# CITYWIDE TRAFFIC SIGNAL TIMING UPDATE

## Public Works Department

**Meeting**

Transportation Board: December 3, 2025

# BACKGROUND

1. As part of the "Bylaws of the Transportation Board of the City of Riverside", The Public Works Department, Traffic Engineering Division will provide an update of the City's traffic signal timing and coordination efforts and projects to expand and/or upgrade signal communications.

# DISCUSSION

1. Traffic Monitoring
2. Continuous  Signal Timing Activities
3. Signal Timing and Coordination
4. Evaluation Process
5. Notable Signal Timing Efforts
6. Awarded Grant Projects and Look Ahead

# TRAFFIC MONITORING

1. Traffic Management Center (TMC) opened in 2007 and was partially funded by grants, later renovated in 2018 to update older equipment and technology.

2. Monitor real time traffic and make temporary signal timing adjustments based on current conditions, roadway incidents, special events and construction projects.

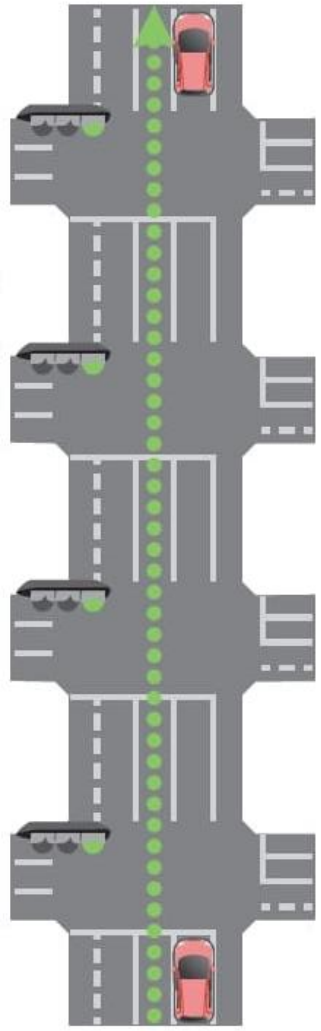
3. City maintains approx. 421 signalized intersections with an estimated half of the signals having coordinated timings.

# CONTINUOUS SIGNAL TIMING ACTIVITIES

1. Respond to public services requests for signal timing operational adjustments and safety concerns.

2. Assist the Information Technology (IT) Department with the installation, operation and maintenance of 46 Closed Circuit Television (CCTV) cameras at signalized intersections to view real time traffic.

3. Coordination within Public Works and other City Departments for traffic signal timing support (construction, road closures, special events, incident management).

