

Stop-Controlled Intersections

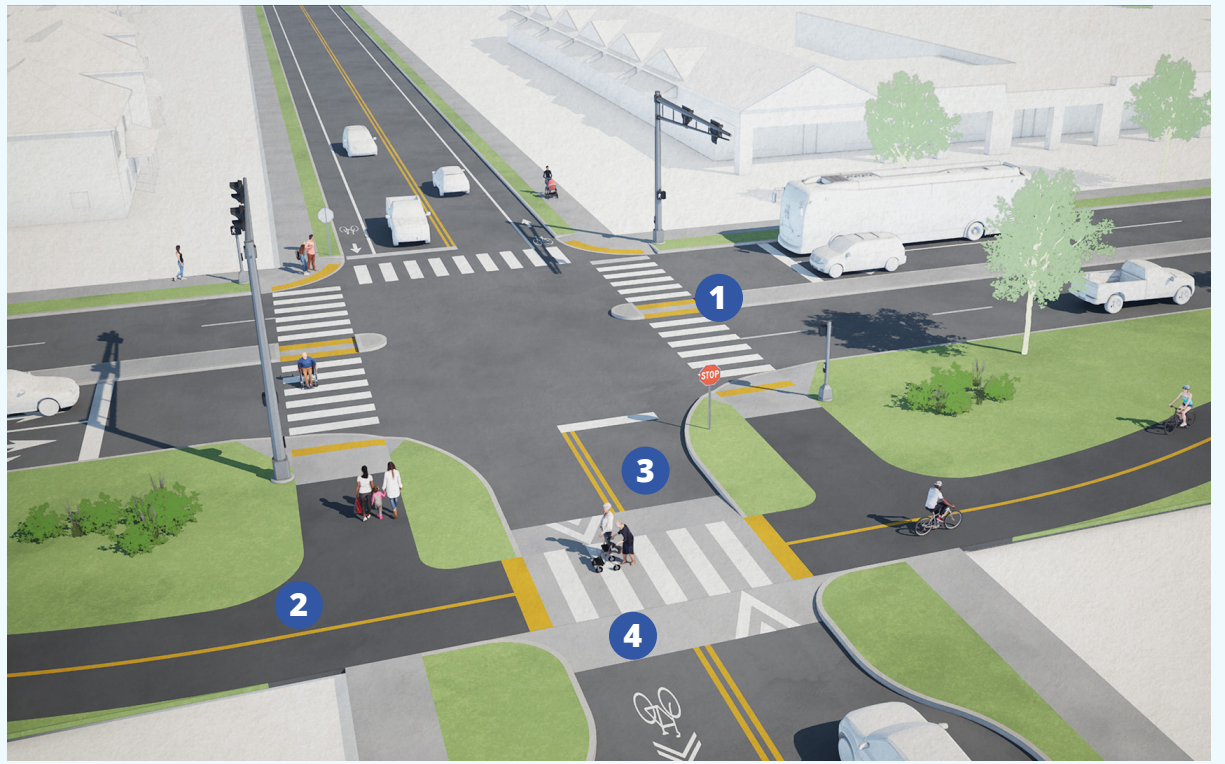
Stop-controlled intersections include any conventional intersection where one or more approaches are controlled by a STOP sign. However, there are significant differences between intersections with multi-way stop control (typically all-way stop, or AWS) and minor road stop (MRS) control.

Design Features

- Various countermeasures can be used to make pedestrians and bicyclists more visible and support improved driver awareness and yielding
- Countermeasures that should be implemented as often as possible include high-visibility crosswalks, effective intersection lighting, wide refuge islands, raised crosswalks (for MRS intersections) or tabled intersections (for AWS intersections).
- Stop-controlled intersections that involve more complex lane arrangements should be evaluated for treatments such as Rectangular Rapid Flashing Beacons (RRFBs) or Pedestrian Hybrid Beacons (PHBs) as appropriate.
- Install overhead lighting to illuminate bikeway and pathway networks and in advance of all intersection crossings.

Benefits

- Generally, stop-controlled intersections tend to have smaller footprints, leading to shorter crossing distances for pedestrians and bicyclists (though additional through lanes or turn lanes add complexity to the intersection).
- Stop-controlled intersections, especially AWS intersections, can encourage mutual visibility among pedestrians, bicyclists, and drivers.



