

Memorandum

TO: HONORABLE MAYOR AND
CITY COUNCIL

FROM: James R. Helmer
Jennifer A. Maguire

**SUBJECT: ACCEPTANCE OF TRAFFIC
LIGHT SYNCHRONIZATION
PROGRAM GRANT**

DATE: 07-21-08

Approved

Date

7/24/08

COUNCIL DISTRICT: City-Wide

RECOMMENDATION

- A. Approval of a Baseline Agreement with the California Department of Transportation (Caltrans) to accept a grant of \$15 million in Proposition 1B Traffic Light Synchronization Program funds for the City's Traffic Signal Communications and Synchronization Project and, to execute any other documents necessary to accept the grant.
- B. Adoption of the following Appropriation Ordinance and Funding Sources Resolution amendments in the Building and Structure Construction Tax Fund:
 - 1. Increase the estimate for Earned Revenue by \$5,809,000
 - 2. Establish an appropriation to the Department of Transportation for the Traffic Signal Communications and Synchronization project by \$7,574,000
 - 3. Decrease the Traffic Signals – Flow Management project by \$265,000
 - 4. Decrease the Ending Fund Balance by \$1,500,000

OUTCOME

Accepting the award of the grant will enable the City to implement a project to rehabilitate aging traffic signal equipment and to build-out a citywide, state-of-the art signal timing and traffic management system to optimize traffic flow, reduce vehicle emissions and improve air quality.

BACKGROUND

Traffic flow conditions on arterial roadways rely heavily on efficient signal operations and updated timing plans. While the City's traffic management system was considered state-of-the-art in the early 1990's, today the City's ability to efficiently manage traffic flow has been limited by aging traffic signal equipment and 15 year old technologies. In the 2007 Community Survey,

“traffic congestion” was rated by San Jose residents as the most serious issue they would like the City to address above public safety and the economy. This was reinforced in the 2008 Community Budget Survey with traffic signal synchronization receiving the highest percentage of support (71%) for priority program investment.

In March 2008, the Department of Transportation (DOT) submitted a grant application to the California Transportation Commission (CTC) for Traffic Light Synchronization Program (TLSP) funds. The application submitted by DOT requested \$15 million in TLSP grant funds and proposed a \$5 million local match. The application proposed to use the \$20 million to implement the City’s Traffic Signal Communication and Synchronization project, which would have the objective of upgrading existing equipment and technology to a state-of-the-art traffic management system to optimize traffic flow.

On May 28, 2008, the CTC approved the third highest individual project grant award to San Jose to fund the implementation of the City’s Traffic Signal Communication and Synchronization project (Project). To receive the grant funds, the City must execute Caltrans’ Baseline Agreement by August 22, 2008. This memo outlines the grant conditions, as well as resources required for the delivery of the Project.

ANALYSIS

The TLSP grant is funded out of the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006, also known as Proposition 1B, that was approved by California voters in November 2006. It provided \$250 million to fund traffic light synchronization projects and other technology-based improvements to improve safety, operations and effective capacity of local streets and roads. Projects were evaluated and ranked on scores received in overall effectiveness, traffic safety and air quality improvement, timely delivery, and local match commitment. In addition, to be eligible for the grant, applicants must demonstrate availability of local match funds, and commitment to proper maintenance and operations commensurate with a 15 year useful life expectation of general obligation funds.

The TLSP grant is the largest grant the City has ever received for traffic signal synchronization or flow improvement. The grant also provides synergistic opportunities for leveraging other programmed investments, such as the Transportation Incident Management Center (TiMC), to expand coverage areas and increase capabilities to remotely monitor and manage local and regional traffic conditions, incidents and events. IT infrastructure and wireless technology projects can also be leveraged by sharing communication facilities to reduce O&M costs related to leased communication lines.

Other benefits include improved timely response to customer service calls. Currently, 50% of approximately 450 service calls related to traffic signal operations are responded to within a 15 day target. The implementation of traffic signal communication and monitoring cameras will allow staff to respond to these service requests more quickly, restoring optimal flow conditions

to minimize travel delays. Signal malfunctions can be quickly verified without the need to go in the field, resulting in saving of staff time and vehicle fuel cost. The implementation of advanced traffic management systems in key travel corridors will enable signals to automatically adapt to real-time travel demands 24/7.

