

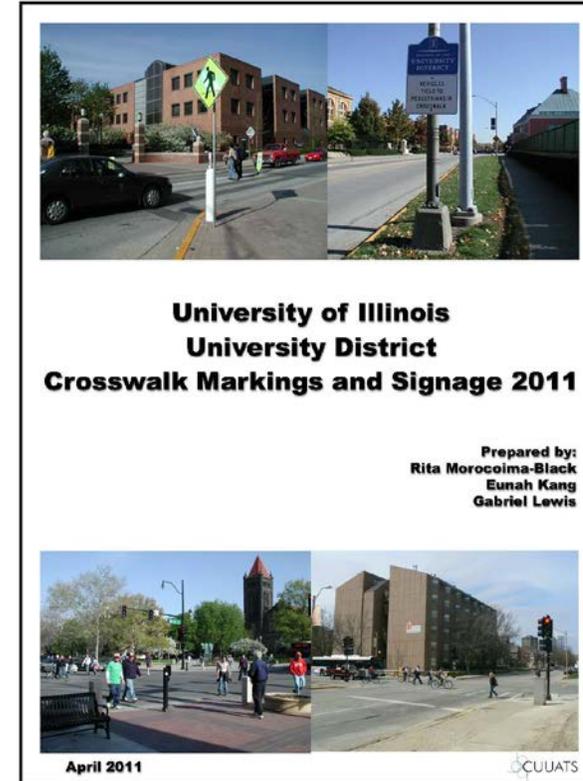
Champaign-Urbana Crosswalk Guidelines



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Champaign County Regional Planning Commission
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Introduction

- **Pedestrian Crossing Needs**
- **Previous Crosswalk Standards**
 - University District Crosswalk Markings & Signage Guidebook 2007-11
- **Current Crosswalk Request Procedures**



Sources

- **Safety Reports & Guides:**

- AASHTO Pedestrian Guide
- FHWA: Safety Effects of Marked vs. Unmarked Crosswalks at Uncontrolled Locations
- NCHRP 562: Improving Pedestrian Safety at Unsignalized Crossings

- **Other Cities/States:**

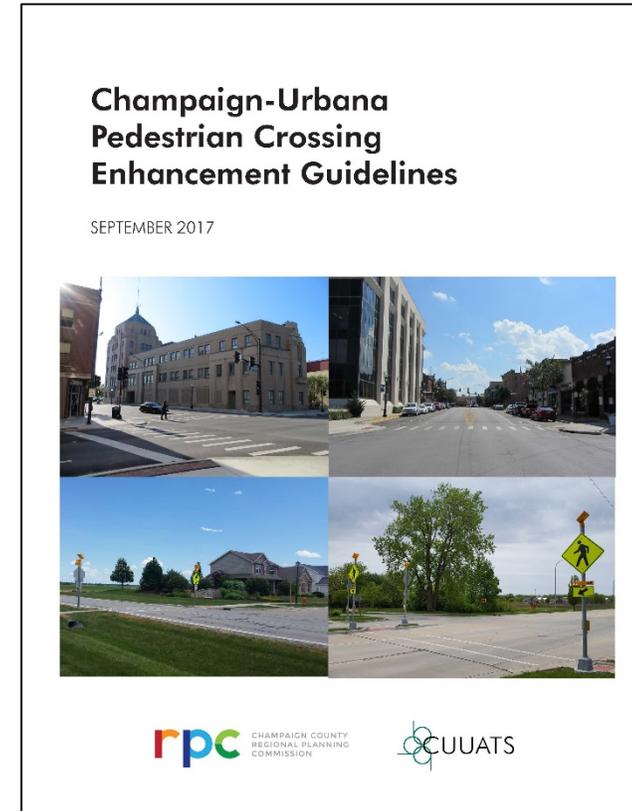
- Ann Arbor, MI
- Boulder, CO
- Portland, OR
- Stockton, CA
- Virginia DOT

- **Local Documents:**

- A Guide to Developing SRTS Maps
- CUUATS Sidewalk Inventory & Assessment
- Savoy Bike & Pedestrian Plan
- University District Crosswalks & Markings Guidebook

