

Highway Safety Improvement Program Cycle VIII Grant

Public Works Department

City Council
April 17, 2018

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BACKGROUND

1. In August 2016, the Public Works Department submitted a Highway Safety Improvement Program (HSIP) grant application seeking funding for new traffic signal controller, software, and central system equipment and installation.
2. In November 2016, the City was awarded grant funding in the amount of \$559,900 for the project.
3. Local matching funds of \$559,900 were committed.



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PROJECT COMPONENTS

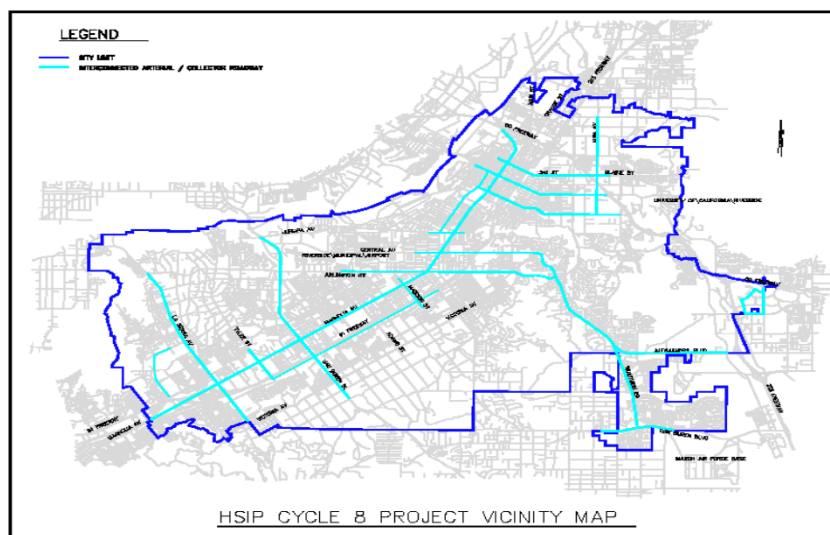
1. Acquisition and installation of new Model 2070 traffic signal controllers at currently interconnected traffic signals citywide.
2. Purchase and installation of new, upgraded controller software and central system.



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PROJECT VICINITY MAP



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EXISTING EQUIPMENT VS. NEW

1. Many of the existing traffic signal controllers are Model 170 which run on older Bitran 200 Software.
2. Model 170 controllers are outdated and do not offer many crucial features available in the new 2070 Model.
3. Existing software does not include many key features automatically provided in the new software without the need for programming / special logic.
4. Old system is less reliable and offers narrower functionality than the new, more efficient, reliable, and effective system.



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KEY FEATURES

1. Improved operations during pre-emptions with less disruption to signal timing and reduced queuing.
2. Enhanced ability to distinguish between high priority (emergency vehicle) and low priority (bus) pre-emptions ensuring no related delays to emergency vehicles.
3. Advanced function allowing omission of permissive left-turn phases during pedestrian actuations reducing conflicts.
4. Increased compatibility utilizing peer-to-peer logic to furnish speed, queue clearing and limited service commands to adjacent signals



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ADDITIONAL KEY FEATURES

5. Developed connected vehicle capabilities for sending immediate safety information to participating motorists.
6. Reduced signal down time when recovering from hardware failure or need to use "flashing red" when configuring IP communications.
7. Upgraded information with available visual queuing data and safety messages to staff improving response times.



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OVERALL BENEFITS

1. Expanded functionality and compatibility.
2. Superior reliability.
3. Greater longevity.
4. Improved traffic operations.
5. Enhanced traffic safety.



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LOCAL MATCHING FUNDS

1. Local matching funds committed to the project total \$559,900.
2. Funds have been identified and are available in CIP 2018/19 Interconnected Signals Controller Replacement Account 9902433-440313 (Measure A).



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RECOMMENDATIONS

That the City Council:

1. Accept the HSIP Cycle VIII grant award, contingent upon receipt of funds, in the amount of \$559,900 awarded to the Public Works Department for the acquisition and installation of new Model 2070 traffic signal controllers at currently interconnected traffic signals citywide, upgraded controller software, and central system; and
2. Authorize an increase in estimated revenues in the amount of \$559,900 in account 9902428-331310 and appropriate expenditures in the same amount to the HSIP Cycle VIII project account 9902428-440125 as assigned by the Finance Department.



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