

Pedestrian and Bicyclist Safety: Update & Action Plans



April 2018

This Presentation

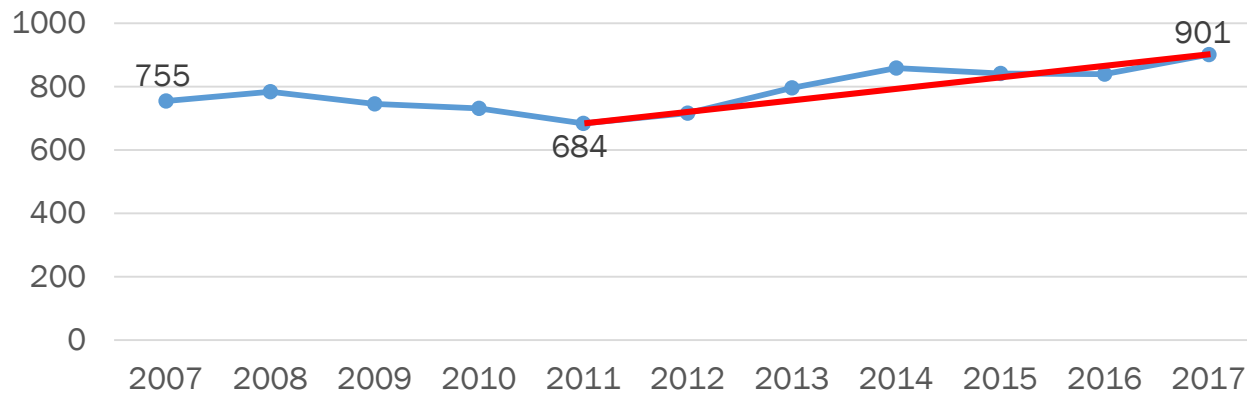
- Trends
- Detailed Crash Typing
- Changes in Behavior
- The Built Environment
- Safety in Numbers?
- Safety Action Plans



