

South Garfield Village

City Council Meeting



South Garfield Avenue Street Improvements

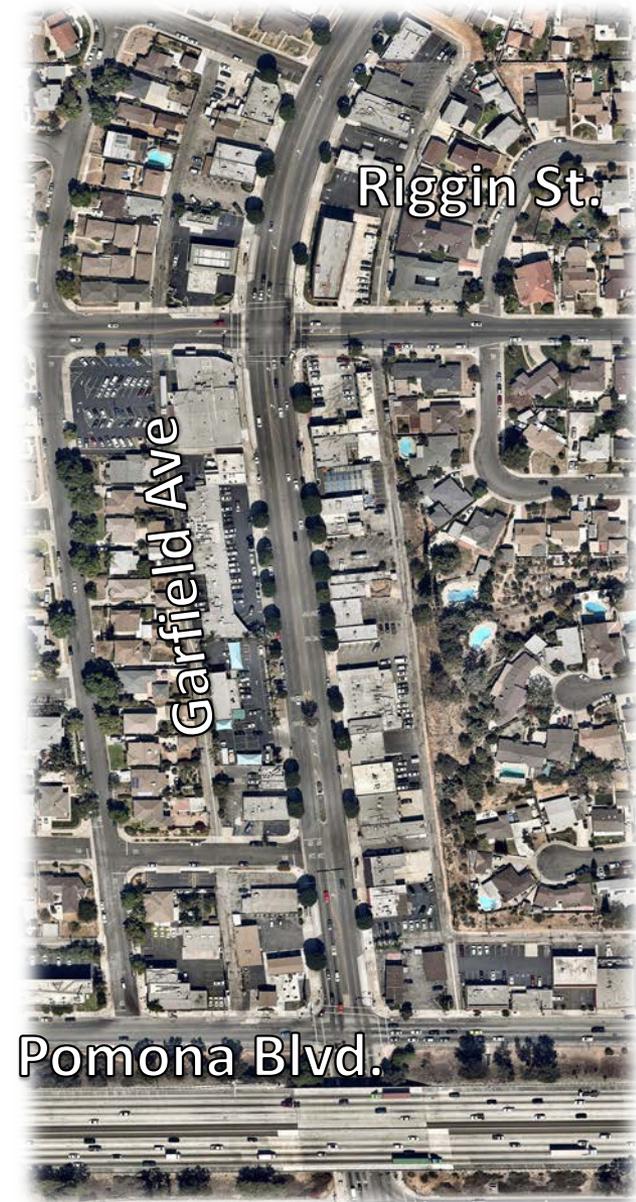
June 21st, 2017

Specific Plan



Design Scope

- Location
 - Garfield Ave. between Pomona and Floral
- Design Elements
 - Replacement of street trees
 - Bulb-outs with LID
 - Center landscaped median
 - Midblock crossing solution
 - Striping plan



South Garfield Avenue Midblock Crossing



Street Tree Replacement

Existing Fichus Tree



Lifting from Root Structure



Street Tree Replacement

Pink Trumpet (*Handroanthus impetiginosus*)



Pink Trumpets in Pasadena

Tree Replacement

Tree Grates



Root Barrier Control



Low Impact Development (LID) Stormwater Treatment

- Reduce runoff through infiltration
- Improved water quality
- Aquifer recharge
- Serves as an aesthetic streetscape enhancement
- Designed to prevent mosquito breeding and extended ponding
- Required for larger projects that trigger MS4
- Long track record of design success and study

Low Impact Development (LID) Stormwater Treatment

Infiltration/Bio-filtration



Bio-filtration Only



Center Landscaped Median

- Low growth vegetation
- Left-hand turn pockets at major intersections
- Electrical conduit for future uses
- Maintenance walk
- Irrigation system

Center Landscaped Median

Pink Muhly (*Muhlenbergia capillaris*)



Munstead English Lavender (*Lavandula angustifolia*)



