



KANSAS CITY MISSOURI

Pedestrian Signal Operations Update

- Pedestrian Recall
 - Ped Signal activates regardless of pushbutton press
- Leading Pedestrian Interval (LPI)
 - Gives pedestrians a head start (4-7 seconds)
- Rest in Walk
 - Ped Walk signal automatically on with vehicular green
 - Typically for synchronized phases, e.g. N/S on Southwest Trfy

Pedestrian Recall

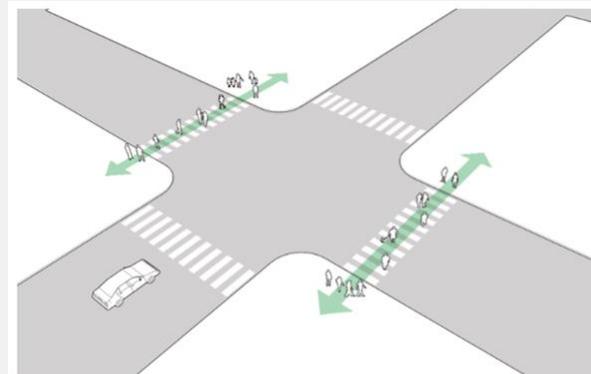
- Pedestrian WALK symbol is activated during every cycle, regardless of demand
 - Pros – Pedestrians don't have to push button
 - Cons – Increases intersection delay // Non Compliance by motorists
- Over 90 out of 635 traffic signals City Wide
 - Primarily CBD and Plaza

Pedestrian Recall

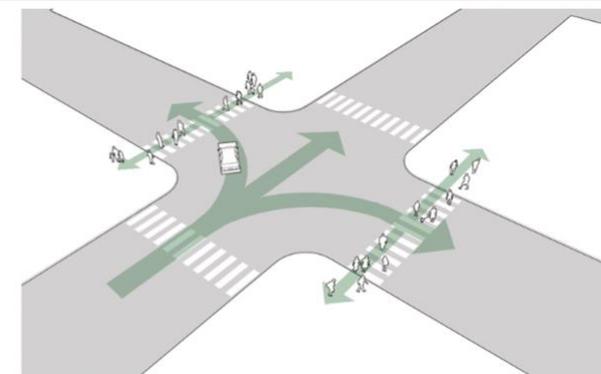
- Ped Recall Implementation Considerations
 - Kittleson Study (July 2020) – Part of NCHRP 03-133 (sponsored by AASHTO and FHWA)
 - 0 - 0.4 peds/signal cycle → Pushbutton Activated
 - 0.4 – 0.9 peds/signal cycle → Agency Discretion
 - Greater than 0.9 peds/signal cycle → Ped Recall
 - DC DOT – 0.5+ peds/cycle to evaluate Ped Recall
 - Boston – No peds for > 50% of cycle during peak hours → Pushbutton activated
- Based on above, KCMO evaluation thresholds would be:
 - CBD and Plaza = approx. 40 cycles/hour x 0.9 peds/cycle = 36 peds per hour

Leading Pedestrian Interval (LPI)

- Walk signal activated 3-7 seconds prior to vehicular green
 - Pros – Increases visibility of peds in crosswalk
 - Cons – Potential safety hazard if driver doesn't see ped in crosswalk. Increases delay.
 - Listed as a FHWA safety counter measure
 - Supporting study based on ped volumes in downtown NYC//Chicago//Toronto//UNC Campus
 - KCMO does not have comparable volumes
- Implemented in approx. 50 of 635 signals
 - Primarily CBD and Plaza



