

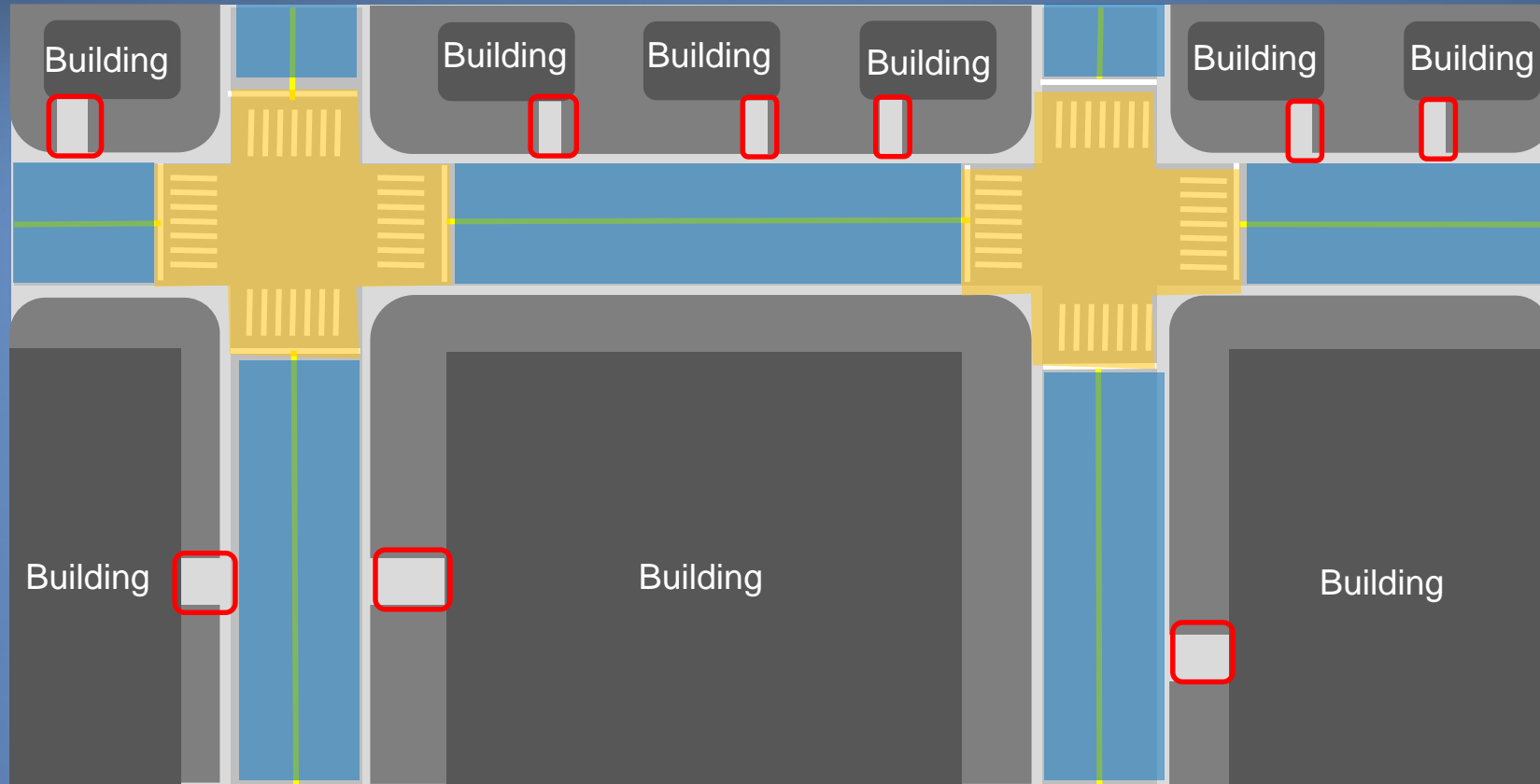


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