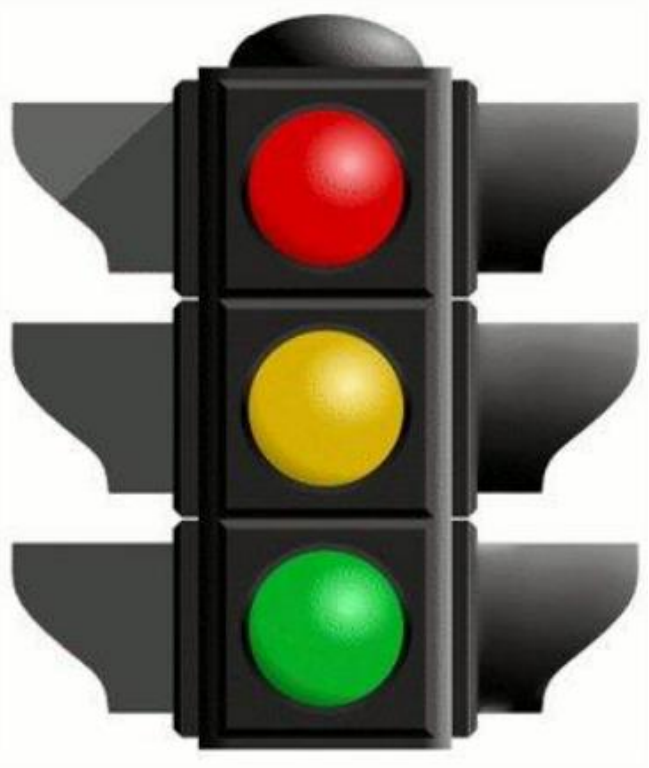



# SIGNAL TIMING AND COORDINATION

1. The Process of optimizing the operations of signalized intersections and updating signal timing as required.

2. One of the most cost-effective ways to improve traffic flow and movement.

3. Benefits include improved travel time, delay reduction, and fuel savings.

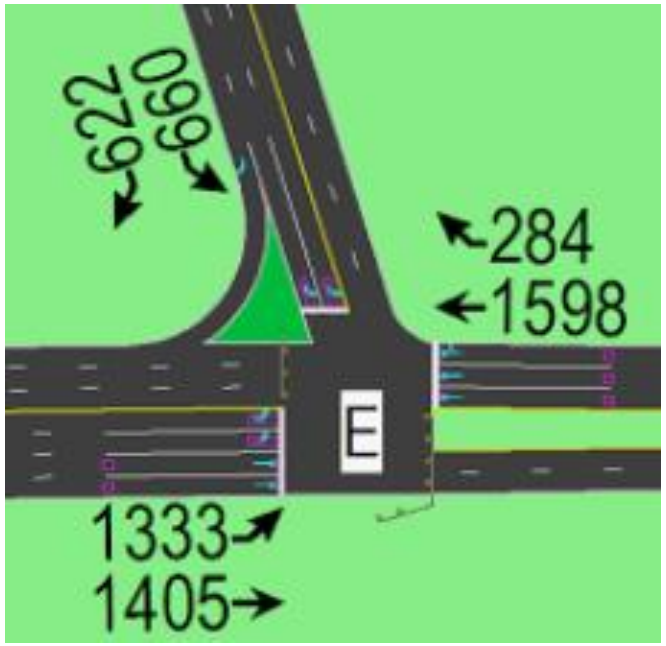


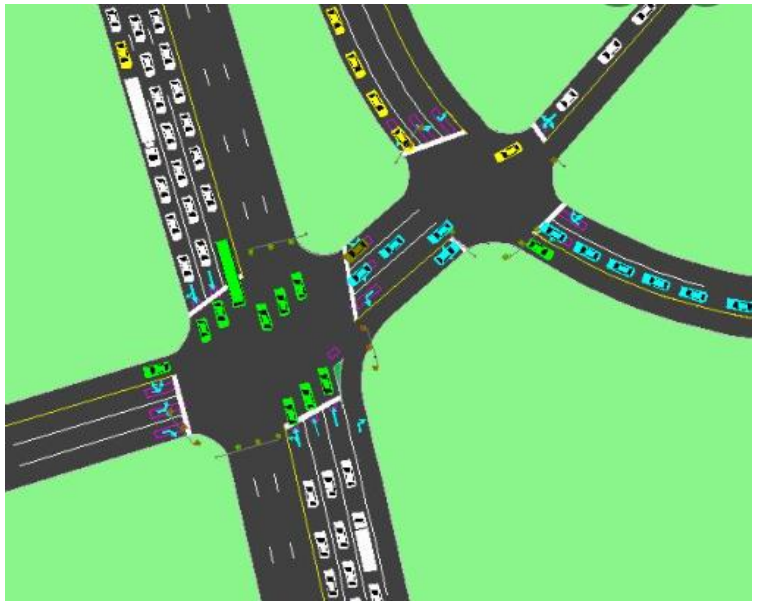
# EVALUATION PROCESS

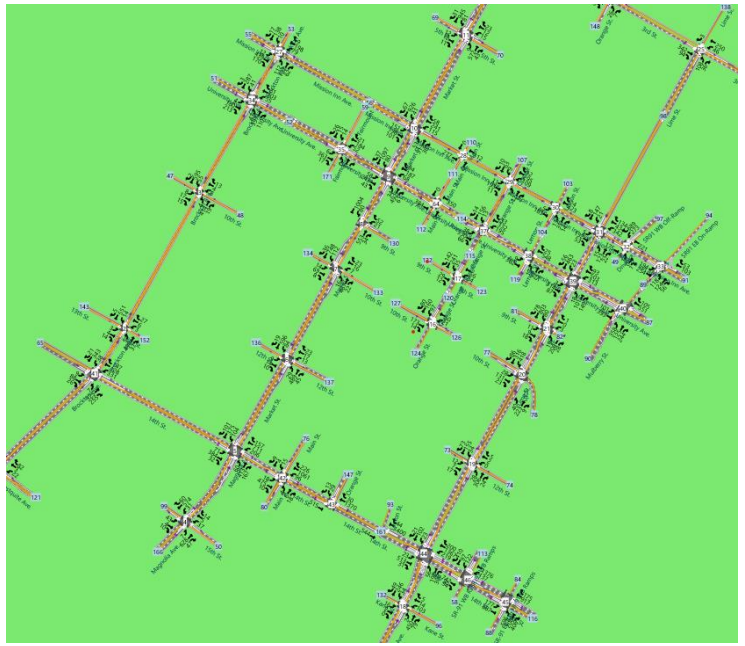
1. Corridor signal synchronization evaluation:
   a. Existing condition studies are conducted at peak hour time of days (Morning, Midday, Evening), traffic volumes are collected.
   b. Computer modeling software (Synchro) is used to analyze signal timing coordination and run simulations prior to testing new timing in real world scenario.
   c. New coordination timing is generated and implemented
   d. A follow-up study is conducted to fine-tune the newly implemented coordination timing along corridor.
   e. Before and after studies are compared using a Corridor Synchronization Performance Index (CSPI) report to analyze improvements (travel time, number of stops, average speed).

# EXAMPLE SLIDE

1. Synchro computer program modeling example





# NOTABLE SIGNAL TIMING EFFORTS

1. Implementing Leading Pedestrian Interval (LPI) safety feature on traffic signals citywide (allows pedestrians to enter the crosswalk prior to concurrent vehicular movement receiving a green light to proceed).

2. Develop initial signal timing plans for newly constructed traffic signals:
    a. Lincoln Ave and Monroe St
    b. Lincoln Ave and Washington St
