



**APPROVED**  
BY THE CITY COUNCIL

4.2

JAN 11 1994

OFFICE OF THE  
CITY CLERK

DEPARTMENT OF  
PUBLIC WORKS

OFFICE OF THE DIRECTOR  
ADMINISTRATION

**CITY OF SACRAMENTO**  
CALIFORNIA

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December 22, 1993

City Council  
Sacramento, California

Honorable Members In Session:

**SUBJECT: TRAFFIC SIGNAL PROGRAM OF THE TRANSPORTATION MASTER PLAN**

**LOCATION:** City-wide

**RECOMMENDATION:**

This report recommends the City Council approve and include the attached traffic signal program in the previously approved Transportation Master Plan.

**CONTACT PERSON:** Larry Wing, Senior Engineer, 264-7924

**FOR COUNCIL MEETING OF:** January 11, 1994

**SUMMARY:**

At the December 7, 1993 meeting, the City Council approved the Transportation Master Plan with the exception of the traffic signals program section. Council requested a report back on the traffic signals priority list and project updates.

The Transportation Master Plan identifies and discusses the City's current and future transportation needs. In addition to traffic signals, the approved plan includes: major streets, street maintenance, bikeways, undulations, bridge replacement/rehabilitation, and street landscape projects. Council approval of the traffic signals program section is recommended.

**COMMITTEE/COMMISSION ACTION:**

None.

**BACKGROUND INFORMATION:**

Annually, the Transportation Division evaluates approximately 200 locations for traffic signals. Traffic signals and interconnects increase safety and reduce congestion. The evaluation is made based on established criteria or traffic signal warrants. Approximately 70 locations currently meet a warrant and have been assigned priority points and a rank. Approximately five signals at a total cost of \$750,000 are funded annually.

The priority ranking process is a three step process (Exhibit A):

Phase 1:

Data is collected for each location

Phase 2:

Data is reviewed and evaluated against established warrants

Phase 3:

Points and rank order is established based on criteria

The traffic signal priority list differs from other priority lists in the plan because it does not represent an absolute ranking. Each year a project's rank may change as projects are reviewed and evaluated against traffic warrants described in the above three step ranking process. For example, a project may rank high one year and in the next year its rank may change higher or lower because of changes in the data collected. Therefore, historical data collected on a project location is also considered in the overall evaluation process.

Factors such as local development, future CIP projects, coordination with other agencies, and the installation of less expensive traffic controls are investigated before recommending the construction of a traffic signal. Therefore, projects that are ranked high may be postponed while lower-ranked projects may be recommended for construction.

**FINANCIAL CONSIDERATIONS:**

Funding sources available for constructing traffic signals and interconnects may include: Measure A Sales Tax, Gas Tax, Major Street Construction and various state and federal grants.

City Council  
TRAFFIC SIGNAL PROGRAM OF THE TRANSPORTATION MASTER PLAN  
December 22, 1993

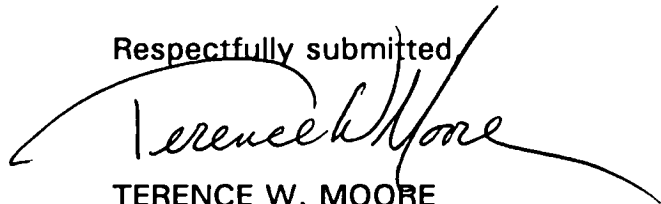
**POLICY CONSIDERATIONS:**

The Traffic Signal Program of the Transportation Master Plan assesses city-wide traffic signal needs based on established criteria and ranking process. The program provides a rationale for Council review and action.

**MBE/WBE EFFORTS:**

Not applicable.

