

# Addressing Traffic Safety in Pasadena

Identification of High Collision Locations

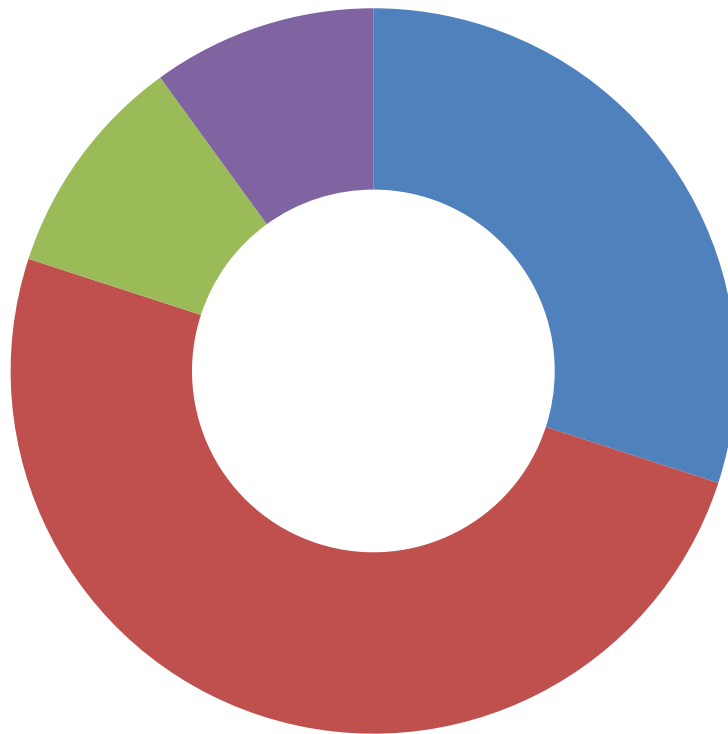
Prioritization of Treatments

Public Safety Committee May 17, 2017





- How Safety Concerns are Identified



■ **Public Suggestions/  
Complaints**

■ **Collision Data**

■ **Plans/Programs**

■ **Best Practices/  
Research**



# Assessing Safety | Prioritizing Change

Department of Transportation

- **Top 10 High Collision Intersections**
  - > Collision Type / Primary Collision Factor / Severity
- **Safety Performance Measures**
  - > Network Screening Tools / Critical Crash Rate
- **Focused Demographic/Geographic Analysis**
  - > High Risk Groups and Areas are mapped/monitored
    - Pedestrians / Bicyclists / School Zones / Elderly
    - Routes to schools, transit, high pedestrian generators
- **Enforcement Actions**
- **Complete Streets Program / Traffic Investigations**
- **Vision Zero / Best Practices**
  - > Highway Safety Manual/ Crash Reduction Factors



# Assessing Safety | Prioritizing Change

Department of Transportation

- **Countermeasures are identified**
  - > Combination of operations, enforcement, physical change and targeted marketing (education/behavior modification)
- **CIP only includes physical changes \$75,000+**
  - > Prioritized by need
  - > Schedule influenced by available Grant Funding
- **Operations modifications addressed by TMC**
  - > Traffic signal timing and operation
  - > Signs and Pavement Markings



# Assessing Safety | Prioritizing Change

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- Enforcement referred to Pasadena Police Dept. daily as staff receives complaints
  - > PPD deploys speed feedback trailer for speeding
  - > PPD provides selective enforcement of traffic laws
  - > For signalized locations with highest red-light running related crashes, Tattle Tale devices installed to aid the enforcement of red-light running
- Education/Encouragement Programs developed
- Reassess and Reevaluate
  - > On-going data collection/monitoring



