

2023 Local Signal Synchronization Plan Update

Submitted by:



June 30, 2023



Submitted to:





City of La Habra

"A Caring Community"

**PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION**

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June 30, 2023

Orange County Transportation Authority
ATTN: Ms. Alicia Yang
Regional Modeling and Traffic Operations
Planning Division
P.O. Box 14184
Orange, CA 92863-1584

**Subject: Local Signal Synchronization Plan Submittal as part of the
Measure M2 Eligibility Process**

Dear Ms. Yang:

The City of La Habra is pleased to submit its Local Signal Synchronization Plan as part of the Measure M2 eligibility process. The submittal includes the following components:

1. A completed "Local Signal Synchronization Plan Consistency Review Checklist" form establishing consistency between the Local Signal Synchronization Plan and the Regional Traffic Signal Synchronization Master Plan.
2. An updated Local Signal Synchronization Plan for Fiscal Years 2023/2024 to 2025/2026 including all required elements as identified in the "Guidelines for the Preparation of Local Signal Synchronization Plans".

The City looks forward to continuing the implementation of the beneficial programs and construction projects required and made possible by Measure M2.

If you have any questions, please call Mr. Michael Plotnik, P.E., T.E., Traffic Manager at (562) 383-4162 or at mplotnik@lahabracalifornia.gov.

Sincerely,

Albert Mendoza, P.E.
Deputy Public Works Director/City Engineer

Enclosures

- A. Local Signal Synchronization Plan Consistency Review Checklist
- B. Local Signal Synchronization Plan



LOCAL SIGNAL SYNCHRONIZATION PLAN CONSISTENCY REVIEW CHECKLIST

The Local Agency Name: City of La Habra Plan Date: June 30, 2023

Local agencies must submit a copy of the Local Signal Synchronization Plan, a completed consistency review checklist, and any supporting documentation. Complete the table below.

| Local Agency Statement | Page #s in LSSP | Provided or N/A |
|--|-----------------|-----------------|
| 1. Signal synchronization goals of the agency are consistent with those outlined as part of the Regional Traffic Signal Synchronization Master Plan. | 1 - 2 | Yes |
| 2. Traffic signal synchronization street routes are identified, including all corridors along the regional signal synchronization network located within the local agency. | 3 – 5 | Yes |
| 3. Traffic signal inventory for all traffic signal synchronization street routes. | 6 – 8 | Yes |
| 4. Three-year plan separately showing costs, available funding, and phasing for capital, operations, and maintenance of signal synchronization along the traffic signal synchronization street routes and traffic signals which may include unconstrained and build-out scenarios. | 9 - 12 | Yes |
| 5. Signal synchronization review, revision, and assessment of synchronization activities along the traffic signal synchronization street routes and traffic signals. | 13 - 16 | Yes |

I certify that the above statements are true to the best of my knowledge.

Signature Date

Albert Mendoza, P.E., Deputy Public Works Director/City Engineer
Printed Name, Title



LOCAL SIGNAL SYNCHRONIZATION PLAN



Section 1

Traffic Signal Synchronization Goals, Policies, and Objectives

Purpose and Need

The Regional Traffic Signal Synchronization Program, which is comprised of a 750-mile regional signal synchronization network with about 2,000 traffic signals throughout Orange County, is a part of the Measure M2 approved by Orange County voters in November, 2006. The goal of the program is to improve the flow of traffic on Orange County streets and roads by implementing multi-agency traffic signal synchronization. The M2 program, which began in 2011, required that each local jurisdiction adopt a Local Signal Synchronization Plan (LSSP) to be eligible for M2 funding. The City of La Habra adopted its LSSP in 2010.

Subsequent to the adoption of the 2010 LSSP, the City of La Habra is required to maintain and update the plan for the duration of the Measure M2 program to remain eligible for funding. The LSSP updates were conducted in 2014, 2017, and in 2020.

The following components are included in the LSSP:

- Signal synchronization goals;
- Traffic signal synchronization street routes;
- Traffic signal inventory;
- Three-year capital, operations, and maintenance plan;
- Signal synchronization timing review, revision, and assessment.

Goals Policies and Objectives

Coordination of traffic signals on major arterials results in the reduction of vehicle stops, delays, queuing, travel times and emissions, and provides for a less congested and comfortable drive for both local and regional traffic. The City of La Habra acknowledges the Measure M2 Regional Traffic Signal Synchronization Program goals and supports a multi-agency corridor-based approach that optimizes traffic signals based on existing traffic patterns. The City supports local agency responsibility for signal timing and working with neighboring agencies to develop synchronization timing.

As detailed in the City of La Habra General Plan, also known as General Plan 2035 adopted in January, 2014, one key City goal is to enhance transportation system performance to provide a safer and more efficient transportation system through real-time information communication and control. Policies adopted by the City to achieve this goal include:

- **Traffic Operations Center:** Maintain and improve the Traffic Operations Center and a citywide interconnected network to convert key intersections and roadways into a coordinated traffic management system.
- **Signal Coordination:** Coordinate signal timing on all major arterials with a local signal synchronization program consistent with the Orange County Traffic Signal Synchronization Master Plan.



- **Advance Control Technology:** Implement corridor traffic signal synchronization with advanced control technology for reducing travel time, vehicle delays, and overall congestion.
- **Traffic Signal Improvements:** Improve the traffic signal system in the City's multimodal corridors to enhance overall system performance.
- **Traffic Signal Optimization:** Re-optimize traffic signal timing periodically as needed to reduce travel time and delay, and improve traffic flow and air quality.

To help ensure that these policies are being implemented on a continuous basis, and that these goals are met, for more than 20 years the City has allocated funding dedicated solely to signal timing monitoring and maintenance Citywide. This is in addition to specific coordination project funding provided by OCTA, such as the many multijurisdictional signal timing coordination projects wherein the City has taken the lead role, or by other agencies such as SCAQMD Grant Funding.



Section 2

Traffic Signal Synchronization Street Routes (Existing and Planned)

Traffic signal coordination has been implemented on various corridors in the City of La Habra. These corridors include all street routes identified in OCTA's Regional Traffic Signal Synchronization Master Plan.

