installed at the traffic engineer desk, however, it is not being used

8. CITY OF IRWINDALE

Interview Date: Tuesday, December 7, 2004 – 11:15 AM

Participants:

Jose Loera – Irwindale – Civil Engineer Assistant
Inez Yeung – LA County
Jack Schneider – TransCore
George Hattrup - Iteris

Overview of City Traffic Operations:

Although the City does not currently have a centralized TCS, it would like to have the capability to actively manage their traffic signals and any other ITS devices that might be installed in the future. Thus, Irwindale would like to operate as a Level 2B Agency and have both an IEN workstation and an ATMS workstation with their own TCS central system. The City wants to work cooperatively with LA County with respect to signal timing and coordination on major arterials that cross through Irwindale. However, they would like to have full control on all shared signals. The City is definitely not interested in “hosting” another Agency’s TCS.

Primary Users:

Within the Public Works Department, Jose Loera and possibly one other Engineer would be the primary system users. In addition, the City requested that a second IEN workstation be located in the Irwindale Police Department to be used by selected traffic officers.

Space for IEN and ATMS Equipment:

After Police Department is relocated to a different office building a few blocks from City Hall, some office space will be dedicated to traffic management activities. This office space would house the IEN and ATMS workstations, the TCS central system, and the CDI server. In addition, the City would like to have a wall-mounted video display in this office. The City would also like to locate a second IEN workstation within the Police Department once they are relocated (expected to occur sometime in 2006).

Other Information:

- Would like to be able to view video images from CCTV cameras or traffic video detectors

9. CITY OF LA PUENTE

Interview Date: Friday, December 3, 2004 - 9:30 AM

Participants:

Gregg Yamachika – La Puente – City Planner

Guillermo Arreola – La Puente – City Planner

Jane White – LA County

Jack Schneider – TransCore

George Hatstrup - Iteris

Overview of City Traffic Operations:

The City is not interested in actively operating or managing their traffic signal system; however, they would like the capability of monitoring their own, and neighboring Cities, traffic signals. La Puente plans on operating as a Level 1 Agency but would like to have some capability through the IEN workstation to change from one signal timing plan to another if they need to. At the present time, they are happy to have LA County “host”, operate, and manage their traffic signal system.

Primary Users:

It is anticipated that Gregg Yamachika, Sid Mousavi, or the consulting City Engineer would use the IEN workstation on an occasional, or as-needed, basis.

Space for IEN Equipment:

The City would probably install the IEN workstation in an office located downstairs (in basement) within the Public Works Section of City Hall. Although space is limited, there should be enough space on an existing built-in desk countertop for the IEN workstation.

Other Information:

- The City has a back-up power generator that automatically starts when power is interrupted
- The City has a contract with AAE, Inc. to provide engineering services, including traffic engineering consulting

10. CITY OF MONROVIA

Interview Date: Tuesday, November 30, 2004 - 11:30 AM

Participants:

Jed Rizk – Monrovia - Sr. Civil Engineer
Mich Cochran – Monrovia - Information Systems Manager
Fernando Villaluna – LA County
Jack Schneider – TransCore
Brian Jakubczak – TransCore
Moojan Khazra - Iteris

Overview of City Traffic Operations:

The City currently has an outside Consultant that they use on an as-needed basis for traffic engineering related tasks. Traffic signal maintenance is also contracted out. The City would like LA County to “host”, monitor, and operate their signals on a regular day-to-day basis, but also wants to have the capability to control their signals (i.e. adjust timing or change timing plan) on an exception basis, in addition to the capability of monitoring their own, and neighboring Cities, traffic signals. Thus, Monrovia would like to operate as a Level 2A Agency. The City currently does not have any CCTV cameras.

Primary Users:

A cubicle in the City Hall building is assigned to the traffic engineer consultant. He will be the primary user.

Space for IEN and ATMS Equipment:

The IEN and ATMS workstations will be located in the traffic engineer’s cubicle. A 76” by 26” table will be allocated to this equipment; therefore, space is available for the referenced hardware. The City would like to have a separate monitor for both the ATMS and IEN workstations.

11. CITY OF MONTEBELLO

Interview Date: Thursday, December 2, 2004 - 1:15 PM

Participants:

Elvin Jiang – Montebello – Engineering Assistant
Patrick Lang – Traffic Engineering Consultant
Chuck Dankocsik – TransCore
Brian Jakubczak – TransCore
George Hattrup - Iteris

Overview of City Traffic Operations:

The City wants to have the capability to control their signals (i.e. adjust timing or change timing plan) on an exception basis, in addition to the capability of monitoring their own, and neighboring Cities, traffic signals. Montebello would like to operate as a Level 2A Agency and wants LA County to “host” their TCS central system.