Respectfully submitted



TERENCE W. MOORE  
Engineering Division Manager

**RECOMMENDATION APPROVED:**



WILLIAM H. EDGAR  
City Manager

Attachment

**APPROVED:**



MICHAEL K. KASHIWAGI  
Deputy Director of Public Works

JAN 1 1 1994

OFFICE OF THE  
CITY CLERK

**RESOLUTION NO. 94-027**

ADOPTED BY THE SACRAMENTO CITY COUNCIL

ON DATE OF \_\_\_\_\_

**RESOLUTION APPROVING THE  
TRAFFIC SIGNALS PROGRAM OF  
THE TRANSPORTATION MASTER PLAN**

BE IT RESOLVED BY THE COUNCIL OF THE CITY OF SACRAMENTO THAT:

The City Council hereby approves and includes the Traffic Signal Program  
in the Transportation Master Plan.

\_\_\_\_\_  
MAYOR

ATTEST:

\_\_\_\_\_  
CITY CLERK

FOR CITY CLERK USE ONLY

RESOLUTION NO.: \_\_\_\_\_

DATE ADOPTED: \_\_\_\_\_

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# TRAFFIC SIGNALS PROGRAM

## INTRODUCTION

Annually, the Transportation Division evaluates about 200 locations for traffic signals. The evaluation is based on criteria or traffic signal warrants. The installation of a traffic signal is carefully evaluated because it may cause an increase in the number of certain types of accidents, such as rear end collisions. When a warrant is met, it indicates that the potential for increase in accidents attributed to a traffic signal is less than existing accidents or congestion. Nearly 70 locations currently meet a warrant and have been assigned priority points and ranked accordingly.

Traffic signal interconnects are usually constructed in conjunction with a traffic signal. The interconnect system increases traffic efficiency and assists in achieving air quality goals.

## FUNDING SOURCES

Funding sources available for constructing traffic signals and interconnects include: Measure A Sales Tax, Gas Tax, Major Street Construction and various state and federal grants. About five signals at a total cost of \$750,000± are funded annually.

## GOALS AND OBJECTIVES

The primary goal of the traffic signal and interconnect program is to increase safety and reduce congestion.

## PROJECT RANKING PROCESS

The Traffic Signal Priority List (TSPL) procedure involves three phases.

### Phase I

In Phase I, the necessary traffic and accident data is collected for any location which has been suggested as a candidate for a traffic signal and screens locations which are not close to meeting accident and volume warrants.

The locations to be studied are taken from the study list of locations from previous years. New locations are added to this list through investigations, accident analysis, development projects, Councilmember requests and others. Locations that are listed in the CIP shall remain on the study list until the projects are constructed. New data is collected for intersections which have been on the TSPL for more than three years. Data is collected for new locations as they are identified. The following is the minimum data collected for each location:

- Accident Information
- Traffic Volumes
- Topographic Information
- Pedestrian & Bicycle Volumes
- Existing & Projected Land Uses
- Visibility
- Gaps in main traffic stream
- Existing Controls

## Phase II

The second phase uses the information from Phase I to determine which locations meet one or more of the eleven traffic signal warrants:

- Warrant 1 - Minimum Vehicle Volume
- Warrant 2 - Interruption of Continuous Traffic
- Warrant 3 - Minimum Pedestrian Volume
- Warrant 4 - School Areas
- Warrant 5 - Progressive Movement
- Warrant 6 - Accident Experience
- Warrant 7 - Systems Warrant
- Warrant 8 - Combination of Warrants
- Warrant 9 - Four Hour Volume Warrant
- Warrant 10 - Peak Hour Delay
- Warrant 11 - Peak Hour Volume Warrant

In Phase III, locations which have met one or more warrants in Phase II are assigned points and are ranked accordingly. Based on engineering judgement and development trends, a recommendation is then made for inclusion (or not) in the Department of Public Works' Capital Improvement Program (CIP). Locations that do not meet any warrants remain on the list for annual reviews.