In addition to these corridors, arterial segments of Idaho Street between Lambert Road and the south City Limits, and Euclid Street between La Habra Boulevard and Imperial Highway are included in the City's Local Signal Synchronization Plan.

The City of La Habra's Traffic Signal Synchronization Street Routes are shown in **Figure 1**.

The City of La Habra maintains the following synchronized corridors:

1. **Euclid Street** is classified in the City of La Habra's General Plan as a Modified Major Arterial between the south city limits and Imperial Highway. Between Imperial Highway and La Habra Boulevard, it is a secondary arterial highway. It carries approximately 15,000 vehicles daily between the south city limits and Lambert Road. Between Lambert Road and La Habra Boulevard, it carries about 13,500 vehicles daily. North of La Habra Boulevard, Euclid Street carries around 10,000 vehicles daily. The posted speeds are 45 mph between Imperial Highway and the south city limits and 35 mph north of Imperial Highway.
2. **Lambert Road** is classified as a primary arterial between the west city limits and Harbor Boulevard. East of Harbor Boulevard, it turns into a modified major arterial. West of Beach Boulevard, Lambert Road carries approximately 25,000 vehicles daily. Between Beach Boulevard and the east city limits, it carries between 30,000 – 35,000 vehicles daily. The posted speed on Lambert Road is 40 mph.
3. **La Habra Boulevard** is classified as a secondary arterial highway between the west city limits and Harbor Boulevard. East of Harbor Boulevard, it is classified as a modified primary arterial. It carries approximately 22,000 – 26,000 vehicles daily. The posted speed is 35 mph between the West City Limits (WCL) and Harbor Boulevard and 40 mph elsewhere.
4. **Harbor Boulevard** is classified as a modified major arterial between the south city limits and Lambert Road. Between Lambert Road and the North City Limits (NCL), Harbor Boulevard is a primary arterial. Between Lambert Road and the north city limits, Harbor Boulevard is a primary arterial. It carries approximately 37,000 – 40,000 vehicles daily. The posted speed is 40 mph between La Habra Boulevard and Whittier Boulevard/Whittier Avenue, elsewhere it is 45 mph.
5. **Idaho Street** is classified as a secondary arterial. It carries approximately 18,000 vehicles daily south of Imperial Highway. Between Imperial Highway and Lambert Road, it carries 23,000 vehicles daily. North of Lambert Road, it carries between 12,000 – 16,000 vehicles daily. The posted speed is 45 mph south of Imperial Highway, 40 mph between Imperial Highway and La Habra Boulevard and 30 mph between La Habra Boulevard and Whittier Boulevard.



6. **Imperial Highway**, west of Beach Boulevard, is classified as a primary arterial. It carries approximately 34,000 vehicles daily. The posted speed is 45 mph.

The City of La Habra has an on-call contract with AGA Engineers, Inc., a traffic engineering consulting firm, to monitor and maintain the City's traffic signal coordination system.

The State of California (Caltrans) maintains the following synchronized corridors:

1. **Beach Boulevard (SR-39)** is classified as an augmented arterial (Smart Street) south of Imperial Highway and as a major arterial north of Imperial Highway. The corridor carries approximately 52,000 vehicles daily south of Imperial Highway and approximately 45,000 vehicles between Imperial Highway and Lambert Road. Between Lambert Road and La Habra Boulevard, Beach Boulevard carries 40,000 vehicles daily. North of La Habra Boulevard, the daily vehicular volume is approximately 30,000. The posted speed is 50 mph south of Imperial Highway and 45 mph north of Imperial Highway.
2. **Imperial Highway (SR-90)**, east of Beach Boulevard, is classified as an augmented arterial (Smart Street). It carries approximately 43,000 - 48,000 vehicles daily. The posted speed is 40 mph between Beach Boulevard and Idaho Street, and 45 mph elsewhere.
3. **Whittier Boulevard (SR-72/SR-39)** is classified as a primary arterial between the west city limits and Harbor Boulevard. West of Beach Boulevard, Whittier Boulevard (SR-72) carries approximately 28,000 vehicles daily. Between Beach Boulevard and Idaho Street, Whittier Boulevard (SR-39) carries approximately 35,000 vehicles daily. West of Harbor Boulevard, Whittier Boulevard (SR-39) carries approximately 30,000 vehicles daily. The posted speed is 40 mph.

Traffic signals along the City and Caltrans routes listed above are all coordinated as needed during the peak periods, based on the traffic volumes and conditions.