To obtain the \$15 million in TLSP grant funds, the City needs to execute a Baseline Agreement (see Attachment A) with Caltrans containing the following material terms and conditions:

1. TLSP Project Scope

The agreement will commit the City to implement a project with the following elements:

- Installation of 36 miles of fiber-optic signal communication line to currently underserved areas in North San Jose, Berryessa, East San Jose, Evergreen, Edenvale, Willow Glen, Cambrian, and West San Jose.
- Upgrade of 785 traffic signals with new controllers and software allowing for “state of the art” traffic management, complementing 115 signals being upgraded along LRT and bus transit corridors funded by other grants.
- Expand and update synchronization and/or signal timing plans for all City signals.
- Add 141 traffic surveillance cameras at traffic congestion “hot spots” to allow for real-time traffic monitoring and signal adjustment.
- Expand advanced traffic management systems beyond current system coverage (Downtown, Arena, and Airport) to key business districts around Stevens Creek/Winchester (Valley Fair/Santana Row), Blossom Hill/Santa Teresa (Oakridge), Tully Road/101 (Eastridge), Story/McLaughlin (“Little Saigon”), and Story/King (Tropicana).

2. Project Benefits

As part of the grant agreement, the City must also certify that implementing the above scope of work is anticipated to yield the following initial year benefits. Additional benefits are expected at a lower level in the subsequent years.

- Reduce vehicle travel time on local streets by 15%, eliminating 840,000 hours of vehicle delay, and providing a delay savings of \$50 million to the local traveling public.
- Reduce fuel consumption by 625,000 gallons, saving \$2.5 million in fuel costs.
- Reduce vehicle emissions harmful to air quality by 36 tons and reduce greenhouse gas emissions (CO₂) by 21,000 tons.

3. TLSP Project Schedule

To receive the highest score possible in the timely delivery category, DOT committed to a 36-month project delivery. The grant agreement will contain this commitment as a condition of the grant. The ramifications to the City of this aggressive schedule are discussed further below.

4. Local Match

The grant agreement will include a requirement that the City will provide a \$5 million local match in the three-year timeframe for delivery of this project. DOT proposed a \$5 million local match in order to achieve a competitive ranking. The local match commitment will be met by applying approximately \$4,100,000 in existing Capital Funds programmed for traffic signal rehabilitation and flow management work, and \$600,000 in traffic signal improvement work in the Traffic Capital Improvement Program. Approximately \$300,000 will come from ending fund balance over the three-year period.

5. Other Provisions of the Agreement

Other general provisions of the grant include securing funds for any additional costs of the project, as discussed under Fiscal Impact in the Cost Summary/Implications section below; submit quarterly progress reports, and maintain records for audit purposes.

6. Appropriation Actions

As described above, the local match for this project will be spread over a three-year time period. Of the \$15 million grant, estimated revenue of \$5,809,000 will be received in 2008-2009. Recommendations to recognize this revenue are included in this memorandum as well as recommendations to appropriate \$7,574,000 to establish the Traffic Signal Communications and Synchronization project. Additional recommendations to fund the local match portion of this project include decreasing the Traffic Signals – Flow Management project by \$265,000 and decreasing the ending fund balance by \$1,500,000 for 2008-2009. An estimated total of \$1,200,000 in project savings is anticipated to be available in the Building and Structure Construction Tax Fund as part of the 2007-2008 year-end closing process. These savings will be intended to minimize the impact to the ending fund balance, therefore, impacting the Traffic Capital Improvement Program by only \$300,000 over the three-year period.

EVALUATION AND FOLLOW-UP

This project addresses the following performance measures under the Transportation Operations core service and will be reported through the normal reporting cycles:

- % of traffic signals proactively re-timed citywide
- % of customers rating services good or better based upon timeliness, added safety, and satisfaction with traffic solution

POLICY ALTERNATIVES

The City Council could choose not to accept the grant or provide the matching funds.