## Phase III

Locations that meet one or more of the above traffic signal warrants are assigned a ranking based on the total number of points accumulated from the warrant analysis system. Points are assigned to each location from the following list of criteria:

<u>CRITERIA</u>	<u>DESCRIPTION</u>
• Traffic Vehicle Volume	Compares the side street traffic to the total
• Accidents	The number of total correctable accidents is reviewed
• Pedestrians	The number of pedestrians crossing the street is recorded
• Through Street	The distance to the nearest signal is recorded
• Regional Access	Other access routes are reviewed
• Approach Speed	The speed limit for the main street is reviewed
• Coordination	How can the new signal be coordinated with existing signals.
• Four-way Stop	Relates the traffic volume to a four-way stop location.
• Three-way Stop	Tee intersections are reviewed
• Railroad	Railroad near an intersection is reviewed
• Visibility	Available visibility for side street traffic is reviewed
• Gaps	Amount of acceptable gaps in the main street traffic is reviewed
• Type	The geometric configuration of the intersection is reviewed
• Other	The lane configuration of the intersection is reviewed

In addition to the above phases, each location is grouped according to data collected into one of the following TSPL categories:

- Under Construction
- In Design by City, County State or Consultant
- Awaiting Funding
- Required coordination with other agencies
- Part of future roadway improvements
- Study for other options
- Continue to monitor this location
- Add to CIP

Locations categorized as "under construction," "in design" or "study for other options" are not included and will not be evaluated in the next year's TSPL.

The TSPL differs from other priority lists in that it does not represent an absolute ranking. Factors such as local development, future CIP projects, co-ordination with other agencies, and the installation of less expensive traffic control measures are investigated before recommending the construction of a traffic signal. Consequently signals which are ranked high on the TSPL may be postponed for several years while signals of a lower priority may be recommended for construction.

There are 69 traffic signals currently prioritized. The following tables depict the traffic signal priority ranking in two ways:

Table 5: Top Twenty-Five City-Wide Traffic Signal Projects

Table 6: Overall Priority Ranking of Projects 1-69 by Council District

Plate 2 depicts the location of the top twenty-five traffic signal projects. The numbers assigned refer to the Table 5 priorities.

**TABLE 5**

**TOP TWENTY-FIVE TRAFFIC SIGNALS**

<b>RANK</b>	<b>STREET</b>	<b>LIMITS</b>	<b>STATUS</b>
1	Northgate Boulevard	Del Paso Blvd./160 On-ramp	Part of future roadway improvements
2	Fruitridge Road	Lawrence Drive/Vista Avenue	To be designed in Spring 94
3	Florin-Perkins Road	Belvedere Avenue	Recommend for 94-95 CIP
4	Fruitridge Road	Elk Grove-Florin Road/South Watt Avenue	Wait for future roadway improvements, coordinate with County
5	San Juan Road	Truxel Road	Part of future roadway improvements, Truxel Interchange
6	Stockton Boulevard	Between Lawrence Drive /Fruitridge Road	Continue to monitor this location, define exact location for signal
7	College Town Drive	Jed Smith Drive	Coordinate with CSUS; 75% CSUS responsibility
8	Stockton Boulevard	8th Avenue	Recommend for 94-95 CIP
9	Exposition Blvd.	Tribute Road	Part of Future Roadway Improvements
10	Ethan Way	Cal Expo/Hurley Way	Coordinate with State (Cal Expo)
11	El Camino Ave (W)	Fairweather Dr./Morell St.	Recommend for 94-95 CIP
12	Mack Road	KMart Driveway	This location is currently being studied
13	J Street	48th Street	Recommend for 94-95 CIP
14	P Street	24th Street	Recommend for 94-95 CIP
15	Elder Creek Road	Sun River Drive	Continue to monitor this location
16	El Camino Avenue	Connie Drive/Ethan Way	TWLTL working well, has mitigated problem, remove from next years list



**TABLE 5 (cont.)**

<b>RANK</b>	<b>STREET</b>	<b>LIMITS</b>	<b>STATUS</b>
17	Elder Creek Road	Ring Dr./Rancho Adobe Dr.	Continue to monitor this location
18	Bruceville Road	Center Parkway/Sheldon Road	Continue to monitor this location
19	El Camino Ave (W)	Orchard Lane	Continue to monitor this location, Developer funded as part of private project
20	Northgate Blvd.	Sotano Dr./Wisconsin Ave.	Continue to monitor this location
21	Center Parkway	Tangerine Avenue	Continue to monitor this location
22	Freeport Blvd.	Belleauwood Lane	In design by City, Coordination with State to begin
23	Richards Boulevard	North 10th Street	Part of Future Roadway Improvements
24	Truxel Road	Pebblewood Drive	Continue to monitor this location
25	Q Street	24th Street	Continue to monitor this location, all-way stop working well

