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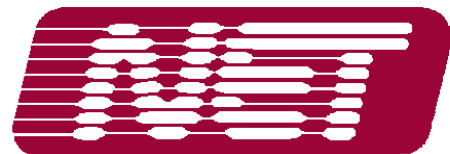
**Los Angeles County**

**City of Norwalk Site Report and LCC Layout –  
Draft (Deliverable 2.2.9.1)**

**Gateway Cities Traffic Signal Synchronization  
and Bus Speed Improvement Project - I-105  
Corridor (Phase II)**

**April 2005**

Version 1.0



**NATIONAL ENGINEERING  
TECHNOLOGY CORPORATION**

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# 1 INTRODUCTION

## 1.1 Purpose of the Document

The purpose of this document is to provide a design for the Local Control Center (LCC) for the City of Norwalk as part of the I-105 corridor project. This document is based on the recommendations included in the *I-105 Corridor - Draft Conceptual Design Report* and the *Norwalk ATMS System Architecture Diagram*. The City of Norwalk is one of the cities within the I-105 corridor area that is planned to be contributor of traffic data to the Information Exchange Network (IEN). The LCC design consists of three aspects:

- The site plan showing the floor plan with the required cable routing and the locations for the equipment racks, the operations console, and the telephone service provider demarcation points.
- The equipment rack elevations for the proposed ATMS equipment.
- Operations console detail showing locations for the operator workstations and video display devices.

The primary location of the Norwalk LCC is the Traffic Signal Lab in the Maintenance Building of the Norwalk Transportation Center. The proposed ATMS equipment, as well as the proposed operator console will be located in the Traffic Signal Lab. This room is environmentally controlled and has enough space to accommodate one equipment cabinet and the operator console. Communications cable access must be installed for leased-lines and agency-owned fiber optics. An additional electrical circuit may need to be added to the room to accommodate the electrical load requirement of the new equipment. A secondary LCC is proposed to be located at the City Hall building in the Traffic Engineer's cubicle. The secondary LCC consists of a remote Traffic Signal Monitoring and Control System (TSMACS) workstation that is linked to the TSMACS server located at the primary LCC via a new fiber optic cable installed as part of the field infrastructure improvements along Imperial Highway. The secondary LCC also includes a remote IEN Workstation.

## 1.2 References

The following project deliverables are used as reference documentation for this report:

- *I-105 Project - Norwalk Draft System Architecture Diagram*
- *I-105 Project - Norwalk ATMS Specification and Scope of Work*

## 2 CITY OF NORWALK ATMS SYSTEM DIAGRAM FOR LCC

The system diagram for the equipment that is proposed for the primary and secondary LCC is shown in Figure 2-1. The LCC facility is designed to accommodate the equipment and cabling requirements for the components shown in this diagram.

