



Big Book of Ideas Engineering Safety Strategies

October 2018

VISION ZERO 
Zero fatalities. Zero excuses.



Urban Intersections

VISION ZERO 
Zero fatalities. Zero excuses.

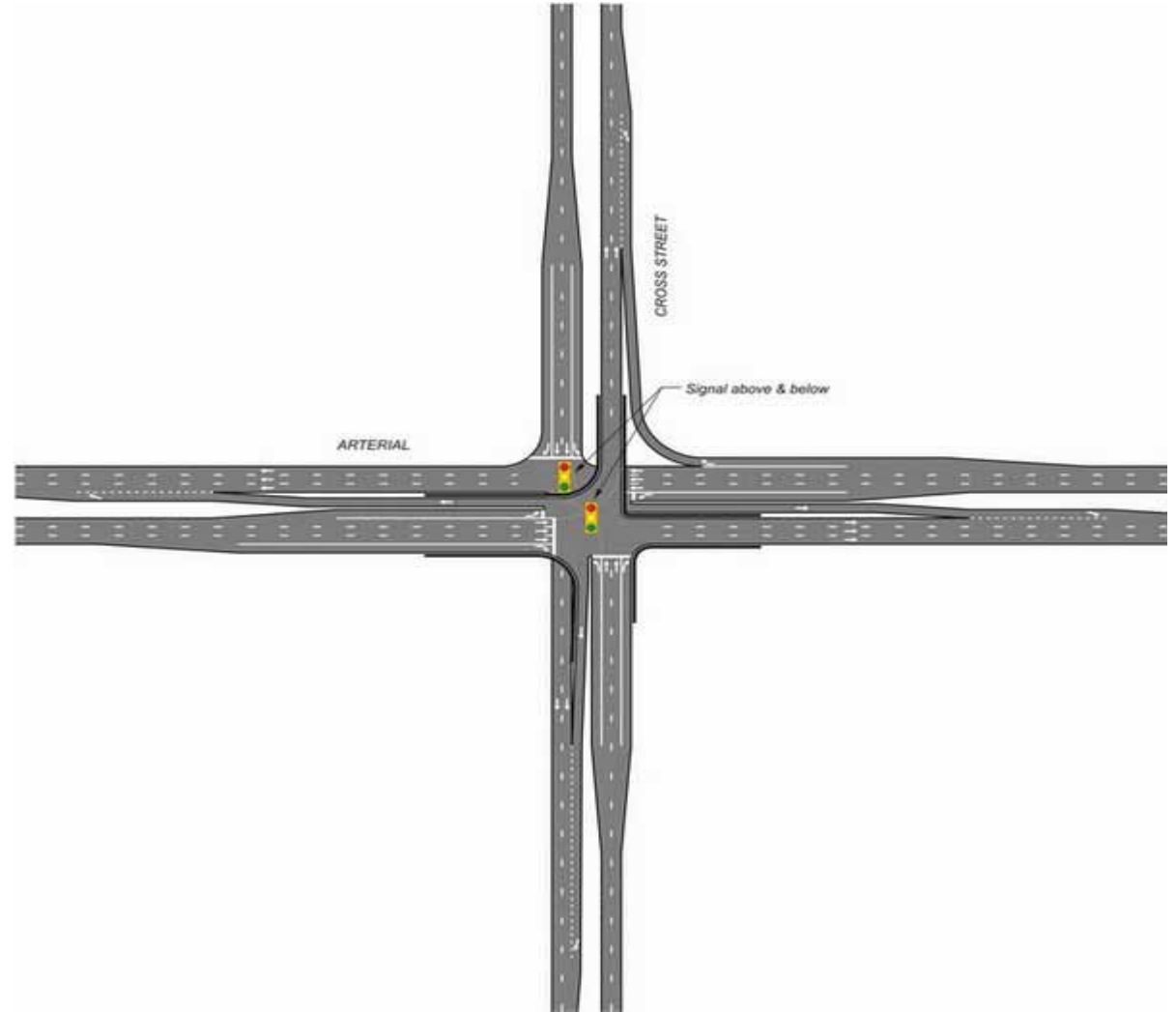