Midblock Crossing Solutions

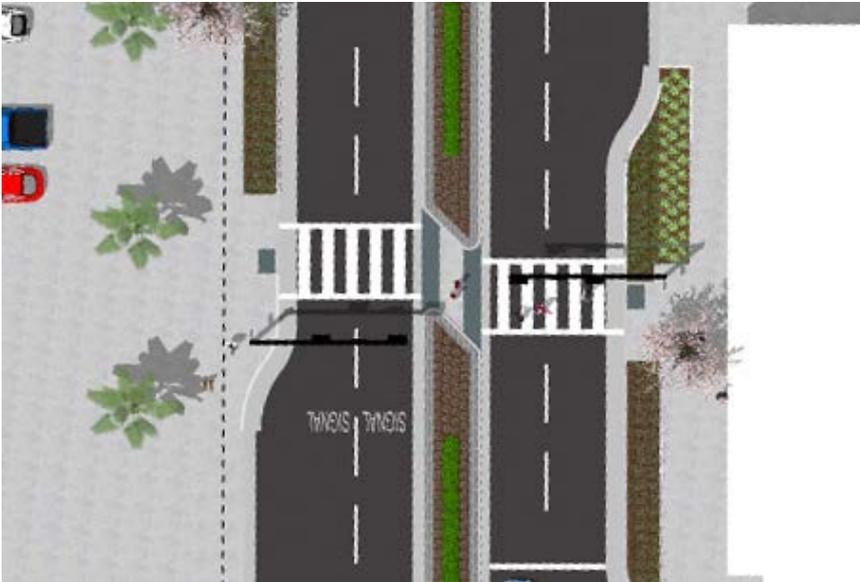


- **Concerns**
 - High peak hour vehicle volumes
 - Motorists fail to yield
 - Over-saturation of signage and warning devices

- **Substantial treatment needed**

Midblock Crossing Solutions

- Allows pedestrians to navigate one traffic direction at a time
- Reduces overall crossing distance
- Calms traffic by reducing physical width of the street



Midblock Crossing Solutions

- Pedestrian Traffic Signal
- Standard Flashing Yellow Warning Beacons



- Rectangular Rapid Flashing Beacons



- In-roadway Warning Lights



- Pedestrian Hybrid Beacons (PHB)



Pedestrian Traffic Signal

- Drivers already familiar
- Provides pedestrian indication to cross
- But NOT recommended for project



Pedestrian Traffic Signal

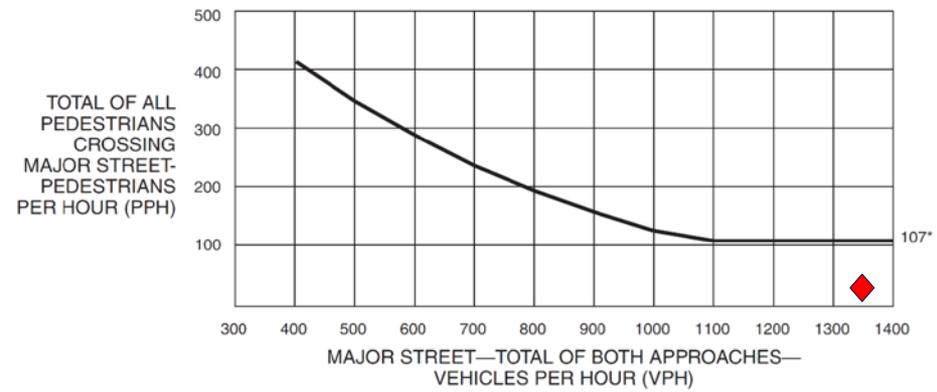
- Does not meet pedestrian volume warrant

- 23 peds during peak hour
- 107 peds minimum

- Proposed location

- 530' south of Riggin St.
- May create longer queues & vehicle delay

Figure 4C-5. Warrant 4, Pedestrian Four-Hour Volume



*Note: 107 pph applies as the lower threshold volume.

◆ Plotted Pedestrian Per Hour (pph) vs Vehicles Per Hour (vph)

Standard Flashing Yellow Beacons



- Characteristics
 - Emphasize crosswalks
 - 1+ circular yellow signal
 - Pedestrian actuated
- Issues
 - ~15-20% yielding rates
 - Garfield Ave. requires more effective treatment

Rectangular Rapid Flashing Beacons (RRFB)

- Characteristics
 - Two (2) rectangular yellow indications
 - Pedestrian actuated
 - ~80-99% yielding rate
- Issues
 - No control feature
 - No pedestrian notification to cross



In-Roadway Flashing Lights



■ Characteristics

- Pedestrian crossing warning
- Flashing lights along crosswalk
- Pedestrian actuated

