

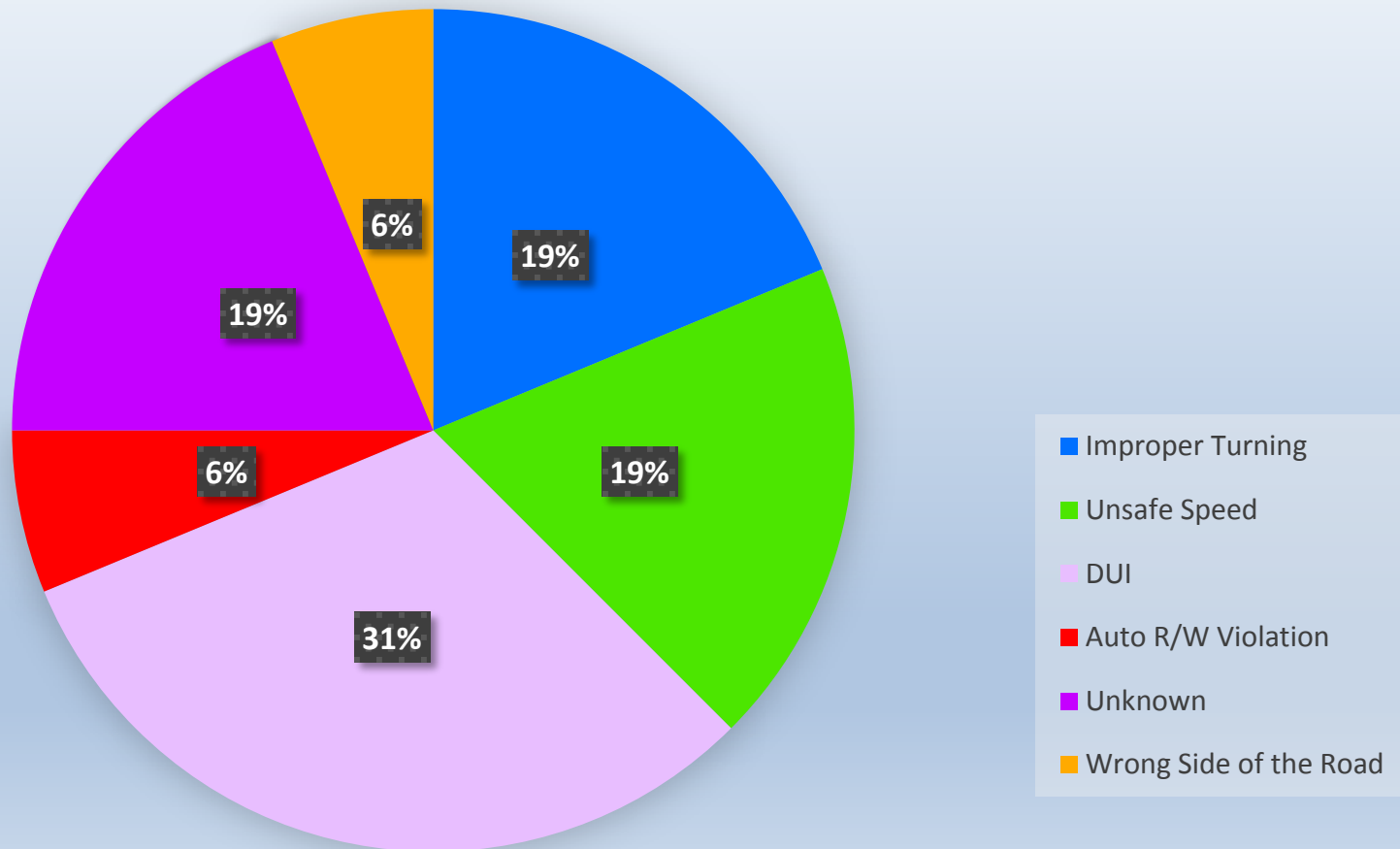
# Santiago Canyon Road Safety Town Hall Meeting