# Top 10 Intersections – Total Collisions

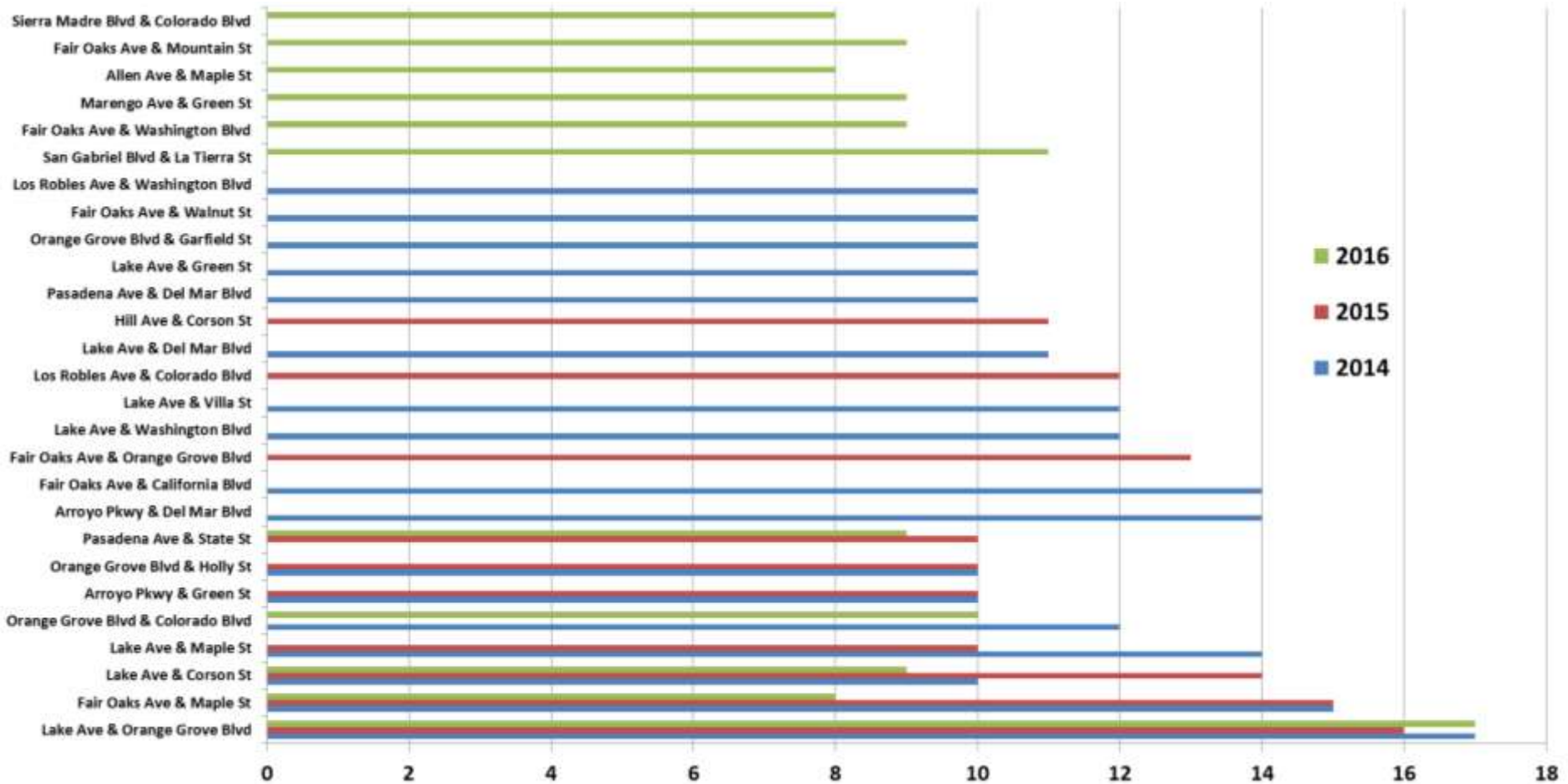
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- **How does an intersection get on the list**
  - > Generally experiences 8 or more collisions in a year
  - > About twice the average annual number of collisions
- **The list is a filter for pattern identification**
  - > Reviewed monthly by DOT and PPD
  - > Used to focus resources and determine if conditions are favorable for physical remediation, operational modifications or enforcement
- **The list is not static**
- **The list is not the only tool in use**



