

PARTICIPATE BEFORE THE MEETING by emailing TrafficCommission@TorranceCA.Gov by 2:00 p.m. on the day of the meeting. Write "Public Comment" in the subject line and in the body of the email include the item number and/or title of the item with your comments.

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the City Clerk's office at (310) 618-2780. Notification 48 hours prior to the meeting will enable the City to make reasonable arrangements to ensure accessibility to this meeting. [28CFR35.102-35.104 ADA Title II]

Direct questions or concerns to the Commission Liaison, Shin Furukawa at (310) 781-6900 prior to submission to the Commission. Parties will be notified if the concern will be included on a subsequent agenda.

Any correspondence received before 2:00 p.m. on the day of the meeting on any item on the agenda will be provided to the Commission electronically and available for public inspection in the City Clerk's Office. A copy of the correspondence will be available for public inspection in a binder at the back of the Council Chamber or Commission Meeting room.

**TORRANCE TRAFFIC COMMISSION AGENDA
FEBRUARY 3, 2025
REGULAR MEETING
7:00 P.M. IN WEST ANNEX COMMISSION MEETING ROOM
AT 3031 TORRANCE BOULEVARD**

**TRAFFIC COMMISSION MAY TAKE ACTION ON ANY ITEM
LISTED ON THE AGENDA**

1. CALL MEETING TO ORDER

ROLL CALL: Commissioners: Endo-Roberts, Gibson, Nichols, Schwartz, Suruki, Vice-Chair Thoma, Chair Sharma.

2. FLAG SALUTE

3. REPORT OF THE STAFF ON THE POSTING OF THE AGENDA

The agenda was posted on the Public Notice Board at 3031 Torrance Bl. and on the City's Website on Thursday, January 30, 2025.

4. ANNOUNCEMENT OF WITHDRAWN, DEFERRED, AND/OR SUPPLEMENTAL ITEMS

5. ORAL COMMUNICATIONS (Limited up to a 15-minute period)

*This portion of the meeting is reserved for comment on items on the Consent Calendar or not on the agenda. Under the Ralph M. Brown Act, the Commission cannot act on items raised during public comment, but may respond briefly to statements made or questions posed; request clarification; or refer the item to staff. **No longer than 1 minute per speaker.** If presenting handout material to Commission, please provide 10 copies to staff before speaking.*

6. CONSENT CALENDAR

Matters listed under the Consent Calendar are considered routine and will be enacted by one motion and one vote. There will be no separate discussion of these items. If discussion is desired, that item will be removed by a Commissioner from the Consent Calendar and considered separately.

None.

7. ADMINISTRATIVE MATTERS

7A. Madrona Avenue Traffic Signal Synchronization Presentation

8. COMMISSION AND STAFF ORAL COMMUNICATIONS

9. ADJOURNMENT

9A. Adjournment of Traffic Commission Meeting to Monday, March 3, 2025 at 7:00 p.m. in the West Annex Commission Meeting Room.



Agenda Item No. 7A

TO: Traffic Commission
FROM: Craig Bilezerian, Public Works Director
SUBJECT: Madrona Avenue Traffic Signal Synchronization

RECOMMENDATION

The Public Works Director recommends that the Traffic Commission receive and file a report regarding the synchronization of traffic signals on Madrona Avenue.

BACKGROUND AND ANALYSIS

The Public Works Department oversees the design and maintenance of traffic signals citywide, including the ongoing monitoring of traffic signals to identify potential timing adjustments and improvements. To enhance traffic flow, staff regularly evaluates groups of intersections and modifies timing parameters to facilitate the smooth progression of vehicle clusters, known as platoons, along heavily traveled corridors. This process, referred to as traffic signal synchronization or coordination, is a key strategy for improving overall traffic efficiency. Common timing changes to accomplish this include adjustments to green time, yellow time, pedestrian crossing time, and the synchronization of green start times between consecutive intersections.