**PRIORITIES AS SHOWN ARE SUBJECT TO REVISION**

**TABLE 6****TRAFFIC SIGNALS IN OVERALL  
PRIORITY RANKING - BY COUNCIL DISTRICT****COUNCIL DISTRICT NO. 1**

<b>RANK</b>	<b>STREET</b>	<b>LIMITS</b>	<b>STATUS</b>
1	Northgate Boulevard	Del Paso Blvd/160 On-ramp	Part of future roadway improvements
5	San Juan Road	Truxel Road	Part of future roadway improvements, Truxel Interchange
11	El Camino Ave (W)	Fairweather Dr/Morell St	Recommend for 94-95 CIP
19	El Camino Ave (W)	Orchard Lane	Continue to monitor this location; Developer funded as part of private project.
20	Northgate Boulevard	Sotano Dr/Wisconsin Ave	Continue to monitor this location
23	Richards Boulevard	North 10th Street	Part of future roadway improvements
24	Truxel Road	Pebblewood Drive	Continue to monitor this location
27	Richards Boulevard	Sequoia Pacific Boulevard	Part of future roadway improvements
38	E Street	15th Street	Continue to monitor this location
57	El Camino Ave (W)	Northview Drive	Continue to monitor this location
61	San Juan Road	Binghampton Drive	Continue to monitor this location

**TABLE 6 (cont.)**

**COUNCIL DISTRICT NO. 2**

<b>RANK</b>	<b>STREET</b>	<b>LIMITS</b>	<b>STATUS</b>
40	Norwood Avenue	Eleanor Avenue	Continue to monitor this location
46	El Camino Ave	Boxwood Street	Continue to monitor this location
59	Rio Linda Blvd	Lampasas Avenue	Continue to monitor this location
60	Silver Eagle Road	Mabel Street	Continue to monitor this location, 3-way stop
66	Norwood Avenue	Fairbanks Avenue	Continue to monitor this location

**TABLE 6 (cont.)**

**COUNCIL DISTRICT NO. 3**

<b>RANK</b>	<b>STREET</b>	<b>LIMITS</b>	<b>STATUS</b>
9	Exposition Boulevard	Tribute Road	Part of future roadway improvements
10	Ethan Way	Cal Expo/Hurley Way	Coordinate with State (Cal Expo)
13	J Street	48th Street	Recommend for 94-95 CIP
14	P Street	24th Street	Recommend for 94-95 CIP
16	El Camino Ave	Connie Dr/Ethan Way	TWLTL working well, has mitigated problems; remove from next year's list
25	Q Street	24th Street	Continue to monitor this location, all-way stop working well
30	Folsom Blvd	56th Street	Continue to monitor this location
33	Exposition Boulevard	I-80 Westbound (Southbound) Off-ramp	Continue to monitor this location
34	K Street	24th Street	Continue to monitor this location
35	Arden Way	Arden Fair Dwy/Pointe West	Continue to monitor this location
42	University Avenue	Campus Commons Dr	Continue to monitor this location
44	Elvas Avenue	65th Street	Continue to monitor this location
45	J Street	26th Street	Continue to monitor this location
48	Folsom Boulevard	57th Street	Continue to monitor this location
49	G Street	28th Street	Continue to monitor this location; wait for NPTP recommendation
54	H Street	36th Street	Continue to monitor this location
56	Munroe Street	Latham Drive	Continue to monitor this location
67	Capitol Avenue	24th Street	Continue to monitor this location
68	N Street	26th Street	Continue to monitor this location
69	H Street	51st Street	Continue to monitor this location

