

# MEMORANDUM

To: Nathan Mustafa, PE, TE, AICP  
Deputy Public Works Director  
City of Riverside  
Public Works Department, Administration

Date: March 1, 2021

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From: Richard E. Barretto, P.E.  
Principal  
LLG, Engineers

LLG Ref: 2.19.4086.1

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Subject: **Traffic Related Safety Enhancements Memorandum – Magnolia Avenue at Tyler Street**  
City of Riverside, California

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As a follow-up to our coordination efforts and discussions, as well as in response to your email dated December 11, 2020, please see the following summary of traffic improvements for the intersection of Magnolia Avenue and Tyler Street related to potential traffic signal safety enhancements for review and consideration by the City. The traffic signal safety enhancements identified below is based on review of the current intersection traffic signal equipment, and in consideration of the accident history of the subject intersection. From our understanding, the intersection of Magnolia Avenue at Tyler Street, based on information provided by the City, has the highest intersection collision rate Citywide, with over 180 collisions reported for the period of 07/20/2015 to 07/20/2020. Unfortunately, LLG was unable to obtain the accident data referenced above from the City. However, based on review of the accident data published as part of the Statewide Integrated Traffic Records System (SWITRS), the data indicates that there were twenty-one (21) accidents reported in 2018-2019 and eleven (11) accidents reported between the year 2019-2020, with a total of ninety-nine (99) accidents reports between 2015 to 2020. For illustrative purposes, an accident diagram for 2018-2019 and 2019-2020 is shown on **Figure 1**.

In consideration of recent traffic signal improvements at other intersections within the City as well as the current traffic signal layout of Magnolia Avenue at Tyler Street, the following traffic signal equipment upgrades, plus signing and striping enhancements, and operational changes could be of benefit to this intersection. These improvements are consistent with those item discussed on our call of October 7, 2020.

1. **Replace existing traffic signal heads**
2. **Install yellow, fluorescent traffic signal backplates to provide contrast between indications/tunnel visors and backplates.**
3. **Install video detection cameras for dilemma zone detection and to detect cyclists**
4. **Upgrade pedestrian push buttons to “Accessible Pedestrian Signal” type buttons**
5. **Install LED signs to regulate right turn movements during the U-Turn movement**

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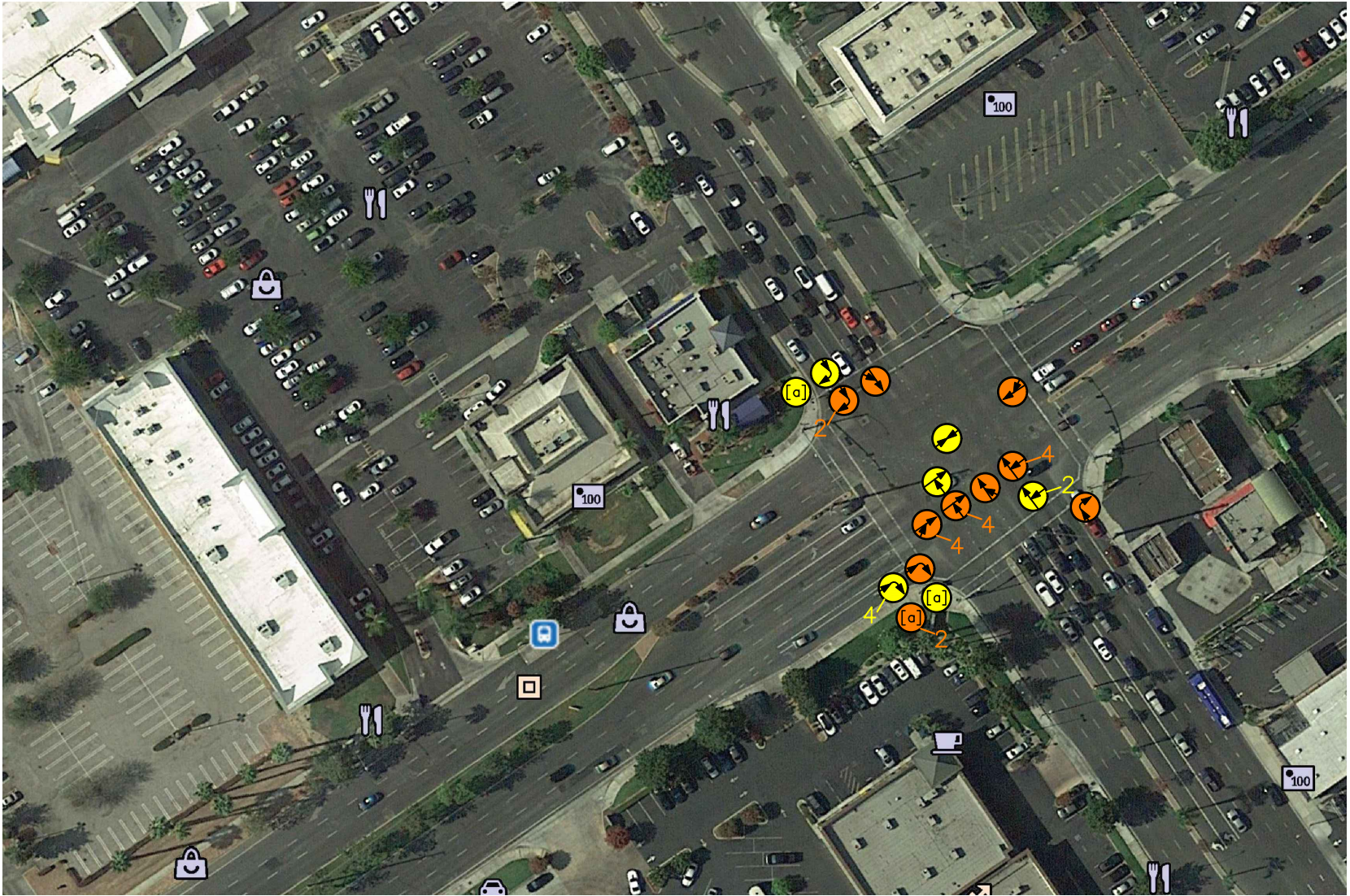
**6. Make any bicycle & pedestrian related signal timing adjustments as-needed.**