Introduction

- **Crosswalk Installation & Safety**
- **Crosswalks & Vulnerable Populations**
- **Community Crosswalk Standards**
 - Pedestrian Crossing Enhancement Guidelines
- **Benefiting Agencies**



Crossing Treatment Toolbox

- **Definitions**

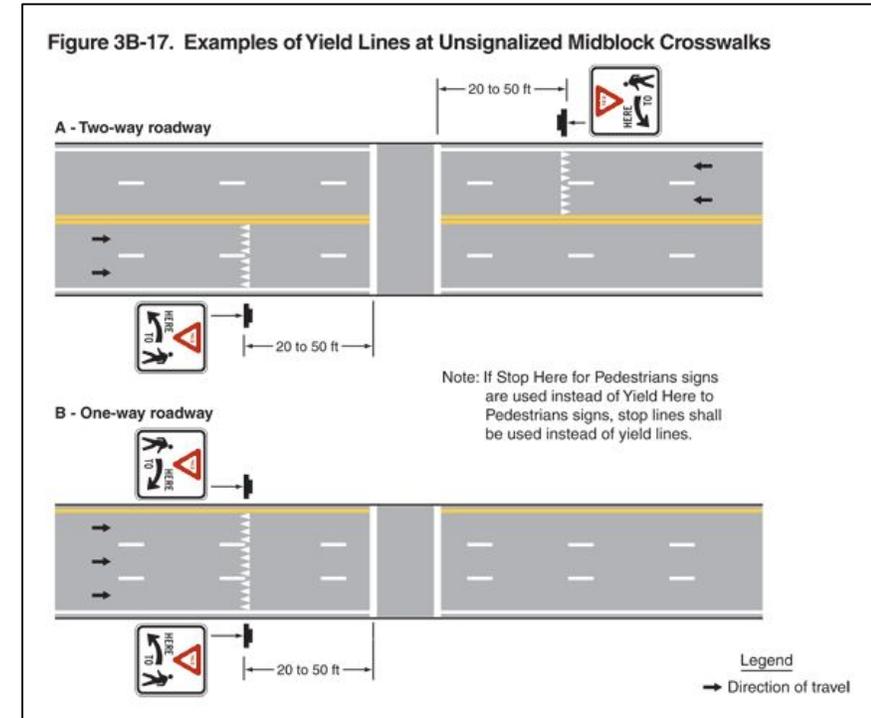
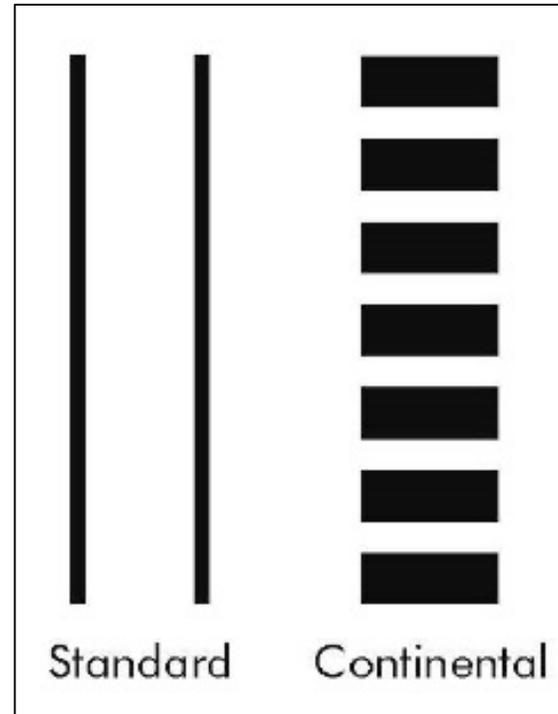
- Crosswalks
 - Unmarked
 - Marked

- **Toolbox**

- Pavement Markings
- Signage
- Hardscape
- Lights & Signals

Pavement Markings

- **Marked Crosswalks**
- **Stop Bars**
- **Bike Crossings**
- **Trail Crossings**