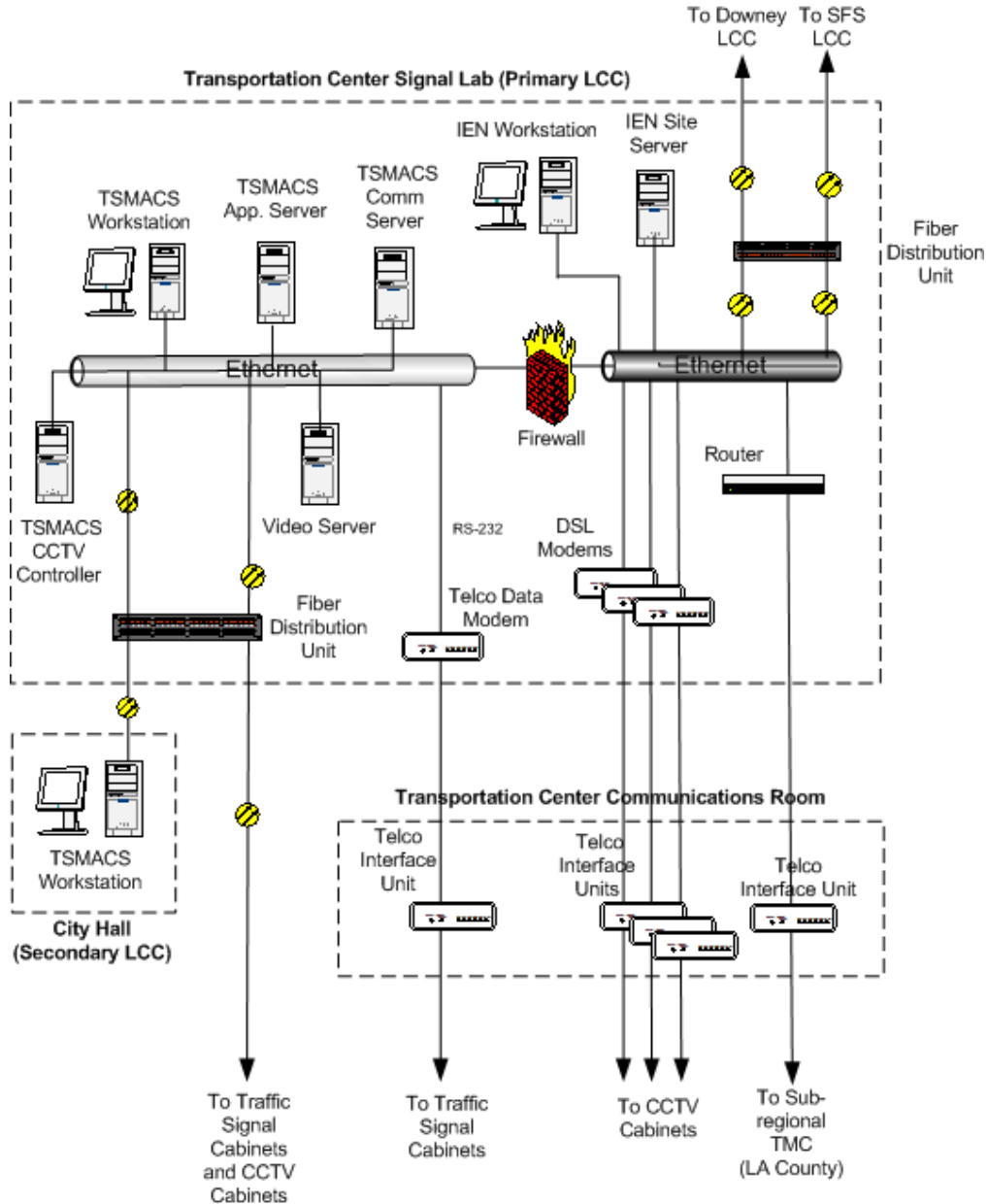


Figure 2-1: Norwalk LCC System Diagram

### 3 LCC FACILITY FLOOR PLAN

#### 3.1 Primary LCC Facility Floor Plan

The site plan for the Norwalk Transportation Center is shown in Figure 3-1. New conduit is proposed to be installed from the fiber optic trunk line along Imperial Highway to the Traffic Signal Lab in the Public Service Building. This conduit contains the fiber optic cables linking the traffic signal controllers and CCTV equipment to the TSMACS servers.