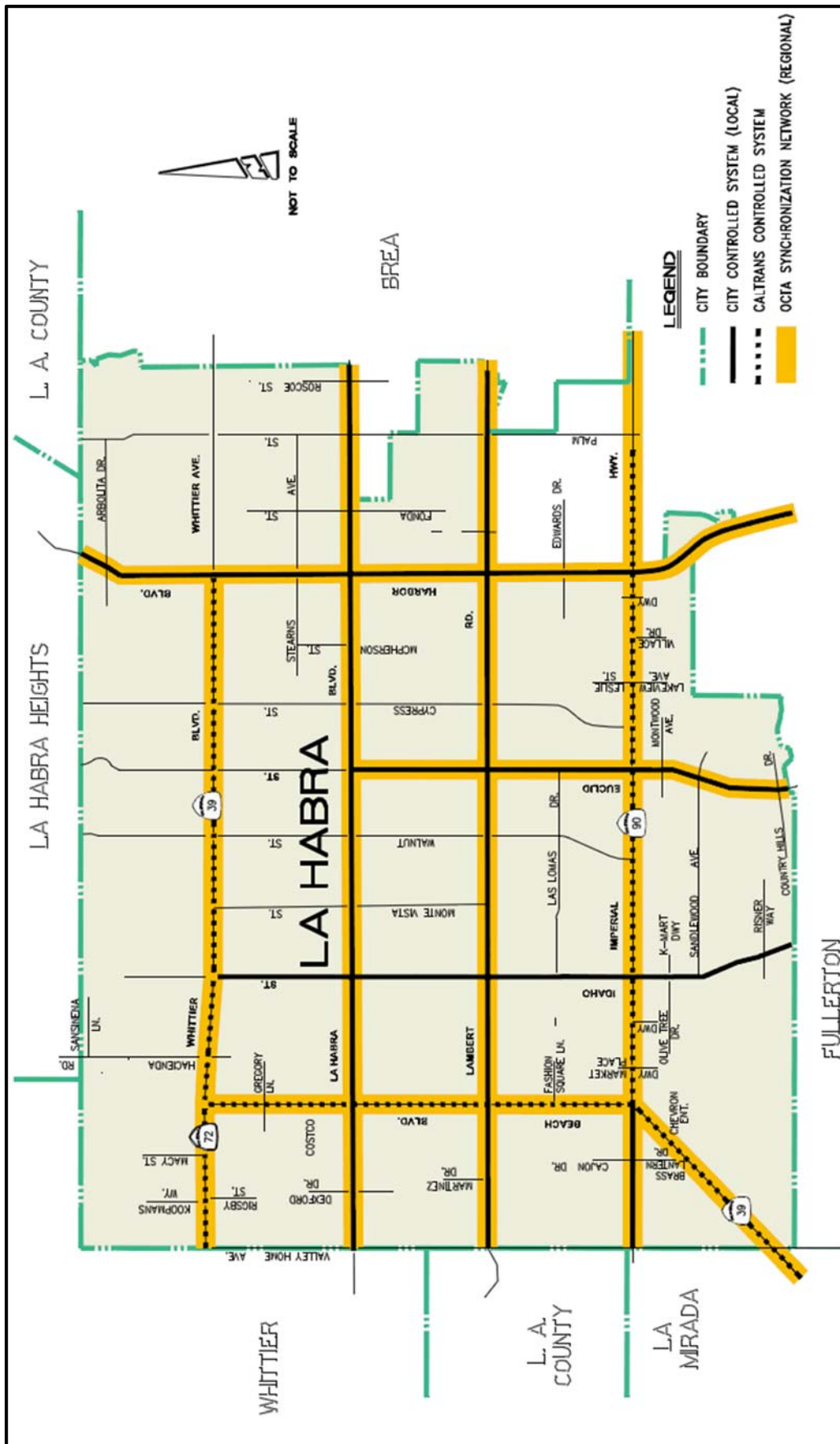


Figure 1



Section 3 Traffic Signal Inventory

This section provides traffic signal inventory information for the traffic signals along the Signal Synchronization Street Routes identified in the LSSP. The traffic signal inventory information includes the following:

- Traffic Signal Location;
- Cycle Length for the AM, MD, PM, and WKND peak periods;
- Traffic Signal Controller Type;
- Maintenance Responsibility.

The above information is detailed in **Table 1**.

City of La Habra System:

Central System: Q-FREE Kinetic
Controller Operating System: Q-FREE Maxtime

Caltrans System:

Model 2070 Controller (Local) – TSCP Program
Field Master Model 2070 Controller – GPS + TRFM Program