**TABLE 6 (cont.)**

**COUNCIL DISTRICT NO. 4**

<b>RANK</b>	<b>STREET</b>	<b>LIMITS</b>	<b>STATUS</b>
31	Land Park Drive	14th Avenue	Continue to monitor this location
36	Gloria Drive	Greenhaven Drive	Continue to monitor this location
41	Freeport Boulevard	11th Avenue	Continue to monitor this location, other improvements being studied
50	South Land Park Drive	35th Avenue	Continue to monitor this location
58	Broadway	28th Street	Continue to monitor this location
62	Freeport Boulevard	10th Avenue	Continue to monitor this location, other improvements being studied
64	Pocket Road	I-5 (NB)	State will not allow signal at this location; new signal at Alma Vista; remove from next year's list

**TABLE 6 (cont.)**

**COUNCIL DISTRICT NO. 5**

<b>RANK</b>	<b>STREET</b>	<b>LIMITS</b>	<b>STATUS</b>
2	Fruitridge Road	Lawrence/Vista	To Be designed in Spring '94
6	Stockton Boulevard	Between Lawrence Dr/Fruitridge Rd	Continue to monitor this location, define exact location for signal
8	Stockton Boulevard	8th Avenue	Recommend for 94-95 CIP
41	Freeport Boulevard	11th Avenue	Continue to monitor this location, other improvements being studied
52	Broadway	Fairgrounds Dr/53rd Street	Continue to monitor this location
53	24th Street	Irvin/26th Avenue	Continue to monitor this location
58	Broadway	28th Street	Continue to monitor this location
62	Freeport Boulevard	10th Avenue	Continue to monitor this location, other improvements being studied
63	Stockton Boulevard	2nd Avenue	Continue to monitor this location
66	Stockton Boulevard	San Francisco Blvd./17th Avenue	Continue to monitor this location

**TABLE 6 (cont.)**

**COUNCIL DISTRICT NO. 6**

<b>RANK</b>	<b>STREET</b>	<b>LIMITS</b>	<b>STATUS</b>
3	Florin-Perkins Road	Belvedere Avenue	Recommend for 94/95 CIP
4	Fruitridge Road	Elk Grove-Florin Road/ South Watt Avenue	Coordinate with County; Wait for future roadway improvements
7	College Town Drive	Jed Smith Drive	Coordinate with CSUS, 75% CSUS responsibility
15	Elder Creek Road	Sun River Drive	Continue to monitor this location
17	Elder Creek Road	Ring Drive/Rancho Adobe Drive	Continue to monitor this location
32	Fruitridge Road	Wilkinson Road/ Bradford Drive	Continue to monitor this location
43	Power Inn Road	Ramona Avenue	Continue to monitor this location
51	Power Inn Road	Alpine Avenue	Continue to monitor this location
55	Power Inn Road	Belvedere Avenue	Continue to monitor this location

**TABLE 6 (cont.)**

**COUNCIL DISTRICT NO. 7**

<b>RANK</b>	<b>STREET</b>	<b>LIMITS</b>	<b>STATUS</b>
28	Valley Hi Drive	Wyndham Drive	Continue to monitor this location
39	Franklin Boulevard	Armadale Way	Continue to monitor this location
47	Greenhaven Drive	Windbridge Drive	Continue to monitor this location, Developer funded
64	Pocket Road	I-5 (E)	State will not allow signal at this location; new signal at Alma Vista; remove from list



**TABLE 6 (cont.)**

**COUNCIL DISTRICT NO. 8**

<b>RANK</b>	<b>STREET</b>	<b>LIMITS</b>	<b>STATUS</b>
12	Mack Road	Kmart Driveway	This location is currently being studied
18	Bruceville Road	Center Parkway/Sheldon Road	Continue to monitor this location
21	Center Parkway	Tangerine Avenue	Continue to monitor this location
22	Freeport Boulevard	Belleauwood Lane	In design by City; Coordination with State to begin
26	Bruceville Road	Cal 99 Ramp	Continue to monitor this location
29	24th Street	Hogan Drive/48th Avenue	Continue to monitor this location
37	Florin Road	Luther Drive South	Continue to monitor this location

**PRIORITIES AS SHOWN ARE SUBJECT TO REVISION**

