



Federal Downtown Controller and Communication Upgrade

CITY OF SACRAMENTO

AUGUST 20, 2020

Traffic Signal Infrastructure



Background

- ▶ Maintains over 247 traffic signals in the downtown area.
- ▶ Half of the traffic signal cabinets at these intersections were installed in the 1980s and 1990s.
- ▶ The traffic signal controllers inside of these cabinets are no longer manufactured nor supported.
- ▶ The communication system to cabinets for signal coordination and monitoring was also installed in the 1990s and considered to be obsolete

Grant Application

Existing G Cabinet



Upgrade City Infrastructure

- ▶ In 2015, the City applied for federal grant funds to upgrade the traffic signal equipment at 132 intersections in the downtown area
 - ▶ Replace obsolete controllers and Type G cabinets
 - ▶ Provide Ethernet/IP communication to each traffic signal
 - ▶ Replace copper interconnect wires to fiber optic cables
- ▶ In 2017, the City was awarded \$3,776,000 in Federal Funds
- ▶ Additional local funds of \$1,474,000 brought the total budget to \$5,250,000

Design Phase and Improvement Team

Design

- ▶ Design efforts started in late 2018 and completed in August 2019
- ▶ Consultant Design by Fehr and Peers
- ▶ Field Review and Inventory all traffic signal equipment.
- ▶ Identify all communication interconnect routes
- ▶ Prepare Construction Plans of all proposed replacement work