    c. Lincoln Ave and Collingwood St (HAWK)
    d. Main St and Placentia Ln
    e. Wells Ave and Challen Ave

# NOTABLE SIGNAL TIMING EFFORTS (CONTINUED)

2. Develop initial signal timing plans for newly constructed traffic signals (continued):
    f. Alessandro & Vista Grande
       (Sycamore Hills Development)
    g. Orange & Strong
       (The Exchange Project)
    h. Orange & Fremont
       Elementary School Driveway


3. Future New Traffic Signals Scheduled for Construction:
    a. Collett & Polk (active construction project – Bid 8046)
    b. Mission Inn & Fairmount (HAWK)(active construction proj - Bid 8131)

# AWARDED GRANT PROJECTS AND LOOK AHEAD

Highway Safety Improvement Program (HSIP) Cycle 8 ($2M) – Complete

- Install new controllers and controller software at 247 intersections, update basic timing and implement Leading Pedestrian Interval (LPI) parameters. Additionally, provide new central system for the TMC to monitor signals.

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Highway Safety Improvement Program (HSIP) Cycle 11 ($9M) – In Progress

- Implement Leading Pedestrian Interval (LPI) and update basic timing parameters at signalized intersections citywide.

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Highway Safety Improvements Program (HSIP) Cycle 12 ($1.6M) – Approved

- Replace existing antiquated signal controllers with new 2070 signal controllers with updated software at 160 intersections (remaining locations from HSIP Cycle 8 project).

# RECOMMENDATIONS

That the Transportation Board receive and file the annual traffic signal timing update presentation.