Pros: While the City would still likely perform these projects over a longer time period, it would not be obligated to comply with the schedule and matching funding requirements.

Cons: City would miss an opportunity to leverage local funds and to eliminate a \$7.4 million traffic signal maintenance backlog.

Reason for not recommending: Traffic signal system is already at the end of its useful life. Rehabilitation and technology investments are critical for addressing growing congestion resulting from growing economy, as well as housing and job growth that are projected to increase significantly over the next ten to fifteen years.

PUBLIC OUTREACH/INTEREST

- Criterion 1:** Requires Council action on the use of public funds equal to \$1 million or greater. **(Required: Website Posting)**
- Criterion 2:** Adoption of a new or revised policy that may have implications for public health, safety, quality of life, or financial/economic vitality of the City. **(Required: E-mail and Website Posting)**
- Criterion 3:** Consideration of proposed changes to service delivery, programs, staffing that may have impacts to community services and have been identified by staff, Council or a Community group that requires special outreach. **(Required: E-mail, Website Posting, Community Meetings, Notice in appropriate newspapers)**

This item meets Criterion 1: Requires Council action on the use of public funds equal to \$1 million or greater. This memorandum will be posted on the City's website for the August 12, 2008 Council agenda.

COORDINATION

This memorandum has been coordinated with the City Attorney's Office and the Department of Planning, Building and Code Enforcement.

FISCAL/POLICY ALIGNMENT

Approval of a Baseline Agreement with Caltrans to accept \$15 million in TLSP grant funds will support the City's initiative to "build a better transportation system" and support the Council-approved Budget Principle to leverage State and Local grant funds to implement regional transportation projects. It also complies with the Mayor's June 2008 budget message that calls for capital investment to *"address reliability issues and allow the City to utilize the latest signal timing, coordination, and communications technology that are available for optimizing traffic*

flow. This will improve commutes, improving our air quality, and making our neighborhoods safer.”

COST SUMMARY/IMPLICATIONS

1. AMOUNT OF RECOMMENDATION/COST OF PROJECT:

Project Delivery	3,050,000
Conduit and Fiber Installation	7,290,000
System Procurement	7,300,000
Signal Synchronization	2,675,000
Total Project Costs	20,315,000*

*\$315,000 in non-reimbursable engineering costs

2. SOURCE OF FUNDING: 429 - Building and Structure Construction Tax Fund

3. FISCAL IMPACT:

As reported in the “General Fund Unmet/Deferred Infrastructure and Maintenance Needs Information” memorandum that went to Council on February 5, 2008, there currently is a backlog of \$14.2 million in one-time infrastructure improvements for traffic signal system rehabilitation/maintenance. A major impact of this grant is that it will reduce the traffic signal infrastructure backlog needs by approximately \$7.4 million leaving a one-time backlog of \$6.8 million.

However, as discussed above, one of the conditions of receiving the grant will be that the City commit to an aggressive Project delivery schedule. This aggressive delivery schedule requires a commensurate increase in staffing to perform a significant amount of design, procurement, and implementation work in a short period of time. While existing staff will be redeployed where possible, an additional seven overstrength positions are necessary in 2008-2009 to meet the committed timeframe. The cost of these positions will be funded by Capital Funds, under the TLSP grant project.

Additional vehicles and equipment are also required to meet the aggressive schedule as the current vehicle and equipment availability is not adequate to deliver the project. DOT will work with GSA to procure an aerial and a utility truck, fiber testing equipment and cable installation trailers needed for the delivery of the Project.

The newly installed or improved system is also expected to be operated and maintained properly to yield a 15 year useful life, consistent with the expectation of a general obligations fund, the source of the grant. Two positions are expected to be needed through 2010-2011, with up to five more permanent positions needed to ensure that signal timing programs are fine tuned regularly, and that all traffic signal communication systems (traffic loops, fiber

and signal cables, wireless devices, hubs) are kept in good working condition to support optimal traffic flow conditions. Funding for these positions has yet to be identified. Staff will bring forward recommendations during the next budget process. Due to the significant increase in communication devices, camera equipment, and fiber cables brought on-line with this project, approximately \$100,000 will be needed annually in the General Fund for ongoing maintenance and repair costs.

