

AGENDA ITEM NO. 1R
COUNCIL MEETING 01/30/14
APPROVED BY


DEPARTMENT DIRECTOR


CITY MANAGER

January 30, 2014

FROM: SCOTT L. MOZIER, PE, Director 
Public Works Department

BY: SCOTT TYLER, PE, City Traffic Engineer/Division Manager
Public Works Department, Traffic and Engineering Services Division

SUBJECT: Annual update of priority ranking lists for new traffic signal installations and traffic signal left turn phasing

RECOMMENDATION

Staff recommends that the Council receive the updated City-wide priority ranking lists for new traffic signal installations and traffic signal left turn phasing.

EXECUTIVE SUMMARY

Staff has completed the annual update of City-wide priority ranking lists for new traffic signal installations and left turn phasing installations that are partially or wholly funded through traffic signal mitigation impact fees. The update of the priority ranking lists includes new traffic counts, analysis of accidents during the past year, traffic signals which have gone into construction during the past year and engineering consideration of other field changes such as new schools that have opened in the vicinity of the subject intersections. The scoring criteria are based upon traffic engineering criteria established by the Federal Highway Administration and the California Department of Transportation.

BACKGROUND

Every fall, the Traffic Engineering Section of the Engineering Division conducts updated traffic counts, reviews intersection accident reports and performs an engineering analysis in accordance with adopted standards of the Federal Highway Administration and California Department of Transportation. This analysis includes 8-hour traffic volumes, peak hour volumes, pedestrian counts, accident history and proximity of schools to the intersections. Unsignalized intersections are analyzed to determine if installation of a traffic signal is warranted. Warrants are evaluated purely using FHWA standards from the Manual on Uniform Traffic Control Devices (MUTCD). Existing signalized intersections that do not have left turn phasing (i.e., protected left turn movements via green arrows) are analyzed to determine if warrants are met for the installation of left turn phasing, which is based upon the number of peak hour conflicts between through traffic and opposing left turning vehicles or the number of accidents that would be correctable with installation of left turn phasing.

Intersections where warrants are met are then objectively scored and ranked in priority order City-wide. The point system for new traffic signal installations conforms to Federal Highway Administration requirements and is based upon overall traffic volumes for both directions (10 points maximum), peak hour traffic (10 points maximum), three-year history for correctable accidents (5 points per correctable reported collision in the annual average), schools within 0.25 miles (10 points maximum), activity centers within 1,000 feet (3 points maximum), potential signal coordination benefits (5 points maximum), intersection sight distance (2 points maximum), funding opportunities or cost/benefit ratio (2 points maximum) and engineering judgment of special conditions (3 points maximum). The point system for left turn phasing installations is based upon the peak hour product of left turning vehicles and opposing through traffic (5 points maximum), three-year history for correctable accidents (5 points per correctable reported collision in the annual average), schools within 0.25 miles (10 points maximum), activity centers within 1,000 feet (3 points maximum), intersection sight distance (2 points maximum), funding opportunities or cost/benefit ratio (2 points maximum) and engineering judgment of special conditions (3 points maximum).

The updated City-wide priority ranking lists are included as Attachments "A" and "B". The priority ranking lists also indicate the funding status of each intersection. Some intersections must be signalized as a condition of approval for a specific development and have been noted as "Developer to Install". Other intersections have been funded as capital improvement projects based upon a high ranking in prior years and/or a successful grant application for State and Federal funds.

Intersections that have been completed or that have started construction since the last annual report in February 2013 have been removed from the priority ranking lists. It should be noted that this past year since the last update 2 existing signalized intersections were upgraded with left turn phasing by City capital projects and 6 intersection was/were signalized by City capital projects and have been removed from the priority ranking worksheets. The ranking lists will be used to prepare the FY15 capital improvement budget and apply for grants in an objective manner based upon available and projected traffic signal mitigation impact fees. Council approved an update of the impact fees and the intersections covered by those fees on October 21, 2008. Attached to this report are the new priority ranking lists for new signal installations, modifications for left turn phasing and traffic flow improvements.