# Top 10 Intersections – Total Collisions

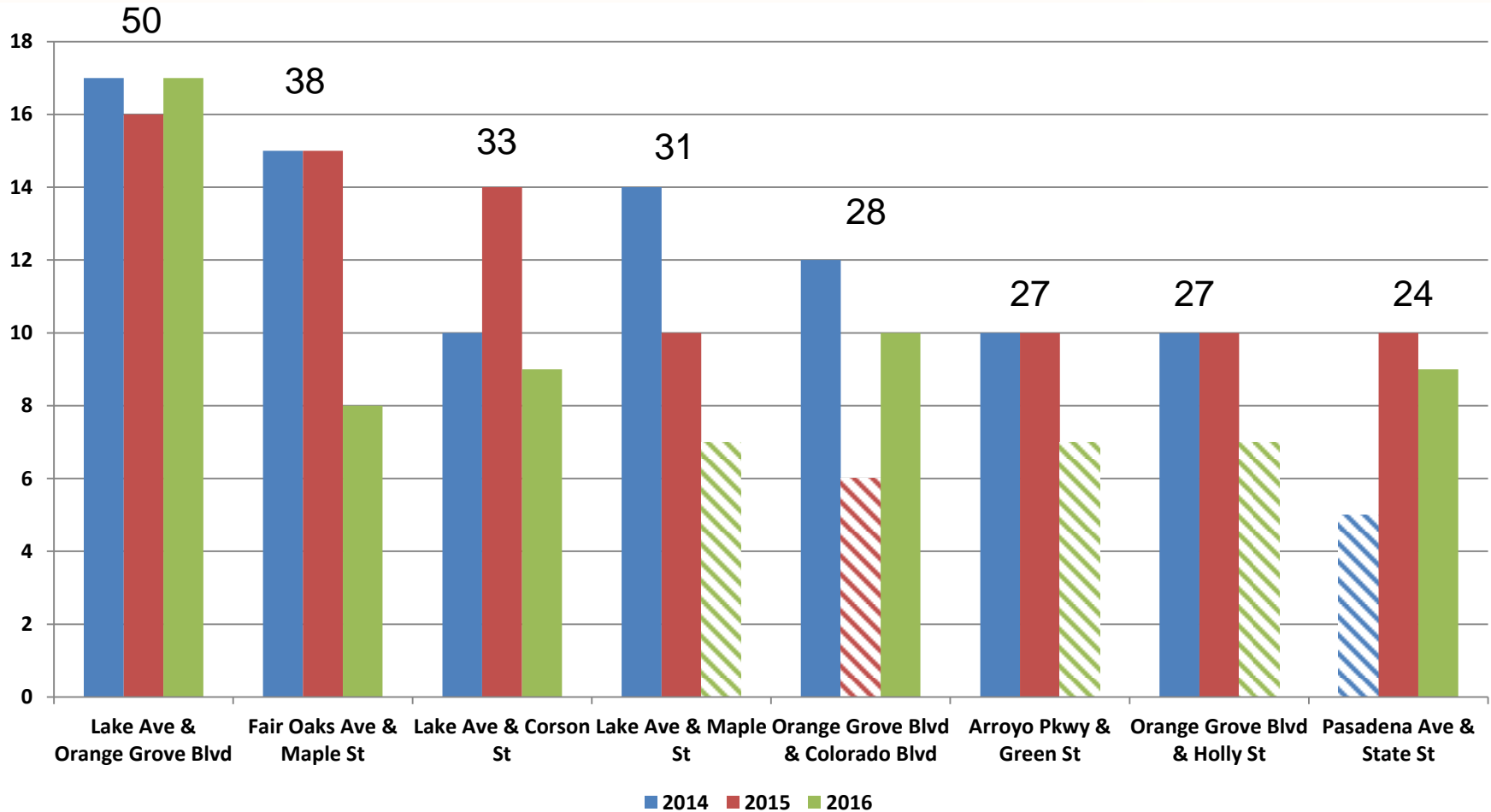
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# Intersections in Top 10 – 2 Yrs or More

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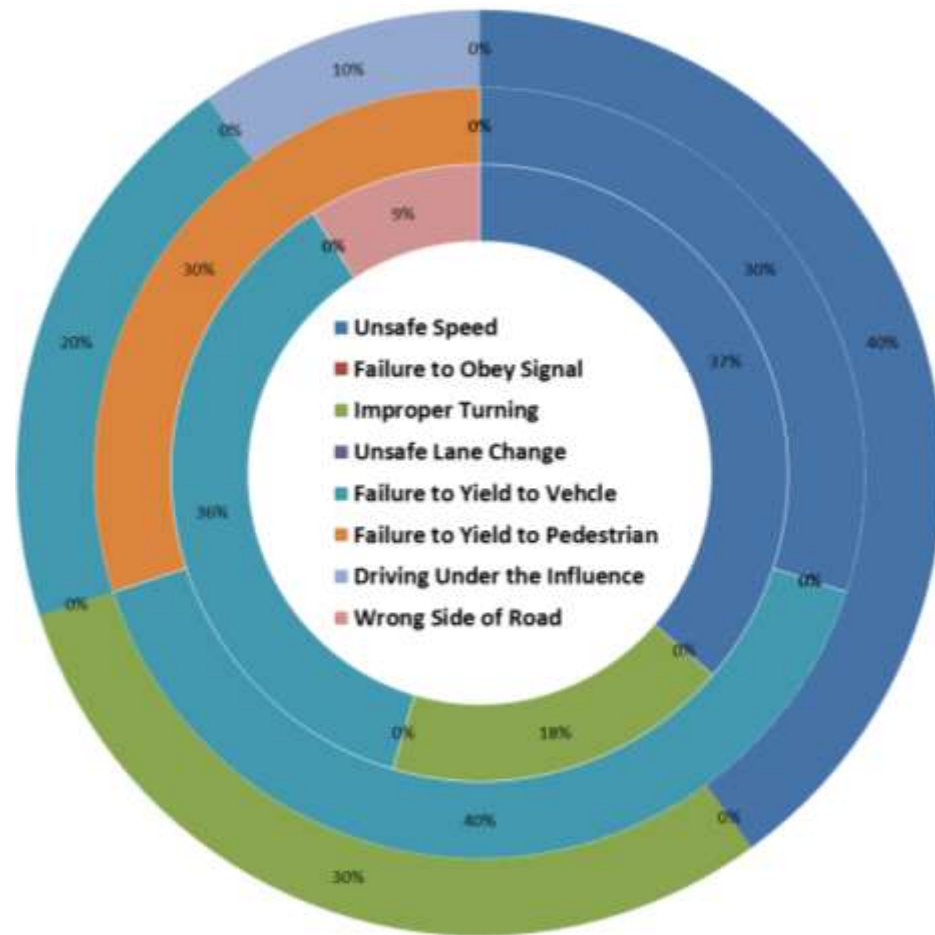