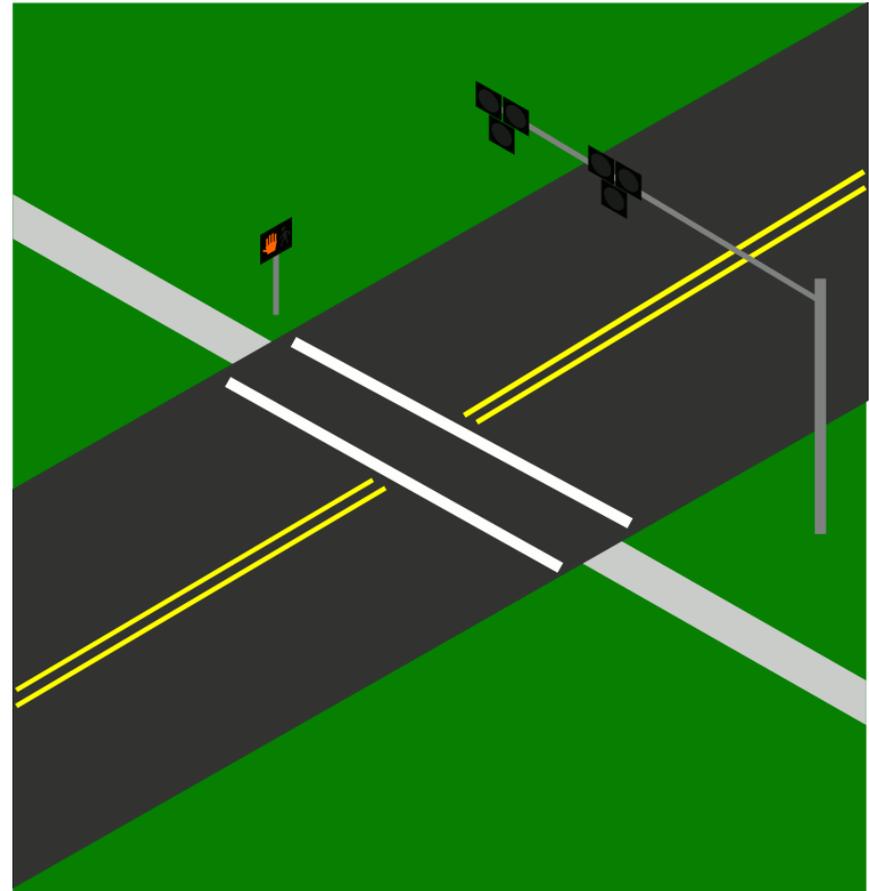
■ Issues

- Maintenance costs
- Not used with signal



Pedestrian Hybrid Beacon (PHB)

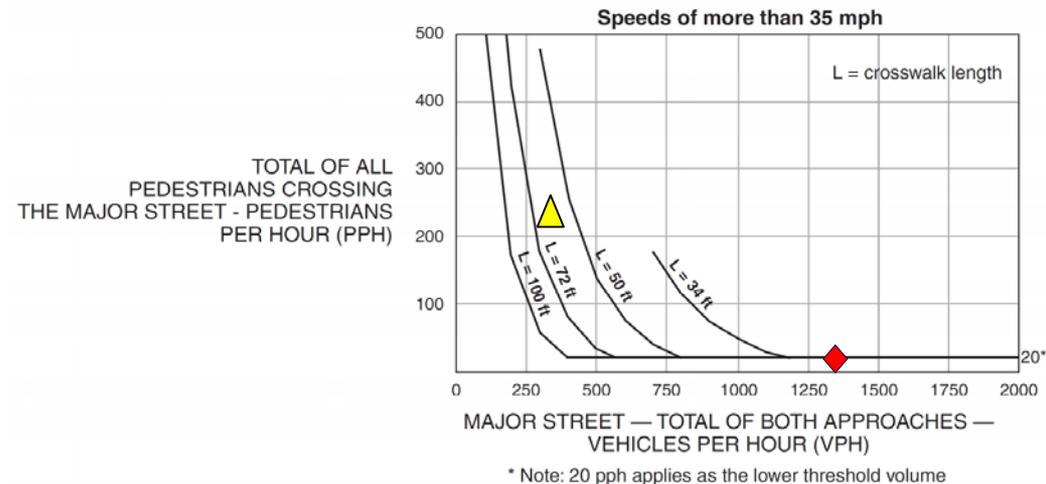
- Characteristics
 - Control traffic at unsignalized location
 - Efficient signal sequence
 - 29% total crash reduction
 - 69% pedestrian crash reduction