*Figure 2* illustrates the probable location of the listed improvements. Also included is *Table 1* which itemizes the probable construction cost associated with these improvements.

Should you have any questions, feel free to contact Kim Preap ([preap@llgengineers.com](mailto:preap@llgengineers.com)) or me ([barretto@llgengineers.com](mailto:barretto@llgengineers.com)) via email or call us at 949-825-6175.

Thank you for your consideration.





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NO SCALE

SOURCE: GOOGLE  
KEY



= 2018-2019 (21 CRASHES)



= 2019-2020 (11 CRASHES)

[a] DRIVING UNDER THE INFLUENCE/  
COLLISION WITH FIXED OBJECT/PED

FIGURE 1

TRAFFIC COLLISION HISTORY  
NORTHGATE MARKET, RIVERSIDE



**TABLE 1**  
**ENGINEER'S ESTIMATE OF PROBABLE COST**  
**TRAFFIC SIGNAL INSTALLATION**  
**MAGNOLA AVENUE AT TYLER STREET**  
**Riverside, California**

ITEM NO.	DESCRIPTION	QUANTITY	UNIT COST	ITEM COST
	<b>FURNISH/INSTALL:</b>			
1	REPLACE EXISTING TRAFFIC SIGNAL HEADS (EA)	22	\$ 600.00	\$ 13,200.00
2	INSTALL YELLOW FLOURESCENT TRAFFIC SIGNAL BACKPLATES (EA)	22	\$ 1,000.00	\$ 22,000.00
3	INSTALL VIDEO DETECTION SYSTEM TO DETECT CYCLISTS (LS)	1	\$ 20,000.00	\$ 20,000.00
4	UPGRADE TO ACCESSIBLE PEDESTRIAN (APS) SIGNAL PUSH BUTTON (EA)	8	\$ 1,000.00	\$ 8,000.00
5	INSTALL LED ELECTRONIC SIGN (EA)	4	\$ 1,000.00	\$ 4,000.00
6	ADJUST SIGNAL TIMING (LS)	1	\$ 5,000.00	\$ 5,000.00
SUB-TOTAL				\$72,200.00
20% CONTINGENCIES				\$14,440.00
<b>TOTAL PROBABLE COST:</b>				<b>\$86,640.00</b>

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DATE: 3/1/21  
**UNDER THE SUPERVISION OF:**  
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PRINCIPAL