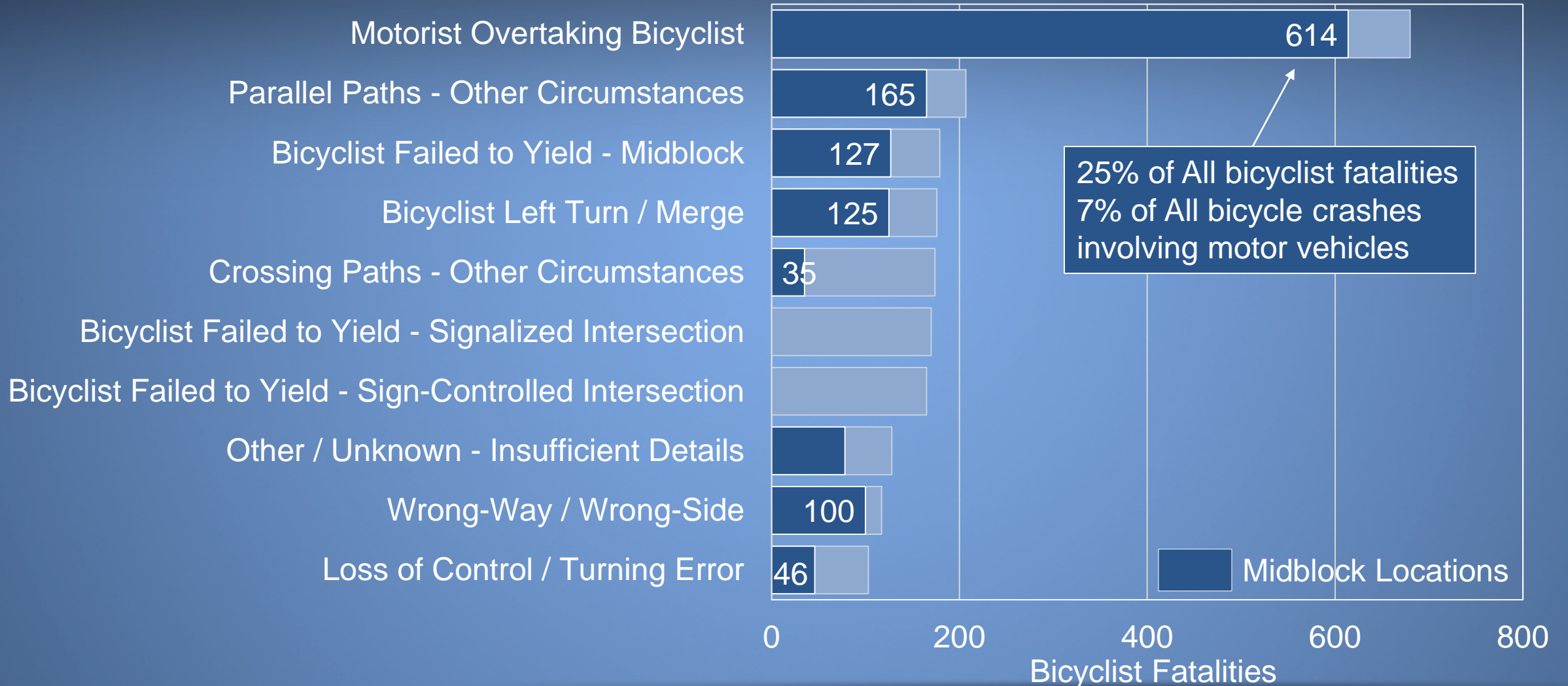
Improving Roadway Infrastructure for Bicyclists