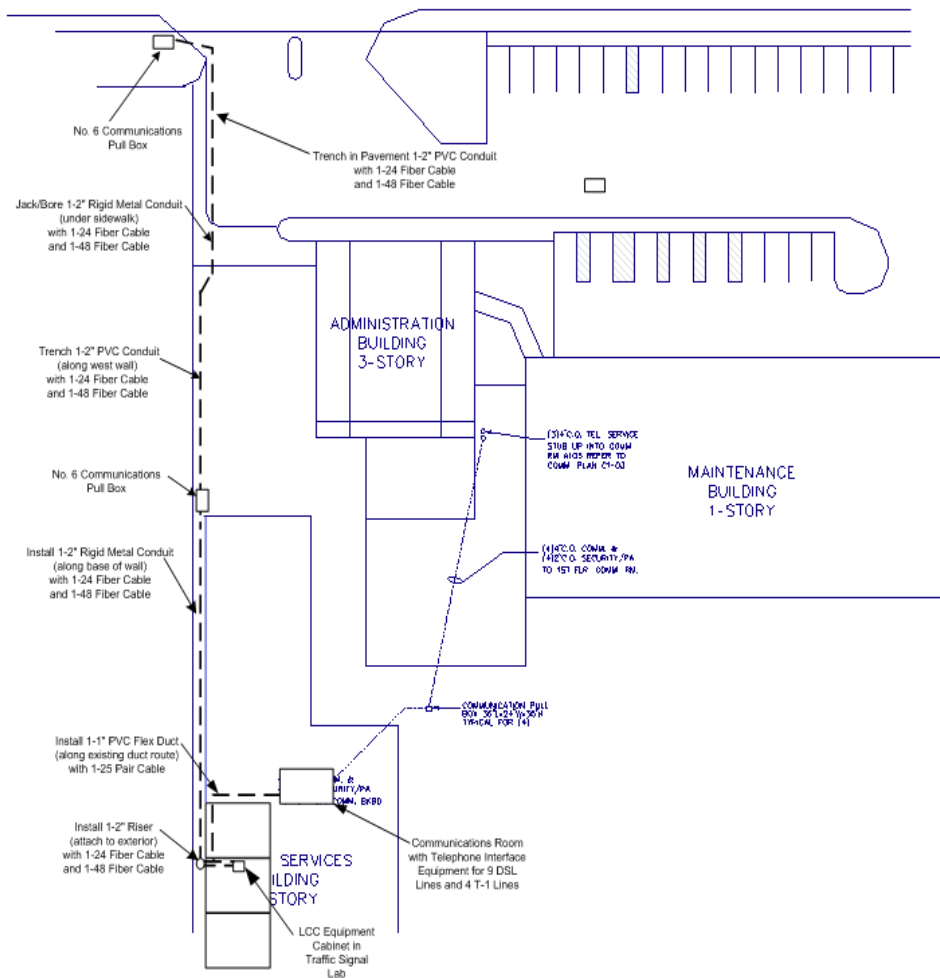