Staff identified Madrona Avenue as an ideal candidate for a synchronization trial due to its proximity to City Hall and the Del Amo Fashion Center. Madrona Avenue is 6-lane major arterial that carries roughly 30,000 vehicles per day. A total of eight intersections were analyzed, and the initial timing adjustments were implemented in May 2024. The intersections include:

1. Madrona Ave at Del Amo Blvd
2. Madrona Ave at Spencer St / City Yard
3. Madrona Ave at Emerald St
4. Torrance Blvd at Madrona Ave
5. Madrona Ave at Fashion Wy
6. Madrona Ave at Carson St
7. Madrona Ave at Plaza Del Amo
8. Madrona Ave at Sepulveda Blvd

When analyzing traffic signals for synchronization purposes, multiple parameters must be considered. The YELLOW interval and pedestrian WALK and FLASHING DON'T WALK intervals are governed by the California Manual on Uniform Traffic Control Devices (CA MUTCD), and therefore are fixed. The YELLOW interval is calculated based on either the speed limit or the 85th percentile speed of the roadway segment, whichever results in a longer interval. The WALK interval is specified by the CA MUTCD to be 7 seconds followed with the FLASHING DON'T WALK interval. The duration of the FLASHING DON'T WALK interval is calculated based on the width of the roadway and assumes a walking speed of 3.5 feet per second. It is important to evaluate the duration of GREEN intervals for each traffic phase and the coordination of green lights between intersections, referred to as the OFFSET, throughout the day. The GREEN interval

should be sufficient to allow most queued vehicles to clear without causing delays to critical traffic movements. Properly setting the OFFSET ensures that vehicle platoons can travel smoothly through the corridor with minimal stops by synchronizing the green lights at consecutive intersections for uninterrupted flow. For Madrona Avenue, the critical phases are the through movements in the northbound and southbound directions.

Several steps were undertaken for the synchronization effort on Madrona Avenue. First, staff reviewed all existing timing settings to ensure compliance with state guidelines and analyzed potential adjustments for consistency with the City's standard practices, such as the specific times of day for coordinated patterns. Staff also reviewed recent traffic requests for citizen concerns related to these intersections along Madrona Ave. The Public Works Department received three requests at four different locations, which were resolved as part of the synchronization process. Next, using modeling software called Synchro, staff created a virtual representation of the corridor by plotting each intersection and lane configuration using mapping imagery, and inputting traffic volumes from the Citywide Traffic Analysis, which was conducted in 2019 and included turning movement counts at every signalized intersection citywide. The Synchro software allowed staff to quickly evaluate the minimum timing for each phase to serve all queueing vehicles and pedestrians, simulate the effects of the proposed changes versus existing conditions, and make adjustments to timing parameters. The final step involved coordinating with the Operations Division to implement the updated signal timing settings into the traffic signal program at each individual intersection.

After the signal timing changes were implemented at all eight intersections, staff observed traffic flow at each location and along the corridor during different times of the day to assess the effectiveness of the changes. During this observation period, staff monitored factors such as the length of the GREEN time for specific movements and the progression of vehicle platoons through each direction of the corridor. Adjustments to other timing parameters were made as necessary. Minor adjustments were made for a total of three times, with the most recent update in August 2024, followed by more trial periods to evaluate the effectiveness of each modification and determine whether further changes were required.

Staff continues to monitor Madrona Avenue for proper and efficient operation. Staff is currently pursuing funding for the design and installation of fiber optic connections citywide, which would enable reliable communication with all traffic signals and would allow the implementation of automated traffic management software, enabling real-time adjustments to traffic flow and significantly reducing delays more efficiently than the current manual synchronization process. In the meantime, the efforts on Madrona Avenue can be repeated for other important corridors including Anza Avenue, Crenshaw Boulevard and etc. These signal timing adjustments are just one example of how the City aims to improve traffic conditions throughout the City.

Respectfully submitted,

CRAIG BILEZERIAN
PUBLIC WORKS DIRECTOR

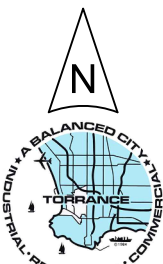
By  _____
Shin Furukawa
Deputy Public Works Director/City Engineer

Attachment 1: Project Location Map

CITY OF TORRANCE- PUBLIC WORKS DEPARTMENT MADRONA AVE TRAFFIC SIGNAL SYNCHRONIZATION

LEGEND

- CITY LIMIT
- TRAFFIC SIGNALS



CRAIG BILEZERIAN
PUBLIC WORKS DIRECTOR