Ivan Cheung, PhD

Select Crash Locations Involving Bicycles and Motor Vehicles



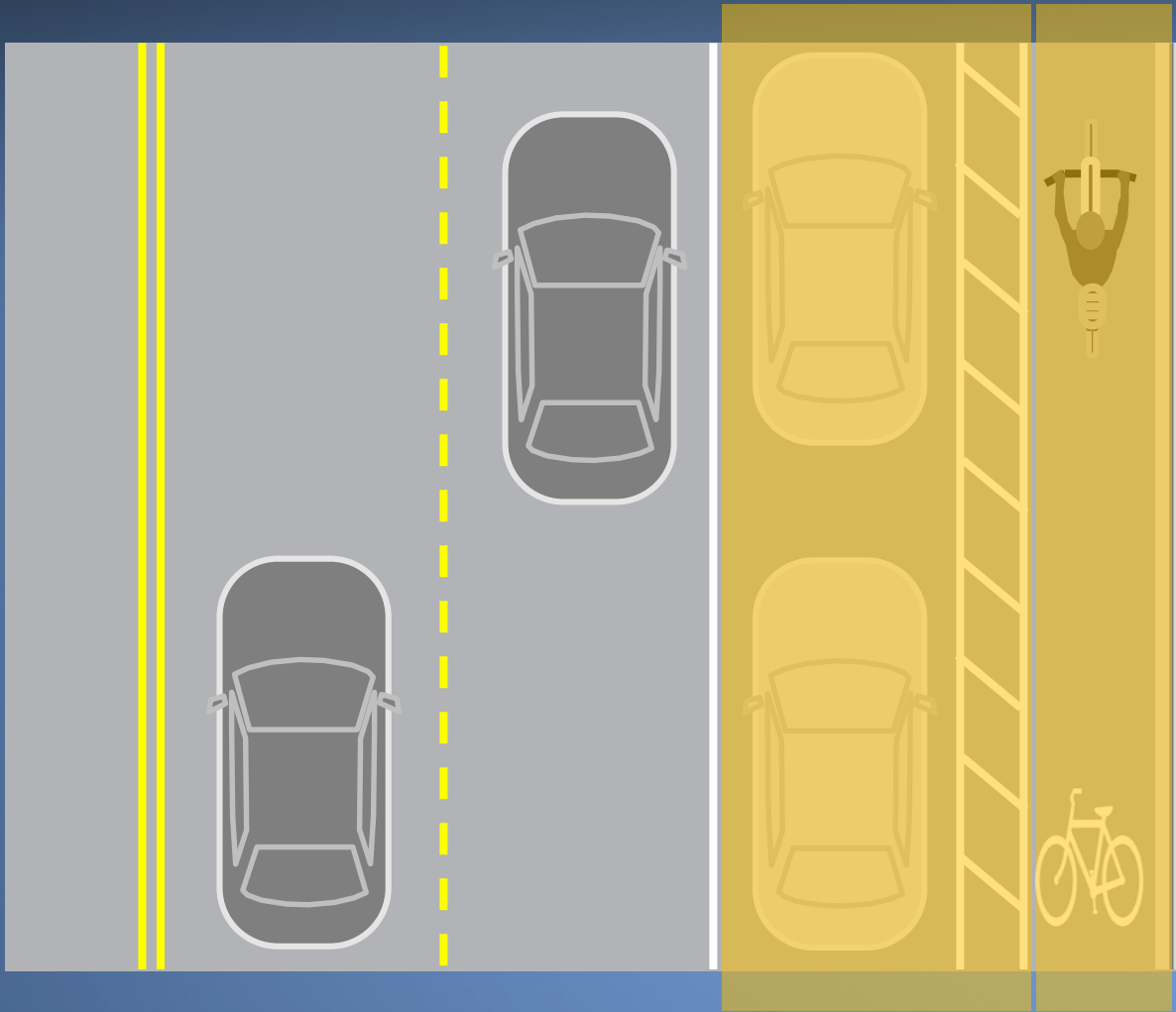
Bicyclist Fatalities by 10 Most Frequent Bicycle Crash Groups and Location Types (2014 through 2016)



Likelihood of Sustaining Fatal or Serious Injury for a Bicyclist Involved in a Crash with a Motor Vehicle

