Sandy City Signal Synchronization Project

PRESENTATION OVERVIEW

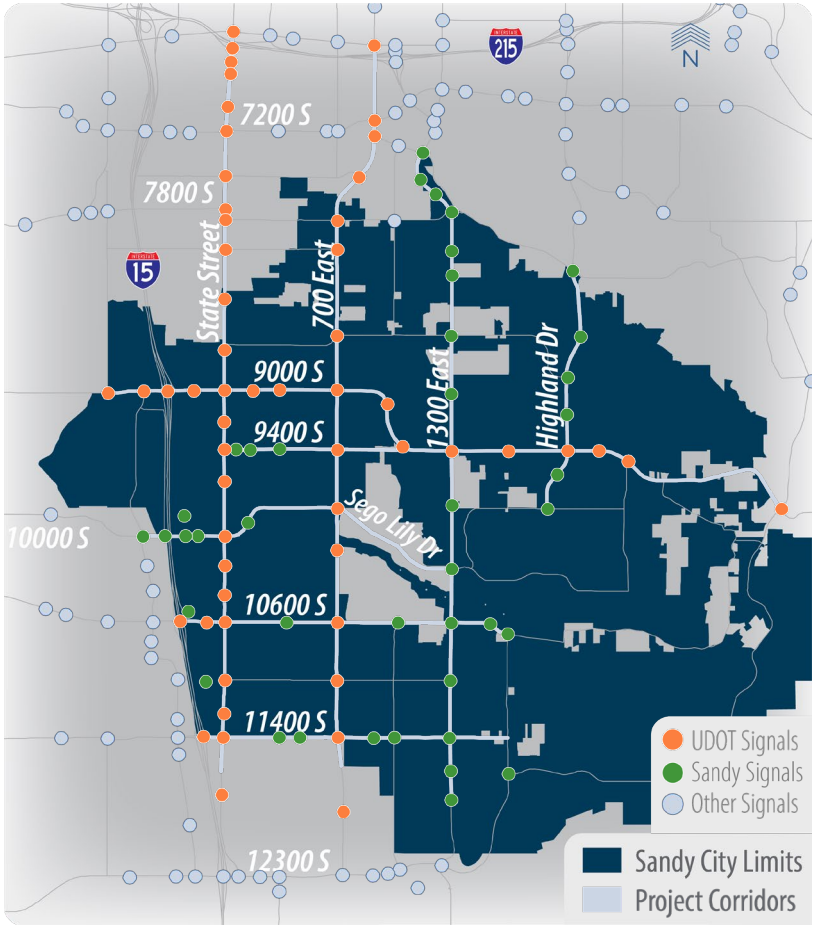
- Signal System Background Information
- How Traffic Signals Work Together
- Signal Timing Process
- Signal Retiming Results
- Where to go from here
- Questions

Signal System Background Information

SANDY CITY SIGNAL TIMING

Sandy City Signal System

- **9 signal corridors needing signal coordination** to improve performance
- **44 signals maintained by Sandy City** & Salt Lake County
- **40 signals maintained by UDOT** within Sandy
- **Last update** completed 2009
- **Avenue Consultants selected** to update system Spring 2019



Project Goals

- **Reduce travel time**
- **Reduce emissions**
- **Update to current signal timing standards**

Project Team

Sandy
HEART OF THE WASATCH

UDOT
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How Traffic Signals Work Together

Signal Structure

Split: time allotted each phase.

Coordinated signal phase(s): prioritized phases, set to begin at a specified time each cycle.

Cycle length: time needed to serve all signal phases.