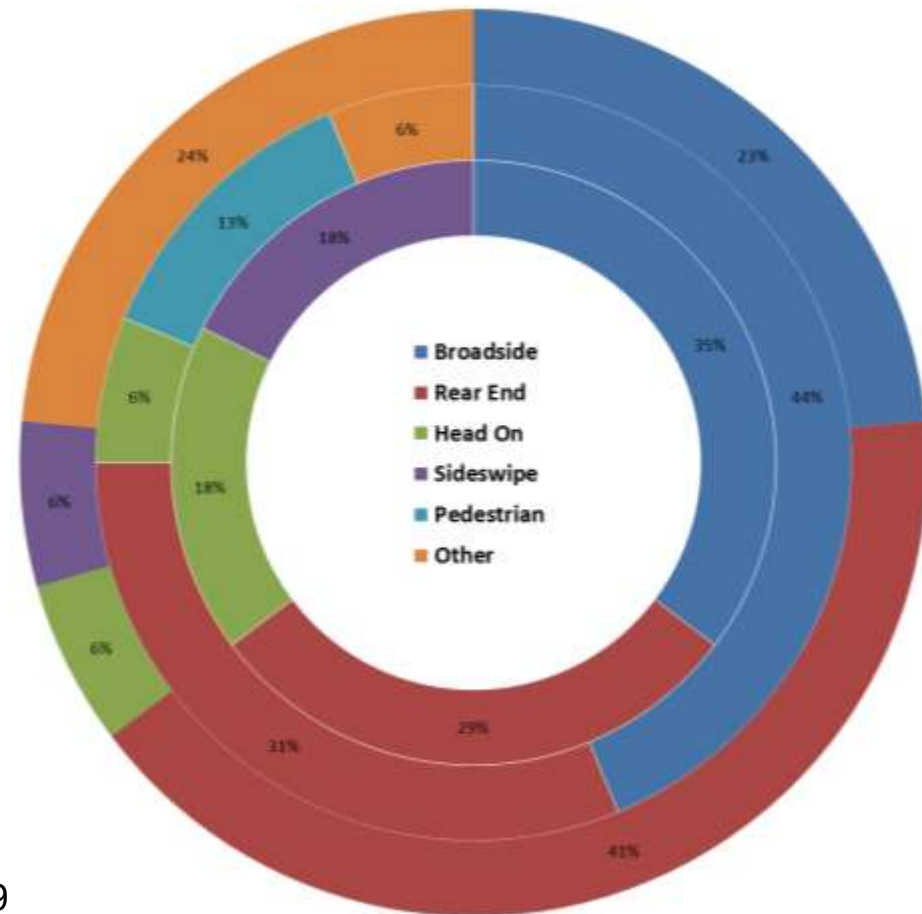
# Lake Ave at Orange Grove Blvd

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## Primary Collision Factor 2014-2016



## Collisions by Type 2014-2016





# Intersections in Top 10 2016

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- **Lake Ave & Orange Grove Blvd**
  - > Project developed to add protected left turn signal phases; requires substantially replacing traffic signal system;
  - > HSIP 80/20 federal funding received in 2017
  - > Currently awaiting Caltrans authorization to proceed with design
  - > PPD providing selected enforcement
- **San Gabriel Blvd & La Tierra St**
  - > Staff is researching potential channelization changes
  - > Tattle tale device is planned to assist with red light running
  - > DOT/PW will develop concept designs and preliminary cost estimates in 2017
  - > PPD providing selected enforcement