Table 1
Traffic Synchronization Inventory
City of La Habra

Last Update: May 16, 2023

| Corridor | Cross Street Intersection | Cycle Length | | | | Maintenance Responsibility | Operations | | | Equipment | | | | | | | | | | | |
|---------------------|----------------------------------|--------------|------|------|-----------|----------------------------|--------------|--------------|---------|----------------|------------|----------|-------------|----------------|-------|--------------|----------|-----------|---------|--------|--|
| | | AM | MID | PM | WKND | | Left | Right | Other | Cabinet | Type | Software | Detection | Bike Detection | CCTV | Power Backup | Comm | Other ITS | ATMS | Status | |
| La Habra Boulevard | Valley Home Avenue | 65 | 65 | 65 | 65 | La Habra | PPLT | Permissive | | P (TS1) | 2070 | MaxTime | Loops | No | Cohu | N/A | Copper | | Kinetic | Online | |
| | Dexford Drive | 65 | 65 | 65 | 65 | La Habra | Permissive | Permissive | | M | 2070 | MaxTime | Loops | No | Cohu | N/A | Copper | | Kinetic | Online | |
| | Mission Street/Costco | 65 | 65 | 65 | 65 | La Habra | PPLT | Perm/Overlap | | 332 | 2070 | MaxTime | Loops | No | Cohu | N/A | Copper | | Kinetic | Online | |
| | Beach Boulevard | 130 | 130 | 130 | 130 | Caltrans | | | | | 2070 | | | | | | | | | | |
| | Idaho Street | 55 | 70 | 55 | 70 | La Habra | PPLT | Permissive | | P (TS1) | 2070 | MaxTime | Video | No | Cohu | N/A | Fiber | Copper | Kinetic | Online | |
| | Monte Vista Street | 55 | 70 | 55 | 70 | La Habra | Permissive | Permissive | | P (TS1) | 2070 | MaxTime | Loops | No | Cohu | N/A | Fiber | | Kinetic | Online | |
| | Walnut Street | 55 | 70 | 55 | 70 | La Habra | Permissive | Permissive | | M | 2070 | MaxTime | Video | No | Cohu | N/A | Fiber | | Kinetic | Online | |
| | Euclid Street | 55 | 70 | 55 | 70 | La Habra | Permissive | Permissive | | 332 | 2070 | MaxTime | Video | Yes | Cohu | N/A | Fiber | | Kinetic | Online | |
| | Cypress Street | 55 | 70 | 55 | 70 | La Habra | Permissive | Permissive | | M | 2070 | MaxTime | Video | No | Cohu | N/A | Fiber | | Kinetic | Online | |
| | McPherson Street | 55 | 70 | 55 | 70 | La Habra | Permissive | Permissive | | P (TS1) | 2070 | MaxTime | Loops | No | Cohu | N/A | Fiber | | Kinetic | Online | |
| | Harbor Boulevard | 110 | 100 | 110 | 100 | La Habra | Protected | Perm/Overlap | | P (TS1) | 2070 | MaxTime | Video | No | Cohu | N/A | Fiber | | Kinetic | Online | |
| | Fonda Street | 55 | 50 | 55 | 50 | La Habra | Permissive | Permissive | | P (TS1) | 2070 | MaxTime | Loops | No | Cohu | N/A | Fiber | Copper | Kinetic | Online | |
| | Palm Street | 110 | 100 | 110 | 100 | La Habra | PPLT | Permissive | | P (TS1) | 2070 | MaxTime | Loops | No | Cohu | N/A | Copper | | Kinetic | Online | |
| Roscoe Street | 55 | 50 | 55 | 50 | La Habra | Permissive | Permissive | | P (TS1) | 2070 | MaxTime | Loops | No | Cohu | N/A | Copper | | Kinetic | Online | | |
| Lambert Road | Martinez Drive | 65 | Free | 65 | Free | La Habra | Permissive | Permissive | | M | 2070 | MaxTime | Loops | No | Cohu | N/A | Copper | | Kinetic | Online | |
| | Beach Boulevard (SR-39) | 130 | 130 | 130 | 130 | Caltrans | Protected | Permissive | | 332 | 2070 | | Loops | | N/A | Yes | | | | | |
| | Idaho Street | 110 | 100 | 110 | 100 | La Habra | Protected | Perm/Overlap | | P (TS1) | 2070 | MaxTime | Video | No | Cohu | N/A | Fiber | Copper | Kinetic | Online | |
| | Walnut Street | 110 | 100 | 110 | 50 | La Habra | Permissive | Permissive | | P (TS1) | 2070 | MaxTime | Loops | No | Cohu | N/A | Fiber | | Kinetic | Online | |
| | Euclid Street | 110 | 100 | 110 | 100 | La Habra | PPLT | Permissive | | P (TS1) | 2070 | MaxTime | Loops | No | Cohu | N/A | Fiber | | Kinetic | Online | |
| | Cypress Street | 110 | 100 | 110 | 100 | La Habra | PPLT | Permissive | | P (TS1) | 2070 | MaxTime | Loops | No | Cohu | N/A | Fiber | | Kinetic | Online | |
| | Harbor Boulevard | 110 | 100 | 110 | 100 | La Habra | Protected | Perm/Overlap | | P (TS1) | 2070 | MaxTime | Video | Yes | Cohu | N/A | Fiber | | Kinetic | Online | |
| | Home Depot Way | 110 | 100 | 110 | 100 | La Habra | FYA | Perm/Overlap | | P (TS2 Type 2) | 2070 | MaxTime | Video | Yes | Cohu | N/A | Fiber | | Kinetic | Online | |
| Palm Street | 110 | 100 | 110 | 100 | La Habra | PPLT | Permissive | | M | 2070 | MaxTime | Loops | No | Cohu | N/A | Fiber | | Kinetic | Online | | |
| Harbor Boulevard | Arbolita Drive | 110 | 100 | 110 | 100 | La Habra | Protected | Permissive | | 332 | 2070 | MaxTime | Video/Radar | Yes | Cohu | N/A | Wireless | | Kinetic | Online | |
| | Whittier Boulevard (SR-39) | 110 | 100 | 110 | 100 | Caltrans | Protected | Perm/Overlap | | 332 | 2070 | TSCP | Loops | Yes | N/A | Yes | GPS | | | | |
| | Stearns Avenue | 110 | 100 | 110 | 100 | La Habra | Permissive | Permissive | | M | 2070 | MaxTime | Loops | No | Cohu | N/A | Fiber | Wireless | Kinetic | Online | |
| | La Habra Boulevard | 110 | 100 | 110 | 100 | La Habra | Protected | Perm/Overlap | | P (TS1) | 2070 | MaxTime | Video | No | Cohu | N/A | Fiber | | Kinetic | Online | |
| | Lambert Road | 110 | 100 | 110 | 100 | La Habra | Protected | Perm/Overlap | | P (TS1) | 2070 | MaxTime | Video | Yes | Cohu | N/A | Fiber | | Kinetic | Online | |
| | Edwards Drive | 110 | 100 | 110 | 100 | La Habra | Protected | Permissive | | 332 | 2070 | MaxTime | Video | Yes | Cohu | N/A | Fiber | | Kinetic | Online | |
| | Imperial Highway (SR-90) | 120 | 120 | 120 | 120 | Caltrans | Protected | Permissive | | 170/170E | 2070 | | Loops | Yes | Bosch | Yes | | | | | |
| Las Palmas Drive | 100 | 90 | 100 | 90 | Fullerton | Protected | Permissive | | P (TS1) | M50 | SEPAC ECOM | Loops | No | N/A | N/A | Wireless | Copper | Tactics | Online | | |
| Euclid Street | Whittier Boulevard (SR-39) | 100 | 90 | 100 | 90 | Caltrans | Prot/Perm | Permissive | | 332 | 2070 | | Loops | Yes | N/A | Yes | | | | | |
| | La Habra Boulevard | 55 | 70 | 55 | 70 | La Habra | Permissive | Permissive | | 332 | 2070 | MaxTime | Video | Yes | Cohu | N/A | Fiber | | Kinetic | Online | |
| | Bridenbecker Avenue/Portola Park | 110 | 55 | 110 | 50 | La Habra | FYA | Permissive | | 332 | 2070 | MaxTime | Video | Yes | Cohu | N/A | Fiber | | Kinetic | Online | |
| | Lambert Road | 110 | 100 | 110 | 100 | La Habra | Permissive | Permissive | | P (TS1) | 2070 | MaxTime | Loops | No | Cohu | N/A | Fiber | | Kinetic | Online | |
| | Las Lomas Drive | 60 | 60 | 60 | 60 | La Habra | Permissive | Permissive | | M | 2070 | MaxTime | Loops | No | Cohu | N/A | Fiber | | Kinetic | Online | |
| | Imperial Highway (SR-90) | 120 | 120 | 120 | 120 | Caltrans | Protected | Permissive | | 332 | 2070 | | Loops | Yes | Bosch | Yes | | | | | |
| | Montwood Avenue | 60 | 60 | 60 | 60 | La Habra | Permissive | Permissive | | P (TS1) | 2070 | MaxTime | Loops | No | Cohu | N/A | Fiber | | Kinetic | Online | |
| Country Hills Drive | Free | Free | Free | Free | La Habra | Protected | Permissive | | P (TS1) | 2070 | MaxTime | Loops | No | Cohu | N/A | Fiber | | Kinetic | Online | | |
| Idaho Street | Whittier Boulevard (SR-39) | 100 | 100 | 100 | 100 | Caltrans | Prot/Perm | Permissive | | 332 | 2070 | | Loops | Yes | N/A | Yes | | | | | |
| | La Habra Boulevard | 110 | 70 | 110 | 70 | La Habra | Permissive | Permissive | | 332 | 2070 | MaxTime | Video | Yes | Cohu | N/A | Fiber | | Kinetic | Online | |
| | Lambert Road | 110 | 100 | 110 | 100 | La Habra | Permissive | Perm/Overlap | | P (TS1) | 2070 | MaxTime | Video | No | Cohu | N/A | Fiber | Copper | Kinetic | Online | |
| | Las Lomas Drive | 110 | 130 | 130 | 100 | La Habra | Permissive | Permissive | | 332 | 2070 | MaxTime | Loops | No | Cohu | N/A | Fiber | Copper | Kinetic | Online | |
| | Imperial Highway (SR-90) | 130 | 130 | 130 | 130 | Caltrans | Protected | Permissive | | 332 | 2070 | | Loops | Yes | Bosch | Yes | | | | | |
| | Olive Tree Drive | 130 | 130 | 130 | 130 | La Habra | Permissive | Permissive | | P (TS1) | 2070 | MaxTime | Loops | No | N/A | N/A | Fiber | Copper | Kinetic | Online | |
| | Sandlewood Drive | 130 | 130 | 130 | 130 | La Habra | Permissive | Permissive | | P (TS1) | 2070 | MaxTime | Loops | No | Cohu | N/A | Fiber | Copper | Kinetic | Online | |
| Risner Way | 130 | 130 | 130 | 130 | La Habra | Protected | Perm/Overlap | | P (TS1) | 2070 | MaxTime | Loops | No | Cohu | N/A | Fiber | Copper | Kinetic | Online | | |