Signage

- **Pedestrian Crossing Signs**
 - AHEAD
 - Arrow
- **In-Street Pedestrian Crossing Signs**
 - “Gateway” style
- **Stop Here for Pedestrians Signs**
- **Trail Crossing Signs**
 - Along shared-use paths
 - Accommodates pedestrians & bicyclists



R1-5b



Hardscape

- **Sidewalks**
- **Curb Ramps**
- **Median Refuge Islands**
- **Traffic Calming**



Lights & Signals

- **RRFB: Rectangular Rapid Flashing Beacon**
- **HAWK Signal (Pedestrian Hybrid Beacon)**



Lights & Signals

- **Traffic Signal**
 - Pedestrian Countdown Signals
 - Leading Pedestrian Interval (LPI)
 - Pedestrian Scramble Phase
- **Flashing Lights**
- **Street Lighting**



Crossing Treatment Decision

- **Best Practices**

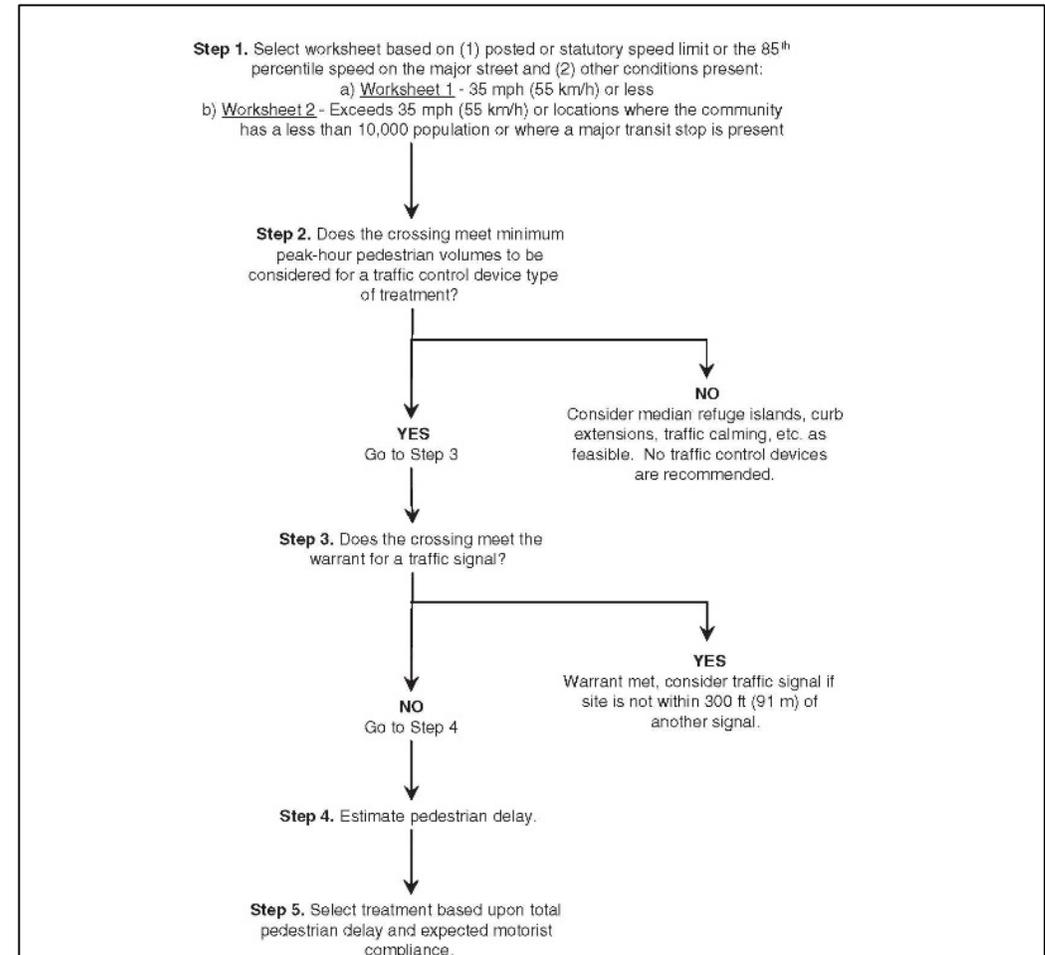
- Signalized Intersections
 - Mark crosswalks
 - Ped crossing speed: 3-4 ft/sec
 - Large & skewed crossings
- All-Way Stop-Controlled Intersections
 - Mark crosswalks
 - Ped crossing speed: 3-4 ft/sec
 - Skewed crossings
- Uncontrolled Locations
 - Crosswalk installation when demand exists
 - Located 300'+ from a traffic signal
 - Sufficient sight distance
- Trail Crossings
 - Well lit
 - Well signed
 - Traffic calming