Signal Structure

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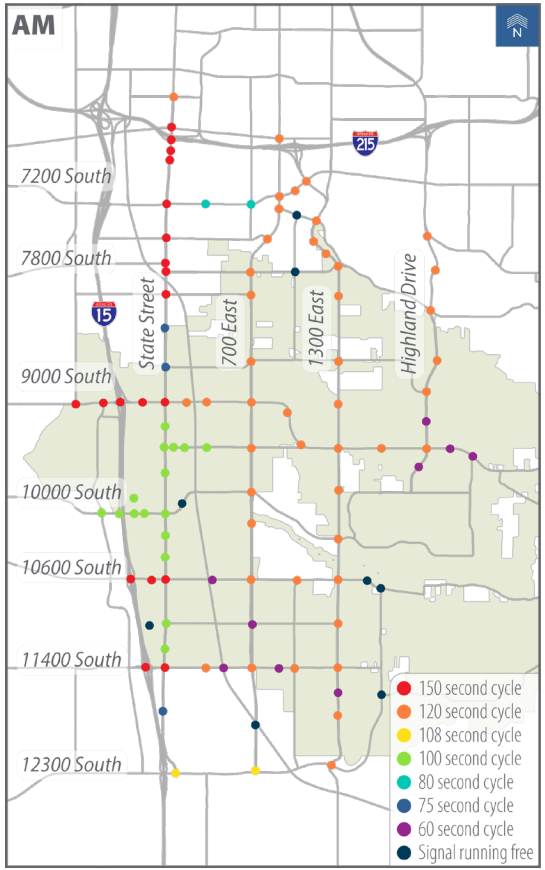
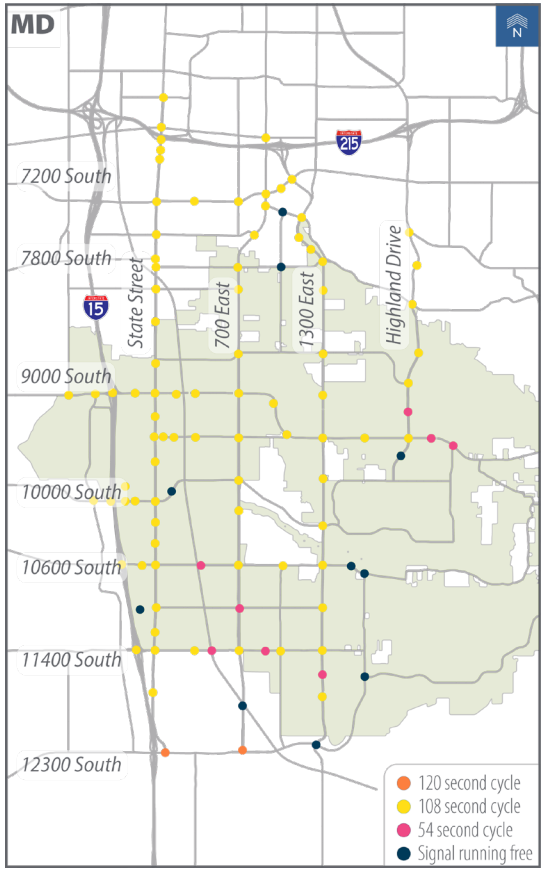
Coordinated signal phase(s): prioritized phases, set to begin at a specified time each cycle.

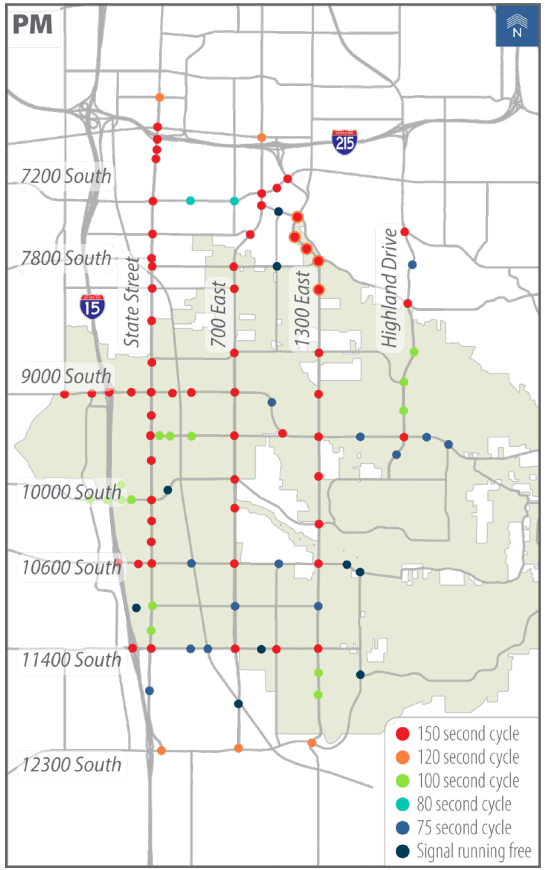
Cycle length: time needed to serve all signal phases.

When each signal within the corridor operates at the same cycle length, coordinated phases can be alignedso vehicles arrive at each signal during the green time. This improves corridor progression, reducing the amount of time vehicles wait at a red light.