- Represents Non-City maintained intersection

Table 1
Traffic Synchronization Inventory
City of La Habra

Last Update: May 16, 2023

| Corridor | Cross Street Intersection | Cycle Length | | | | Maintenance Responsibility | Operations | | | Equipment | | | | | | | | | | |
|-----------------------------------|-------------------------------|--------------|-----|-----|----------|----------------------------|------------|--------------|-------------|-----------|------|----------|-----------|----------------|-------|--------------|-------|-----------|---------|--------|
| | | AM | MID | PM | WKND | | Left | Right | Other | Cabinet | Type | Software | Detection | Bike Detection | CCTV | Power Backup | Comm | Other ITS | ATMS | Status |
| Whittier Boulevard (SR-72) | Valley Home Avenue | 90 | 90 | 90 | 90 | Caltrans | Permissive | Permissive | | 332 | 2070 | | Loops | | N/A | Yes | | | | |
| | Rigsby Street/Koopmans Way | 90 | 90 | 90 | 90 | Caltrans | Permissive | Permissive | Split Phase | 332 | 2070 | | Loops | | N/A | Yes | | | | |
| | Macy Street | 90 | 90 | 90 | 90 | Caltrans | Permissive | Permissive | | 332 | 2070 | | Loops | | N/A | Yes | | | | |
| | Beach Boulevard (SR-39) | 100 | 90 | 100 | 90 | Caltrans | Protected | Perm/Overlap | | 332 | 2070 | | Loops | | N/A | Yes | | | | |
| Whittier Boulevard (SR-39) | Hacienda Road | 100 | 90 | 100 | 90 | Caltrans | Protected | Perm/Overlap | Split Phase | 332 | 2070 | | Loops | Yes | N/A | Yes | | | | |
| | Idaho Street | 100 | 90 | 100 | 90 | Caltrans | Prot/Perm | Permissive | | 332 | 2070 | | Loops | Yes | N/A | Yes | | | | |
| | Monte Vista Street | 100 | 90 | 100 | 90 | Caltrans | Protected | Permissive | | 332 | 2070 | | Loops | Yes | N/A | Yes | | | | |
| | Walnut Street | 100 | 90 | 100 | 90 | Caltrans | Permissive | Permissive | | 332 | 2070 | | Loops | Yes | N/A | Yes | | | | |
| | Euclid Street | 100 | 90 | 100 | 90 | Caltrans | Prot/Perm | Permissive | | 332 | 2070 | | Loops | Yes | N/A | Yes | | | | |
| | Cypress Street | 100 | 90 | 100 | 90 | Caltrans | Prot/Perm | Permissive | | 332 | 2070 | | Loops | Yes | N/A | Yes | | | | |
| | Harbor Boulevard | 110 | 100 | 110 | 100 | Caltrans | Protected | Perm/Overlap | | 332 | 2070 | | Loops | Yes | N/A | Yes | | | | |
| Imperial Highway (SR-90) | Brass Lantern/Cajon Drive | 65 | 65 | 65 | 65 | La Habra | PPLT | Perm/Overlap | | M | 2070 | MaxTime | Loops | No | Cohu | N/A | Fiber | | Kinetic | Online |
| | Beach Boulevard (SR-39) | 130 | 130 | 130 | 130 | Caltrans | Protected | Perm/Overlap | | 332 | 2070 | | Loops | Yes | Bosch | Yes | | | | |
| | La Habra Hills Drive | 120 | 120 | 120 | 120 | Caltrans | Prot/Perm | Permissive | | 332 | 2070 | | Loops | Yes | Bosch | Yes | | | | |
| | Town & Country | 120 | 120 | 120 | 120 | Caltrans | Prot/Perm | Permissive | | 332 | 2070 | | Loops | Yes | N/A | Yes | | | | |
| | Idaho Street | 120 | 120 | 120 | 120 | Caltrans | Protected | Permissive | | 332 | 2070 | | Loops | Yes | Bosch | Yes | | | | |
| | Euclid Street | 120 | 120 | 120 | 120 | Caltrans | Protected | Permissive | | 332 | 2070 | | Loops | Yes | Bosch | Yes | | | | |
| | Cypress Street | 120 | 120 | 120 | 120 | Caltrans | Protected | Permissive | | 332 | 2070 | | Loops | Yes | N/A | Yes | | | | |
| | Lakeview Avenue/Leslie Street | 120 | 120 | 120 | 120 | Caltrans | Prot/Perm | Permissive | | 332 | 2070 | | Loops | Yes | Bosch | Yes | | | | |
| | Village Drive | 120 | 120 | 120 | 120 | Caltrans | Prot/Perm | Permissive | | 332 | 2070 | | Video | Yes | N/A | Yes | | | | |
| | Driveway (Walmart) | 120 | 120 | 120 | 120 | Caltrans | Prot/Perm | Permissive | | 332 | 2070 | | Loops | Yes | Bosch | Yes | | | | |
| Harbor Boulevard | 120 | 120 | 120 | 120 | Caltrans | Protected | Permissive | | 332 | 2070 | | Loops | Yes | Bosch | Yes | | | | | |
| Beach Boulevard (SR-39) | Whittier Boulevard (SR-72) | 100 | 90 | 100 | 90 | Caltrans | Protected | Perm/Overlap | | 332 | 2070 | | Loops | | N/A | Yes | | | | |
| | Gregory Lane | 130 | 130 | 130 | 130 | Caltrans | Prot/Perm | Permissive | | 332 | 2070 | | Loops | | N/A | Yes | | | | |
| | La Habra Boulevard | 130 | 130 | 130 | 130 | Caltrans | Protected | Permissive | | 332 | 2070 | | Loops | | N/A | Yes | | | | |
| | Lambert Road | 130 | 130 | 130 | 130 | Caltrans | Protected | Permissive | | 332 | 2070 | | Loops | | N/A | Yes | | | | |
| | Fashion Square Lane | 130 | 130 | 130 | 130 | Caltrans | Prot/Perm | Permissive | | 332 | 2070 | | Loops | | N/A | Yes | | | | |
| | Imperial Highway (SR-90) | 130 | 130 | 130 | 130 | Caltrans | Protected | Perm/Overlap | | 332 | 2070 | | Loops | | Bosch | Yes | | | | |
| | Westridge Plaza N. | 130 | 130 | 130 | 130 | Caltrans | Prot/Perm | Permissive | | 332 | 2070 | | Loops | | N/A | Yes | | | | |
| | Westridge Plaza S. | 130 | 130 | 130 | 130 | Caltrans | Protected | Permissive | | 332 | 2070 | | Loops | | N/A | Yes | | | | |