Crossing Treatment Decision

- **Guidelines for Pedestrian Crossing Treatments**

- NCHRP 562 Procedure

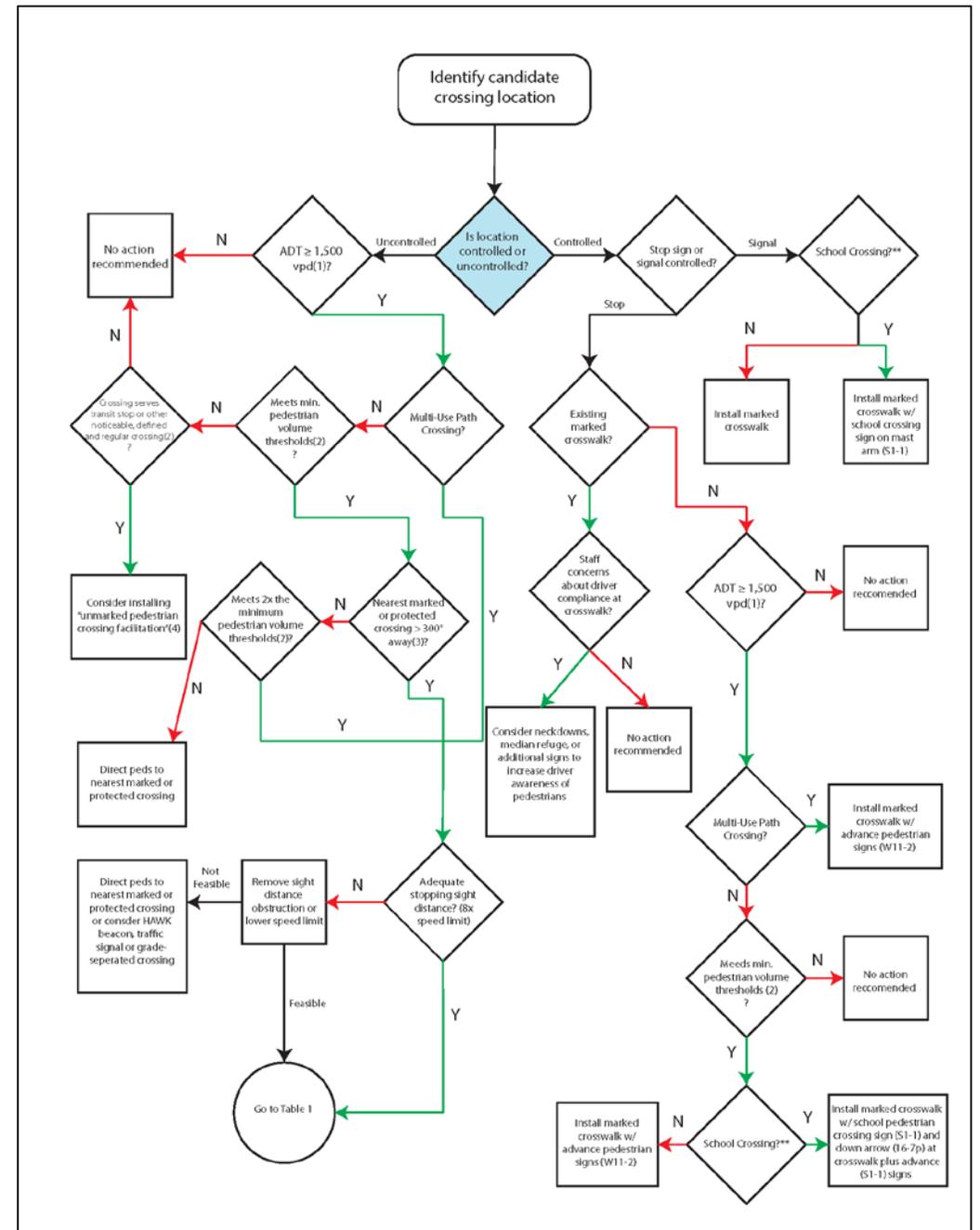
- Select worksheet based on posted speed limit
- Check minimum pedestrian volume
- Check signal warrant
- Estimate approach pedestrian delay
- Select appropriate treatment