Echelon

Crash Reduction Factor

- Not Available

Typical Installation Costs

- \$10 to \$15 million



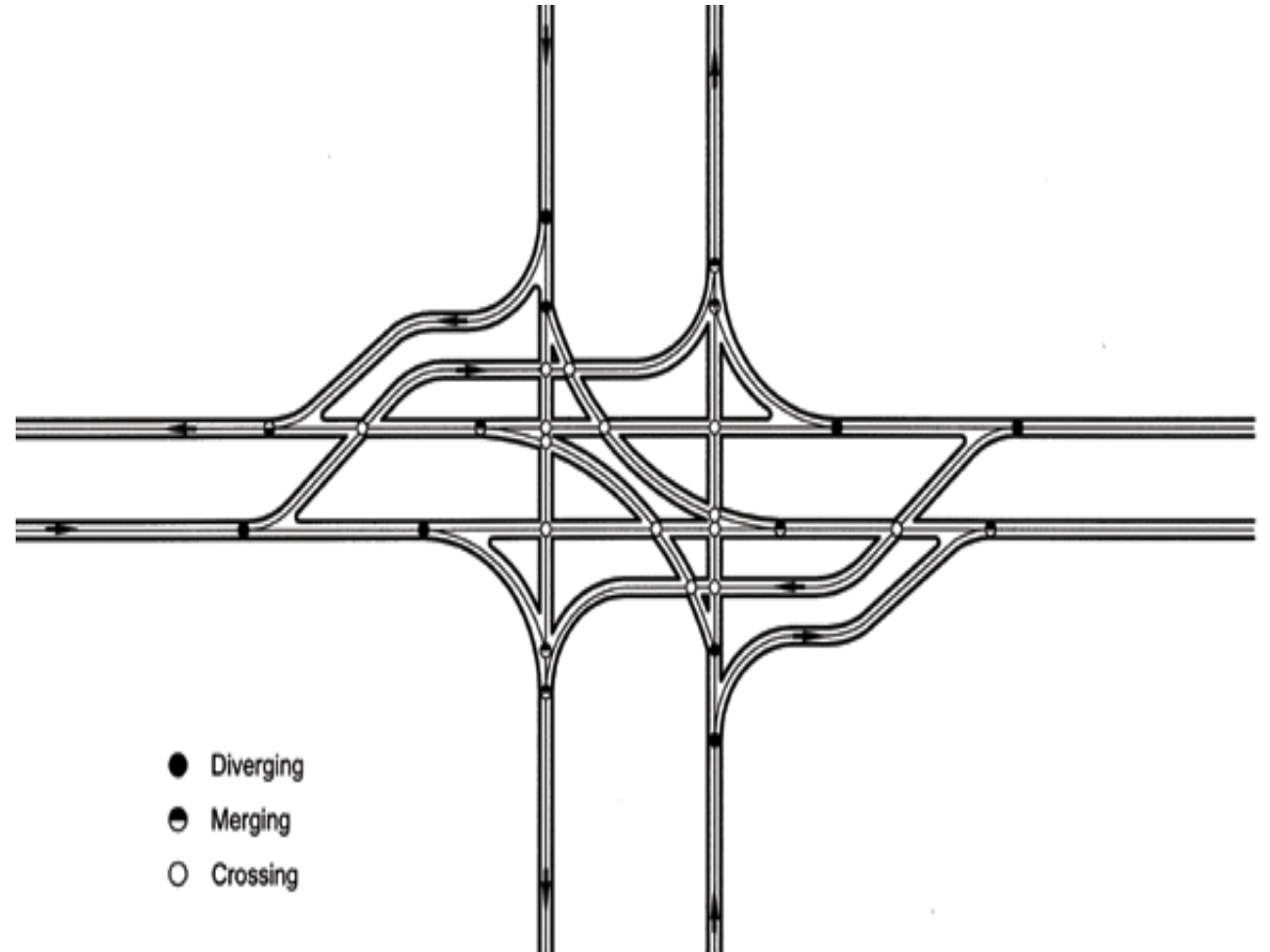
Continuous Flow Intersection (CFI)