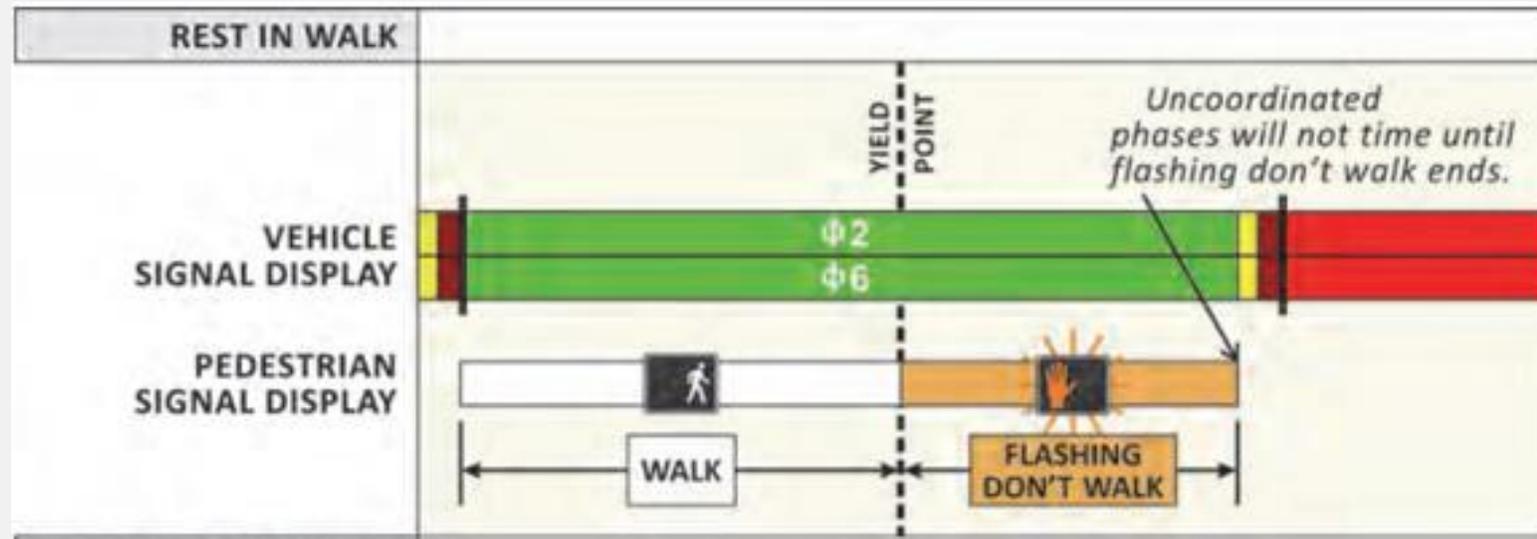
Phase 1: Pedestrians only
Pedestrians are given a minimum 3-7 second head start entering the intersection.



Phase 2: Pedestrians and cars
Through and turning traffic are given the green light. Turning traffic yields to pedestrians already in the crosswalk.