Pedestrian Trends

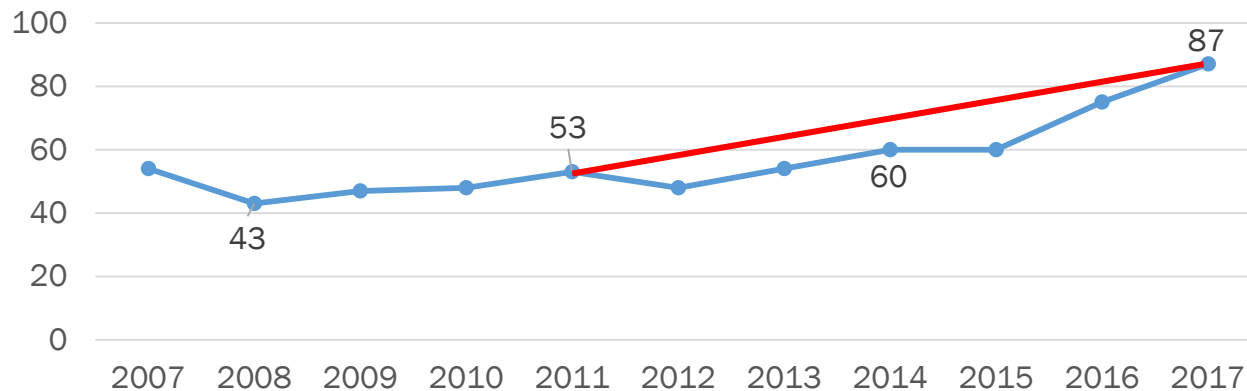


Pedestrian Injury Crashes



32% Increase
2011 to 2017

Pedestrian Fatality Crashes

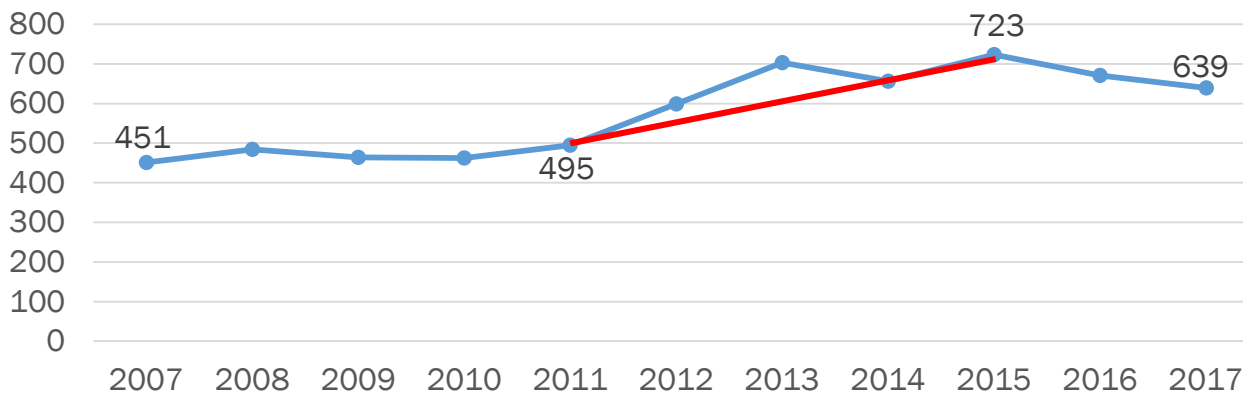


64% Increase
2011 to 2017

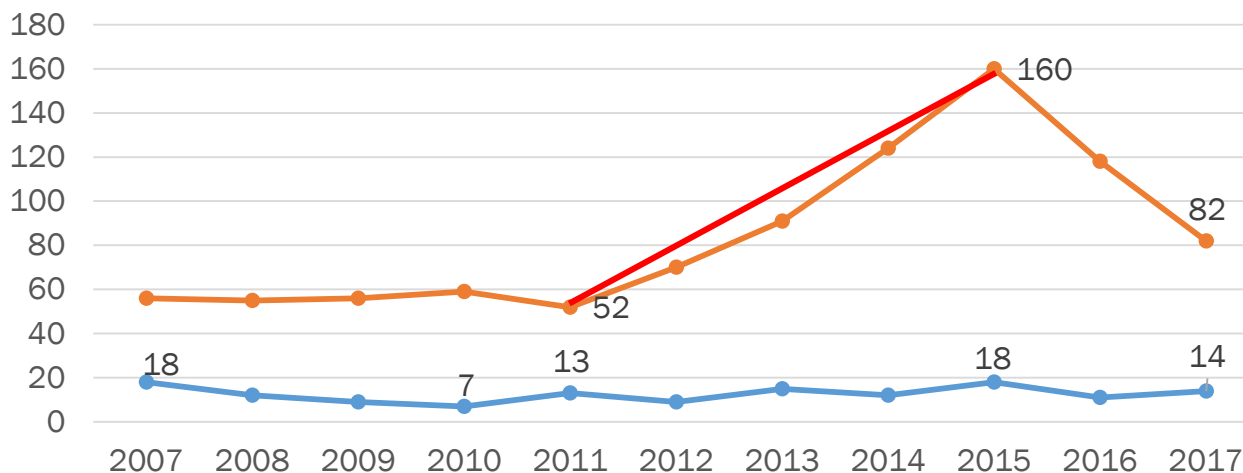
Bicyclist Trends



Bicyclist Injury Crashes



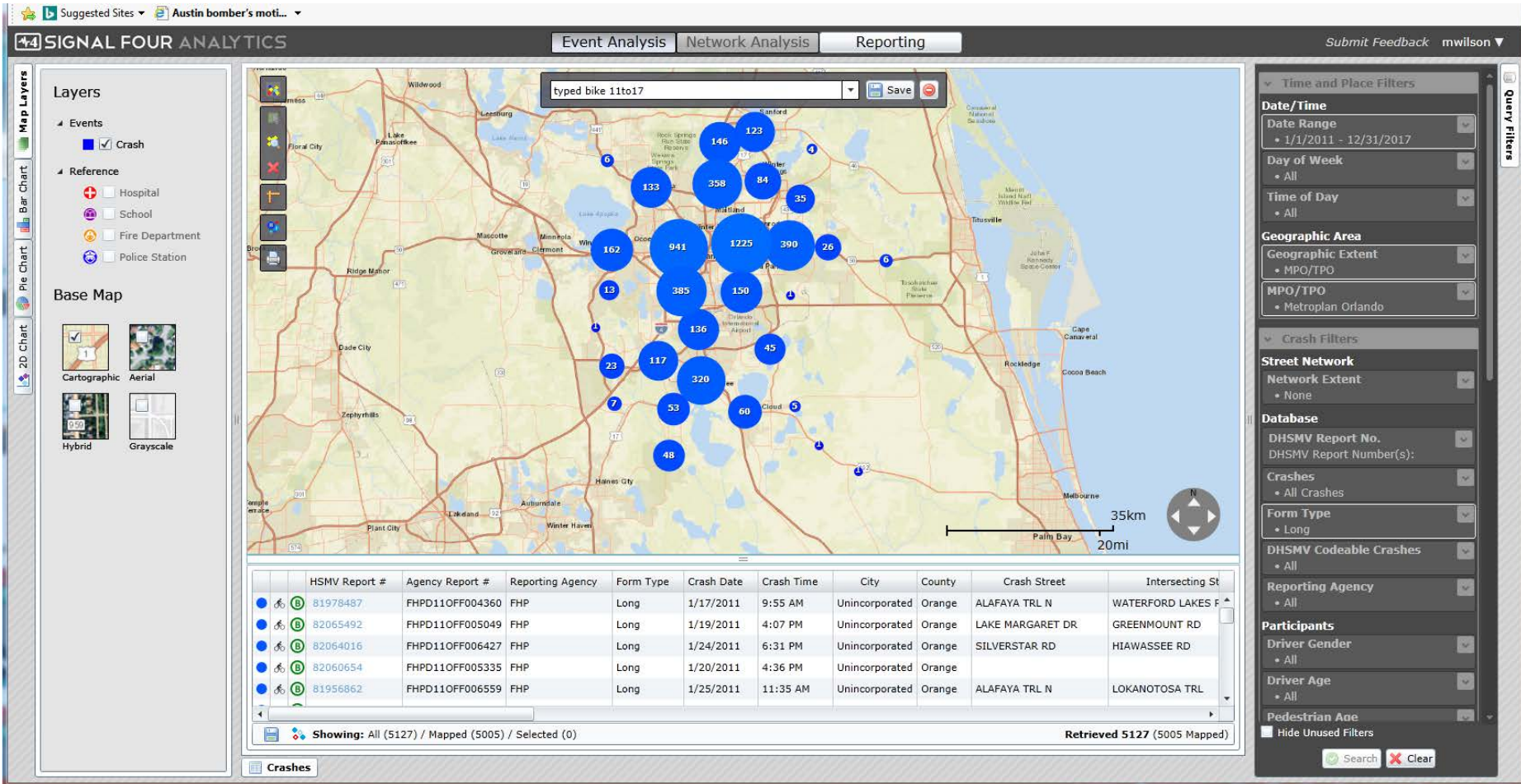
+46% 2011 -- 2015
29% 2011 -- 2017



Incapacitating Injuries
+208% 2011 -- 2015
58% 2011 -- 2017

Fatalities

Crash Typing



2011 thru 2017: 6,178 Pedestrian Crashes & 5,127 Bicyclist Crashes

Crash Typing



Suggested Sites ▾ Austin bomber's moti...

https://s4.geoplan.ufl.edu/pbcats/pbcats/82060685/step/7

