These 12 Representative Locations were chosen to be representative of several different elements of the crash analysis:

- Locations with a history of severe and fatal crashes
- Locations where a certain crash type (e.g. broadside) is overrepresented
- Locations that represent a variety of the geographic, roadway and land use contexts present throughout the City, to allow for systemic application of countermeasures
- Locations with a high critical crash rate differential, meaning the location has a higher safety risk than other similar locations

1. Challenger Way & Avenue K (intersection)
2. 10th Street West & Avenue K (intersection)
3. Division Street & Avenue I (intersection)
4. Division Street & Avenue H (intersection)
5. 30th Street West & Avenue F (intersection)
6. Beech Avenue & Avenue I (intersection)
7. Avenue H-14 & Genoa Avenue (intersection)
8. 20th Street West between RT 14 NB Off-Ramp and Avenue J, and Avenue J between 20th Street West and RT 14 NB On-Ramp (corridor)
9. 15th Street West between Avenue K-8 and Avenue K-2 (corridor)
10. Business Center Parkway between Avenue K-15 and Federal Drive (corridor)
11. Gadsden Avenue & Avenue K (intersection)
12. 15th Street West & Avenue J (intersection)

Projects have been developed so as to balance location-specific recommendations with project elements that can be applied systematically across numerous locations with similar crash history or contextual factors.

The following pages summarize the existing conditions, and project recommendations for each location. Recommendations are grouped by potential implementation timeframe (short, medium, or long-term). Recommendations also fall into one of three categories, which are color-coded as follows:

- **Systemic Improvement**: These projects can be considered for implementation at many locations across the Lancaster roadway network, and have broad applicability to mitigating specific crash types common at multiple locations, such as left turn, broadside, or rear-end crashes.

- **Location-specific Improvement**: These projects are recommended based on a holistic approach to improving safety within the specific context of the location where the project is recommended.

- **Evaluate Proposed Improvement for Implementation**: These projects require further analysis or engineering studies to determine suitability at recommended locations.

Project cost estimates, expected project benefit, and the resulting benefit/cost ratio, developed using the HSIP Cycle 9 HSIP Analyzer, are also shown. Per unit construction costs are based on the most recent available estimates for Southern California, and include contingency and other soft cost assumptions. For the purposes of calculating benefit/cost ratios, project locations have been grouped together based on similar characteristics or recommendations. As a result, multiple locations share a common benefit/cost ratio. This grouping allows the City to meet HSIP minimum project size requirements. Grouping projects together also supports a proactive approach, by pairing locations with a high number of historic collisions together with locations that may have high risk characteristics, but a lower number of collisions.
FIGURE 4 REPRESENTATIVE LOCATIONS

- Intersections
- Segments

- Priority Intersection
- Priority Segment
CHALLENGER WAY AND AVENUE K

EXISTING CONDITIONS
- SIGNALIZED INTERSECTION
- AVENUE K HAS 6 LANES PLUS TURN LANES
- CHALLENGER WAY HAS 4 LANES PLUS TURN LANES
- YELLOW CONTINENTAL CROSSWALKS ON ALL LEGS
- ADVANCE STOP LINES ON ALL LEGS
- COUNTDOWN SIGNALS
- PROTECTED LEFT TURNS

CRASH SEVERITY
- FATAL
- SEvere INJURY
- OTHER VISIBLE INJURY
- COMPLAINT OF PAIN
- PROPERTY DAMAGE ONLY

CRASHES BY MODE
- TOTAL CRASHES (ALL MODES) 88

LOCATION PROFILE

Crash data analysis years: 2013-2017

VEHICLE CRASH TYPES
- BROADSIDE
- REAR-END
- SIDESWIPE
- HEAD-ON
- OTHER

Challenger Way
Avenue K
Marion Ave
Avenue K8
Avenue K6
8th St
6th St E
7th St E
Challenger Way
Avenue J12
Glenmore Rd
# CHALLENGER WAY AND AVENUE K

## RECOMMENDATIONS

### COUNTERMEASURE OBJECTIVES
- **Short-Term**
  - Reduce Alcohol/Drug Related Crashes
  - Reduce Rear-End Crashes
  - Reduce Brosideside Crashes
  - Reduce Pedestrian Crashes
  - Reduce Unsafe Speed Crashes

### SIGNAL IMPROVEMENTS
- LPI
- Extend clearance time
- Improve signal hardware
- Extend pedestrian crossing time

### SHORT-TERM

<table>
<thead>
<tr>
<th>CMID</th>
<th>Project Description</th>
<th>Cost</th>
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</thead>
<tbody>
<tr>
<td>N/A</td>
<td>Targeted Enforcement for Alcohol-Related Violations</td>
<td>N/A</td>
</tr>
<tr>
<td>S3</td>
<td>Improve Signal Timing with Leading Pedestrian Interval</td>
<td>$500</td>
</tr>
<tr>
<td></td>
<td>(This option will be considered, but must be verified</td>
<td></td>
</tr>
<tr>
<td></td>
<td>that coordinated signal timing can accommodate)</td>
<td></td>
</tr>
<tr>
<td>S3</td>
<td>Improve Signal Timing with Extended Clearance Time</td>
<td>$600</td>
</tr>
<tr>
<td></td>
<td>(Based on MUTCD Guidelines and roadway speed)</td>
<td></td>
</tr>
<tr>
<td>S3</td>
<td>Improve Signal Timing with Extended Pedestrian Crossing</td>
<td>(incl.</td>
</tr>
<tr>
<td></td>
<td>Time (Based on MUTCD Guidelines and crossing distance)</td>
<td>above)</td>
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### MID-TERM