Crash Reduction Factor

- Not Available

Typical Installation Costs

- \$4 to \$7 million



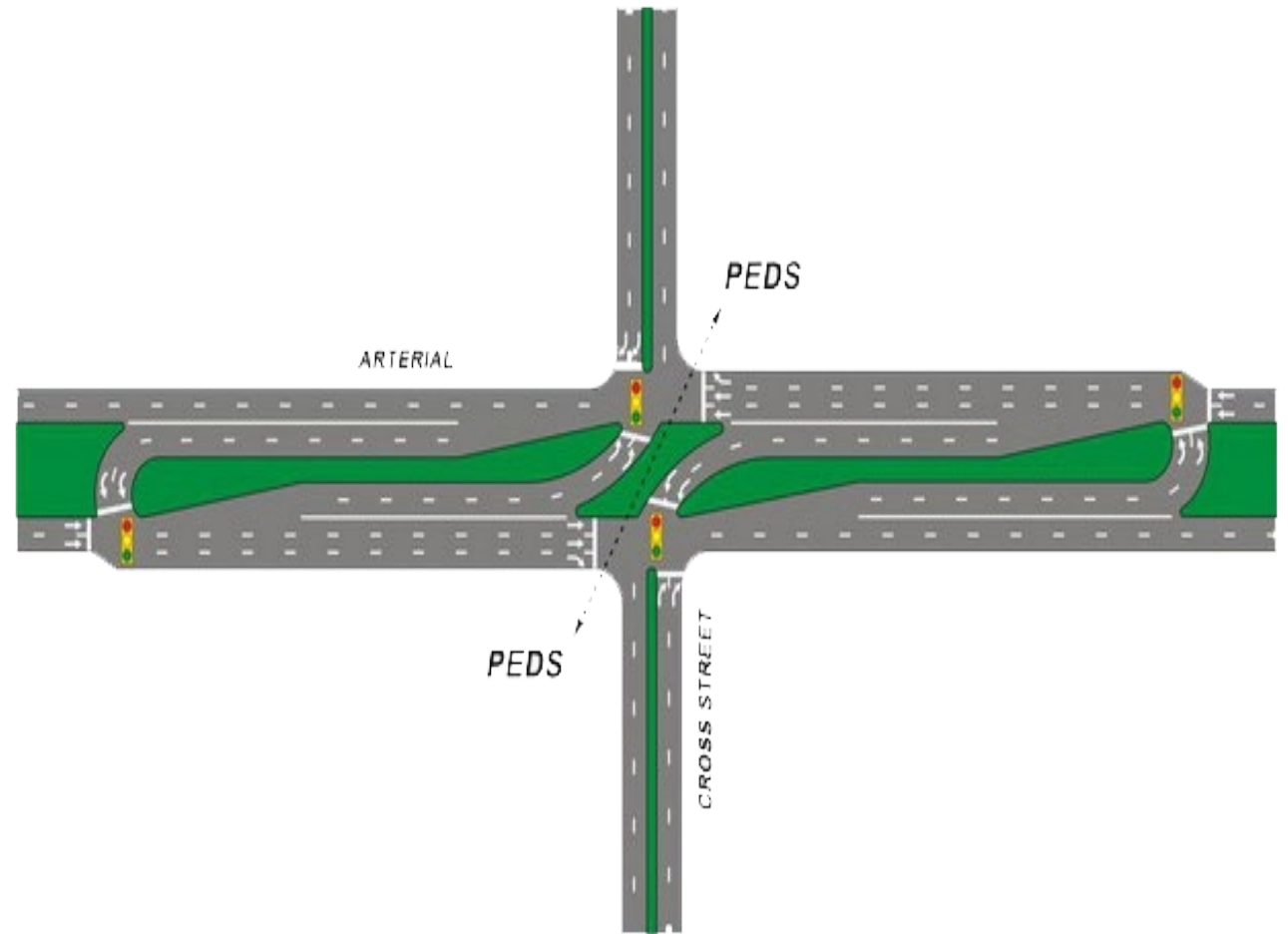
Signalized RCUT

Crash Reduction Factor

- Not Available

Typical Installation Costs

- \$1 to \$5 million



Confirmation Lights

Crash Reduction Factor

- 25% to 84% reduction in violations

Typical Installation Costs

- \$1,200 per two approaches



Pedestrian Countdown Timers

Crash Reduction Factor

- 25% vehicle/pedestrian crashes

Typical Installation Costs

- \$12,000 per intersection



Leading Pedestrian Intervals

Crash Reduction Factor

- Up to 60% pedestrian/ vehicle crashes

Typical Installation Costs

- \$600 per intersection



Curb Extensions

Crash Reduction Factor

- Increase in vehicles yielding to pedestrians

Typical Installation Costs

- \$36,000 per corner



Center Island Medians

Crash Reduction Factor

- 46% in vehicle/pedestrian crashes

Typical Installation Costs

- \$24,000 per approach



Roundabout

Crash Reduction Factor

- 20% to 50% all crashes
- 60% to 90% right-angle crashes

Typical Installation Costs

- \$4,200,000 per intersection



Mini Roundabout

Crash Reduction Factor

- 20% to 50% all crashes
- 60% to 90% right-angle crashes

Typical Installation Costs

- \$40,000 - 500,000



Urbanization (Make it Feel Urban)

Crash Reduction Factor

- Not Available

Typical Installation Costs

- \$250,000 to \$500,000 per intersection



Rectangular Rapid Flash Beacon (RRFB)

Crash Reduction Factor

- 75% of drivers yield to pedestrians

Typical Installation Costs

- \$15,000



Michael Frederick, City of St. Petersburg, FL

High-Intensity Activated Crosswalk Beacon (HAWK)

Crash Reduction Factor

- 69% Vehicle/Pedestrian

Typical Installation Costs

- \$75,000 to \$150,000



Flashing Yellow Arrow (FYA)

Crash Reduction Factor

- 19.4% left turn crashes

Typical Installation Costs

- Not Available



Reflective Streetlight Material

Crash Reduction Factor

- 15% reduction

Typical Installation Costs

- \$250 per intersection



Turn Lanes (Offset, Channelized)

Crash Reduction Factor

- 27%

Typical Installation Costs

- \$150,000 to \$500,000



Zig Zag Pavement Markings

Crash Reduction Factor

- Not Available

Typical Installation Costs

- \$91,000



Figure 10. Zig-zag Markings at Belmont Ridge Road

Pedestrian Education/ Visibility

Crash Reduction Factor

- Not Available

Typical Installation Costs

- Not Available