Convert ▾ Select

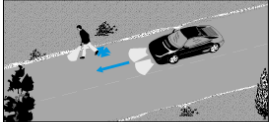
Suggested Sites ▾ Austin bomber's moti...

Pedestrian Crash Typing Auto advance: On Off Crash report viewer: On Off

Crash Report #82060685

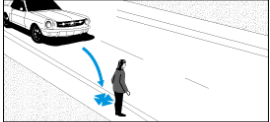
Step 7. Typical Pedestrian Action - Non-Intersection

Which of the following best describes the pedestrian action at the time of the crash?



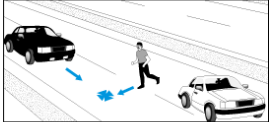
Walking Along Roadway

The pedestrian was walking along the roadway on the edge of a travel lane, on a paved or unpaved shoulder, grassy right-of-way, or sidewalk.



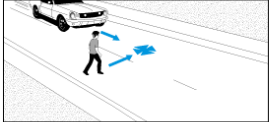
Waiting to Cross

The pedestrian was standing near the curb or roadway edge and waiting to cross the roadway.




Crossing an Expressway

The pedestrian was crossing a limited access expressway or expressway ramp.



Crossing the Roadway or In the Roadway

The pedestrian was crossing or in a roadway that is not an expressway.



Crossing a Driveway

The pedestrian was crossing a driveway on a sidewalk crossing, shared use path, shoulder, or edge of the travel lane.

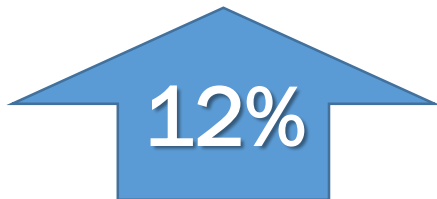
Unknown

The actions of the pedestrian at the time of the crash cannot be determined.

