

DESIGN ELEMENT: Exclusive Pedestrian Phase

DISCUSSION

An **exclusive pedestrian phase**, also known as pedestrian scramble, allows pedestrians to cross a signalized intersection in all directions, including diagonally (though not required), while vehicles are stopped on all approaches at the same time. These treatments have been generally used at intersections with large concentrations of pedestrians and high volume of turning vehicles.

Benefits

- Increased pedestrian safety by eliminating pedestrian-vehicle conflicts
- Allows pedestrians to cross in any direction, negating the need to cross twice to reach destinations diagonally across the intersection when diagonal crossings are allowed

Issues / Concerns

- Increased wait times for all users of the intersection (including pedestrians)
- Additional signage may be needed to inform pedestrians of crossing requirements and to prevent illegal crossing
- Pedestrian refuge space at corners may be insufficient to accommodate heavier queues of pedestrians
- Installations on State Highways require Caltrans approval



APPLICATIONS

1. Exclusive pedestrian phases **should** be considered if all of the following apply:
 - the pedestrian volumes meet or exceed 30% of the vehicle volume during the peak hour (typically in commercial districts, near schools, and major transit stops), or 300 pedestrians crossing per hour during the peak hour in a single crosswalk.
 - there are high volumes of turning vehicles across more than one crosswalk (at least 200 VPH per crosswalk during the peak hour).
 - there has been a pattern of crashes involving pedestrians and turning vehicles (at least three documented crashes within the last three years of available crash data).

DESIGN GUIDANCE

1. Exclusive pedestrian phases **may** be implemented without diagonal crossings. This may be desirable if the intersection is very large (diagonal crossing distance would exceed 100 feet).
2. At locations where there are few pedestrian-turning vehicle conflicts across one or more legs (i.e. one-way streets or intersections where pedestrian-turning vehicle conflicts are not evenly distributed), protected-only turning movements or LPI **should** be considered in lieu of an exclusive pedestrian phase.
3. “NO TURN ON RED” restrictions **shall** be implemented for all approaches.
4. Exclusive pedestrian phases often result in increased cycle lengths, both for the intersection where the modification is made, and at adjacent intersections, for coordination. As a result, protected-permissive left turn phases **should** be re-evaluated and considered for removal, particularly if they were put in place due to pedestrian conflicts, as the scramble phase eliminates those conflicts. Removal of protected-permissive phasing may allow for the exclusive pedestrian phase to be added without extending the cycle length.
5. Exclusive pedestrian phases **should** not be considered at the following locations:
 - a. At or near an at-grade rail crossing or intersection with railroad preemption.
 - b. At or near a freeway ramp where the stopped queue distance may result in backup onto the freeway mainline.

REQUIREMENTS

- Prior to approving the installation of an exclusive pedestrian phase, documented support from the affected Council District Office(s) **should** be requested.
- Following the approval of the Exclusive Pedestrian Phase, affected agencies (LAFD, Metro, etc.) **should** be notified of the proposed operational changes.