Shane L. Silsby, Director of OC Public Works

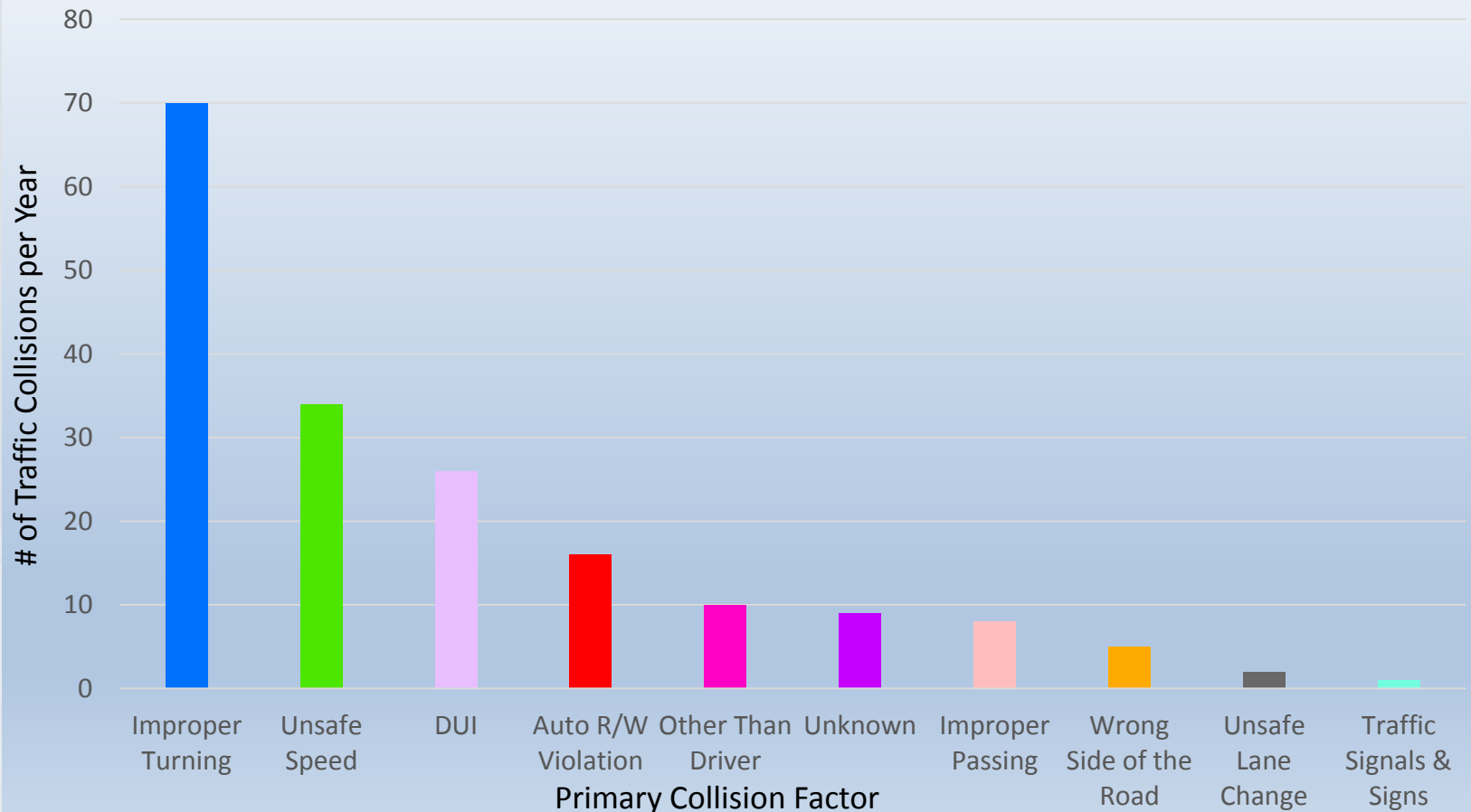
# Fatalities

Santiago Canyon Road Traffic Fatalities by Primary Collision Factor from August 2011 through August 21, 2016