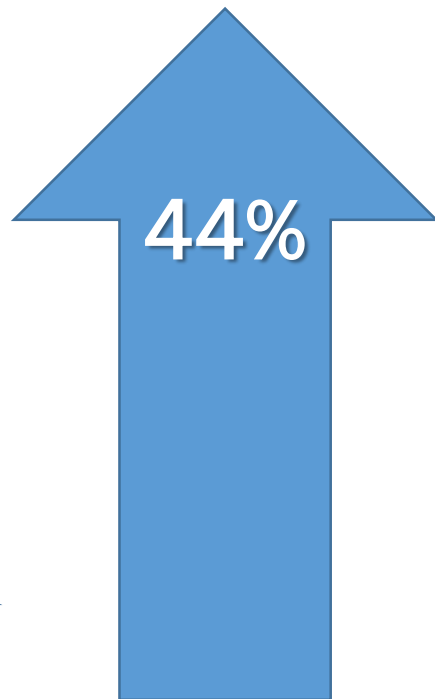
[← Back to 6. Unusual Pedestrian Action](#) [Return to Summary](#) [Proceed to 8. Walking Along Roadway - Non-Intersection →](#)

2011 thru 2017: 6,178 Pedestrian Crashes & 5,127 Bicyclist Crashes

All
Pedestrian
Injury
Crashes



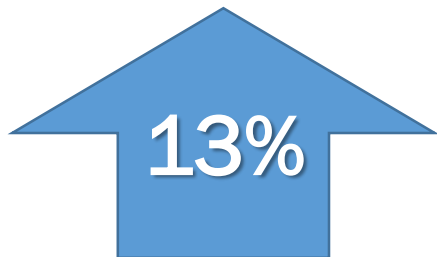
Pedestrian
Fatalities



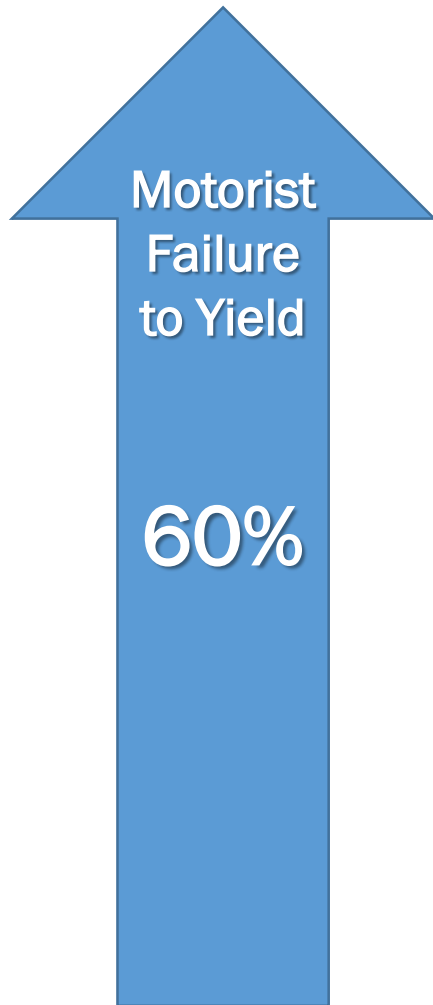
Increase:
2011-13 to 2015-17



Pedestrian