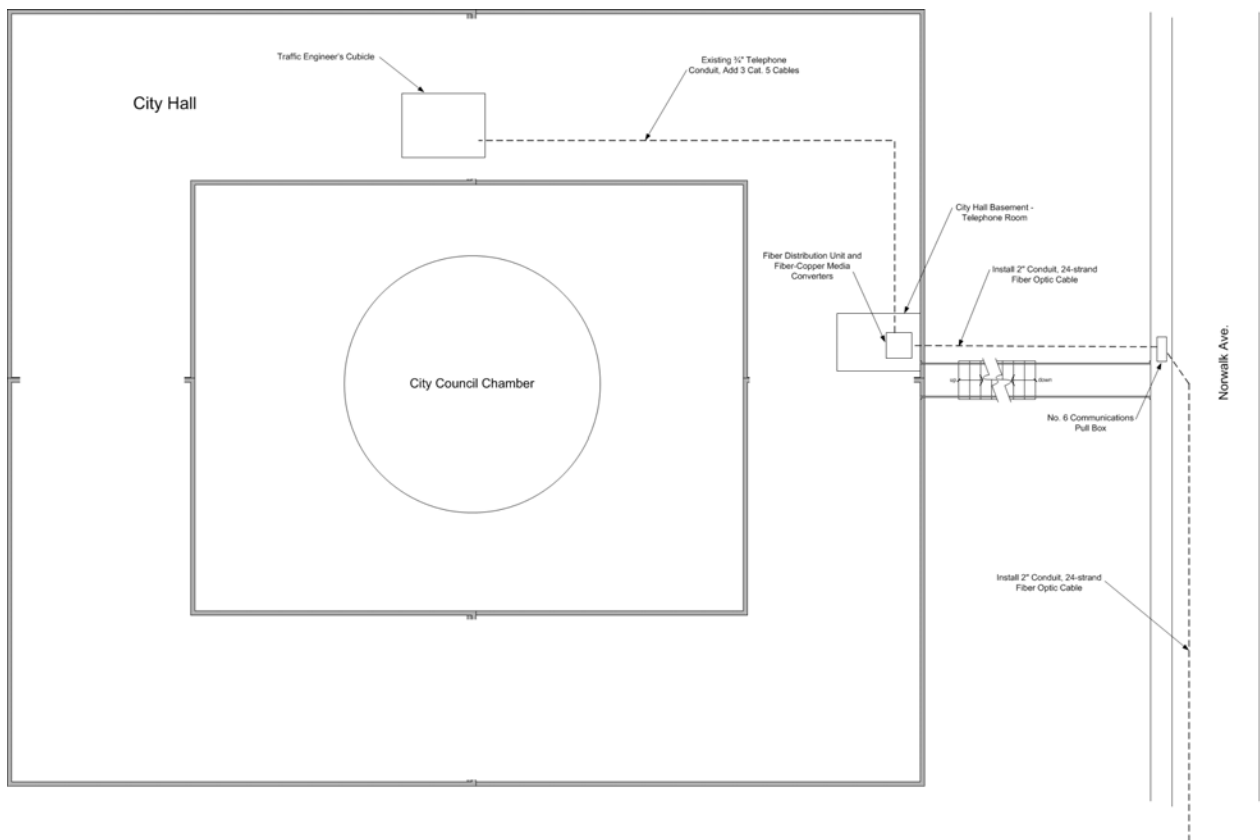