Primary Users:

Elvin Jiang and Patrick Lang anticipate that they would use the IEN and ATMS workstations on an occasional, or as-needed, basis.

Space for IEN and ATMS Equipment:

There is currently no designated space available to install the IEN and ATMS workstations. However, the Engineering Department is being remodeled and there should be space available in a cubicle for these workstations when they become available for deployment.

Other Information:

- Would like to be able to view video images from video detectors that the City has (up to 4 video images at one time would be desirable)

12. CITY OF MONTEREY PARK

Interview Date: Wednesday, December 1, 2004 – 02:00 PM

Participants:

Ronald Merry – Director of Public Works, City Engineer

Elias Saykali – Assistant City Engineer

Inez Yeung – LA County

Jack Schneider – TransCore

Brian Jakubczak – TransCore

Moojan Khazra - Iteris

City Level:

The City would like LA County to “host”, monitor, and operate their signals, and have the capability to control the signals when needed. This puts them in Level 2A. The City has about 61 signals.

Primary Users:

The primary users will be Elias Saykali and his assistant.

Space for IEN and TCS Equipment:

The IEN and ATMS workstations will be located in a cubicle in the City Hall. The workstations can be located on a 70” X 26” table. If additional room is required, some room can be opened up along the wall.

13. CITY OF ROSEMEAD

Interview Date: Tuesday, November 30, 2004 - 4:00 PM – Rosemead

Participants:

Ken Rukavina – City Engineer
Fernando Villaluna – LA County
Jack Schneider – TransCore
Brian Jakubczak – TransCore
Moojan Khazra - Iteris

City Level:

City would like to operate and monitor its own signals. They are interested in having their own TCS but not interested in hosting other Cities' traffic signals. This puts them in Level 2B.

Primary Users:

The primary user would be Ken and his deputy. He would like to locate the equipment in his office.

Space for IEN and TCS Equipment:

Mr. Ken Rukavina's office has an L-shaped counter table that is 2-feet wide and the long side is 8 feet and shorter side is 76".

14. CITY OF SAN GABRIEL

Interview Date: Tuesday, November 30, 2004 - 09:30 AM

Participants:

Bruce Mattern – City Engineer
David Ospina – IT Engineer
Fernando Villaluna – LA County
Jack Schneider – TransCore
Brian Jakubczak – TransCore
Moojan Khazra - Iteris

City Level:

Due to lack of funding and resources, the City of San Gabriel would like LA County to “host”, monitor, and operate their signals, and the City would also like to be able to have the capability to monitor and control their signals. This puts them in Level 2A. The City has about 25 traffic signals.

Primary Users:

The primary user would be Ed Sheets who is the City’s electrical foreman, and his office is in the Maintenance Yard. The City would like to have the IEN and ATMS workstations installed at the Yard in the break room next to Ed’s office. They would like to have three (3) monitors, and one KVM switch. The computer boxes for the IEN and ATMS workstations will be located in the break room with one (1) monitor and a KVM switch. The other two (2) monitors will be wall-mounted in Ed’s office.

Space for IEN and TCS Equipment:

The break room has one 60” X 30” desk. Currently one general use computer is on this desk with a 17-inch monitor. There is also one 38” X 28” stand with three (3) shelves. There are two (2) computers on the lower shelf and one (1) monitor on the second shelf. The IEN workstation CPU and ATMS workstation CPU with one (1) monitor can be located on the shelf and the desk.

Other Information:

- The City Hall is about a mile away from the Maintenance Yard and there is no hard wire connection between the two
- Bruce does not have any need to install any of these workstations in the City Hall

15. CITY OF SAN MARINO

Interview Date: Wednesday, December 1, 2004 – 11:00 AM

Participants:

John Alderson – Director of Parks and Public Works
Arl Farris – Chief of Police
Inez Yeung – LA County
Jack Schneider – TransCore
Brian Jakubczak – TransCore
Moojan Khazra - Iteris

City Level:

The City currently has a traffic engineering consultant on as needed basis for traffic engineering related tasks. The City would like LA County to “host”, monitor, and operate their signals, and when they need to change timing plans, they would like to be able to call the LA County TMC to do so. They are also interested in transferring their traffic signal maintenance to LA County. This puts them in Level 1.

Primary Users:

The Department of Public Works is in the adjacent building to the Police Department. The City would like to put one IEN workstation in the dispatch room of the Police Department and the second IEN workstation in John’s office

Space for IEN and TCS Equipment:

The IEN workstation at the DPW will be on John’s desk. He would like to get a KVM switch between his workstation and the IEN on a as-needed basis. The IEN workstation would be located on top of the 2’ by 4’ drawer next to John’s desk. The second IEN workstation will be located in the dispatch room on the wall.