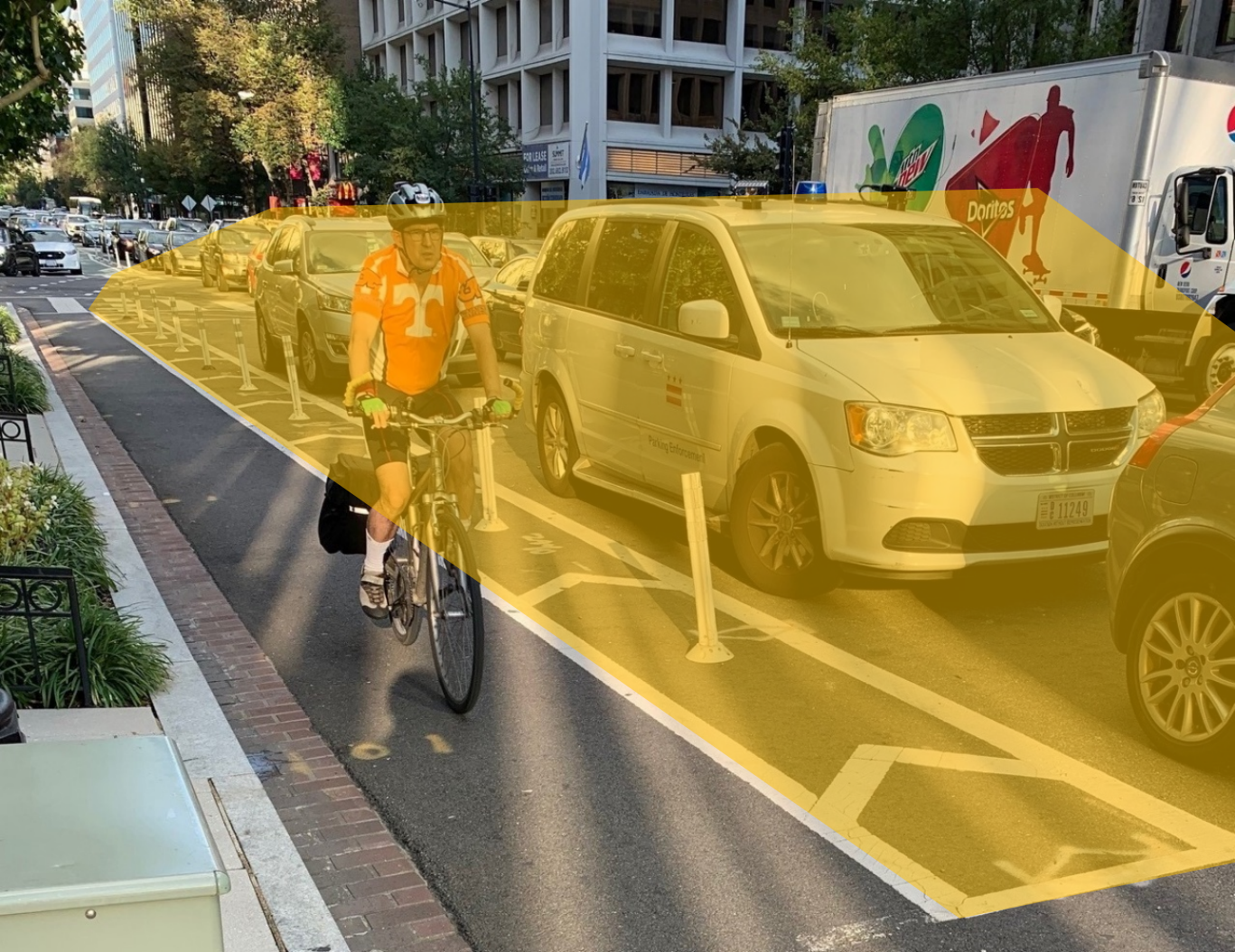
- Analysis of 5,266 individual bicyclists involved in crashes with motor vehicles in 2017 in four states
- Twice as likely in midblock crashes compared to others (while controlling for land use and posted speed limit)
- 65% more likely in areas with 30-35 mph posted speed limit compared to 25 mph or less (while controlling for location and land use)

Separated Bike Lanes



- Separated bike lanes are expected to eliminate midblock crashes with motor vehicles that have the highest injury severity outcomes
- Desired by many transportation officials interviewed
- 35 states reported recommending them but only 4 states had them installed along their state roadways