Crossing Treatment Decision

• Crossing Location Evaluation Procedures and Considerations

- Identification & Description of Crossing Location
- Physical Data Collection
- Traffic Data Collection & Operational Observations
- Apply Data to Figure 31 & Table 1 to Determine Appropriate Treatments
 - Figure 31 = Pedestrian Crossing Treatment Flowchart



Crossing Treatment Decision

- **Additional Evaluation Considerations**

- Types of Crossing Treatments at Uncontrolled Locations

- **Crossing Types A-F**

- Marked crosswalks
 - Pedestrian (or School) Crossing Warning Signs
 - State Law – Stop for Pedestrians signs
 - Curb extensions
 - Stop Here for Pedestrians signs
 - Median refuge islands
 - RRFB
 - HAWK Signal
 - Traffic signals
 - Lower speed limit

TABLE 1 – CRITERIA FOR CROSSING TREATMENTS AT UNCONTROLLED LOCATIONS

Roadway Configuration	# of lanes crossed to reach a refuge	# of multiple threat lanes per crossing	Roadway ADT (i.e. VPD = vehicles per day) 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	≥ 45 mph	≤ 30 mph	35 mph	40 mph	≥ 45 mph	≤ 30 mph	35 mph	40 mph	≥ 45 mph	≤ 30 mph	35 mph	40 mph	≥ 45 mph
2 Lanes (one way street)	2	1	A	B	C	E	A	B	C	E	B	B	C	E	B	C	C	E
2 Lanes (two way street with no median)	2	0	A	B	C	E	A	B	C	E	A	B	C	E	B	C	C	E
3 Lanes w/ Raised Median	1 or 2	0 or 1	A	B	D	E	A	C	D	E	B	D	D	E	C	D	D	E
3 Lanes w/ Striped Median	3	0 or 1	C	C	D	E	C	C	D	E	C	C	D	E	C	D	D	E
4 Lanes (two way street with no median)	4	2	A	D	D	E	B	D	D	E	B	D	D	E	D	D	D	E
5 Lanes w/ Raised Median	2 or 3	2	A	B	D	E	B	C	D	E	B	C	D	E	C	C	D	E
5 Lanes w/ Striped Median	5	2	D	D	D	E	D	D	D	E	D	D	D	E	D	D	D	E
6 Lanes (two way street with or without median)	3 to 6	4	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F

Notes:
 1. Painted medians can never be considered a refuge for a crossing pedestrian. Similarly, a 4 foot wide raised median next to a left turn lane can only be considered a refuge for pedestrians if the left turning volume is less than 20 vehicles per hour (meaning that in most cases the left turn lane is not occupied while the pedestrian is crossing).
 2. A multiple threat lane is defined as a through lane where it is possible for a pedestrian to step out in front of a stopped vehicle in the adjacent travel lane (either through or turn lane).

Additional Considerations

- **Challenges**

- Distracted Walking
- Equity
- HAWK Signal installation near driveways in Illinois
- Accessible Pedestrian Signals (APS) guidance

- **Development Effects on Pedestrians**

- Marked walkways within private developments

- **Non-Infrastructure Efforts**

- Education
 - Encouragement
 - Enforcement
 - Evaluation & Planning
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