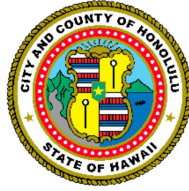


DEPARTMENT OF TRANSPORTATION SERVICES
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May 16, 2022

SUBJECT: Complete Streets Design Manual Update
Table 5-1: Criteria for Crossing Treatments at Uncontrolled Locations


In September of 2016, the City and County of Honolulu (City) published the Honolulu Complete Streets Design Manual (Manual) to provide guidelines for designing Honolulu's streets to serve the transportation needs of all users, whether traveling by foot, bike, public transit, or private vehicle. The Manual was developed, and continues to be used, by a wide array of stakeholders both within and external to the City, so periodic updates to the document are critical for consistency in roadway design and keeping up with industry best practice.

The City has recently updated its criteria for appropriate treatments for uncontrolled marked crosswalks based on a review of national best practices, available safety studies, and current federal policy. The new guidelines clarify appropriate crosswalk countermeasures based on a roadway's lane configuration, speed limit, and daily traffic volume, and they recommend interim design treatments until more capital-intensive improvements can be constructed. The revised guidance will result in the retention and upgrade of well used uncontrolled pedestrian crossings, in part due to expanded use of rectangular rapid-flashing beacons (RRFBs) on higher-volume City roadways. RRFBs dramatically improve safety by making crossing pedestrians more visible, increasing the likelihood that motorist will stop at uncontrolled locations. They have strong public support and may qualify for full federal funding.


The Honolulu Complete Streets Manual Table 5-1 (2016, page 115) will henceforth be replaced by the attached Table 5-1: Criteria for Crossing Treatments at Uncontrolled Locations (May 2022, page 115). This revision will be a stand-alone addendum until the City revises the Manual in its entirety at a future date.

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J. Roger Morton, Director
Department of Transportation Services

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Table 5-1: Criteria for Crossing Treatments at Uncontrolled Locations

Roadway Configuration	Number of Lanes Crossed to Reach a Refuge	Roadway ADT and Posted Speed															
		1,500 - 9,000 vpd				9,000 - 12,000 vpd				12,000 - 15,000 vpd				15,000 vpd			
		30 mph	35 mph	40 mph	> 40 mph	30 mph	35 mph	40 mph	> 40 mph	30 mph	35 mph	40 mph	> 40 mph	30 mph	35 mph	40 mph	> 40 mph
1-2 Lanes	2	A	A	C	C	A	A	C	C	A	A	C	C	A	C	C	D
3 Lanes with Raised Median	1 or 2	B	B	C	C	B	B	C	C	B	C	C	C	B	C	C	D
3 Lanes	3	B	B	C	C	B	C	C	C	C	C	C	D	C	C	C	D
4 Lanes with Raised Median	2	B	B	C	D	B	C	C	D	B	C	D	D	C	C	D	D
4 Lanes	4	B	C	D	D	B	C	D	D	C	C	D	D	C	C	D	D
5 Lanes with Raised Median	2 or 3	B	B	C	D	B	C	C	D	C	C	D	D	C	C	D	D
5 Lanes	5	B	C	D	D	C	C	D	D	C	C	D	D	C	C	D	D
6 or More Lanes	3 or 6	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D

Notes:

- Prior to the use of this table, the following mitigation and safety countermeasures should be considered and an updated roadway cross-section used, where possible within the scope of the study.
- An assessment of the potential to reduce lane and roadway capacity, such as a through a road diet, should be completed in order to reduce the number of travel lanes a pedestrian has to cross.
- Geometric roadway reconfigurations, such as the installation of raised median refuge island and/or curb extensions, should be considered to reduce pedestrian exposure to oncoming automobiles.
- The raised median or crossing island must be at least 6 feet wide, measured between curb faces in the direction of pedestrian travel, to provide adequate refuge per AASHTO guidelines. Similarly, the cut-through portion of the raised median or crossing island must provide a minimum 5-foot wide travel path to allow adequate room for pedestrian passage, turning, or platooning. Furthermore, a minimum 3-foot long raised median nose should extend past the crosswalk to provide sufficient space for median signage, slow turning vehicles, and protect people waiting in the median.

Recommended Treatments:

A. Install marked crosswalk with crossing signage.
Specific Guidance: Install marked crosswalk and consider including appropriate pedestrian crossing (W11-2 or S1-1) sign and down arrow (W16-7) sign.

B. Install marked crosswalk with crossing signage, advanced signage, and advanced markings.
Specific Guidance: Install marked crosswalk with appropriate pedestrian crossing (W11-2 or S1-1) sign and down arrow (W16-7) sign and consider advanced (W16-9P) sign and/or advanced stop line and Stop Here for Pedestrians (R1-5b or R1-5c) sign on multilane approaches.

C. Install marked crosswalk with crossing signage and RRFB (or PHB if warranted).
Specific Guidance: Install marked crosswalk with appropriate pedestrian crossing (W11-2 or S1-1) sign, down arrow (W16-7) sign, and RRFB with advanced stop line and Stop Here for Pedestrians (R1-5b or R1-5c) sign (or PHB if warranted).

D. Install marked crosswalk with crossing signage and PHB or traffic signal (if warranted).
Specific Guidance: Install marked crosswalk with appropriate pedestrian crossing (W11-2 or S1-1) sign, down arrow (W16-7) sign, and PHB or traffic signal (if warranted) with advanced stop line.

Interim treatments are recommended for use by the City where existing crossings are found to justify safety enhancements that will take additional time for permitting, design, and construction.

- The City has used advanced stop lines and a Stop Here for Pedestrians (R1-5b or R1-5c) sign in the interim, where an RRFB, PHB, or traffic signal was being considered.
- A gateway treatment may also be used in the interim at any crosswalk where an RRFB, PHB, or traffic signal is/was recommended. Where used, R1-6 signs are recommended, however fluorescent yellow green delineators may be used as a substitute where needed as a result of narrow lane widths. Where used across multi-lane approaches, advanced stop lines and Stop Here for Pedestrians (R1-5b or R1-5c) sign should be included.
- Where raised median refuges are recommended at an existing crosswalk, delineators or other vertical traffic control features may be used in the interim while awaiting full construction.