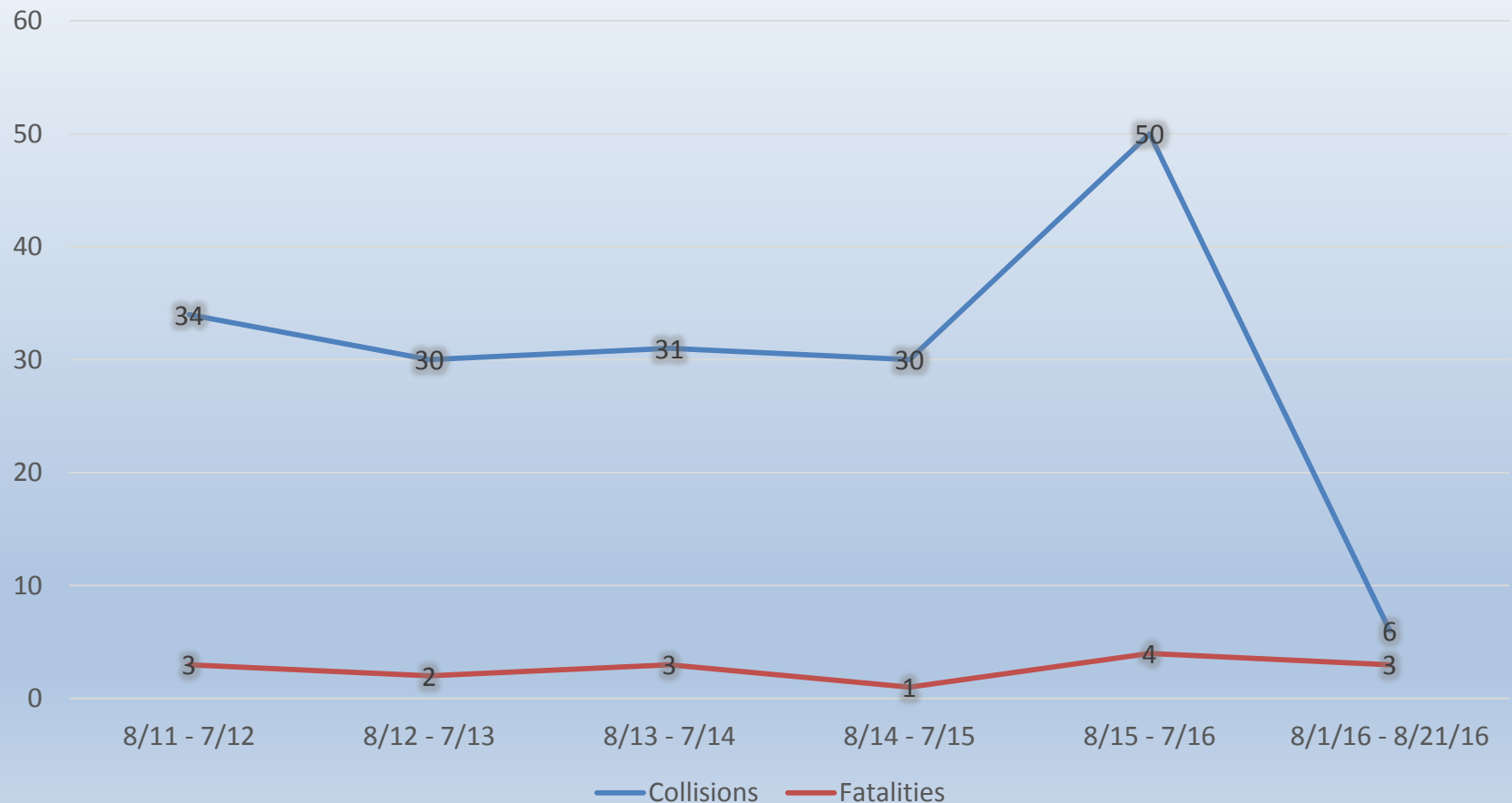
# Accident Types

Santiago Canyon Road Traffic Collisions By Primary Collision Factor from August 2011 through August 21, 2016

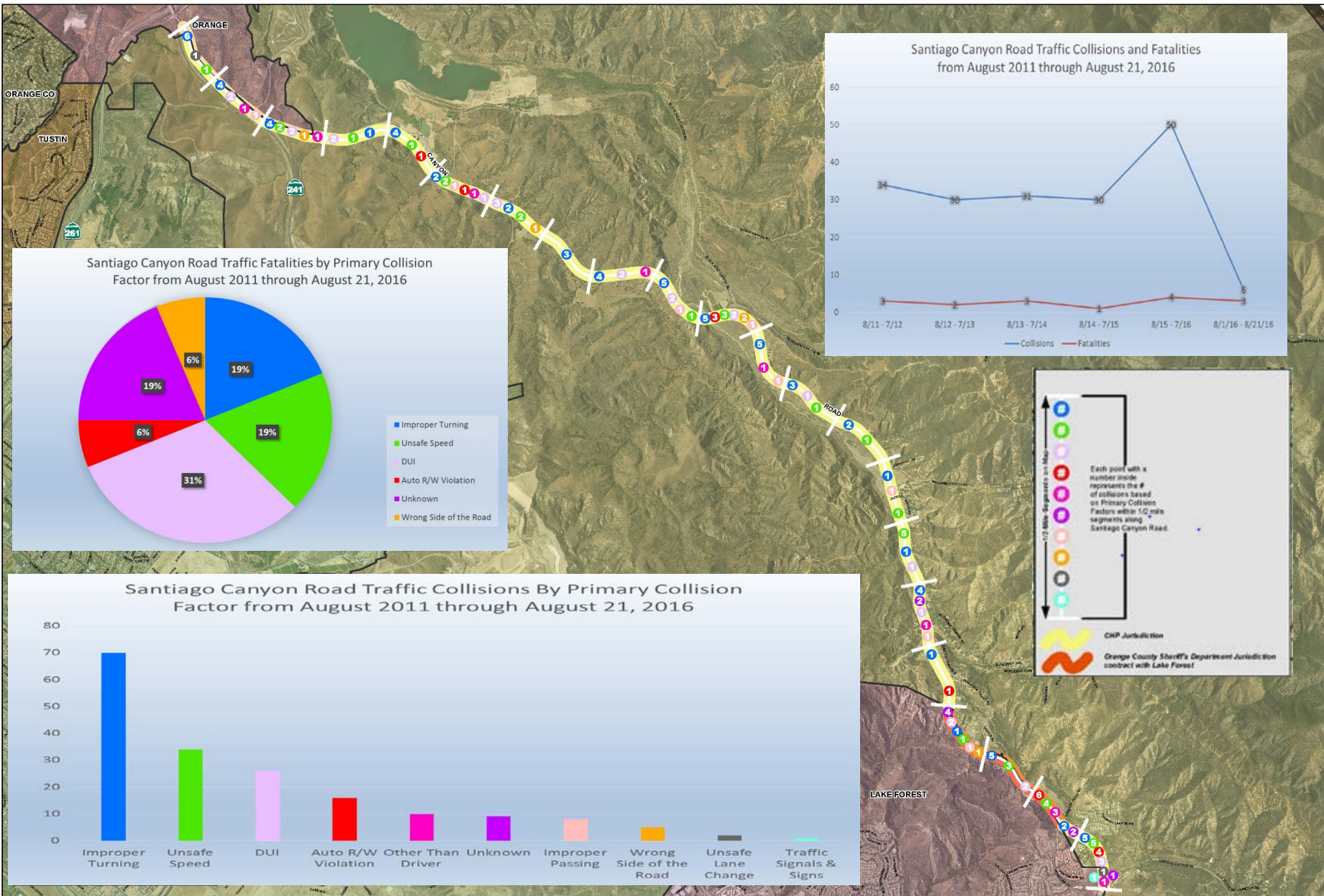


# 5 Year Trends

Santiago Canyon Road Traffic Collisions and Fatalities  
from August 2011 through August 21, 2016







# **REPORTED TRAFFIC COLLISIONS ALONG SANTIAGO CANYON ROAD FROM AUGUST 2011 THROUGH AUGUST 2016**



<p>Prepared by: [Name]</p> <p>Date: [Date]</p> <p>Page: [Page]</p>
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# Collision Category