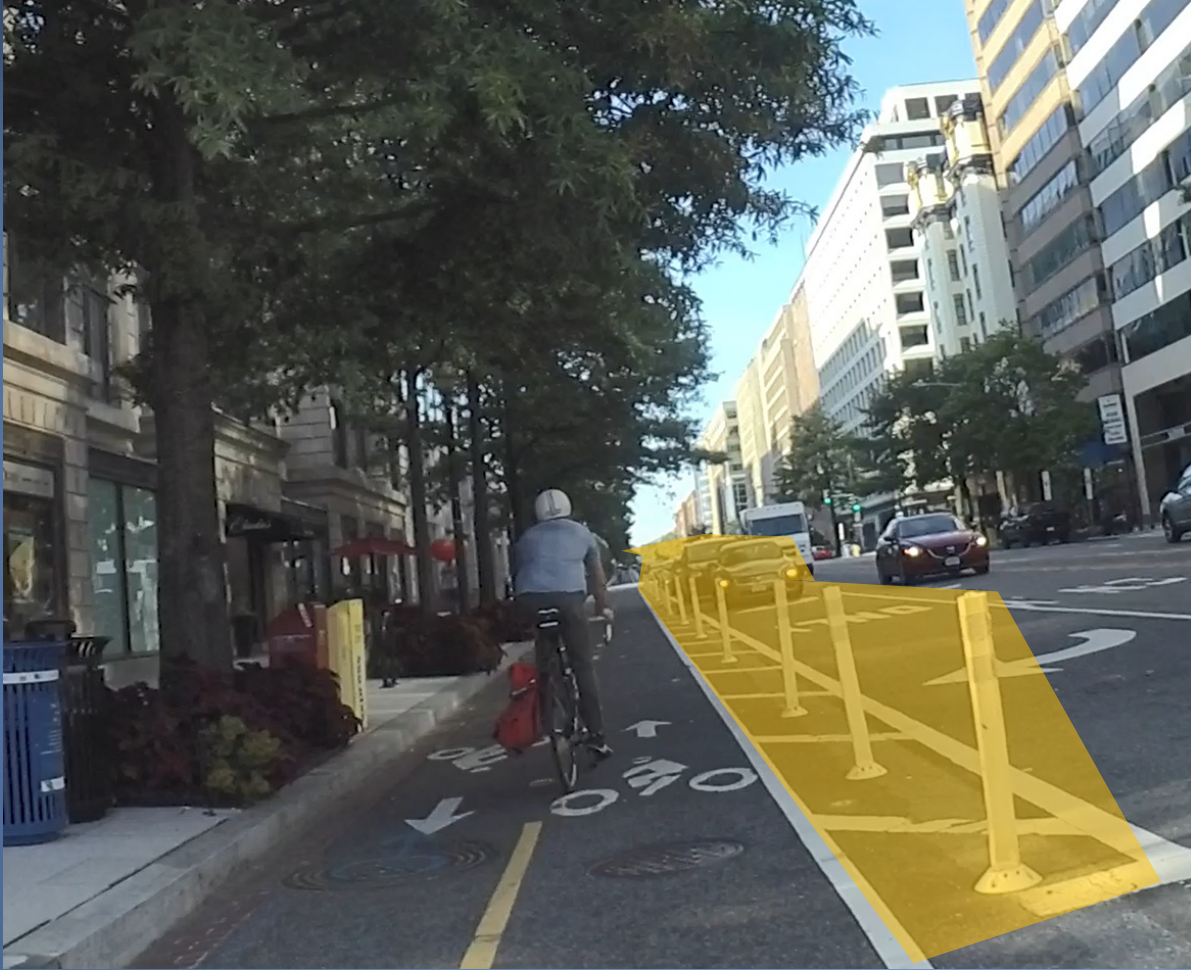
One-Way Separated Bike Lanes, Positioned on Right Side of Roadway