Figure 3-1: Primary LCC Facility Floor Plan

Leased-line access for the equipment in the LCC is accomplished by installing a twisted-pair cable between the Traffic Signal Lab and the nearby Communications Room. This Communications Room is an access point for the telephone company.

### 3.2 Secondary LCC Facility Floor Plan

The secondary LCC facility floor plan is shown in Figure 3-2. A fiber optic link is proposed between the City Hall and the Norwalk Transportation Center to accommodate remote workstation connections to the servers located at the Norwalk Transportation Center.



**Figure 3-2 Secondary LCC Facility Floor Plan**

## 4 LCC EQUIPMENT CABINET

### 4.1 Rack Elevation

One equipment cabinet is proposed to be located in the Primary LCC. The equipment cabinet has dimensions (84" H x 24" W x 30" D) and is to be mounted to the floor. Figure 4-1 illustrates the installation of the LCC equipment along with vertical dimensions. Most equipment is to be 19" rack-mount or shelf-mounted. System components not shown in the system diagram in Section 2 include the KVM (keyboard, video, and mouse) switch to allow a single point of access to all servers in the rack, and an Uninterruptible Power Supply (UPS) to protect the equipment in the case of loss of power.

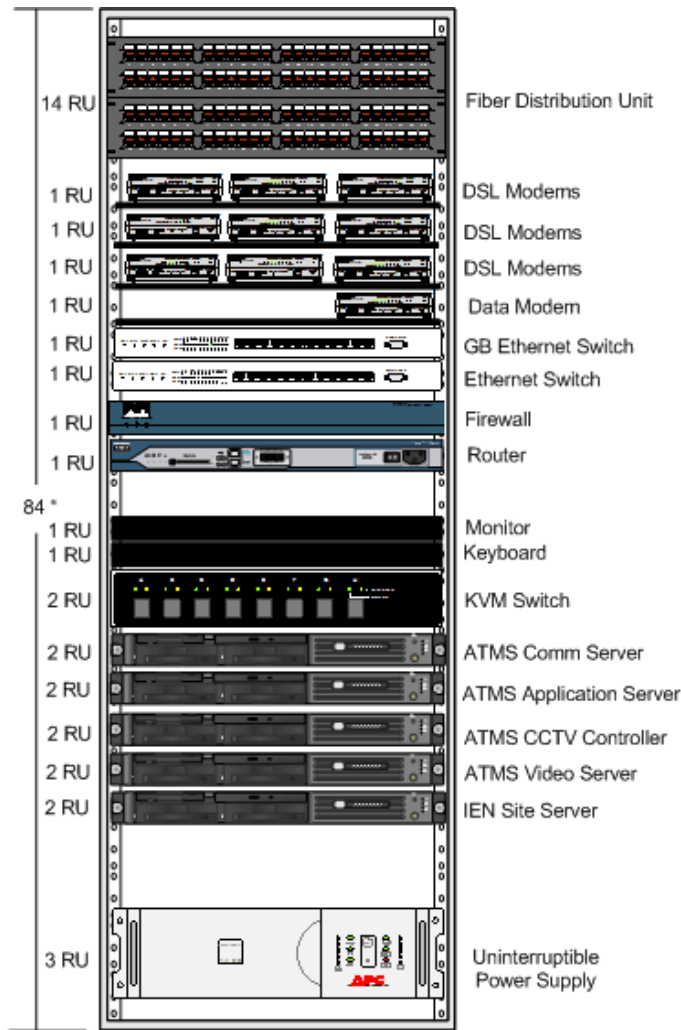


Figure 4-1: Norwalk LCC Equipment Rack Elevation

## 4.2 Equipment Power Requirements

The proposed equipment in the LCC is estimated to present an additional load of 17.9 Amps on the facility. It recommended that the City provide a dedicated circuit with sufficient capacity to supply power to the equipment cabinet as described in Section 4.1.