- Represents Non-City maintained intersection



Section 4 Traffic Signal Synchronization System and Three-Year Plan

Implementing, maintaining and updating signal synchronization includes initial and recurring capital equipment investment and regular signal timing plan updates. This section contains the three-year budgetary estimates for maintaining the traffic signal synchronization system for the City of La Habra. The section also contains a candidate list intended to identify planning level capital funding needs for full build-out of the network identified on your network map as shown in Section 2 of the 2023 LSSP Update.

Two levels of budgetary estimates for capital, operations and maintenance plan are provided:

- **Constrained Level** – budget estimate based on available funding the local agency will commit for the signal synchronization efforts. The Constrained Funding Needs information is summarized in **Table 2**.
- **Unconstrained Level** – budget estimate based on expenditures required to fully implement the short-term and long-term synchronization programs. The Unconstrained Funding Needs information is summarized in **Table 3**.

For planning purposes, candidate traffic signal synchronization projects at the Unconstrained Level and planned for the next three years, are also provided in **Table 4**. The City of La Habra, along with neighboring jurisdictions, plan to submit these as part of future Project P Calls for Projects.



Table 2
3-YEAR OUTLOOK
TRAFFIC SIGNAL SYNCHRONIZATION
Funding Needs for Synchronized Operation (Constrained)
Reporting Jurisdiction Expenditures: City of La Habra
Type of Traffic Signal Synchronization Expenditures in Year of Expenditure Dollars

| MAINTENANCE | FY23/24 | FY24/25 | FY25/26 | TOTAL |
|--|----------------|----------------|----------------|--------------|
| PROJECT | | | | |
| Communication and Software Maintenance | \$ 25,000 | \$ 25,000 | \$ 25,000 | \$ 75,000 |
| | | | | |
| | | | | |
| Subtotal Maintenance: | \$ 25,000 | \$ 25,000 | \$ 25,000 | \$ 75,000 |

| CONSTRUCTION | FY23/24 | FY24/25 | FY25/26 | TOTAL |
|------------------------------------|----------------|----------------|----------------|--------------|
| PROJECT | | | | |
| Lambert Rd Signal Synchronization | \$ 196,000 | | | \$ 196,000 |
| Harbor Blvd Signal Synchronization | \$ 130,000 | | | \$ 130,000 |
| Euclid St Signal Synchronization | \$ 23,000 | \$ 23,000 | | \$ 46,000 |
| Traffic Signal Infrastructure | \$ 50,000 | \$ 50,000 | \$ 50,000 | \$ 150,000 |
| | | | | |
| | | | | |
| Subtotal Construction: | \$ 399,000 | \$ 73,000 | \$ 50,000 | \$ 522,000 |

| OPERATIONS | FY23/24 | FY24/25 | FY25/26 | TOTAL |
|------------------------------------|-------------------|-------------------|-------------------|-------------------|
| PROJECT | | | | |
| Idaho St Monitoring/Maintenance | \$ 600 | | | \$ 600 |
| Lambert Rd Timing Implementation | \$ 2,000 | | | \$ 2,000 |
| Lambert Rd Monitoring/Maintenance | | \$ 2,700 | \$ 2,700 | \$ 5,400 |
| Harbor Blvd Timing Implementation | \$ 1,200 | | | \$ 1,200 |
| Harbor Blvd Monitoring/Maintenance | | \$ 2,400 | \$ 2,400 | \$ 4,800 |
| Euclid St Timing Implementation | | \$ 2,000 | | \$ 2,000 |
| Euclid St Monitoring/Maintenance | | | \$ 2,600 | \$ 2,600 |
| Citywide Monitoring/Maintenance | \$ 40,000 | \$ 40,000 | \$ 40,000 | \$ 120,000 |
| | | | | |
| Subtotal Operations: | \$ 43,800 | \$ 47,100 | \$ 47,700 | \$ 138,600 |
| Grand Total: | \$ 467,800 | \$ 145,100 | \$ 122,700 | \$ 735,600 |