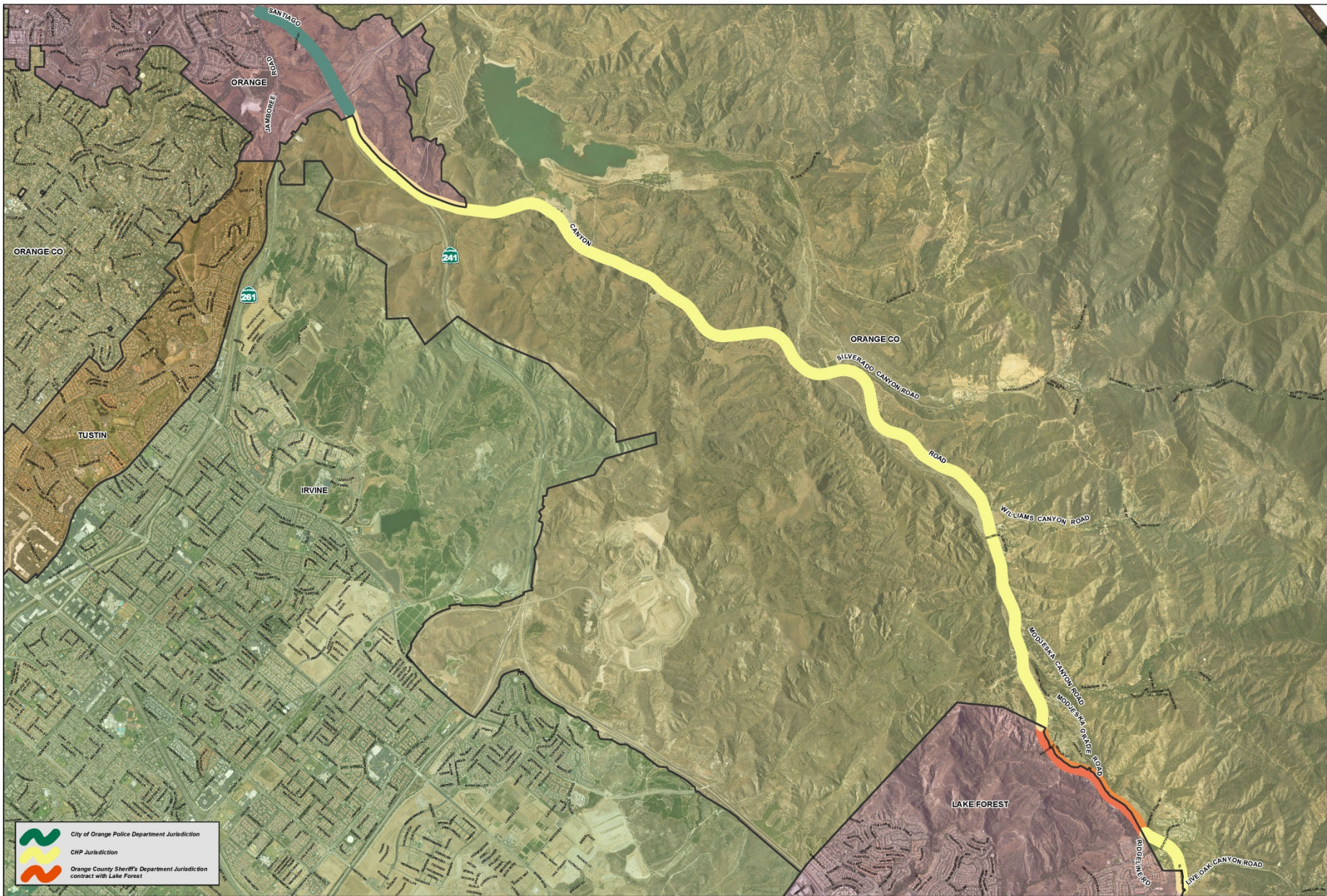
California Vehicle Code 22107 defines IMPROPER TURNING as:

*“No person shall turn a vehicle from a direct course or move right or left upon a roadway until such movement can be made with reasonable safety and then only after the giving of an appropriate signal in the manner provided in this chapter in the event any other vehicle may be affected by the movement.”*

“Improper Turning” category encompasses drivers losing control of their vehicles and either leaving roadway and hitting objects or staying within roadway but overturning, sideswiping or crashing head-on with other vehicles.







## JURISDICTIONAL PATROL ALONG SANTIAGO CANYON ROAD



0 0.25 0.50 0.75 1.00 1.25 1.50 1.75 2.00 2.25 2.50 2.75 3.00 3.25 3.50 3.75 4.00 4.25 4.50 4.75 5.00 5.25 5.50 5.75 6.00 6.25 6.50 6.75 7.00 7.25 7.50 7.75 8.00 8.25 8.50 8.75 9.00 9.25 9.50 9.75 10.00

Map of Santiago Canyon Road Jurisdictional Patrol Areas  
 Prepared by: [Name]  
 Date: [Date]  
 Scale: 1 inch = 1 mile  
 Source: [Source]  
 Notes: [Notes]



# Short Term Initiatives

- Temporary speed feedback signs
- Changeable message boards
- Review Santiago/Chapman and Jamboree Intersection with City of Orange





**Legend**

- Changeable Message Signs
- Speed Feedback Signs

\*Note: Locations are approximate



# Medium Term Initiatives

- Install solar powered permanent speed feedback signs
- Public Outreach/Education
- Coordination Meetings between public works and law enforcement