# Intersections in Top 10 2016

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- **Orange Grove Blvd & Colorado Blvd**
  - > Caltrans intersection
  - > Project developed to add protected left-turn signal phases for all approaches
  - > HSIP 80/20 federal funding received in 2015
  - > Design completed in 2017/approved by Caltrans
  - > Project under construction with completion in late summer of 2017
- **Lake Ave & Corson St**
  - > Caltrans intersection
  - > Project to alter timing developed and under review by Caltrans
  - > Implementation in 2017
  - > Tattle tale device installed to facilitate red-light running enforcement
  - > PPD providing selected enforcement



# Intersections in Top 10 2016

Department of Transportation

- **Pasadena Ave & State St**
  - > Caltrans intersection
  - > Project developed to prohibit turning movements
  - > Encroachment permit submitted in March 2017
  - > Awaiting Caltrans approval; implementation will be completed within 3 weeks after issuance of permit
  - > PPD providing selected enforcement
- **Fair Oaks Ave & Washington Blvd**
  - > Operational enhancements to signal timing
  - > PPD providing selected enforcement
- **Marengo Ave & Green St**
  - > PPD providing selected enforcement



# Intersections in Top 10 2016

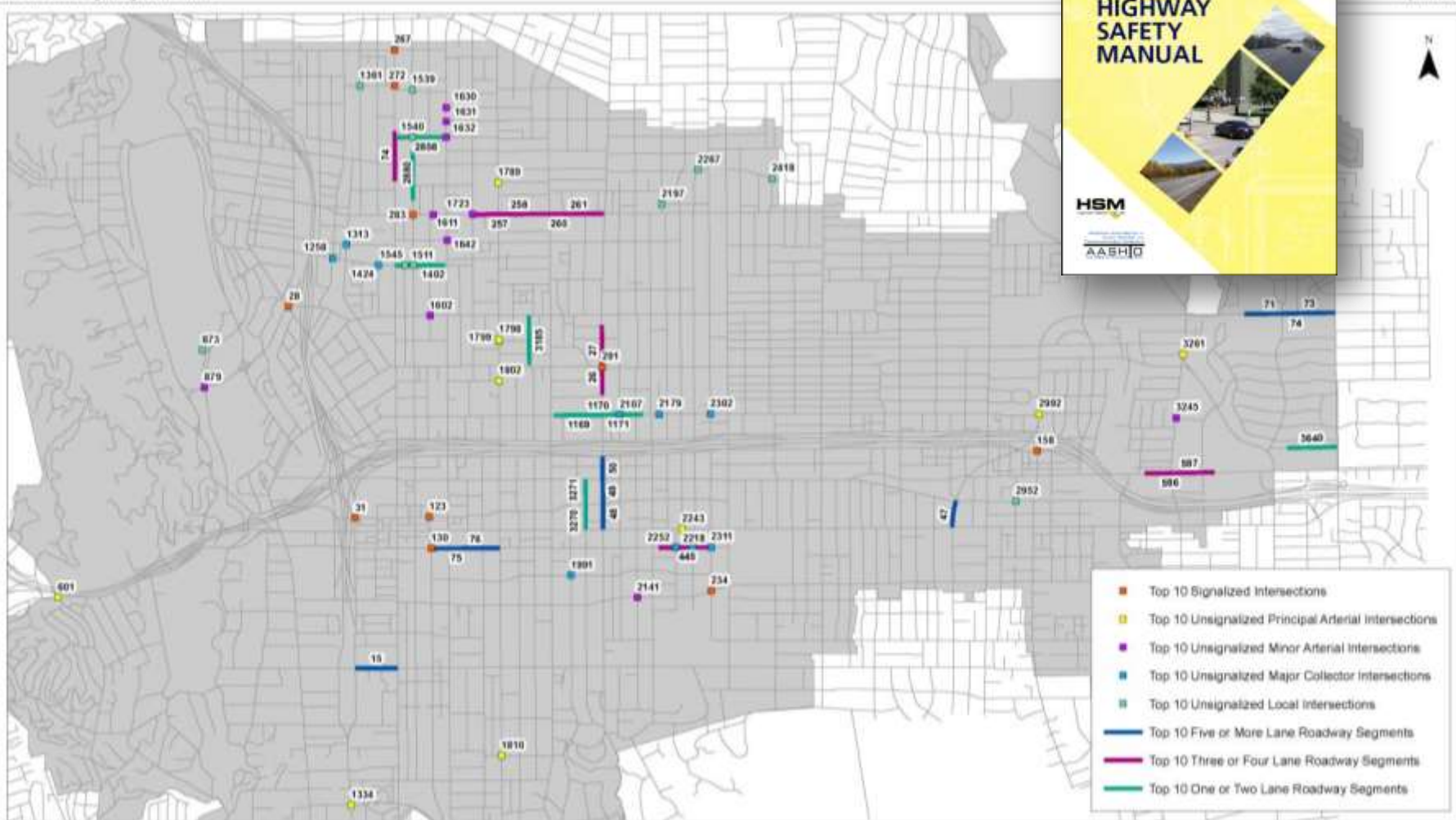
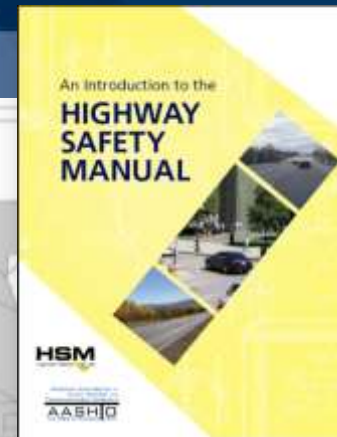
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- **Fair Oaks Ave & Mountain St**
  - > Operational enhancements to signal timing
  - > PPD providing selected enforcement
- **Fair Oaks Ave & Maple St**
  - > Caltrans Intersection
  - > PPD providing selected enforcement
- **Allen Ave & Maple St**
  - > Caltrans Intersection
  - > PPD providing selected enforcement
- **Sierra Madre Blvd & Colorado Blvd**
  - > PPD providing selected enforcement