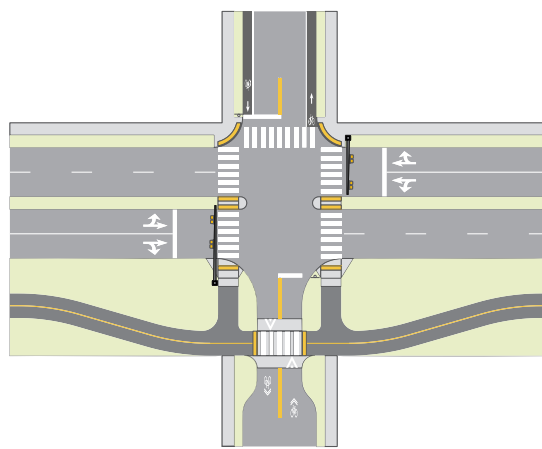
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Intersection Types

MINOR ROAD STOP (MRS)

Minor road stop (MRS) intersections feature stop signs controlling the minor road approach(es) while the major road approaches are uncontrolled.

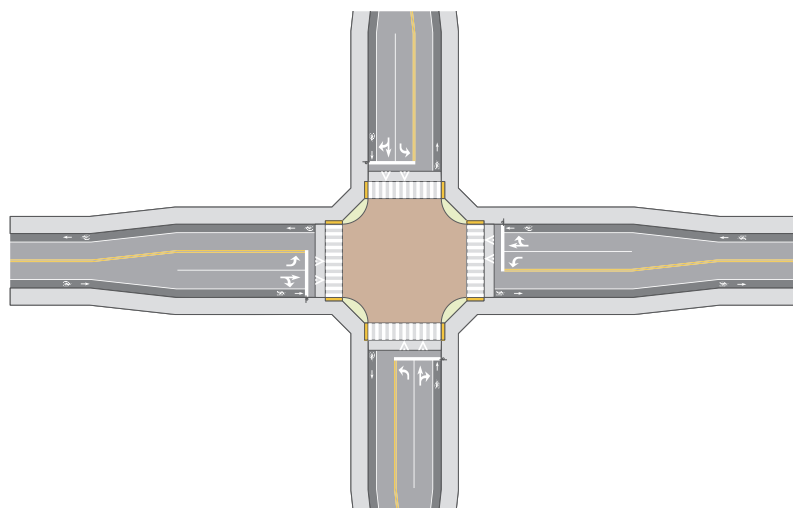


CONSIDERATIONS

- Crossing the uncontrolled approaches of a MRS intersection involves a higher risk to pedestrians and bicyclists because of the free-flow and higher-speed traffic conditions.
- Opportunities to cross may be less frequent due to the need to wait for a gap in major road traffic.
- Multi-lane uncontrolled pedestrian crossings should include additional countermeasures such as PHBs (shown) or RRFBs.
- A recessed crossing of approximately one car length provides space for drivers to yield to sidepath users and conflicting traffic as discrete events.

ALL WAY STOP (AWS)

All-way stop (AWS) intersections feature STOP signs controlling all approaches.



CONSIDERATIONS

- Because stopping is mandatory for all movements, vehicle speeds at AWS intersections are typically lower and crossing opportunities for pedestrians and bicyclists should be frequent.
- Raised intersections provide sidewalk-level crossings at each leg of an intersection. They encourage drivers to yield and provide pedestrians and bicyclists with a continuous accessible path of travel without grade changes.

References

FHWA (2021). Stop-Controlled Intersections. Federal Highway Administration, Washington, DC. Retrieved from <https://safety.fhwa.dot.gov/intersection/stop/index.cfm>.

FHWA (2021). Proven Safety Countermeasures: Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections [FHWA-SA-21-031]. Federal Highway Administration, Washington, DC. Retrieved from https://safety.fhwa.dot.gov/provencountermeasures/syst_stop_control.cfm.

Blackburn, L., Zegeer, C., & Brookshire, K. (2018). *Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations* [FHWA-SA-17-072]. Federal Highway Administration, Washington, DC. Retrieved from https://safety.fhwa.dot.gov/ped_bike/step/docs/STEP_Guide_for_Improving_Ped_Safety_at_Unsig_Loc_3-2018_07_17-508compliant.pdf.



For more information refer to *Improving Intersections for Pedestrians and Bicyclists Informational Guide* [FHWA-SA-22-017].