Table 3
3-YEAR OUTLOOK
TRAFFIC SIGNAL SYNCHRONIZATION
Funding Needs for Synchronized Operation (Unconstrained)
Reporting Jurisdiction Expenditures: City of La Habra
Type of Traffic Signal Synchronization Expenditures in Year of Expenditure Dollars

| MAINTENANCE | FY23/24 | FY24/25 | FY25/26 | TOTAL |
|--|----------------|----------------|----------------|--------------|
| PROJECT | | | | |
| Communication and Software Maintenance | \$ 50,000 | \$ 50,000 | \$ 50,000 | \$ 150,000 |
| | | | | |
| | | | | |
| Subtotal Maintenance: | \$ 50,000 | \$ 50,000 | \$ 50,000 | \$ 150,000 |

| CONSTRUCTION | FY23/24 | FY24/25 | FY25/26 | TOTAL |
|------------------------------------|----------------|----------------|----------------|--------------|
| PROJECT | | | | |
| Lambert Rd Signal Synchronization | \$ 980,000 | | | \$ 980,000 |
| Harbor Blvd Signal Synchronization | \$ 650,000 | | | \$ 650,000 |
| Euclid St Signal Synchronization | \$ 115,000 | \$ 115,000 | | \$ 230,000 |
| Traffic Signal Infrastructure | \$ 80,000 | \$ 80,000 | \$ 80,000 | \$ 240,000 |
| | | | | |
| | | | | |
| Subtotal Construction: | \$ 1,825,000 | \$ 195,000 | \$ 80,000 | \$ 2,100,000 |

| OPERATIONS | FY23/24 | FY24/25 | FY25/26 | TOTAL |
|------------------------------------|---------------------|-------------------|-------------------|---------------------|
| PROJECT | | | | |
| Idaho St Monitoring/Maintenance | \$ 3,000 | | | \$ 3,000 |
| Lambert Rd Timing Implementation | \$ 10,000 | | | \$ 10,000 |
| Lambert Rd Monitoring/Maintenance | | \$ 13,500 | \$ 13,500 | \$ 27,000 |
| Harbor Blvd Timing Implementation | \$ 6,000 | | | \$ 6,000 |
| Harbor Blvd Monitoring/Maintenance | | \$ 12,000 | \$ 12,000 | \$ 24,000 |
| Euclid St Timing Implementation | | \$ 10,000 | | \$ 10,000 |
| Euclid St Monitoring/Maintenance | | | \$ 13,000 | \$ 13,000 |
| Citywide Monitoring/Maintenance | \$ 40,000 | \$ 40,000 | \$ 40,000 | \$ 120,000 |
| | | | | |
| Subtotal Operations: | \$ 59,000 | \$ 75,500 | \$ 78,500 | \$ 213,000 |
| Grand Total: | \$ 1,934,000 | \$ 320,500 | \$ 208,500 | \$ 2,463,000 |



**Table 4
LSSP IMPLEMENTATION – CANDIDATE SIGNAL SYNCHRONIZATION PROJECTS WITH
ESTIMATED COSTS TO COMPLETE PLANNED NETWORK**

Reporting Jurisdiction Expenditures: City of La Habra

| CORRIDOR | IMPROVEMENT SUMMARY | ESTIMATED COST |
|---|---|---------------------|
| La Habra Boulevard/ Central Avenue/ State College Boulevard | Upgrade signal timing, replace signal controller equipment, install fiber communications, utilize speed detection devices and install CCTV cameras. (Planned for FY 2024-2025) | \$ 2,116,000 |
| Imperial Highway | Upgrade signal timing, replace signal controller equipment, install fiber communications, utilize speed detection devices and install CCTV cameras. (Planned for FY 2025-2026) | \$ 3,000,000 |
| | | |
| | | |
| | | |
| | | |
| Total Estimated Cost: | | \$ 5,116,000 |

Note: Estimated cost for currently uncoordinated corridors, conversion of existing corridors to improve compatibility, and TMC upgrades.



Section 5 Traffic Signal Synchronization Assessment Review and Update of Traffic Signal Timing

Significant timing plan updates and projects completed FY 2020/2021 through 2022/2023

The City of La Habra periodically conducts corridor-wide projects to both update signal timing and upgrade obsolete traffic signal infrastructure. The City is currently participating in the following Project P funded multijurisdictional traffic signal coordination projects:

1. Euclid Street Regional Traffic Signal Synchronization Program (RTSSP) - Lead Agency. The recently funded project is in the preliminary design phase.
2. Lambert Road RTSSP – Lead Agency. The project is in the final design stage. The signal optimization phase is in progress.
3. Harbor Boulevard RTSSP – Member Agency. The project is in the final design stage. The signal optimization phase is in progress.

The recently completed Imperial Hwy/SR-90 RTSSP project included installation of fiber optic communication along Imperial Hwy/SR-90 within the City's jurisdiction. The improvement will allow for sharing Caltrans fiber optic communications and integrate Caltrans CCTV camera video feed from the corridor to the City's TMC.

The City of La Habra's Corridor Operational Performance is presented in **Figure 2. Table 5** summarizes results of recent Traffic Signal Synchronization Program projects. **Table 6** presents the signal timing revisions for the different city corridors.

All these projects allow for the development and implementation of optimized coordination signal timing plans and also enable the upgrade of the traffic signal system.

The City of La Habra, via its traffic engineering consultants and maintenance contractors, pro-actively monitors traffic operations along traffic signal synchronization routes. The provision of Measure M2 funds, both for periodic signal timing updates and traffic signal system infrastructure upgrades, are critical for a successful traffic signal synchronization.