Mid-Block
Failure
to Yield



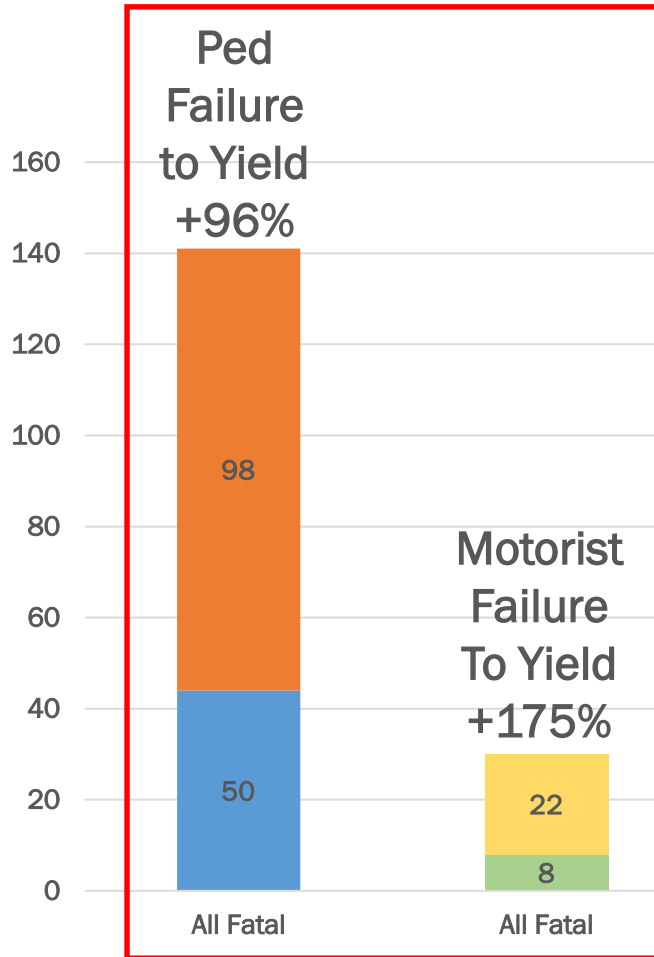
Motorist
Failure
to Yield



Increase:
2011-13 to 2015-17

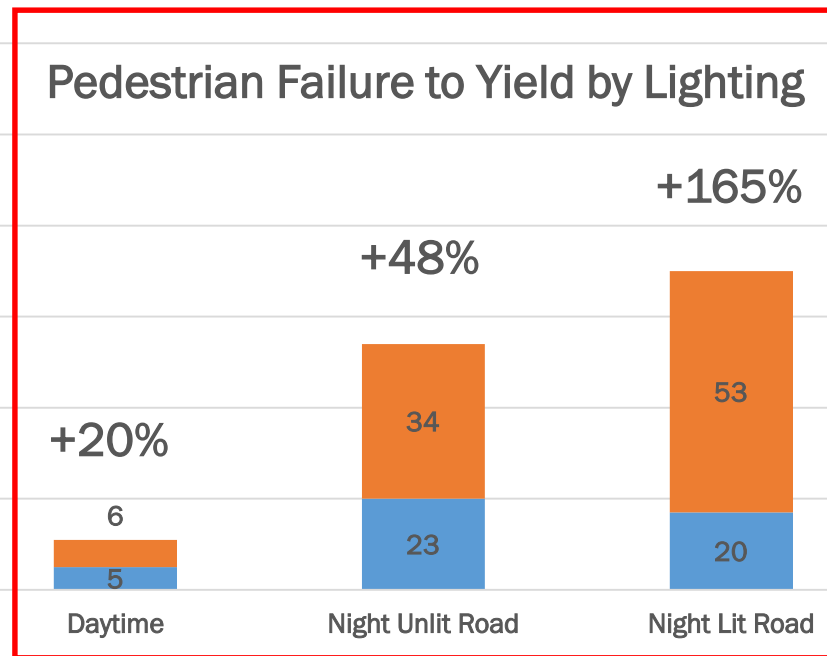


Pedestrian Fatalities



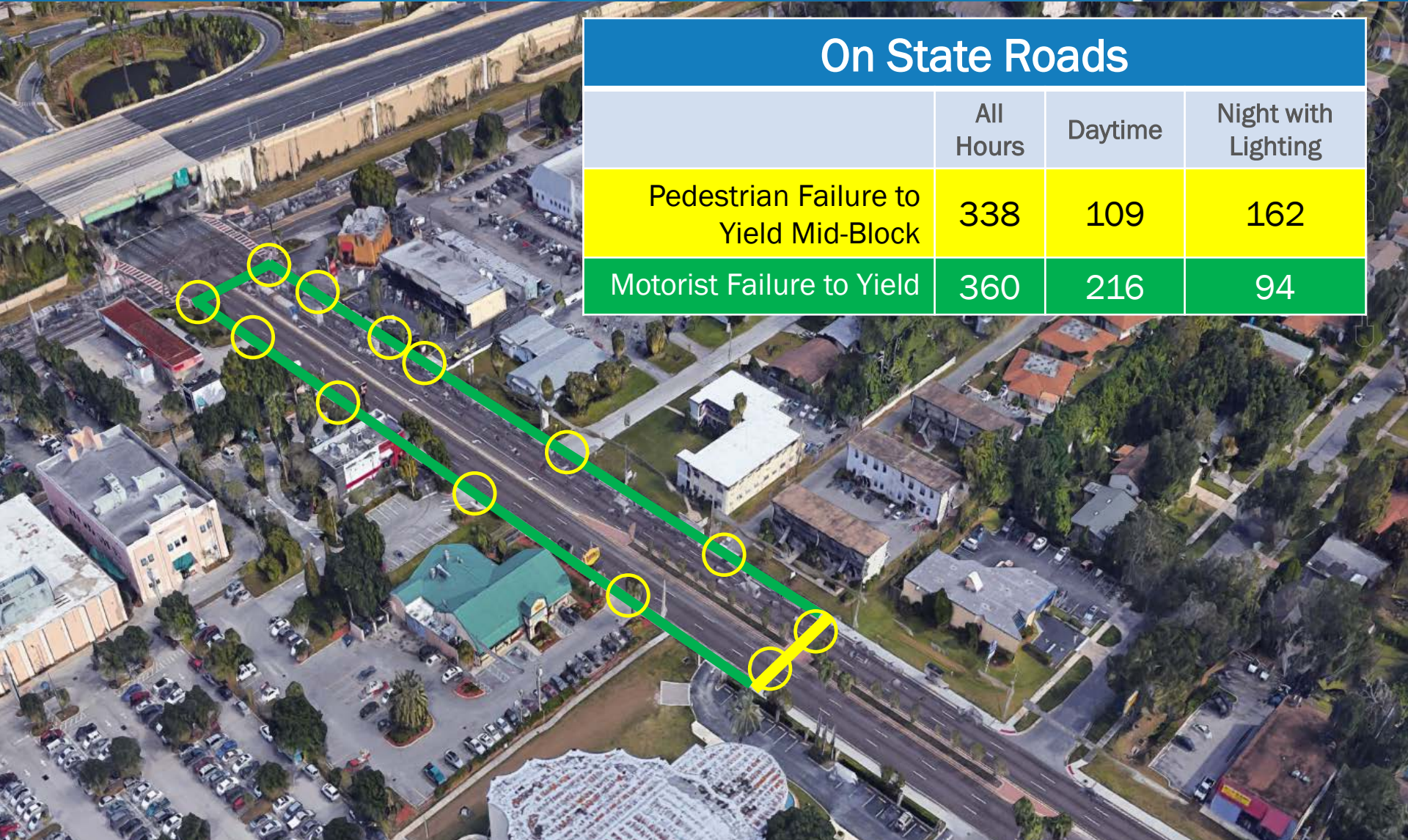
Fatal Crashes: Pedestrian Failure to Yield Mid-Block Versus Motorist Failure to Yield at Intersection or Driveway

Overall Fatality Increase: 44%



■ 2011-13 ■ 2015-17

Which is Safer?