Pedestrian Hybrid Beacon (PHB)

- Methodology
 - Used for insufficient traffic volume gaps
 - Installed with signs/pavement markings
 - Only installed at marked crosswalk

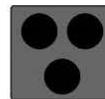
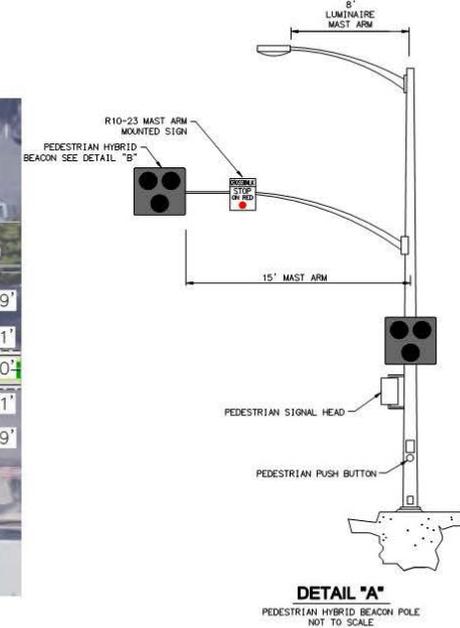
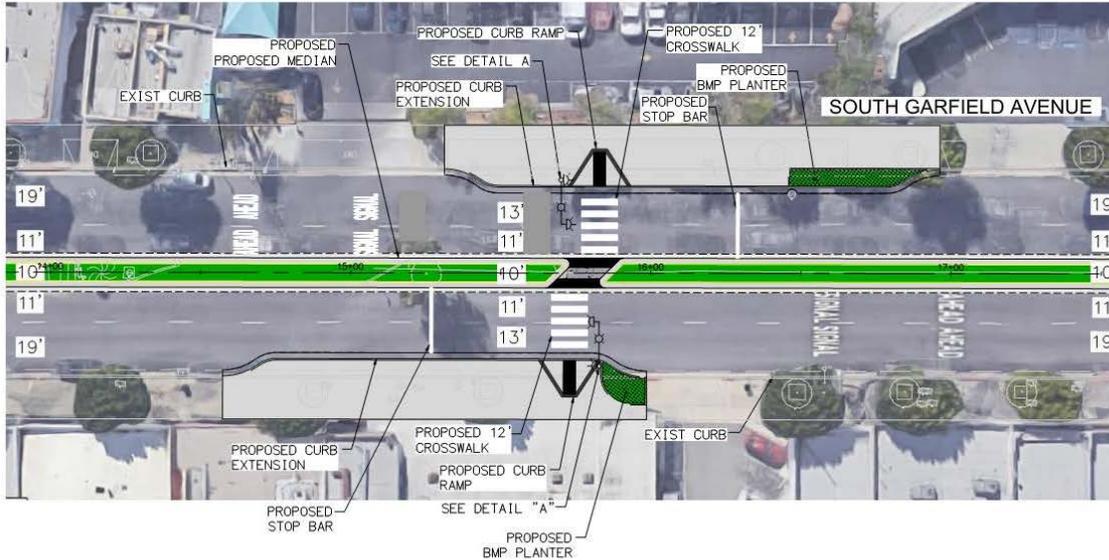
Figure 4F-2. Guidelines for the Installation of Pedestrian Hybrid Beacons on High-Speed Roadways



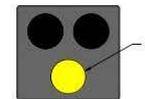
- Hybrid Beacon Warrant

- ◆ Plotted Pedestrian Per Hour (pph) vs Vehicles Per Hour (vph)
- ▲ Applicable Curve

Pedestrian Hybrid Beacon (PHB)



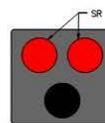
1. DARK UNTIL ACTIVATED - VEHICLE TRAFFIC MAY PROCEED.



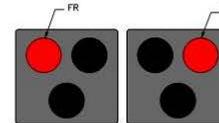
2. FLASHING YELLOW UPON ACTIVATION - VEHICLE TRAFFIC MUST PREPARE TO STOP.



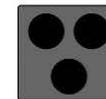
3. STEADY YELLOW DURING CHANGE INTERVAL - VEHICLE TRAFFIC MUST SLOW TO A STOP.