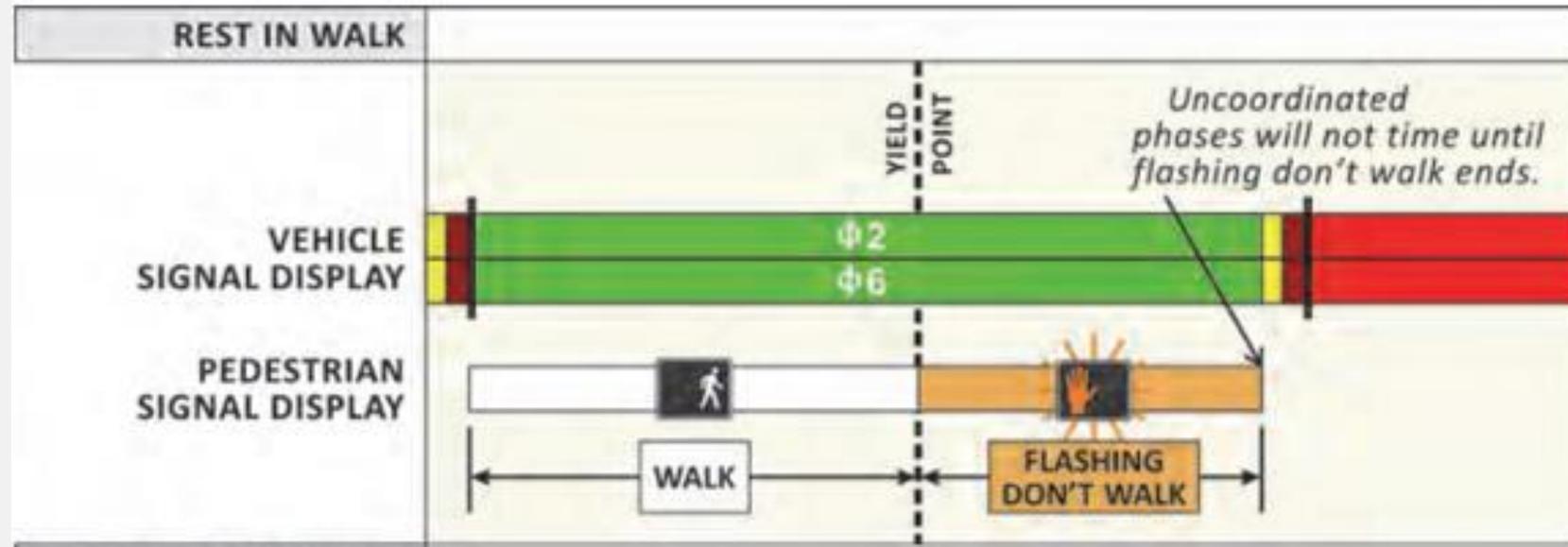
Rest In WALK

- Rest In Walk
 - WALK signal displayed until vehicular demand on side street
 - Flashing DON'T WALK based on roadway width
- Pros – Pedestrians don't need to push button crossing side street
- Cons – May add delays to side street while waiting for Flashing Don't Walk to terminate



Rest In WALK

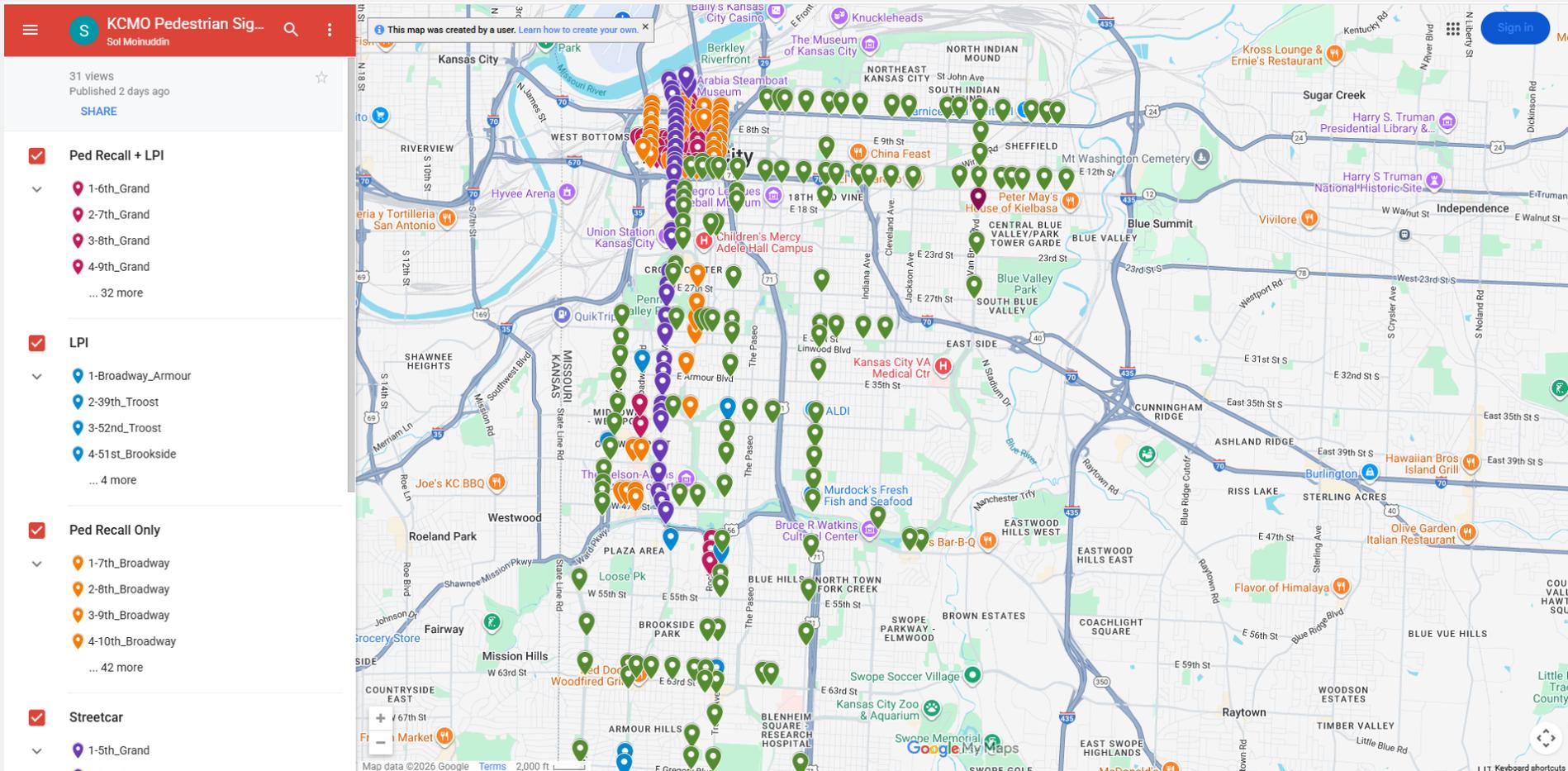
- Implemented on 10+ KCMO corridors
 - Streetcar (Main St)
 - Independence Ave
 - Southwest Trafficway
 - Broadway Blvd
 - Troost Ave
 - Prospect Ave
 - Holmes Rd
 - Grand Blvd
 - Ward Pkwy
 - Truman Rd
 - Among Others