UPDATED CYCLE LENGTHS







Traffic Signal Retiming Process and Project Results

SANDY CITY SIGNAL SYSTEM

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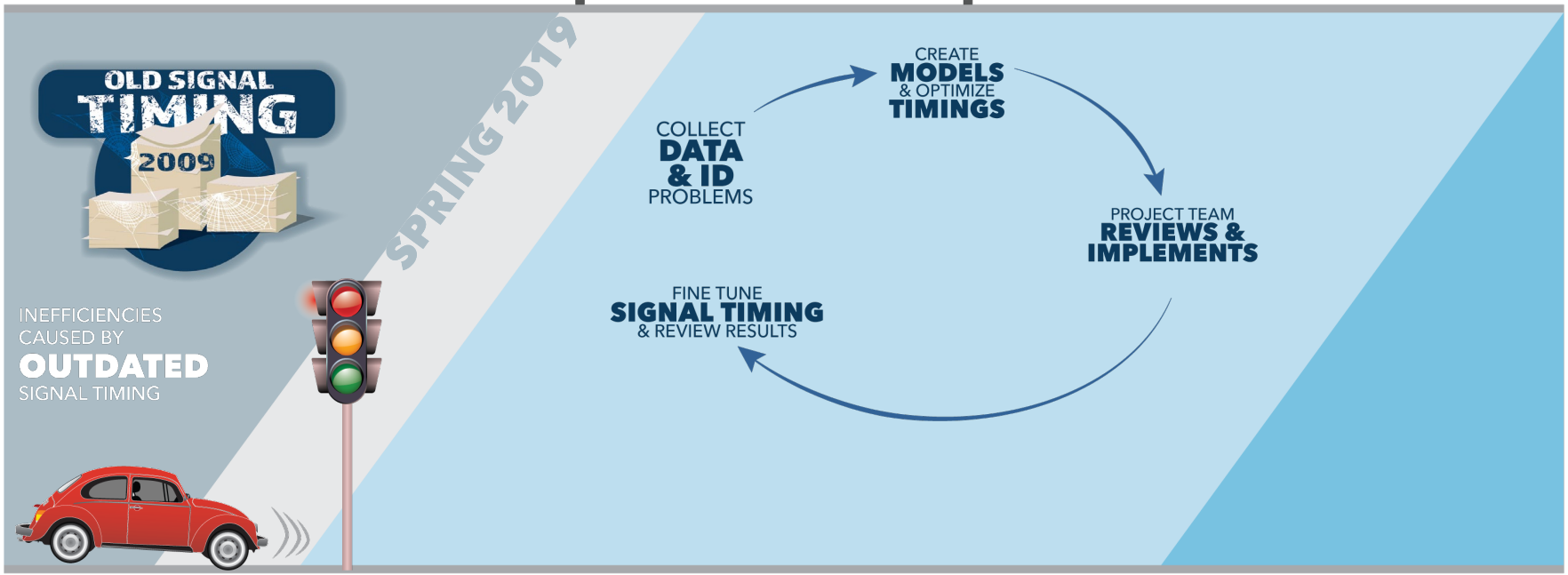
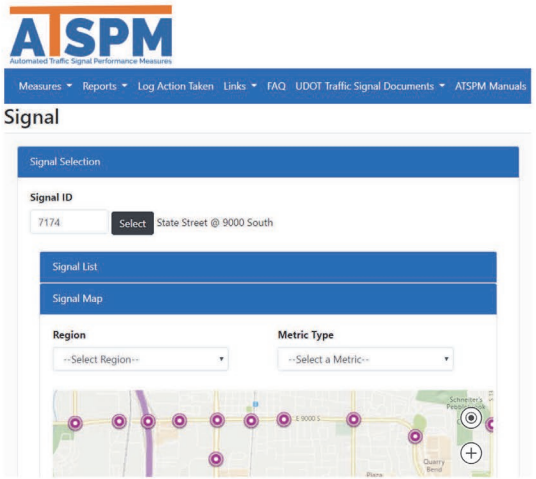
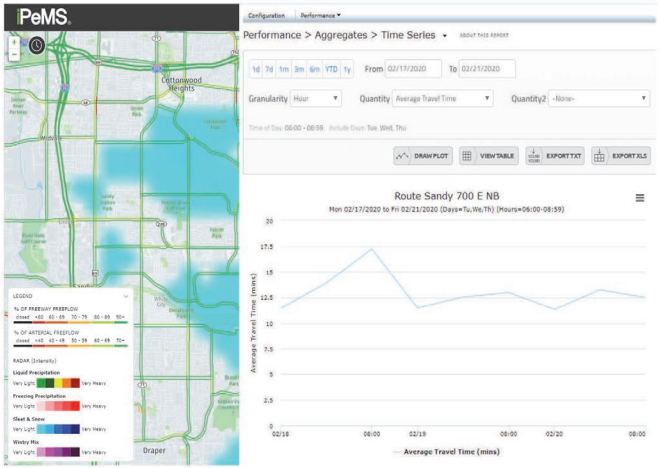


