Two-Way Stop Intersection

Description

Through/Stop intersections is an uncontrolled intersection with stop control on the minor street. The stop-controlled approaches are referred to as the minor street approaches. The intersection approaches that are not controlled by stop signs are referred to as the major street approaches.

Pros and Cons

Pros
1. Low installation cost
2. Continous traffic flow for major approaches
3. Low maintenance cost

Cons
1. Does not address the higher intersection crash severity rate
2. Difficult to enforce stop control compliance
3. Could result in drivers speeding across the intersection to make gaps
4. Motorist must be able to detect the presence of the intersectoin and then detect, recongize, and respond to the drivers crossing.
5. Higher stop control motorist delay during peak periods

Safety Considerations

Crash Types
- Most common crash types are rear end and right angle

Average Crash Rate
- 0.42 Crashes/MEV (Existing Conditions)
- 0.28 Crashes/MEV (Statewide Average - Rural Thru/Stop)

Crash Severity
- Injury related crashes represent approximately 67% of the total reported intersection crashes

Traffic Signal System

Description

Traffic signals assign right-of-way to various traffic movements at intersections. Signal design has typically focused on the operating characteristics of motorized vehicles, but do provide some added protection for pedestrians.

Pros and Cons

Pros
1. Generally Can Be Designed with Minor Impact to Street Width/Curbs
2. Compatible with the Lane Geometrics of the Stop Controlled Intersection and Could be Easily Installed at a Later Date.
3. Improves Left Turn Access onto CR 15
4. Provides for Controlled Movement of Traffic
5. Reduces the Frequency and Severity of Certain Types of Right-Angle Collisions
6. Familiarity

Cons
1. Traffic signal warrants are not met
2. Traffic Signals That Do Not Meet MMUTCD Warrants are Ineligible for Federal Funding. County Cost or Wait Until Warranted.
3. Ongoing Operation, Maintenance, Electricity Costs
4. Increased Crashes, Particularly Rear-end, Right Angle
5. Increased Motor Vehicle Delay and can be Inefficient During Off Peak Periods

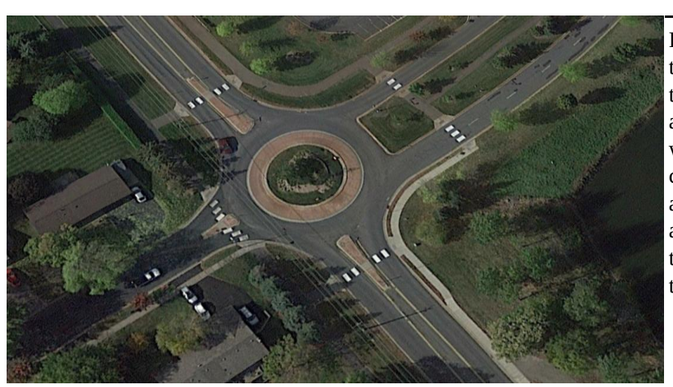
Safety Considerations

Crash Types
- Predominant crash types are rear end, right angle and left turn collisions

Average Crash Rate
- 0.6 Crashes/MEV (Low Volume / Low Speed)

Crash Severity
- Injury related crashes represent approximately 29% of the total reported intersection crashes

Roundabout



Description

Roundabouts are a design technique intended to control traffic and reduce conflicts between traffic movements on the major and minor legs approaching an intersection. Roundabouts, which provide an alternative to traffic signal control at an intersection, are usually built with a circular raised island and splitter medians on all approaches to help slow vehicles and direct traffic into the counterclockwise flow around the center island.

Pros and Cons

Pros
1. Provides Continuous Flow of Traffic.
2. Provides Traffic Calming – Designed for 15 mph Speed.
3. Improves Pedestrian Crossing – Reduced Exposure, Improved Sightline with Refuge Island
4. Overall Number of Crashes May be Reduced and Roundabouts Greatly Reduce the Crash Severity
5. Aesthetics

Cons
1. More Expensive than Signal, But May be Less in Long Run.
2. Requires More Space at Intersection, but Less Space along Road.
3. Special Attention Required in Design for Trucks/Buses
4. Familiarity

Safety Considerations

Crash Types
Most common crash types include failure to yield at entry, improper lane use and single-vehicle run off road.

Average Crash Rate
0.48 Crashes/MEV (Single Lane)

Crash Severity
Injury related crashes represent approximately 24% of the total reported intersection crashes