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<thead>
<tr>
<th>CMID</th>
<th>Project Description</th>
<th>Cost</th>
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</thead>
<tbody>
<tr>
<td>S2</td>
<td>Improve signal hardware: lenses, backplates, mounting,</td>
<td>$21,860</td>
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<tr>
<td></td>
<td>size, or number</td>
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### LONG-TERM

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<th>CMID</th>
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### OTHER COSTS

<table>
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<tr>
<th>Project Description</th>
<th>Cost</th>
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<tbody>
<tr>
<td>Mobilization</td>
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<tr>
<td>Traffic Control</td>
<td>$2,296</td>
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<tr>
<td>Contingency</td>
<td>$5,510</td>
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<tr>
<td>Environmental</td>
<td>$2,300</td>
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<tr>
<td>PS&amp;E</td>
<td>$3,500</td>
</tr>
<tr>
<td>Appraisals, Acquisitions, and Utilities</td>
<td>$0</td>
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<tr>
<td>Construction Engineering</td>
<td>$3,500</td>
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</tbody>
</table>

### COST ESTIMATES

$42,362

### EXPECTED BENEFIT/COST RATIO

27.3

*B/C ratio reflects projects for Locations 1, 2, and 8*
IOTH STREET WEST AND AVENUE K

EXISTING CONDITIONS
- SIGNALIZED INTERSECTION
- AVENUE K HAS 6 LANES PLUS TURN LANES
- 10TH STREET WEST HAS 6 LANES PLUS TURN LANES
- TRANSVERSE-LINE CROSSWALKS ON ALL LEGS
- COUNTDOWN SIGNALS
- PROTECTED LEFT TURNS

CRASH SEVERITY
- FATAL
- SEVERE INJURY
- OTHER VISIBLE INJURY
- COMPLAINT OF PAIN
- PROPERTY DAMAGE ONLY

VEHICLE CRASH TYPES
- BROADSIDE: 39
- REAR-END: 42
- SIDESWIPE: 36
- HEAD-ON: 2
- OTHER: 3

CRASHES BY MODE
- TOTAL CRASHES (ALL MODES): 129

Crash data analysis years: 2013-2017
IOTH STREET WEST AND AVENUE K

COUNTERMEASURE OBJECTIVES
- Reduce sideswipe crashes
- Reduce bicycle and pedestrian crashes
- Reduce rear-end crashes
- Reduce left turn crashes
- Reduce broadside crashes
- Reduce unsafe speed crashes
- Reduce nighttime crashes

CONCEPTUAL, NOT FOR CONSTRUCTION. DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED.

EXPECTED BENEFIT/COST RATIO* 27.3

SHORT-TERM

<table>
<thead>
<tr>
<th>CM# ID</th>
<th>Project Description</th>
<th>Cost</th>
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<tbody>
<tr>
<td>S3</td>
<td>Improve Signal Timing with Leading Pedestrian Interval (This option will be considered, but must be verified that coordinated signal timing can accommodate)</td>
<td>$500</td>
</tr>
<tr>
<td>S3</td>
<td>Improve Signal Timing with Extended Clearance Time (Based on MUTCD Guidelines and roadway speed)</td>
<td>$600</td>
</tr>
<tr>
<td>S3</td>
<td>Improve Signal Timing with Extended Pedestrian Crossing Times (Based on MUTCD Guidelines and crossing distance) (incl. above)</td>
<td>$600</td>
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MID-TERM

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<tr>
<th>CM# ID</th>
<th>Project Description</th>
<th>Cost</th>
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<tr>
<td>S20</td>
<td>Install pedestrian crossing - Upgrade to Continental Crosswalks</td>
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<tr>
<td>S21</td>
<td>Install advance stop bar before crosswalk</td>
<td>$1,440</td>
</tr>
<tr>
<td>S8</td>
<td>Install raised pavement markers and striping through intersection - Replace raised pavement markings with thermoplastic striping for cat-tracking</td>
<td>$1,200</td>
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<tr>
<td>S2</td>
<td>Improve signal hardware: lenses, backplates, mounting, size, and number</td>
<td>$24,046</td>
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LONG-TERM

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<tr>
<th>CM# ID</th>
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<tbody>
<tr>
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OTHER COSTS

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<thead>
<tr>
<th>Project Description</th>
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<tbody>
<tr>
<td>Mobilization</td>
<td>$3,955</td>
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<td>Traffic Control</td>
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<td>Construction Engineering</td>
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COST ESTIMATES $72,946

* B/C ratio reflects projects for Locations 1, 2, and 8.