**Table 4-1: Equipment Power Requirements**

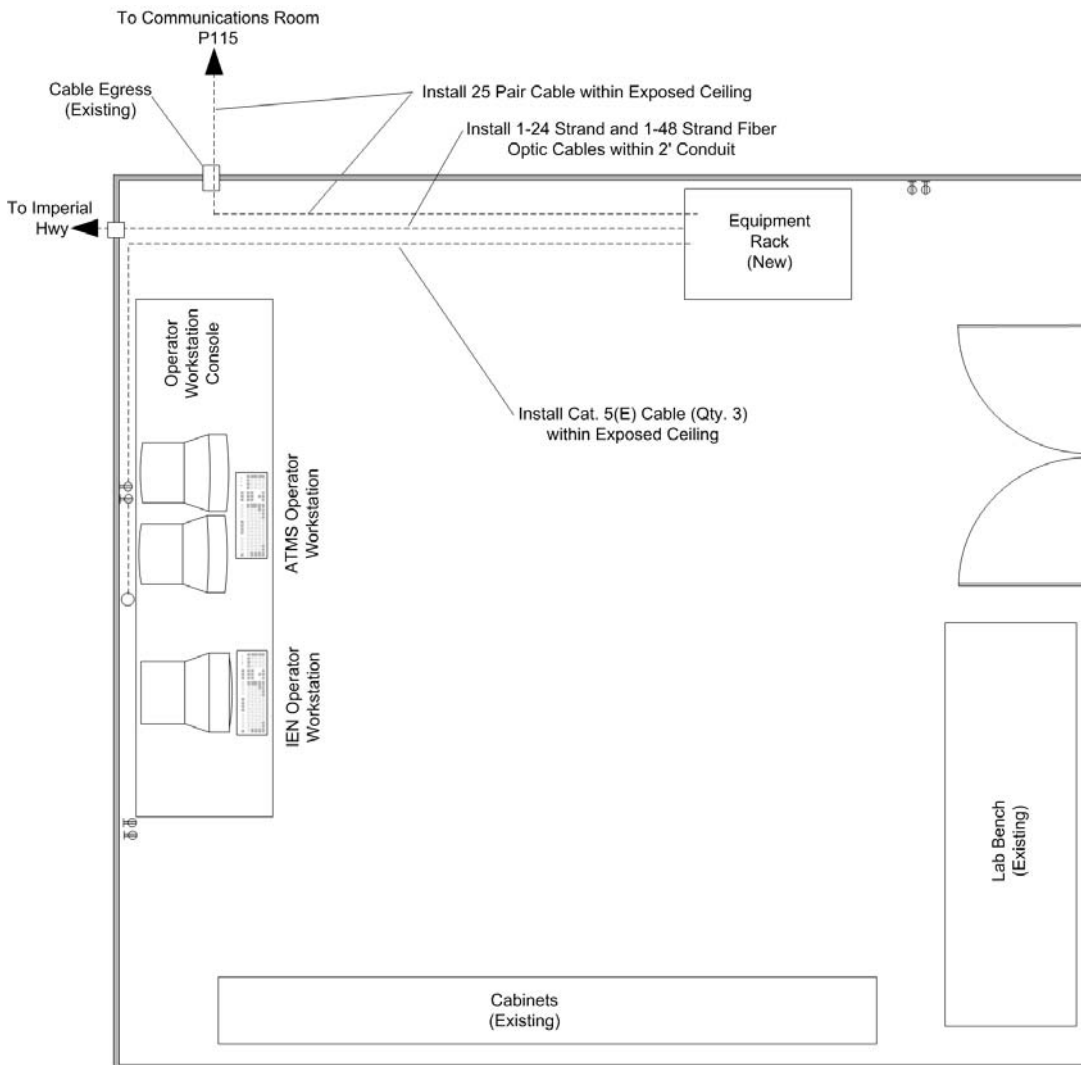
Item	Qty	Total Power Consumption (VA)	Total Heat Dissipation (BTU/Hr)
ATMS Application Server	1	307	1037
ATMS Comm Server	1	307	1037
IEN Video Server	1	307	1037
ATMS CCTV Controller	1	307	1037
IEN Site Server	1	307	1037
KVM Switch	1	-----	-----
Monitor	1	-----	-----
Router	1	20	-----
GB Ethernet Switch	1	50	171
Ethernet Switch	1	50	171
Firewall	1	50	171
Multi-port Serial Device	1	-----	-----
DLS Modem	9	450	171
<b>TOTAL</b>		<b>2,155</b>	<b>5,869</b>



## 5 LCC FLOOR PLAN LAYOUT

### 5.1 Primary LCC Floor Plan Layout

The layout of the primary LCC within the existing Traffic Signal Lab, is shown in Figure 5-1. An operator console supporting two operator positions, one for the TSMACS workstation computer and the other for the Information Exchange Network (IEN) workstation computer is proposed for this room. Existing modular desk furniture may be sufficient for this purpose. A new equipment cabinet is proposed for this room with new communications cables to be installed as shown.