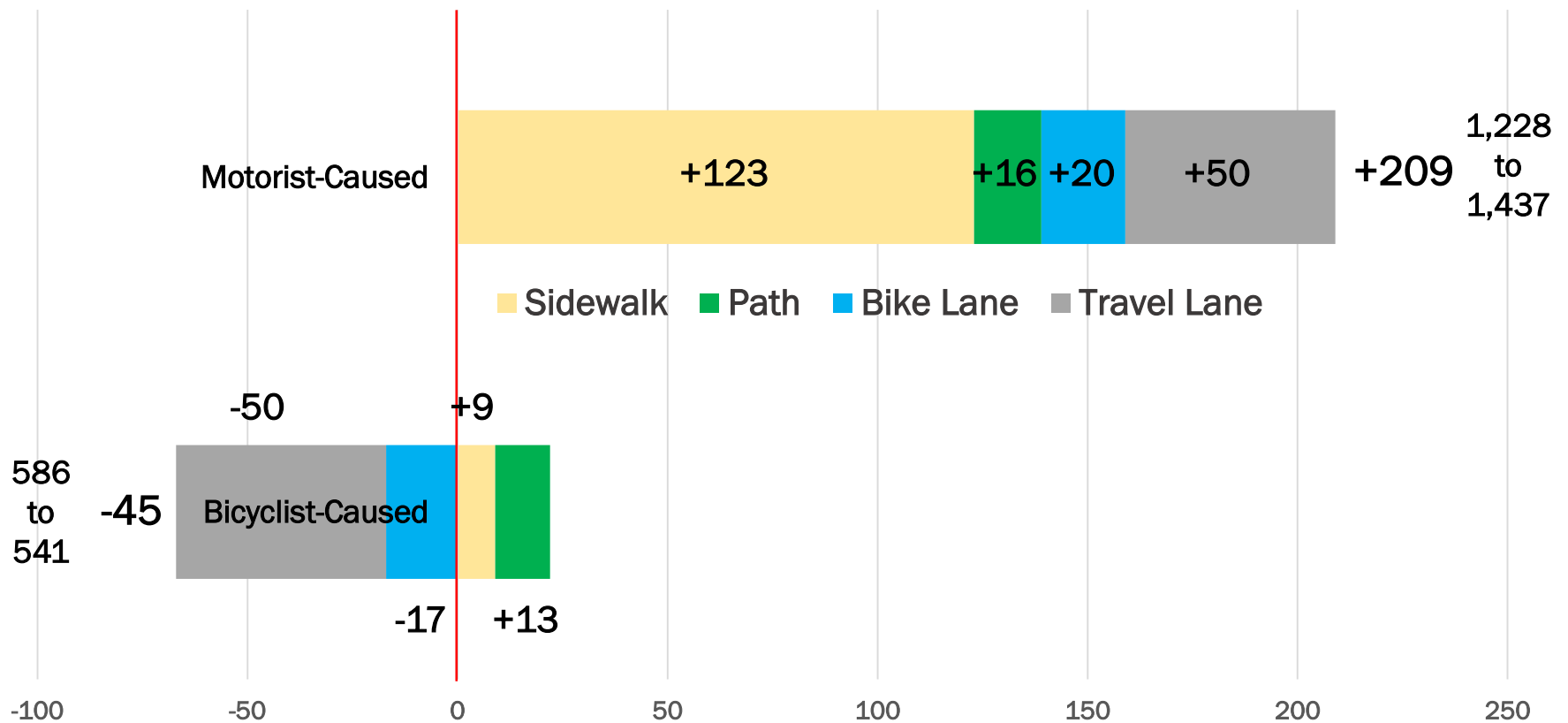
On State Roads

	All Hours	Daytime	Night with Lighting
Pedestrian Failure to Yield Mid-Block	338	109	162
Motorist Failure to Yield	360	216	94

Bicyclist Trends



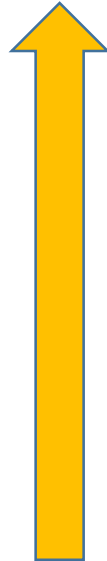
Change in Motorist-Caused & Bicyclist-Caused: 2011-13 to 2015-17



Bicyclist Exposure?



+23%



Bicyclist Injuries
Not Involving Motor
Vehicles
Per Capita Change
2008-10 to 2012-14*
100 to 95 per 100K
per Year

-4%

Bicyclist Injuries
Involving Motor
Vehicles
Per Capita Change
2008-10 to 2012-14**
17 to 21 per 100K per
Year



* Florida Injury Surveillance
Data System

** Signal Four Crash Database

Safety In Numbers?



Jacobsen study (2003, Injury Prevention):
correlation between higher bicycle mode share and
lower bicyclist crash rate

Unsupported assumption of cause

“...it is unlikely that the people walking and bicycling become more cautious if their numbers are larger, it indicates that the behavior of *motorists* controls the likelihood of collisions with people walking and bicycling.”

Safety In Numbers?