4. STEADY RED DURING PEDESTRIAN WALK INTERVAL - VEHICLE TRAFFIC MUST REMAIN AT A STOP.



5. ALTERNATING FLASHING RED DURING PEDESTRIAN CLEARANCE INTERVAL - VEHICLE TRAFFIC MUST COME TO A STOP AND THEN PROCEED WHEN CLEAR.



6. DARK UPON COMPLETION OF THE PEDESTRIAN CLEARANCE INTERVAL UNTIL ACTIVATED.

DETAIL "B"
PEDESTRIAN HYBRID BEACON SEQUENCE

Pedestrian Hybrid Beacon (PHB)

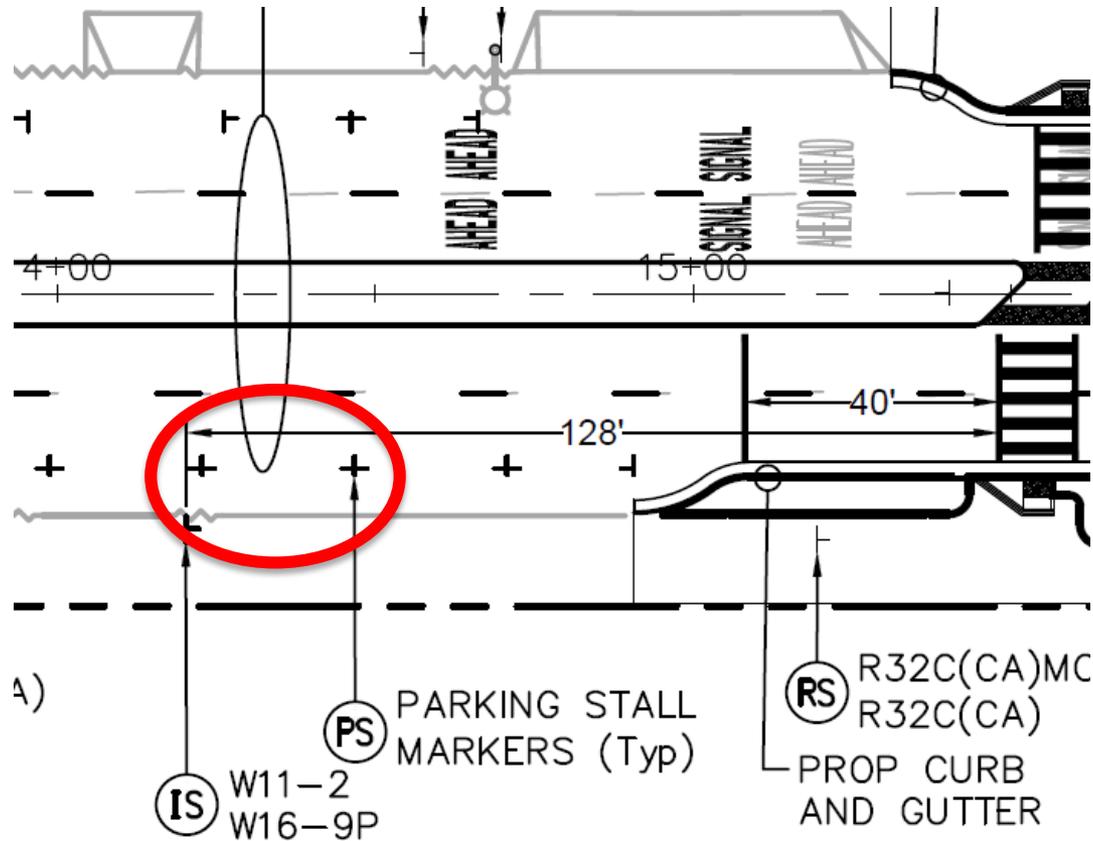


Midblock Crossing Solutions

- Pedestrian Traffic Signal → **Not Warranted**
- Standard Flashing Yellow Warning Beacons → **Not as effective at alerting drivers**
- Rectangular Rapid Flashing Beacons (RRFB) → **No added control or pedestrian signal indications**
- In-roadway Warning Lights → **Require imbedded wires**
- Pedestrian Hybrid Beacon → **Most effective at forcing vehicles to yield**



On-Street Parking Striping



Michael Baker

INTERNATIONAL

We Make a Difference

Questions