The construction schedules have been delayed due to a significant decline in traffic signal mitigation impact fee revenues generated from new development. The average monthly revenue for FY14 (July To November) is \$58,247 which is a decrease from FY13 (\$95,243 /month). Previous fiscal year monthly averages are as follows: FY12 (\$60,000 /month), FY11 (\$75,707), FY10 (\$63,885/month), FY09 (\$95,572/month), FY08 (\$124,223/month), FY07 (\$247,024/month) and FY06 (\$258,020/month). Given the limited impact fees currently available for capital projects, the Department's goal is to have our current projects "shelf-ready" for construction and to also aggressively pursue alternative funding sources such as Federal and State grants for delivery of these projects.

FISCAL IMPACT

The annual update of traffic signal priority ranking lists has been accomplished within the operating budget of the Public Works Department. There will be no additional impact on the General Fund.

Attachments:

- "A" - Priority Ranking List for New Traffic Signals
- "B" - Priority Ranking List for Left Turn Phasing



ATTACHMENT "A"

2014 PRIORITY LIST FOR NEW TRAFFIC SIGNAL INSTALLATIONS

Priority Ranking	Intersection	Council District	School located within 1/4-mile	Total Points	Construction Cost Estimate	Comments
1	Ventura and 99 NB off ramp	3	Lincoln Elementary	28.67	\$300,000	Funded by RSTP Grant
2	Barstow and Brawley	2		27.00	\$290,000	Funded by RSTP Grant
3	Granland and Shaw	2		27.00	\$290,000	County/HSIP Funding
4	McKinley and SR 99 NB off ramp	3	Addams Elementary	26.33	\$400,000	
5	Cedar and Woodward**	5	Sequoia Middle	25.33	\$290,000	
6	Blythe and Gales	2	Lawless Elementary	24.67	\$290,000	
7	Blackstone and Fedora	7	Fort Miller Middle	24.00	\$290,000	RSTP Funded
8	Chestnut and Shepherd	6		23.00	\$290,000	Funded by CMAQ grant
9	Harrison and Shields*	1	Daily Elementary	23.00		
10	Gates and San Jose	2	Lawless Elementary	22.33	\$290,000	
11	Copper and Willow	6	Granite Ridge Intermediate	21.67	\$290,000	Future Measure "C" Tier 1 Project
12	Clinton and Vassar	3		20.67	\$260,000	HSIP 2012
13	Cornelia and Dakota**	1	Central high	20.67	\$290,000	
14	Bullard and Granland	2	Hemdon-Barstow Elementary	20.33	\$290,000	
15	Church and Peach*	5	Storey Elementary	20.33	\$290,000	Funded by SR2S grant/Measure "C" Funds
16	Perrin and Somerville	6		20.00	\$290,000	Funded by CMAQ grant
17	Clinton and Thome*	1		19.67		
18	Olive and SR 99 SB off ramp	3		19.00	\$400,000	HSIP 2008-Grant Funding
19	Barstow and Thome*	2	Gibson Elementary/Bullard High	18.67	\$290,000	
20	McKinley and Winery	4		18.33	\$290,000	
21	Ingram and Locust	2		17.67	\$290,000	Developer to install
22	Dennett and Palm*	3	Muir Elementary	17.33	\$290,000	
23	Olive and SR 99 NB off ramp	3		17.33	\$400,000	HSIP 2008-Grant Funding
24	Blythe and McKinley	3	El Capitan Middle	17.00	\$290,000	
25	Hughes and McKinley	3	Addams Elementary	17.00	\$290,000	RSTP Grant Funding
26	Audubon and Cole	6		16.00	\$290,000	State Prop 1B SLPP Funding
27	Shields and Weber	1		16.00	\$290,000	HSIP 2012-Grant Funding
28	Barstow and Terth	4		15.33	\$250,000	
29	Brawley and Shields	1 & 3		15.33	\$290,000	Funded by CMAQ grant
30	North/Parkway and 99 SB off ramp	3		15.33	\$300,000	
31	Champlain and Fox Hill/Hickory Hill	6		15.00	\$290,000	Developer to install
32	Clovis and Lamona	4		14.67	\$250,000	
33	Marks and Sierra	2		14.67	\$290,000	
34	Amador and Trinity*	3	Columbia Elementary	14.33	\$290,000	
35	Dakota and Fowler	4		14.33	\$290,000	
36	Cornelia and Griffith*	1	Central high	14.00		
37	Golden State and Ashlan Connector	1		14.00	\$290,000	
38	Shields and Sunnyside	4		14.00	\$290,000	Funded by CMAQ grant
39	Clinton and Valentine	3		13.33	\$290,000	Funded by CMAQ grant
40	Parkway and Shields	3		13.33	\$290,000	
41	Channing and Dakota*	1	Roeding Elementary	13.00		
42	Figarden and Sierra	2		12.67	\$250,000	
43	Belmont and SR 99 SB off ramp	3		12.33	\$400,000	
44	Armstrong and Lane*	5	John Walsh Elementary	11.00		
45	Bullard and Polk	2		11.00	\$290,000	
46	Belmont and SR 99 NB off ramp	3		10.00	\$400,000	
47	Bullard and Danle	2		10.00	\$290,000	Developer to install
48	Butler and Willow	5		10.00	\$250,000	Funded by CMAQ grant
49	Olive and West	3		10.00	\$290,000	
50	Fruit and Jensen	3		9.67	\$290,000	Developer to install
51	N Street and Tulare***	3		9.33	\$290,000	
52	Angus and Clinton*	7		9.00	\$290,000	
53	Hamilton and Peach	5		8.67		Design funding through Measure "C"
54	Marks and Olive	3		8.67	\$290,000	
55	Belmont and Temperance	5		8.00	\$290,000	
56	Marks and McKinley	3		8.00	\$290,000	RSTP Grant Funding
57	Chestnut and Dearing	6		7.00	\$290,000	