Proposition 1B fund allocations are considered to be “maximum and not to exceed” element of the project funds. The allocation of bond funds will be limited to the amount indicated in the approved baseline agreement. Any project overruns will be the responsibility of the City.

BUDGET REFERENCE

The table below identifies the fund and appropriations proposed to fund the project recommended as part of this memorandum.

Fund #	Appn #	Appn Name	Total Appn	Amount for project	2008-2009 Proposed Capital Budget Page	Last Budget Action (Date, Ord. No.)
429	5370	Traffic Signals – Flow Management	\$740,000	\$265,000	V-877	N/A
429	8999	Ending Fund Balance	\$4,806,399	\$1,500,000	N/A	N/A
Total			\$5,546,399	\$1,765,000		

HONORABLE MAYOR AND CITY COUNCIL

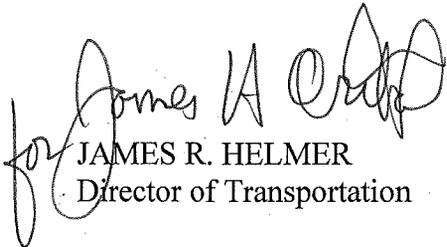
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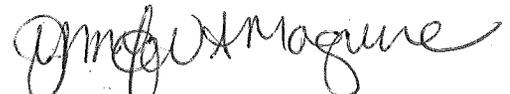
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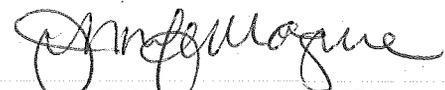
CEQA

Resolution Nos. 60197 and 63179, File No. PP08-154


for JAMES R. HELMER
Director of Transportation


JENNIFER A. MAGUIRE
Budget Director

I hereby certify that there will be available for appropriation in the Building and Structure Construction Tax Fund in the Fiscal Year 2008-2009 moneys in excess of those heretofore appropriated therefrom, said excess being at least \$5,809,000.


JENNIFER A. MAGUIRE
Budget Director

For questions please contact Lily Lim-Tsao, Program Manager II, at 975-3269.

Attachments

**TRAFFIC LIGHT SYNCHRONIZATION PROGRAM
PROJECT SCOPE, COST, SCHEDULE AND BENEFIT
BASELINE AGREEMENT**

Sponsor: City of San Jose	County: Santa Clara	EA:
Corridor Description: Citywide project to upgrade San Jose's aging traffic signal management system to an advanced state-of-the-art system.		

We acknowledge the scope, cost, schedule and benefits as identified on the attached Project Programming Request are the baseline for project monitoring by the California Transportation Commission. We certify that funding sources cited are committed and expected to be available; the estimated costs represent full project funding, and the description of benefits is the best possible estimate.

General Provisions:

1. The Sponsoring Agency agrees to secure funds for any additional costs of the project. Any change to the funding commitments outlined in this agreement requires an amendment.
2. The Sponsoring Agency agrees to report to the California Transportation Commission on a quarterly basis on the progress made toward the implementation of the project, including scope, cost, and schedule.
3. The Sponsoring Agency agrees to maintain and make available to the California Transportation Commission and/or its designated representative, all work related documents, including engineering and financial data, during the course of the project and retain those records for four years from the date of the final closeout of the project. Financial records will be maintained in accordance with Generally Accepted Accounting Principles.

4. The California Transportation Commission and/or its designated representative, has the right to audit the project records, including technical and financial data, of the Department of Transportation, the Sponsoring Agency, and any sub-consultants at any time during the course of the project and for four years from the date of the final closeout of the project. Audits will be conducted in accordance with Generally Accepted Government Auditing Standards.

Name
Title
Sponsoring Agency

Date

Will Kempton
Director
California Department of Transportation

Date