# Medium Term Project

## Santiago Canyon Road Safety Improvements Project (between SR-241 and Live Oak Canyon Road)





# Medium Term Project

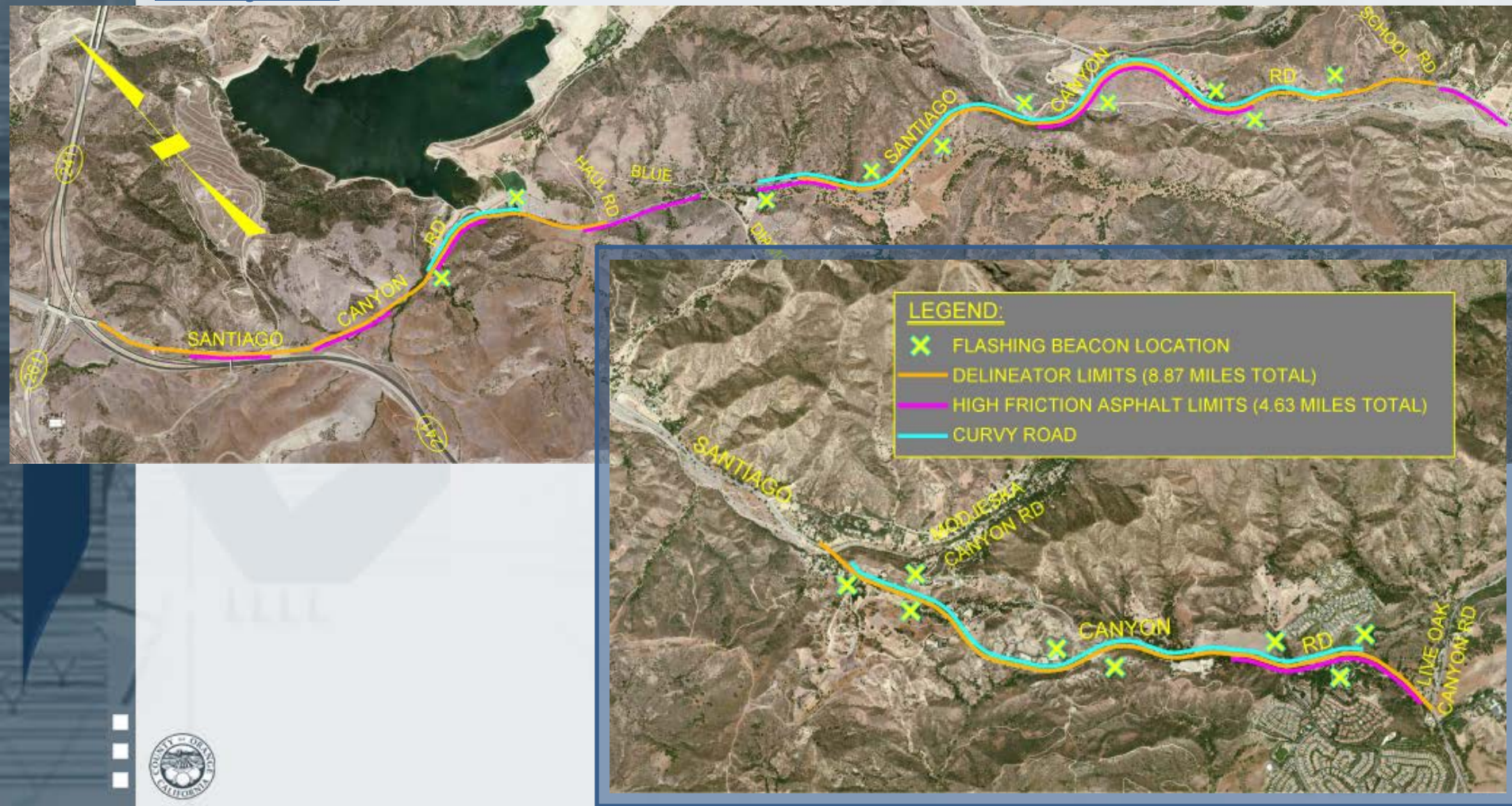
## Santiago Canyon Road Safety Improvements Project:

- Purpose - implement safety countermeasures to address the prevalent crash patterns
- Scope - Install High Friction Surface Treatment, curve warning signs, flashing beacons, delineators, object markers, and bike lane buffer
- Funding - Highway Safety Improvement Program (HSIP) grant and Road Funds
- Project Schedule
  - Design/Survey 2016
  - Environmental Clearances/Procurement 2017
  - Construction 2018: \$2.6 Million



