



Traffic Signal Timing Update

Public Works Department

Transportation Board
June 2019

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SUMMARY

1. Signal Timing and Coordination Efforts
2. Evaluation Process
3. Recent Projects



2



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SIGNAL TIMING AND COORDINATION

1. The Process of optimizing the operations of signalized intersections
2. One of the most cost-effective ways to improve traffic movement
3. Benefits include improved travel time, delay reduction, and fuel savings



3

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SIGNAL TIMING AND COORDINATION

4. Signal timing requires updates to pedestrian crossing times, yellow times, bicycle minimum green times, etc.
5. Coordinate with Caltrans for signal timing at locations where city streets cross freeway ramps
6. Continuously receiving feedback from commuters about signal timing operations and recommended changes



4

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EVALUATION PROCESS

1. Corridor signal timing evaluation:
 - a. Existing studies are conducted at peak hour time of days (AM, Mid-day, PM)
 - b. Traffic conditions and volumes are modeled using Synchro computer program to optimize signal timing and coordination
 - c. New coordination timing is generated and implemented
 - d. A follow-up field study is then conducted to fine tune the corridor
 - e. Before and after studies are compared using a Corridor Synchronization Performance Index (CSPI) report to analyze improvements



5

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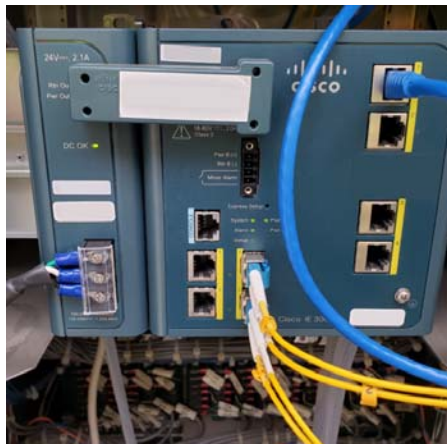


6

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MAGNOLIA AVENUE FIBER OPTIC

- Completed February 2019
- Over 10 miles of fiber optic installed (48 intersections)
- High-speed connection for cameras, connected & autonomous vehicles
- Increased capabilities for dynamic signal timing

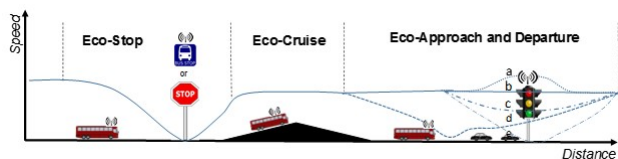


7

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UNIVERSITY AVENUE INNOVATION CORRIDOR

- Testing began October 2018
- Partnership with the UCR Center for Environmental Research & Tech.
- Preparing Riverside for connected vehicle infrastructure deployment
- Unique testbed for the region



8



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TRAVEL SPEED MONITORING

- Completed May 2019
- Installed on major corridors:
 - La Sierra Avenue
 - Alessandro Boulevard
 - Magnolia Avenue
- Allows for refinement of signal coordination and assessment of travel patterns



9

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TRAFFIC MANAGEMENT CENTER UPGRADE

- Allows staff to monitor intersections, railroad crossings, freeway conditions & more citywide
- Provides support for special events, such as Festival of Lights
- Deploys signal timing



10



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TRAFFIC MANAGEMENT CENTER UPGRADE

- Completed summer 2019
- All-digital equipment
- Annual savings on costly projector lamp replacements
- Significantly reduced power requirements
- Greater flexibility



11

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CONCLUSION

Signal Timing and Coordination:

1. Important aspect of Traffic Engineering
2. Directly impacts the public/commuters

QUESTIONS?



12

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