16. CITY OF SOUTH EL MONTE

Interview Date: Wednesday, December 8, 2004 - 11:00 AM

Participants:

George Envall – South El Monte – City Traffic Engineer
Fernando Villaluna – LA County
Jack Schneider – TransCore
George Hatstrup - Iteris

Overview of City Traffic Operations:

The City is not interested in actively monitoring, operating, or managing their traffic signal system. South El Monte wants LA County to “host”, manage, and operate their traffic signal system and will operate as a Level 1 Agency with respect to the SGVTF.

Primary Users:

At the current time, the City has not designated any particular user of the IEN workstation.

Space for IEN Equipment:

In order to conserve space, the City would prefer having just an IEN CPU connected to an existing workstation with a KVM switch. The IEN CPU would probably be installed in an office located downstairs (in basement) near, or possibly in, the communications room.

Other Information:

- The City has a back-up power generator
- The City has a contract with Republic Electric to maintain their traffic signals.

17. CITY OF SOUTH PASADENA

Interview Date: Wednesday, December 1, 2004 – 09:00 AM

Participants:

Edward Hiti – Deputy Director of Public Works
Steve Moronez – Facility Maintenance Supervisor
Inez Yeung – LA County
Jack Schneider – TransCore
Brian Jakubczak – TransCore
Moojan Khazra - Iteris

City Level:

The City currently has a maintenance contract for traffic signals. The City would like LA County to “host”, monitor, and operate their signals, yet the City would like to be able to have the capability to monitor and control their signals. They are also interested in transferring their traffic signal maintenance to LA County. This puts them in Level 1. The City currently has 31 signals.

Primary Users:

Ed and Steve will be the primary users. Ed would like to give an IEN workstation to the Police Department that is located in the same building.

Space for IEN and TCS Equipment:

The City Hall is currently being remodeled. Ed envisions that the IEN workstation can be located in his office at the City Hall building. Because of remodeling, the exact measurements were not done. Generally there is enough space to install computers.

18. CITY OF TEMPLE CITY

Interview Date: Tuesday, December 7, 2004 - 10:00 AM

Participants:

Janice Stroud – Temple City – Director of Public Services
Chuck Erickson – Temple City – Maintenance Superintendent
Inez Yeung – LA County
Jack Schneider – TransCore
George Hatstrup - Iteris

Overview of City Traffic Operations:

The City is not interested in actively operating or managing their traffic signal system; however, they would like the capability of monitoring their own, and neighboring cities, traffic signals. Temple City wants on LA County to “host”, manage, and operate their traffic signal system and will operate as a Level 1 Agency with respect to the SGVTF.

Primary Users:

It is anticipated that Chuck Erickson, Hyme Guerrio, or Pat Lang, a Consulting traffic engineer, would use the IEN workstation occasionally.

Space for IEN Equipment:

An IEN CPU would probably be installed in Chuck Erickson’s office or nearby in a small auxiliary office. Currently space is quite limited in both offices; therefore, the IEN CPU would probably be connected to an existing workstation with a KVM switch. However, if space becomes available prior to deployment of the IEN system, a complete workstation would be requested.

OTHER INFORMATION:

- The City has a back-up power generator
- The City has a contract with Pat Lang to provide traffic-engineering services on an as-needed basis (approximately 8 hours per month)

19. CITY OF WEST COVINA

Interview Date: Thursday, December 2, 2004 – 9:30 AM

Participants:

Miguel Hernandez – West Covina – Civil Engineering Associate
Tom Nguyen, Mike Urban, and Clay Durbin – West Covina
Jane White – LA County
Chuck Dankocsik – TransCore
Brian Jakubczak – TransCore
George Hattrup - Iteris

Overview of City Traffic Operations:

The City currently has a centralized TCS with a workstation located in the Computer Room. However, they are only able to manage approximately 63 out of 83 signalized intersections within the City using their centralized TCS. The City would like to have the capability to actively manage all of their traffic signals and any other ITS devices that might be installed in the future. Thus, West Covina would like to operate as a Level 2B Agency and have IEN workstation, a ATMS workstation, and TCS central system. The City wants to work cooperatively with LA County with respect to signal timing and coordination on major arterials that cross through West Covina. The City is not interested in “hosting” another Agency’s TCS.

Primary Users:

Miguel Hernandez and the City Engineer would be the primary users of the IEN and ATMS workstations.

Space for IEN and ATMS Equipment:

In order to fit within the available space and be easy to use, Miguel Hernandez would prefer that an IEN CPU box be located on the floor next to his desk and be connected to his office workstation using a KVM switch. The ATMS workstation would be located on another desk in the same general office area. The CDI server and TCS central system server would be located in an existing computer room. Some cabinets and a television will be moved out in order to provide space for these servers.

Other Information:

- Would like to be able to view video images from CCTV cameras or traffic video detectors (snapshot video image is okay for now)
- City has a back-up power generator