# Medium Term Project

## Santiago Canyon Road Safety Improvements Project:



# Long Term Project

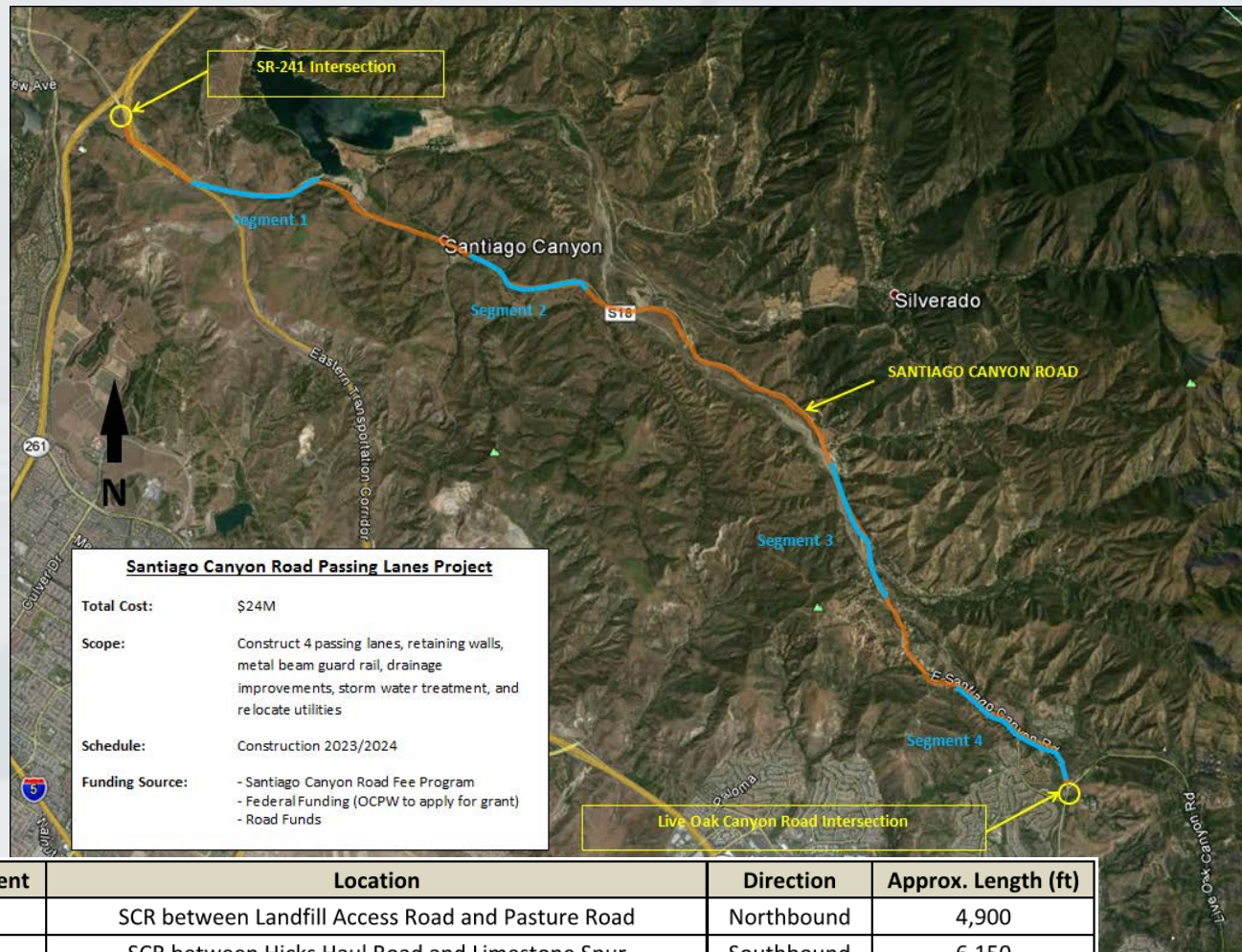
## Santiago Canyon Road Passing Lanes Project:

- ➔ Purpose - minimize vehicle collision potential, improve traffic flow and enhance motor vehicle, pedestrian and bicyclist safety
- ➔ Scope - construct 4 passing lanes, retaining walls, metal beam guard rail, drainage improvements, storm water treatment, and relocate utilities
- ➔ Funding – Santiago Canyon Road Fee Program, federal grant funding, and Road Funds
- ➔ Project Schedule
  - Pre-Design/Survey 2019
  - Final Design/Utilities/Environmental Clearances 2020
  - Permitting/Procurement 2021/2022
  - Construction 2023/2024: \$24 Million





# Santiago Canyon Road Passing Lanes Project



Segment	Location	Direction	Approx. Length (ft)
1	SCR between Landfill Access Road and Pasture Road	Northbound	4,900
2	SCR between Hicks Haul Road and Limestone Spur	Southbound	6,150
3	SCR between Jackson Ranch Road N and Pr Road	Southbound	5,750
4	SCR between Modjeska Grade Road and Live Oak Canyon Road	Northbound	5,200



# State Impacts on Roadway Funding

- HUTA Excise Tax Reduction – Section 2103
- Based upon CSAC Annual Forecasts

Revenue Decrease	Timeframe	Annual Impact
\$0.06 per gallon	FY 2015-16	- \$11,902,168
\$0.022 per gallon	FY 2016-17	- \$ 4,765,867

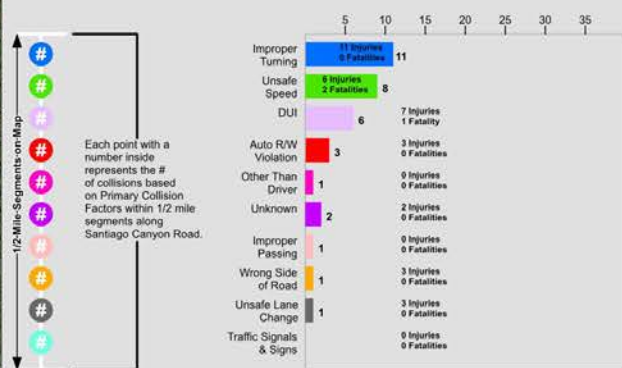
- **Combined Annual Decrease of  
\$16,668,035**
- Results in Capital Program Deferrals of \$120 Million to \$160 Million in Projects from the 7-Year Capital Improvement Program





# Year 1

## Map Summary & Analysis August 1, 2011 - July 31, 2012



\*There were a total of 34 reported collisions from August 1, 2011 through July 31, 2012. Of those 34 collisions, there were 30 injuries and 3 fatalities.