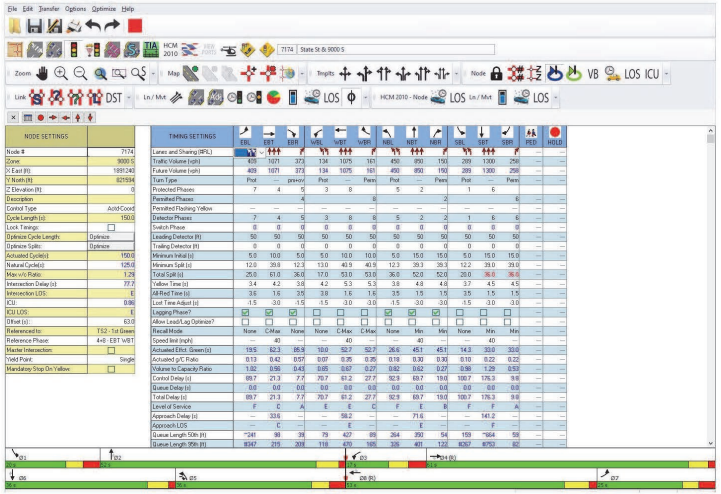
- Travel times thru Probe Vehicles and Large Data Sources
- Automated Traffic Signal Performance Metrics (ATSPMs)
- Observations

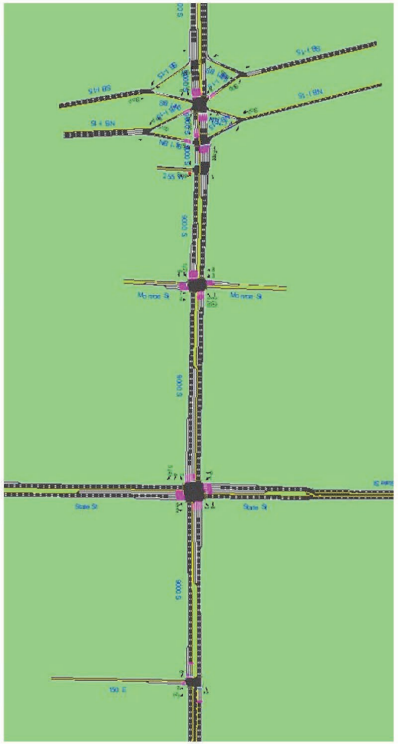




CREATE MODELS & OPTIMIZE TIMINGS

- Synchro engineering program to visualize and measure potential changes
- Multiple potential changes reviewed to determine best way to proceed





PROJECT TEAM REVIEWS & IMPLEMENTS

- Review timings in collaboration with stakeholders
- Install new signal timings

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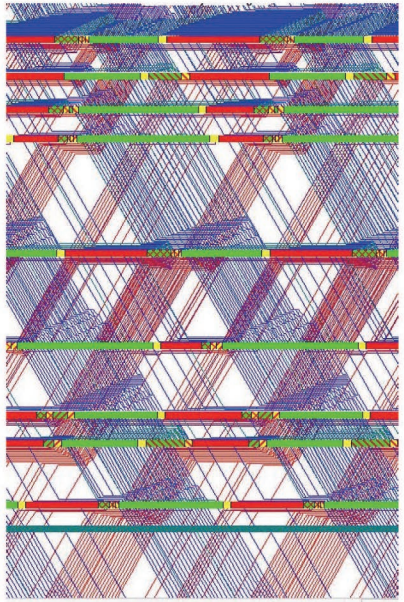
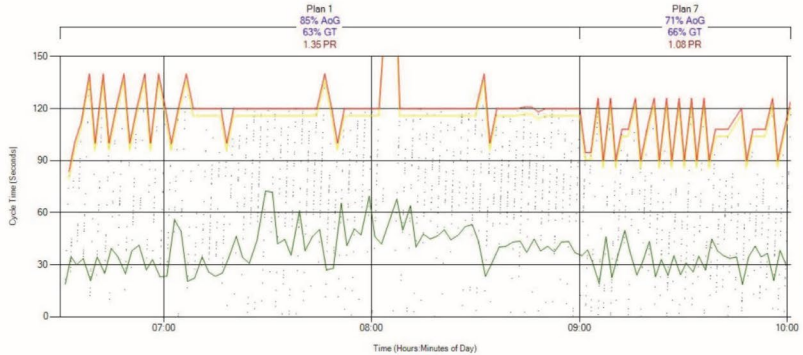
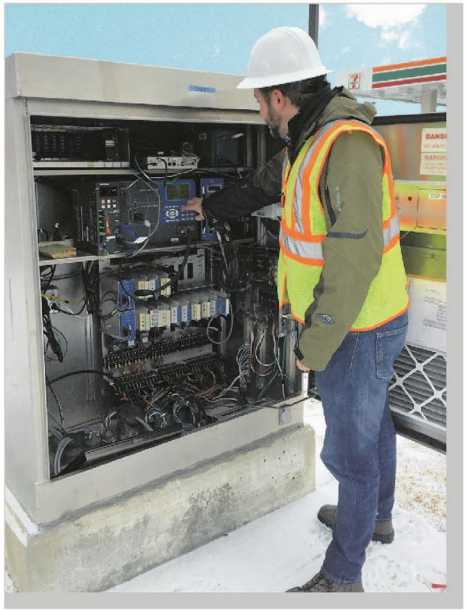