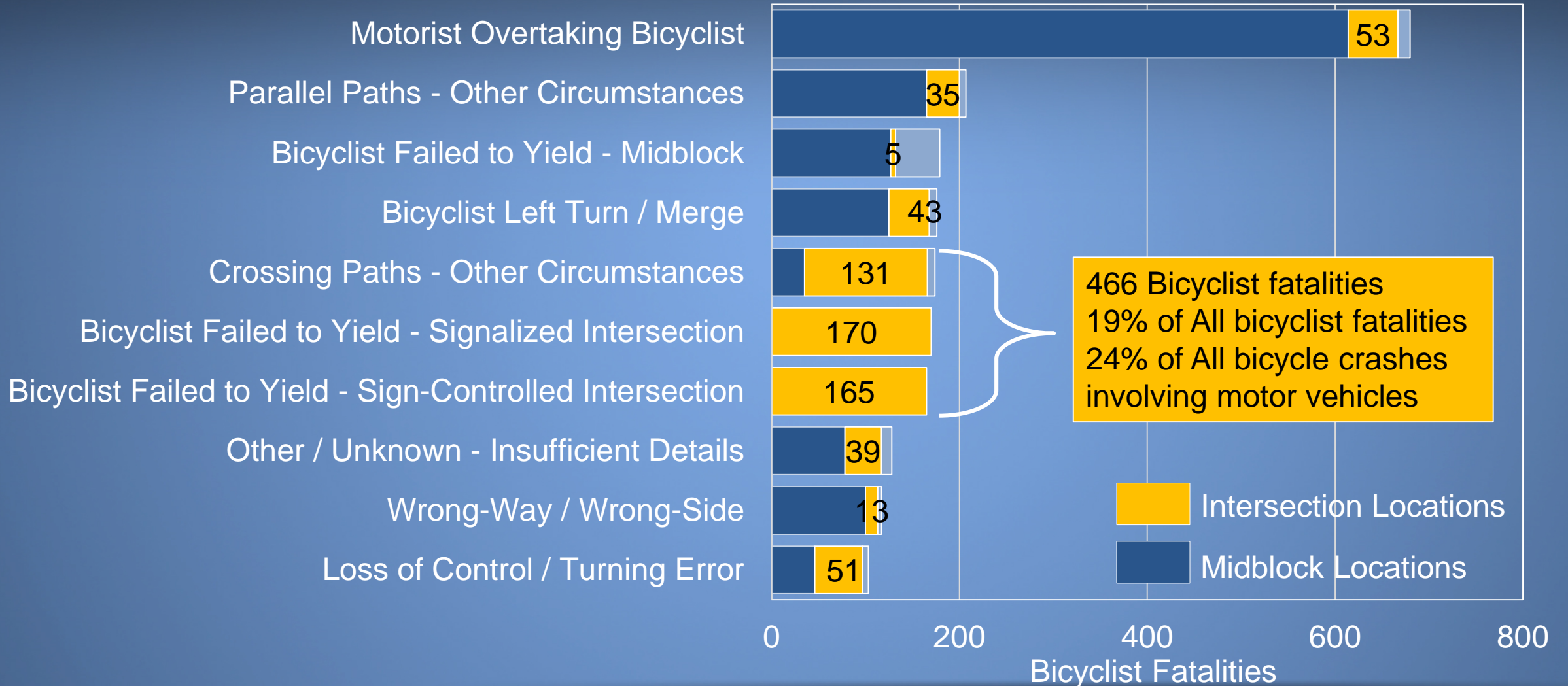
Two-Way Separated Bike Lanes

At Street Level, Parking Protected