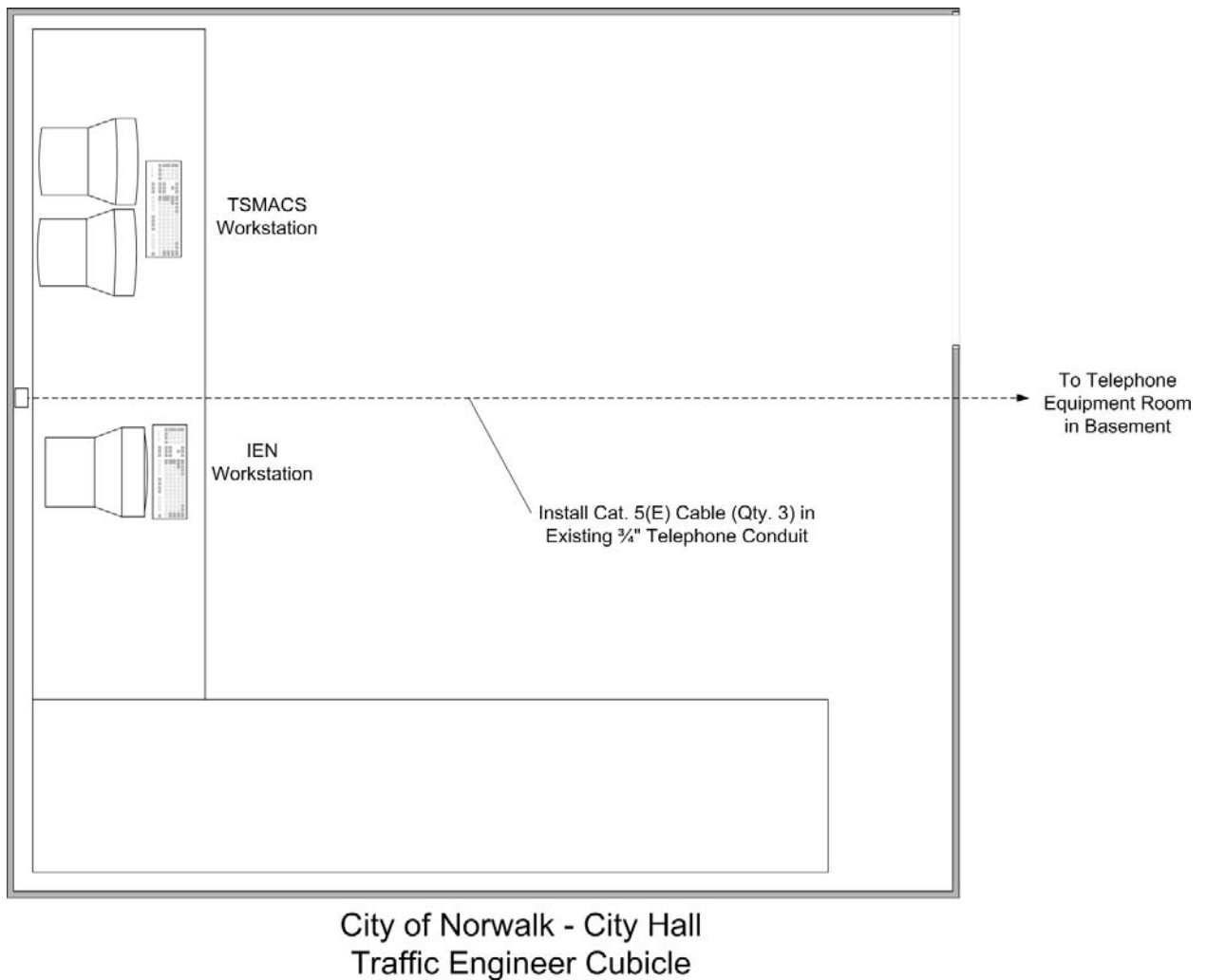


City of Norwalk - Transportation and Public Service Building  
Room P110 (Signal Lab)

**Figure 5-1: Primary LCC Floor Plan Layout**

## 5.2 Secondary LCC Floor Plan Layout

The secondary LCC is proposed to be located in the City Hall. The secondary LCC layout is shown in Figure 5-2. This area is an existing cubicle used by City traffic engineers. A remote TSMACS workstation and a remote IEN workstation are proposed to be located on an existing modular desk as shown. A network cable is proposed to be installed in existing telephone conduit or in new conduit that would run between this cubicle and the main telephone room located in the basement of City Hall. A media converter located in the telephone room provides a conversion from the fiber optic cable coming in from the street to Cat.5 cables running between the telephone room and the workstations.



**Figure 5-2: Secondary LCC Floor Plan Layout**