# Network Screening Tools

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Top 10 Locations by Reference Group  
Critical Rate Network Screening  
City of Pasadena, CA

Figure  
5

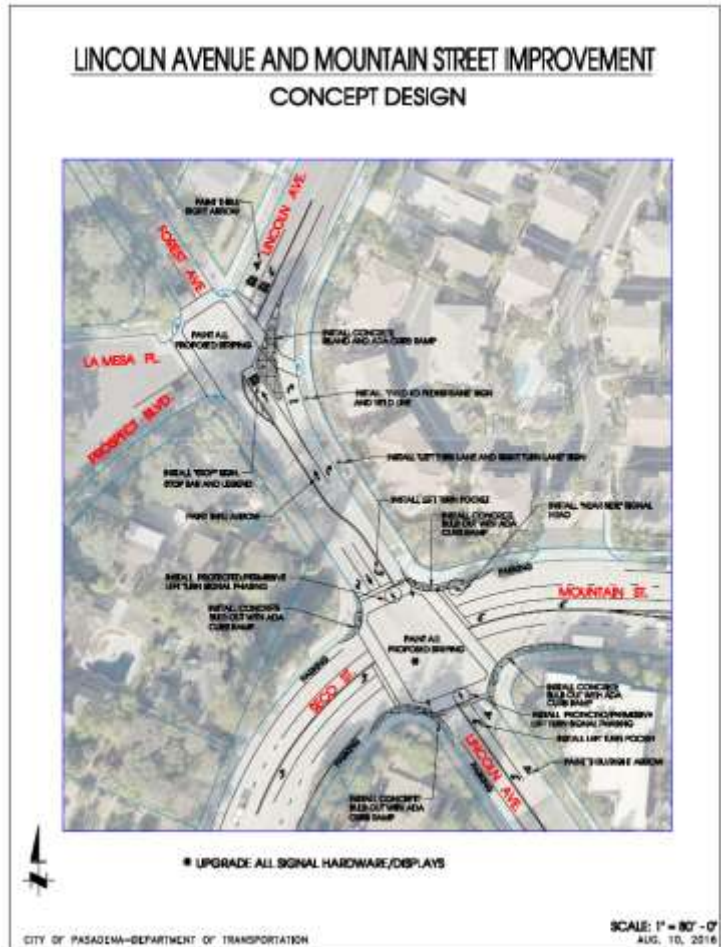




# Focused Countermeasures

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## Operational Enhancements and Capital Improvements