**REPORTED TRAFFIC COLLISIONS ALONG SANTIAGO CANYON ROAD  
FROM AUGUST 1, 2011 THROUGH JULY 31, 2012**

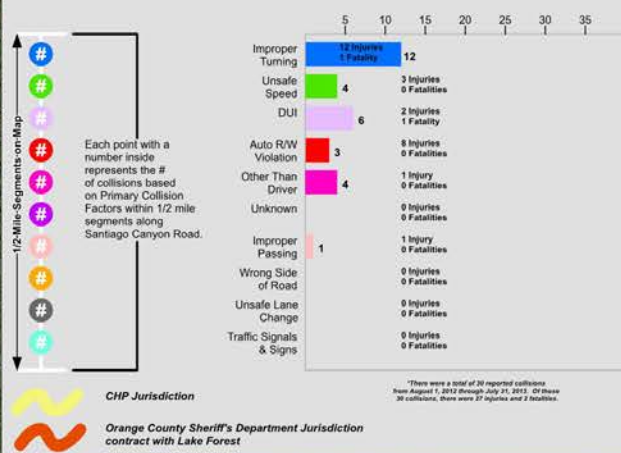


Map of Orange County, California  
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# Year 2

## Map Summary & Analysis August 1, 2012 - July 31, 2013



\*There were a total of 36 reported collisions from August 1, 2012 through July 31, 2013. Of these 36 collisions, there were 37 injuries and 3 fatalities.

## REPORTED TRAFFIC COLLISIONS ALONG SANTIAGO CANYON ROAD FROM AUGUST 1, 2012 THROUGH JULY 31, 2013

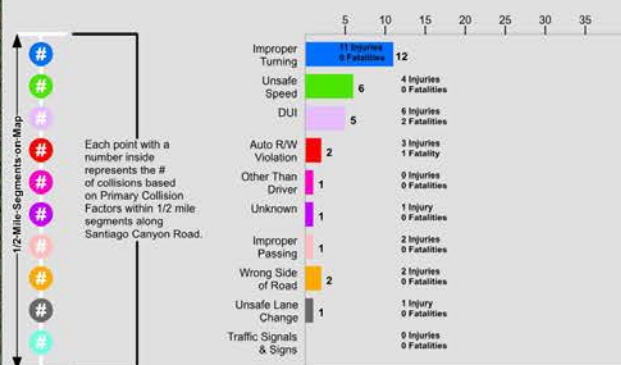


Map of California showing the location of Orange County. The map is provided for informational purposes only. The map is not to be used for navigation or other purposes. The map is not to be used for any other purpose. The map is not to be used for any other purpose.



# Year 3

## Map Summary & Analysis August 1, 2013 - July 31, 2014



\*There were a total of 31 reported collisions from August 1, 2013 through July 31, 2014. Of these 31 collisions, there were 30 injuries and 3 fatalities.

## REPORTED TRAFFIC COLLISIONS ALONG SANTIAGO CANYON ROAD FROM AUGUST 1, 2013 THROUGH JULY 31, 2014

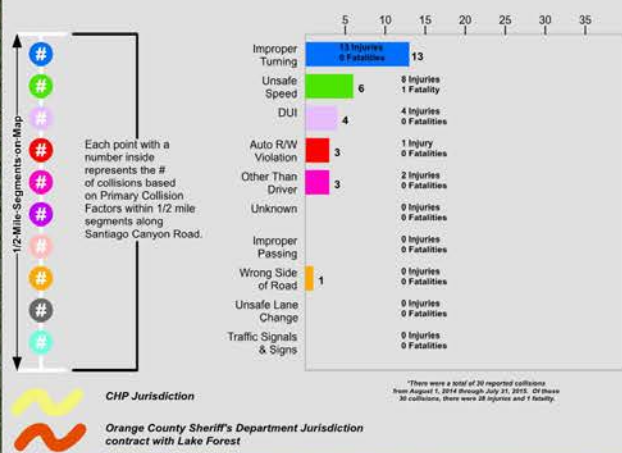


Map of Santiago Canyon Road showing reported traffic collisions from August 1, 2013, through July 31, 2014. The map includes a scale bar (0 to 2 miles) and a north arrow. The road is highlighted in yellow, and collision points are marked with colored circles containing numbers. The map shows the road winding through a hilly area, with labels for Orange, Tustin, Irvine, and Lake Forest.



# Year 4

## Map Summary & Analysis August 1, 2014 - July 31, 2015



**REPORTED TRAFFIC COLLISIONS ALONG SANTIAGO CANYON ROAD  
FROM AUGUST 1, 2014 THROUGH JULY 31, 2015**

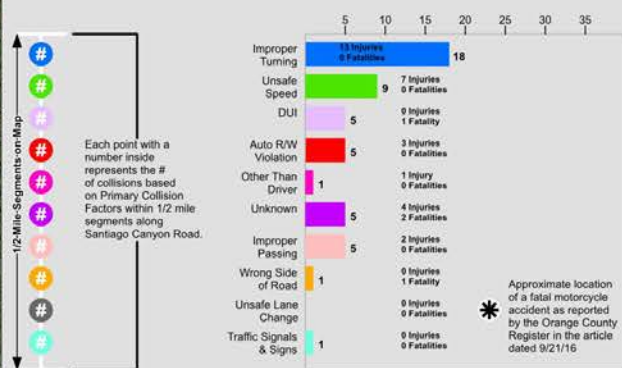


Map of Orange County, California, showing the location of Santiago Canyon Road. The map is a composite of several smaller maps, each showing a different section of the road. The maps are color-coded to show different collision factors. The map is titled 'REPORTED TRAFFIC COLLISIONS ALONG SANTIAGO CANYON ROAD FROM AUGUST 1, 2014 THROUGH JULY 31, 2015'. The map is created by the Orange County Sheriff's Department, and is a public information product. The map is not to be used for legal purposes. The map is a composite of several smaller maps, each showing a different section of the road. The maps are color-coded to show different collision factors. The map is titled 'REPORTED TRAFFIC COLLISIONS ALONG SANTIAGO CANYON ROAD FROM AUGUST 1, 2014 THROUGH JULY 31, 2015'. The map is created by the Orange County Sheriff's Department, and is a public information product. The map is not to be used for legal purposes.