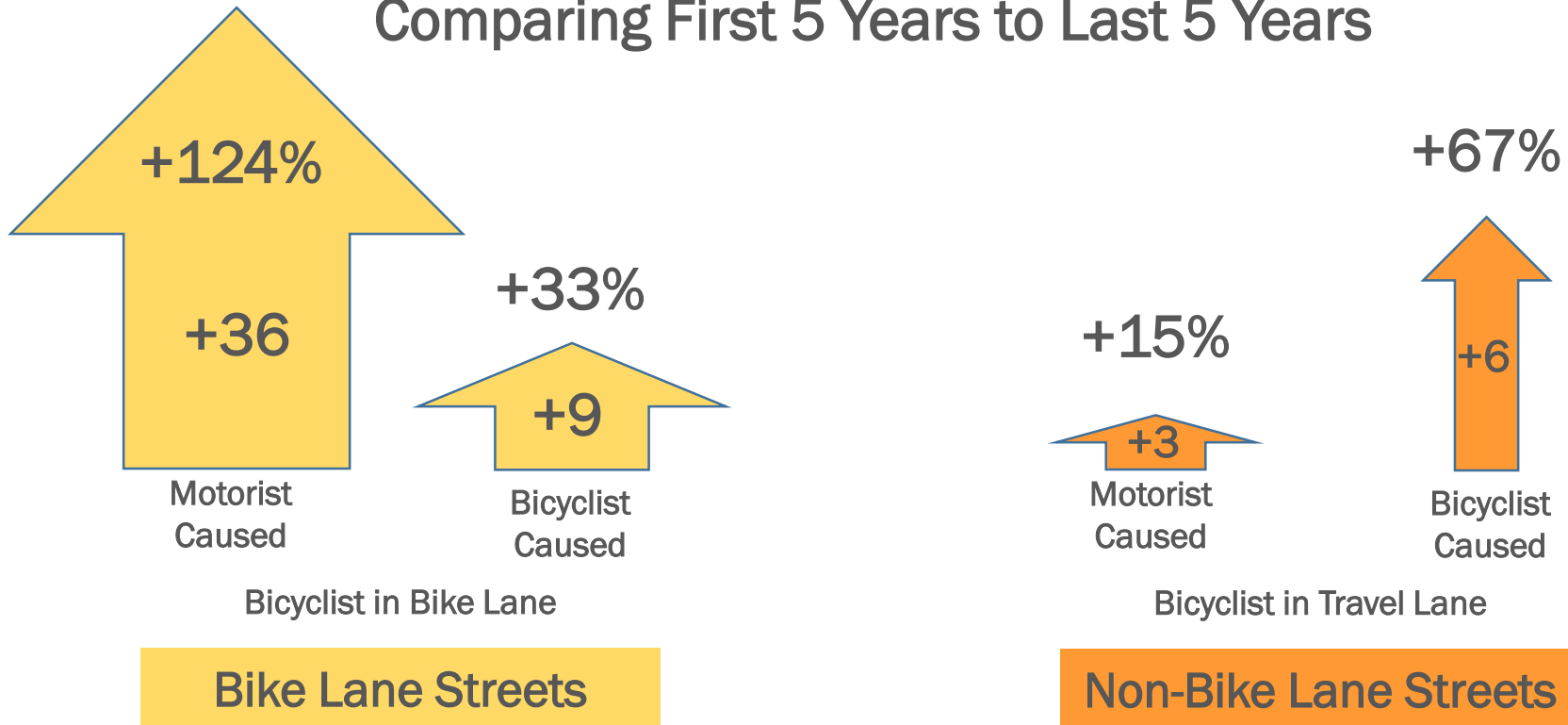


10 Years of Crash Data (2007 to 2016)

70 Miles of Roads With Bike Lanes

67 Miles of Comparable Roads Without Bike Lanes

Comparing First 5 Years to Last 5 Years



Safety In Numbers?



Comparison: 10 Years of Crash Data (2007 to 2016)
70 Miles of Roads With Bike Lanes
67 Miles of Comparable Roads Without Bike Lanes

% Change by Type (First 5 Years to Last 5 Years)

Key Crash Types	Cyclist in Bike Lane		Cyclist in Travel Lane	
	Number Change	% Change	Number Change	% Change
Overtaking Motorist	7 to 8	+120%	10 to 12	-10%
Drive-Out	18 to 47		11 to 7	
Right Hook				
Left Cross				
Wrong-Way Cyclist	20 to 28	40%	4 to 15	275%

Safety Action Plans



Crash
Types



Crash
Countermeasures

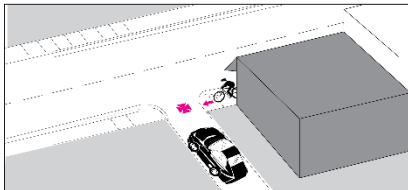
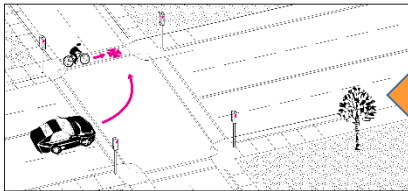
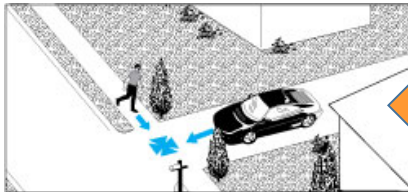
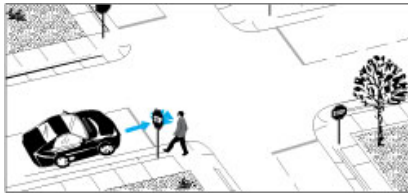
~~Engineering~~
~~Education~~
~~Enforcement~~

Design
Behavioral
Control

Safety Action Plans



Crash Types



Critical Success Factor Types

Visibility

Predictability

Conflicts

Speed

Countermeasure Types

Behavioral Changes

Changes

Design Changes

Changes

Control Changes

Changes



Thank You

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