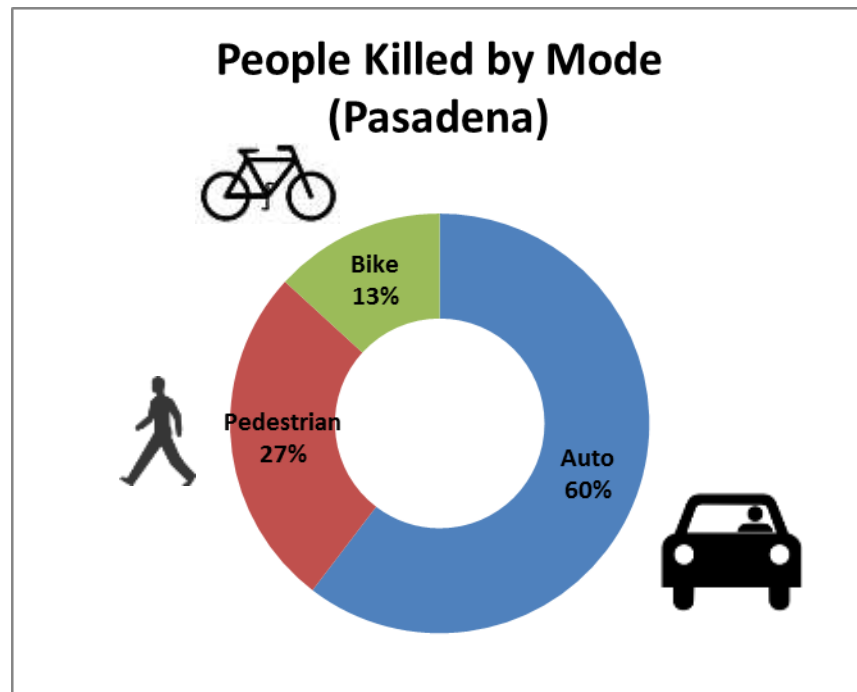
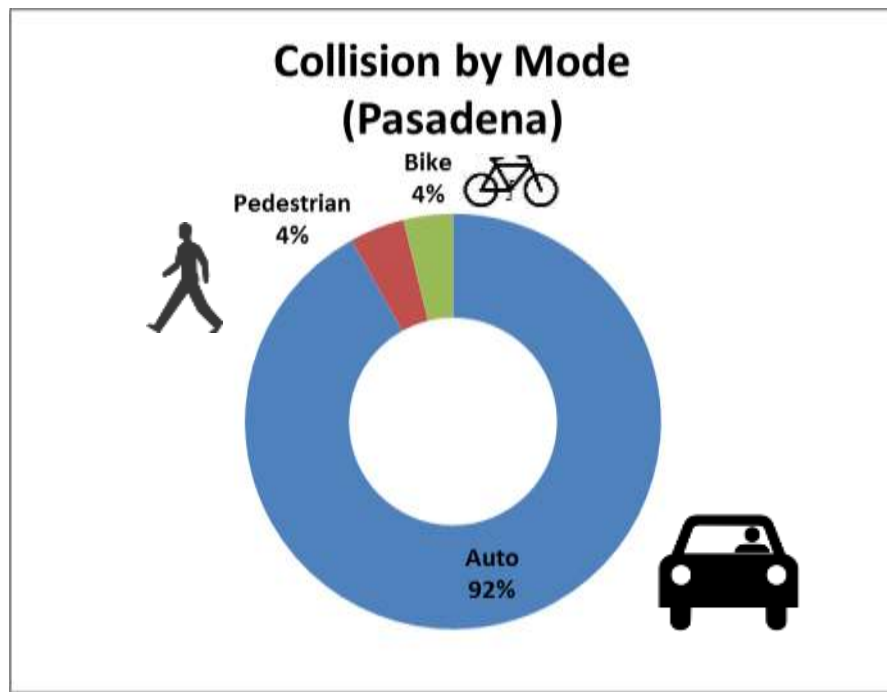
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# High Risk Groups / Areas

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- Pedestrian and Bicycle Vulnerability  
(10-year Pasadena data 2006-2015)



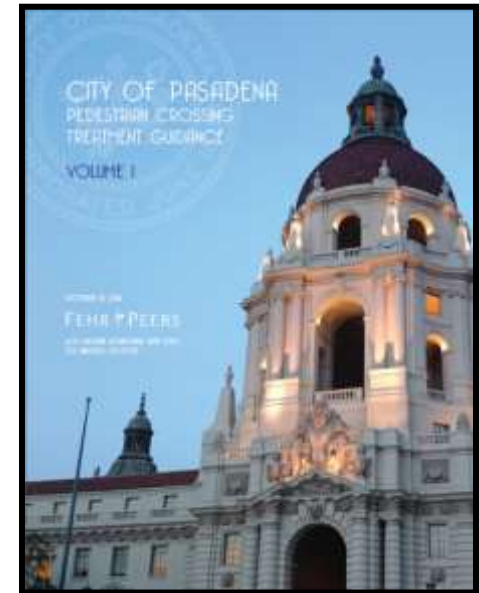




# Pedestrian Safety Projects

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- Conduct site visits, identify countermeasures and prioritize safety enhancements