Improvement Team

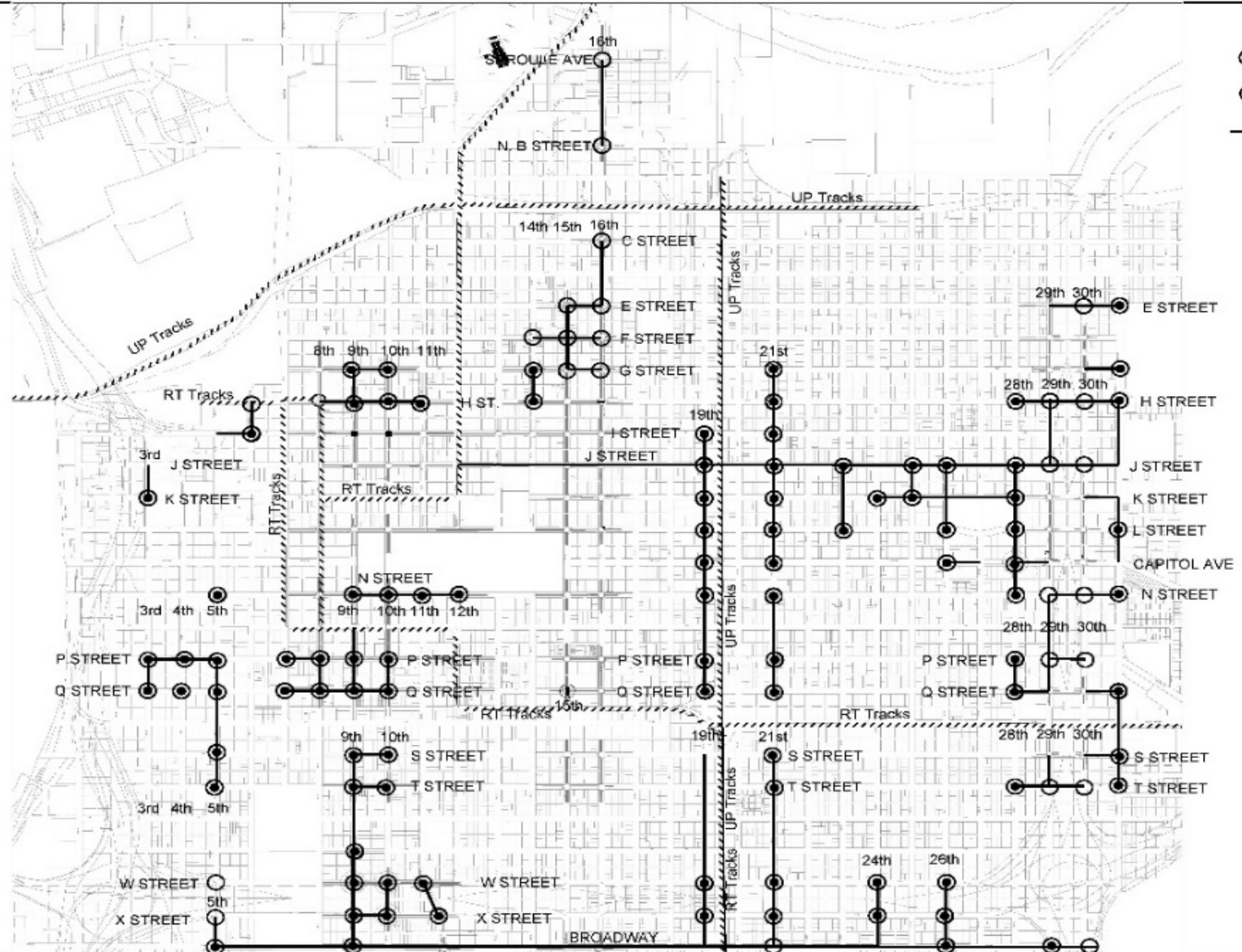
City Public Works Staff

Fehr and Peers (Design Consultant)

Salaber and Associates (Construction Management)

Pacific Excavation (Contractor)

- CABINET/CONTROLLER REPLACEMENT
- CONTROLLER REPLACEMENT ONLY
- FIBER OPTIC WORK IN EXISTING CONDUIT



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REVISIONS <small>U.S.C.B. 100</small>		BENCH MARK <small>DESCRIPTION</small>	<small>F.S.D. WORK</small> CITY OF SACRAMENTO DEPARTMENT OF PUBLIC WORKS	IMPROVEMENT PLANS FOR FEDERAL DOWNTOWN CONTROLLER PROJECT ELECTRICAL	<small>ST. L. T. No.</small> CF
<small>NO.</small>	<small>DATE</small>	<small>BY</small>	<small>DESCRIPTION</small>	<small>DESIGNED BY</small>	<small>CHECKED BY</small>

P/N: T-15175000

Traffic Signal Improvements



332 LS Cabinet / 2070 LX Controller

Construction

Project Bid and Awarded by the City Council in November 2019 to Pacific Excavation for \$3.9 million.

Construction started in January 2020. The Improvements included:

- ▶ Replacing 96 Traffic Signal Cabinets
- ▶ Installing 27 new controllers in existing cabinets
- ▶ Installing 32 CCTV camera's for traffic monitoring
- ▶ Installing 100,000 feet of fiber optic cabling for the communication system to each cabinet

Upgrade at 3rd and Q Streets

Pre-Construction



Construction Upgrade



Construction Upgrade

- ▶ New cabinet/ controller
- ▶ New fiber optic communication
- ▶ New underground conduit
- ▶ Relocated cabinet to planter area

Cabinet and Controller



New Equipment

- ▶ New 2070 controller
- ▶ Fiber Patch Panel
- ▶ New Network Switch
- ▶ CCTV Camera Equipment
- ▶ New Conduit into cabinet
- ▶ Expansion Space for future technology



Construction Status

Construction

- ▶ Construction work was fully completed this week. 1 month ahead of schedule.
- ▶ Project is Under Budget. We still have a few more months of paperwork to complete this project.

COVID-19

In March, Governor issued the “secure in place” or “stay at home” orders.

This project was allowed to continue since it was considered operations on essential infrastructure.

Vehicle and Pedestrian Applications



Future Downtown Traffic

- ▶ New traffic signal equipment positions the City to be able to meet the future demands of pedestrian, transit and bicycle density by providing infrastructure.
- ▶ Traffic Signals managed from City's Traffic Operations Center for traffic demand, temporary street closures, and special events.
- ▶ Signal Coordination can also be managed and updated through the Traffic Operation Center.

Questions