# Year 5

## Map Summary & Analysis August 1, 2015 - July 31, 2016



\*There were a total of 50 reported collisions from August 1, 2015 through July 31, 2016. Of those 50 collisions, there were 30 injuries and 4 fatalities.

CHP Jurisdiction

Orange County Sheriff's Department Jurisdiction contract with Lake Forest

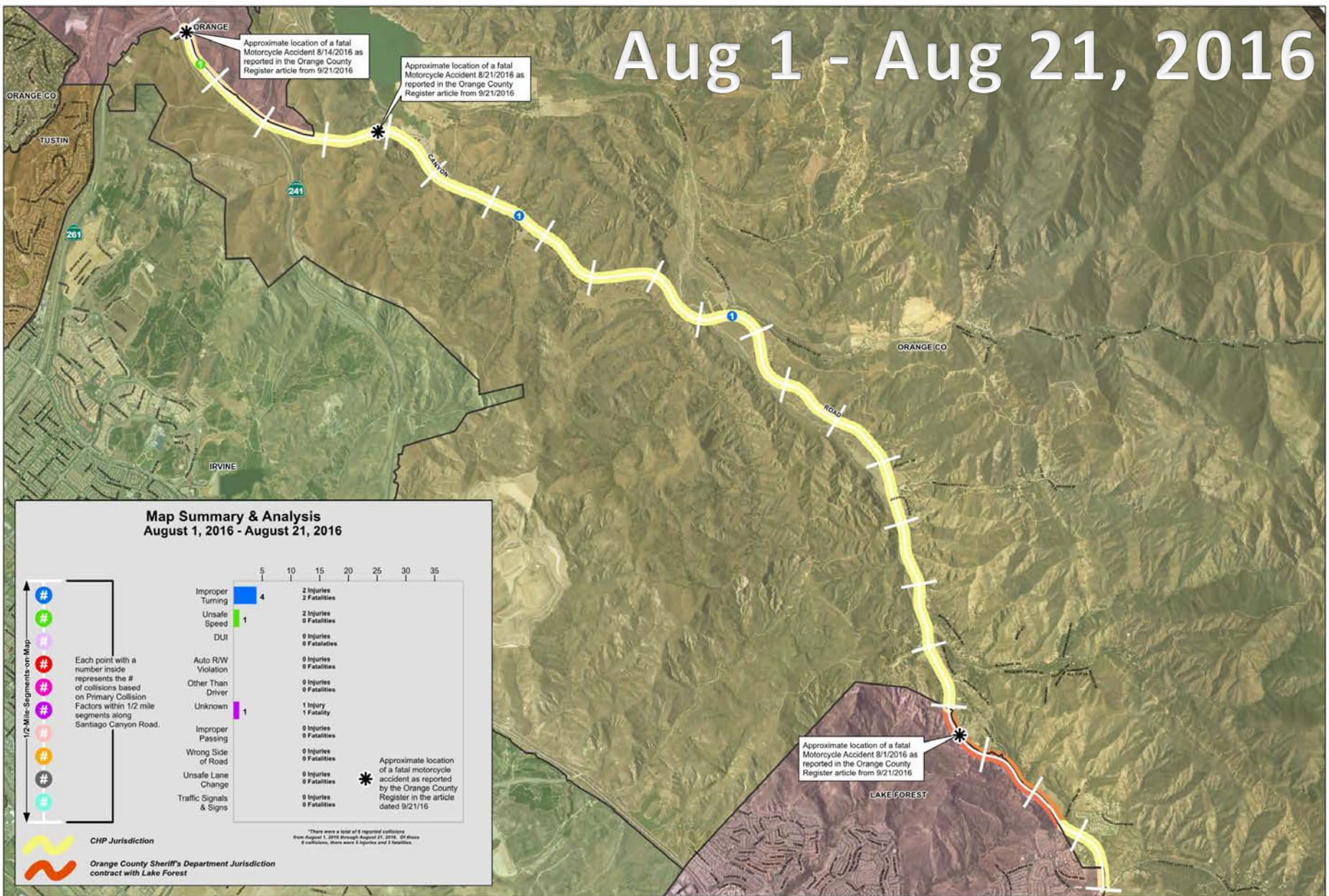
**REPORTED TRAFFIC COLLISIONS ALONG SANTIAGO CANYON ROAD  
FROM AUGUST 1, 2015 THROUGH JULY 31, 2016**



Map of the County of Orange, California, showing the location of the County of Orange Sheriff's Department. The map is a general reference map and does not constitute a warranty of accuracy. The County of Orange Sheriff's Department is not responsible for any errors or omissions on this map. The County of Orange Sheriff's Department is not responsible for any damages, including consequential damages, arising from the use of this map. The County of Orange Sheriff's Department is not responsible for any claims, including claims for damages, arising from the use of this map. The County of Orange Sheriff's Department is not responsible for any claims, including claims for damages, arising from the use of this map.



# Aug 1 - Aug 21, 2016



**REPORTED TRAFFIC COLLISIONS ALONG SANTIAGO CANYON ROAD  
FROM AUGUST 1, 2016 THROUGH AUGUST 21, 2016**





# Summary

Data analyzed in the 2015 Safety Grant Application also revealed that crashes were mainly concentrated on three specific segments.

Based on accident data and subsequent field evaluations the following counter measures were selected for Safety Improvement Project:

- High Friction Surface treatment
- Curve Warning Signs
- Delineators and flashing beacons