* Meets the criteria for the school signal warrant only.

** Meets the criteria for traffic signal and school signal warrants

*** Meets the criteria for pedestrian signal

PRIORITY RANKING

Priority ranking is determined by assigning points attributed to annual daily traffic and peak hour traffic volumes, reported collisions, proximity of a school and/or other pedestrian generators, need for signal coordination, and engineering judgment.

ATTACHMENT "B"



2014 PRIORITY LIST FOR WARRANTED LEFT TURN SIGNALS

	Intersection	Council District(s)	% Other Jurisdictions	School located within 1/4-mile	Year Included in TS Impact Fee	Total Points	Construction Cost Estimate	Comments
1	Chestnut and Shields	4	50% County	Scandinavian	2004	33.67	\$290,000	
2	McKinley and Palm	1 & 3		Fresno High	2006	23.33	\$290,000	HSIP Funding
3	Millbrook and Shields	4 & 7		Fulton	2004	23.33	\$290,000	HSIP Funding
4	Palm and Sierra	2	25% County	Kratt	2004	23.33	\$290,000	HSIP Funding
5	Dakota and West	1		Roeding	2004	21.67	\$290,000	
6	Bulldog and Cedar	4			2004	19.00	\$290,000	HSIP Funding
7	Tulare and U Street/41 on ramp	3		Jefferson Elementary	2008	17.33	\$290,000	
8	Cedar and Toague	6		Clovis West	-	17.00	\$200,000	
9	Clinton and Palm	1		Hamilton Elementary		17.00		HSIP Funding
10	Alluvial and Millbrook	6			2006	16.00	\$290,000	
11	R Street and Tulare	3			2004	16.00	\$290,000	HSIP Funding/Requires Railroad Preemption Upgrade
12	Hughes and Shields	1			2004	15.67	\$290,000	
13	Cedar and Eleventh	6		Fresno Christian	2007	15.33	\$290,000	
14	Bullard and Forkner	2		Malloch	2006	14.67	\$290,000	
15	Barstow and Palm	2		Gibson Elem & Bullard High	2004	13.00	\$290,000	(Existing LTP N/S)
16	Blackstone and Sierra	2 & 6			2006	5.33	\$290,000	(Existing LTP N/S)
17	Blackstone and Gellysburg	7			2006	3.00	\$177,495	(Existing LTP N/S)

PRIORITY RANKING

Priority ranking is determined by adding points attributed to vehicular traffic, number of reported left-turn type collisions, proximity of a school and/or other pedestrian generators, and engineering judgment.

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