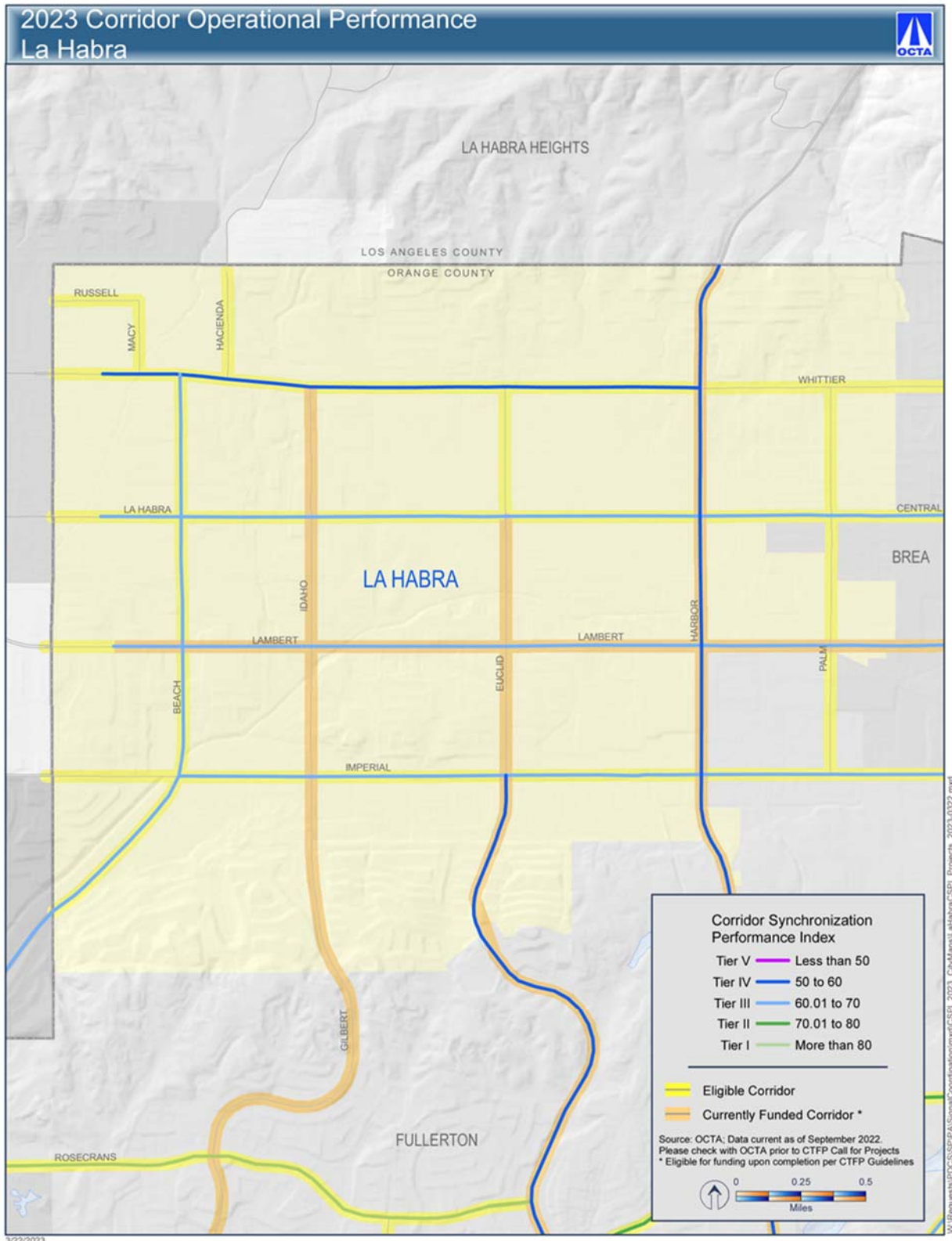


Figure 2



Traffic Signal Synchronization

**Table 5
Assessment, Review and Revisions
(2020 - 2023)**

| Local Agency Corridor | Timing Reviewed (Past 3 years) | Did timing require updates | Peak Period | TIMING UPDATE RESULTS (if available) | | | | | | | |
|-----------------------|--------------------------------|----------------------------|--------------|--------------------------------------|-------|--------------|-------|-------------------|-------|-----------------|----------|
| | | | | Average Speed (mph) | | No. of Stops | | Travel Time (min) | | CSPI Score/Tier | |
| | | | | Before | After | Before | After | Before | After | Before | After |
| Imperial Highway | Yes | Yes | AM | 25.7 | 31.4 | 12.6 | 9.0 | 23.3 | 18.6 | 70.1 | 93.7 |
| | | | MD | 25.4 | 29.2 | 13.4 | 10.7 | 23.0 | 20.0 | 67.2 | 82.5 |
| | | | PM | 21.6 | 24.7 | 16.8 | 13.3 | 27.2 | 23.7 | 52.8 | 66.0 |
| | | | SAT | 23.5 | 27.2 | 14.4 | 11.5 | 24.8 | 21.5 | 61.4 | 76.5 |
| | | | Average CSPI | | | | | | | | 63/T-III |
| Idaho Street | Yes | Yes | AM | 25.6 | 28.6 | 6.3 | 4.2 | 12.4 | 11.1 | 68.2 | 89.8 |
| | | | MD | 27.5 | 30.2 | 6.5 | 3.8 | 11.5 | 10.5 | 69.4 | 94.8 |
| | | | PM | 25.3 | 29.0 | 6.6 | 4.4 | 12.5 | 10.9 | 65.6 | 87.4 |
| | | | SAT | 28.4 | 31.3 | 5.2 | 3.7 | 11.2 | 10.1 | 79.5 | 98.3 |
| | | | Average CSPI | | | | | | | | 71/T-II |
| Lambert Road | Yes | N/A | AM | Timing Optimization in Progress | | | | | | | |
| | | | MD | | | | | | | | |
| | | | PM | | | | | | | | |
| | | | SAT | | | | | | | | |
| Harbor Boulevard | Yes | N/A | AM | Timing Optimization in Progress | | | | | | | |
| | | | MD | | | | | | | | |
| | | | PM | | | | | | | | |
| | | | SAT | | | | | | | | |
| Euclid Street | Yes | N/A | AM | Timing Optimization in Progress | | | | | | | |
| | | | MD | | | | | | | | |
| | | | PM | | | | | | | | |
| | | | SAT | | | | | | | | |



**Table 6
Signal Timing Revisions
(2020 - 2023)**

| PROJECT CORRIDOR | CROSS STREETS | CYCLE LENGTHS (Before/After) |
|------------------|---------------|--|
| Imperial Highway | Citywide | Signal timing was reviewed. No significant changes warranted. |
| Lambert Road | Citywide | Signal timing optimization and review efforts in progress. |
| Harbor Boulevard | Citywide | Signal timing optimization and review efforts in progress. |
| Euclid Street | Citywide | Signal timing optimization and review efforts in progress. |