Raised



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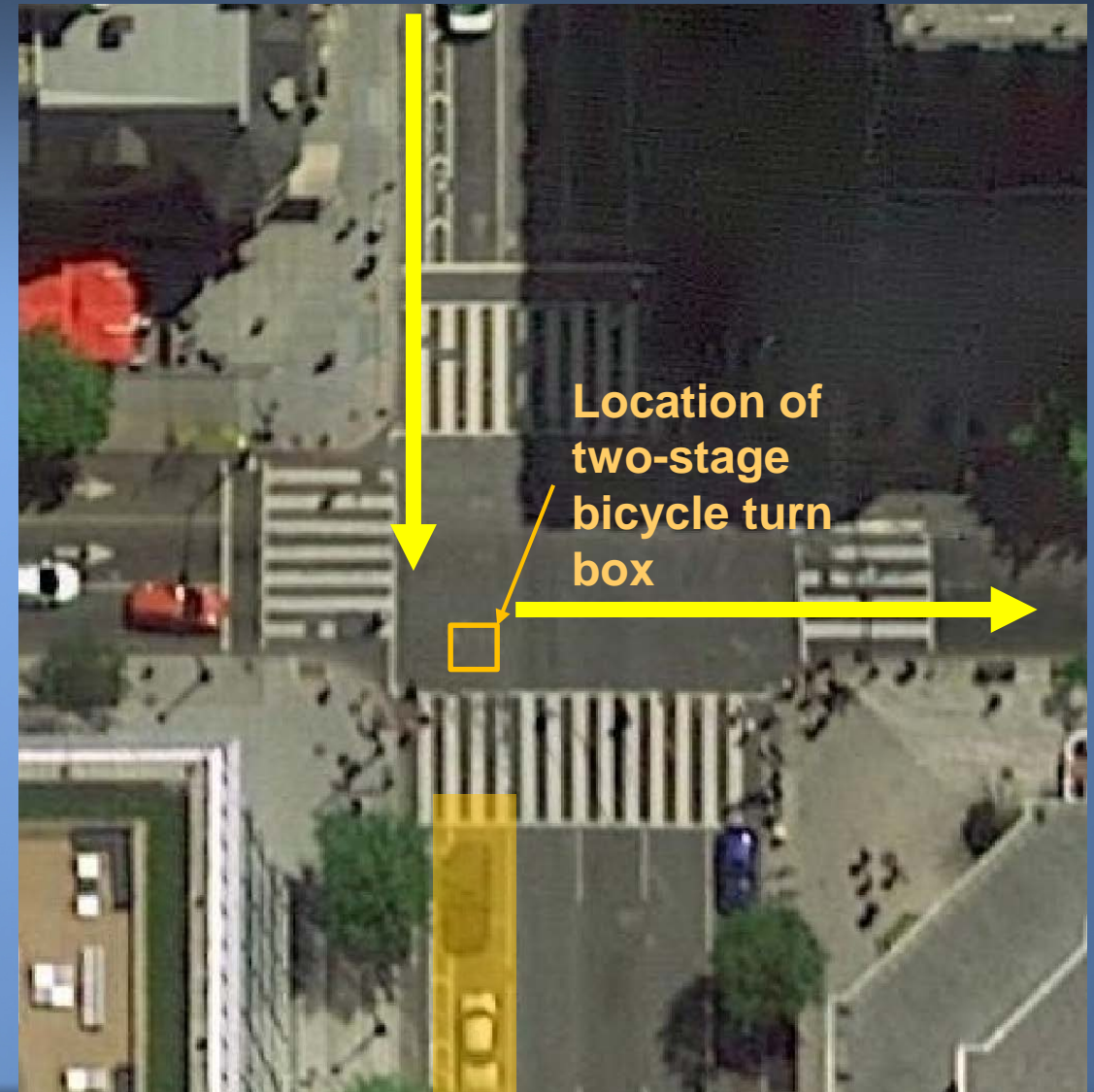