FINE TUNE SIGNAL TIMING & REVIEW RESULTS

- Observe and adjust timings to match corridors
- Review signal timing metrics
- Get feedback from city and citizen





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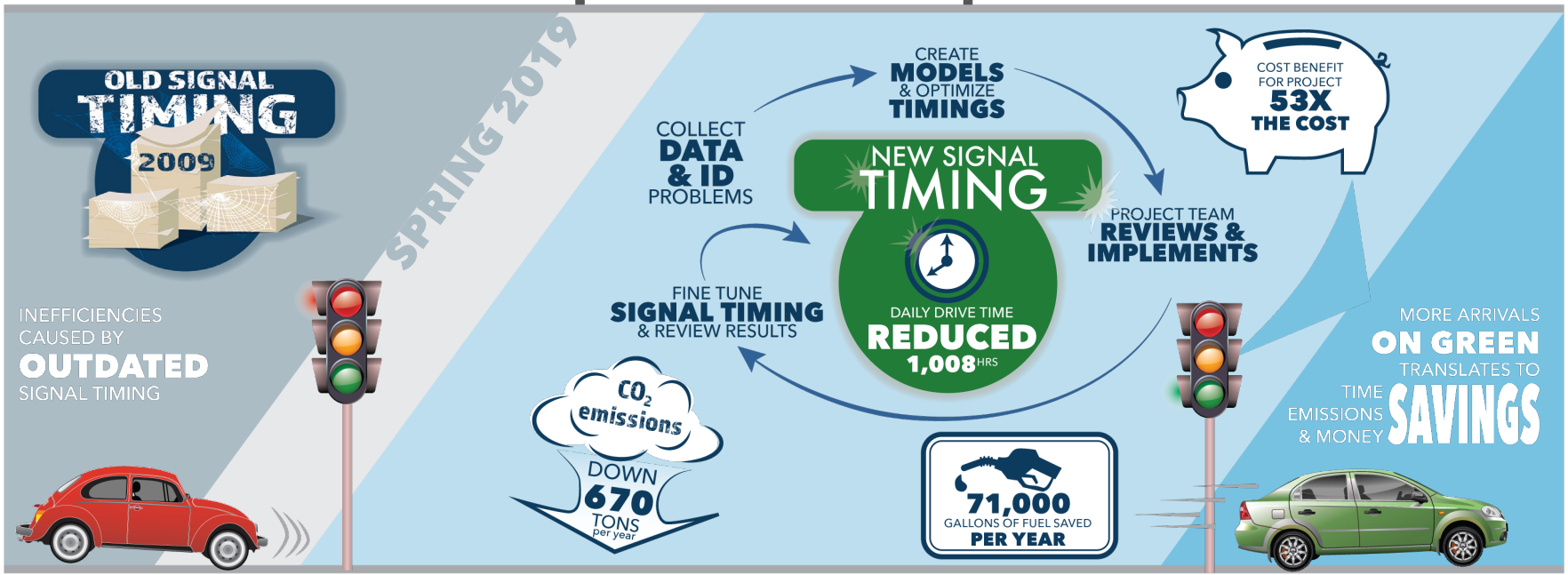

- Listen to feedback from citizens
- Configure ATSPMs at signals
- Review intersection improvement recommendations
- Retime signals every 5 years
  - Based on UDOT recommendation– approx. $1,600 per signal

- Questions?