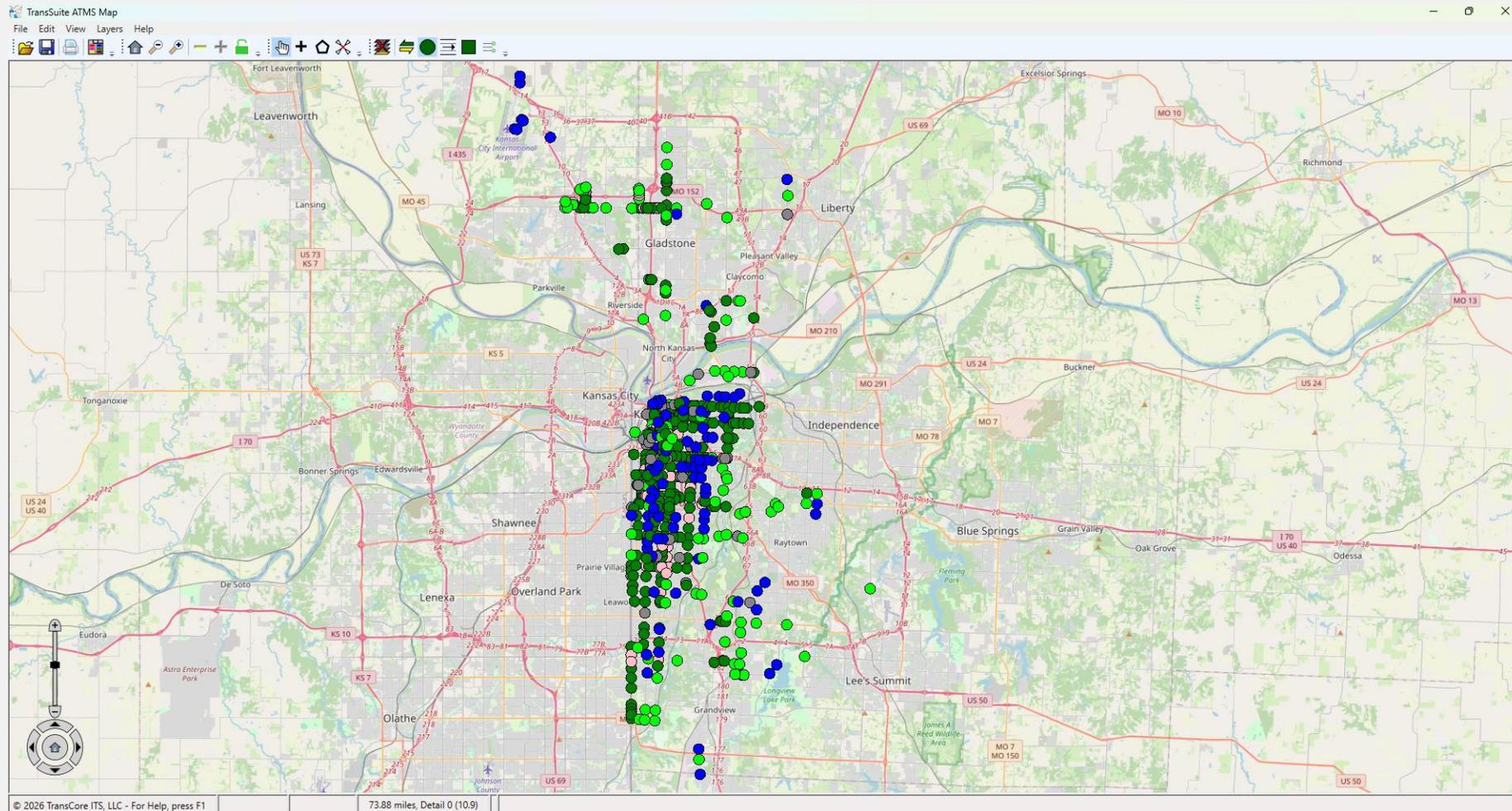
Summary of Pedestrian Signal Operations

- Pedestrian Recall = 90+ of 635 traffic signals
- Leading Pedestrian Interval = 50 of 635 traffic signals
- Rest in Walk = 10+ corridors

Pedestrian Signal Operations Map



Existing Traffic Signals Map



Peer Review - City of Denver

- 1300 traffic signals
- # of signals on Pedestrian Recall = 200
 - Outside CBD/entertainment districts,
Ped recall on case by case basis
- # of signals with LPI
 - Currently being evaluated
- # of signals with Rest in Walk
 - All coordinated corridors
- Pedestrian Signal Policy
 - No specific policy based on ped
volume thresholds



Peer Review - City of Minneapolis

- 825 traffic signals
- # of signals on Pedestrian Recall = 500
 - Outside CBD/entertainment districts, Ped Recall on case-by-case basis
 - Implemented City wide during pandemic, slowly removing now
- # of signals with LPI = 50
 - Near Schools and High Ped Areas
- # of signals with Rest in Walk
 - All coordinated corridors
- Pedestrian Signal Policy
 - No specific policy based on ped volume thresholds



Peer Review - City of Austin

- 1000 traffic signals
- # of signals on Pedestrian Recall = 150
 - Outside CBD/entertainment districts, Ped Recall on case-by-case basis
- # of signals with LPI = 200 (approx.)
- # of signals with Rest in Walk
 - All coordinated corridors
- Pedestrian Signal Policy
 - No specific policy based on ped volume thresholds



Peer Review - City of Cincinnati

- 800 traffic signals
- # of signals on Pedestrian Recall = 277
 - Outside CBD/entertainment districts, Ped Recall on case-by-case basis
- # of signals with LPI = 96
- # of signals with Rest in Walk
 - All coordinated corridors
- Pedestrian Signal Policy