Safety Treatments at Intersections: Bicycle Signal Face

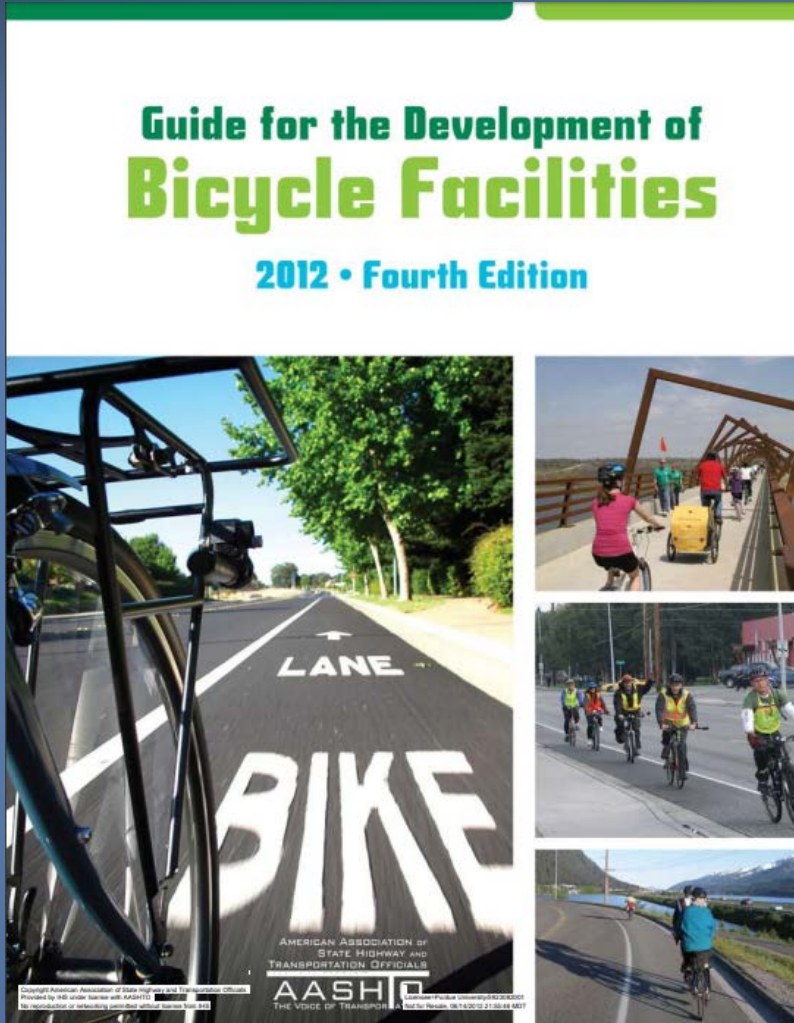
Bicycle Signal Face



Safety Treatments at Intersections: Two-Stage Bicycle Turn Box

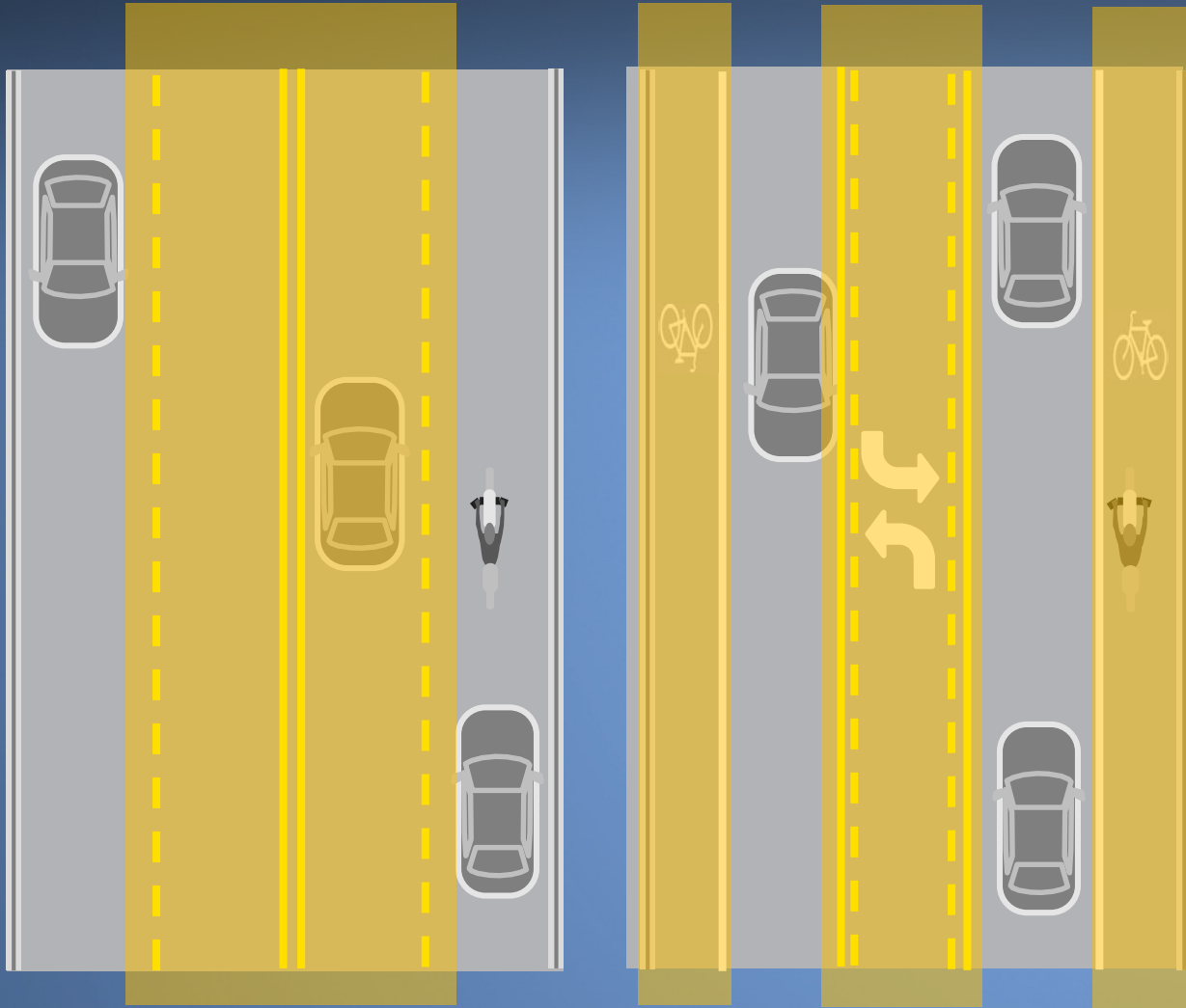


Updating the 2012 *Guide for the Development of Bicycle Facilities*



- Published in 2012
- Provides geometric design guidance for bicycle facilities
- Lacks information on separated bike lanes and safety treatments at intersections

Road Diet



- Repositions pavement markings
- Reduces number of through lanes and provides dedicated space for bicycle facilities, such as bike lanes
- Improves safety by reducing total crashes by 19% to 47%
- Placed on the FHWA's List of Proven Safety Countermeasures in 2008

FHWA Programs to Accelerate State and Local Adoption of Proven Safety Countermeasures

- Proven Safety Countermeasures Initiative
- Every Day Counts Program



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