# Pedestrian Safety Projects

Department of Transportation

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# Pedestrian Safety Projects

Department of Transportation

- Pedestrian Safety Projects through Traffic Investigations and Operations

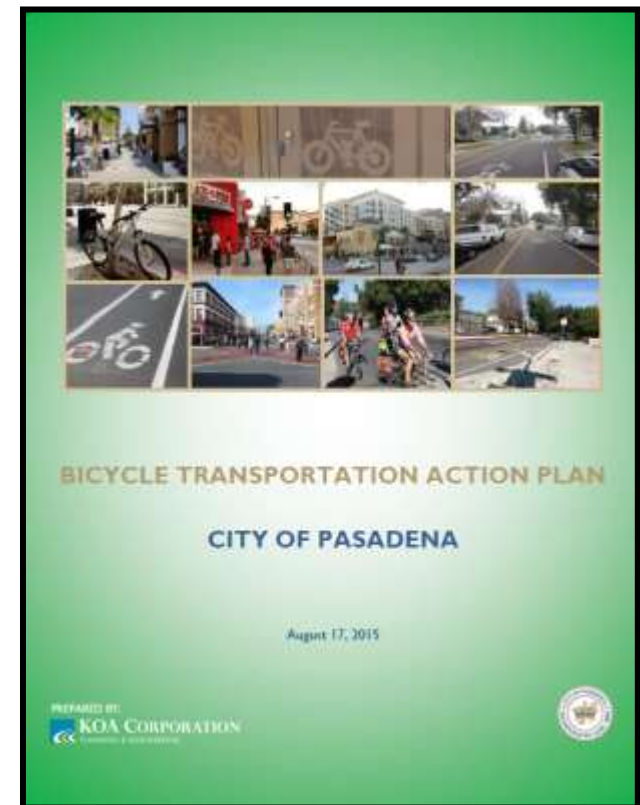




# Bicycle Projects

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- Bicycle Transportation Action Plan







# Bicycle Projects

Department of Transportation

- Bicycle Transportation Action Plan





# Speed Management

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HIT BY A VEHICLE  
TRAVELING AT:  
**20  
MPH**  
**10%**  
DEATH RISK



HIT BY A VEHICLE  
TRAVELING AT:  
**30  
MPH**  
**40%**  
DEATH RISK



HIT BY A VEHICLE  
TRAVELING AT:  
**40  
MPH**  
**80%**  
DEATH RISK

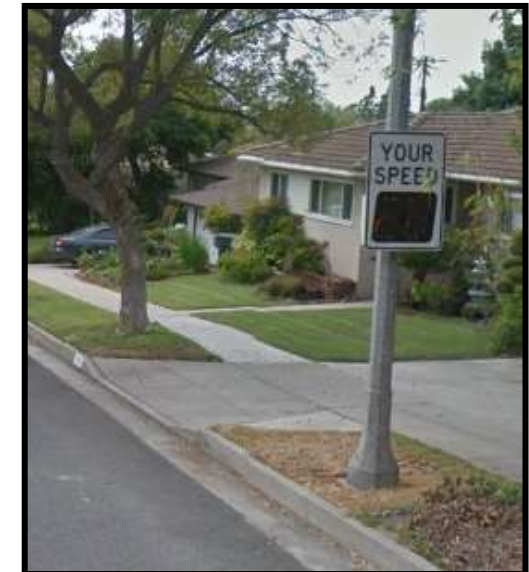


Image Source: City of Los Angeles, Vision Zero Fact Sheet. August 2015.



# Assessing Safety | Prioritizing Change

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- Lower Cost vs Higher Cost Improvements
- Identification of funding sources
  - > Many are dependent on safety or mobility grant funding
- Funding dictates scheduling
  - > Type of funding dictates timing of design
    - Engineering dependent upon capital funding
  - > Federal/State/Regional funding sources have different requirements and timelines





# Reassess | Reevaluate

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- Installing automated monitoring via CIP
  - > Network performance, traffic volume, travel times
- On-going effort to develop analytics to further enhance assessment and prioritization
- Continued outreach via Complete Streets
- Ongoing TIs and Development Review
- Ongoing Enforcement and Education
- Coordination with Public Health Department on treating traffic safety as public health item





# Reevaluate | Report

Department of Transportation

- **Periodic Update for Public Safety Committee**
  - > Twice yearly
  - > Report on status of safety assessment
  - > Identification of countermeasures for CIP consideration
- **Incorporate into an Analytics Dashboard**
  - > Developing from monitoring infrastructure
  - > Integration of local and big data streams
  - > Snapshot of assessment and implementation activities