 - No specific policy based on ped volume thresholds



Peer Review – Oklahoma City

- 805 traffic signals
- # of signals on Pedestrian Recall = 0
- # of signals with LPI = 230
- # of signals with Rest in Walk = Not utilized
- Pedestrian Signal Policy
 - No specific policy based on ped volume thresholds



Peer Review - City of Indianapolis

- 1200 traffic signals
- # of signals on Pedestrian Recall = 200
 - Outside CBD/entertainment districts, Ped Recall on case-by-case basis
- # of signals with LPI = 60
- # of signals with Rest in Walk
 - Not utilized, but a few exceptions.
- Pedestrian Signal Policy
 - No specific policy based on ped volume thresholds



City Comparisons

	% Ped Recall	% LPI
Kansas City	15%	8%
Austin	15%	20%
Cincinnati	34%	12%
Denver	15%	Being Evaluated
Indianapolis	17%	5%
Minneapolis	60%	6%
Oklahoma City	Not Used	30%

Policy Discussion – Considerations

- Pedestrian Volumes
- National Best Practices and Guidelines
- High Injury Network
 - Ped Recall is not typically an FHWA countermeasure for pedestrian related crashes
 - <https://highways.dot.gov/safety/proven-safety-countermeasures>[tps://.. /safety/proven-safety-countermeasurescountermeasures](https://.. /safety/proven-safety-countermeasurescountermeasures)
- Ped Recall not conducive to Transit Signal Prioritization
- School Districts
- Land use

Policy Discussion – Recommendations

- Continuation of Existing Efforts
- Collect Pedestrian Volume Data at Signalized Intersections City Wide
 - Approx cost = \$1.5 Million per day (recommend at least 3 days)
- Pedestrian Volume Policy Tailored to KCMO
- Implement Traffic Signal Equipment Upgrades
 - Approx cost = \$10 Million
 - Approx 65 traffic signals without pedestrian signals
- Agency Discretion