

An update on pedestrian crossing guidance at IDOT

IDOT Policy TRA-23

September, 2019

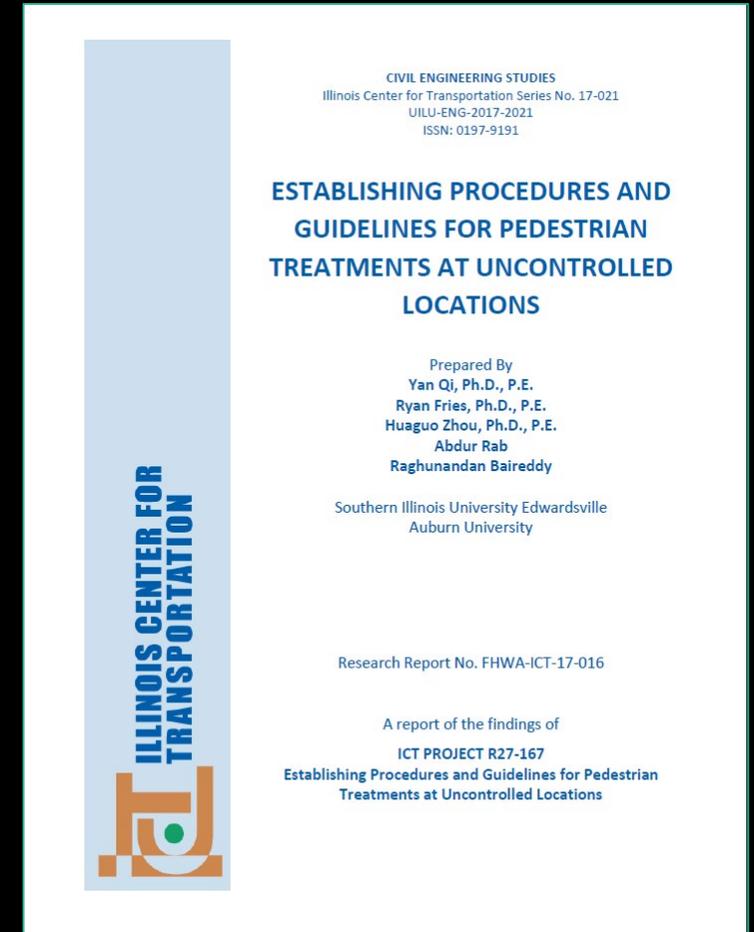
Background and Goals

- Goal - reduce pedestrian injuries and fatalities
- MUTCD has basic recommendations (Section 3B.18)
- Designers and traffic operations engineers requested more guidance.
- Initiated research to expand upon MUTCD recommendations, account for new devices, and draft policy.



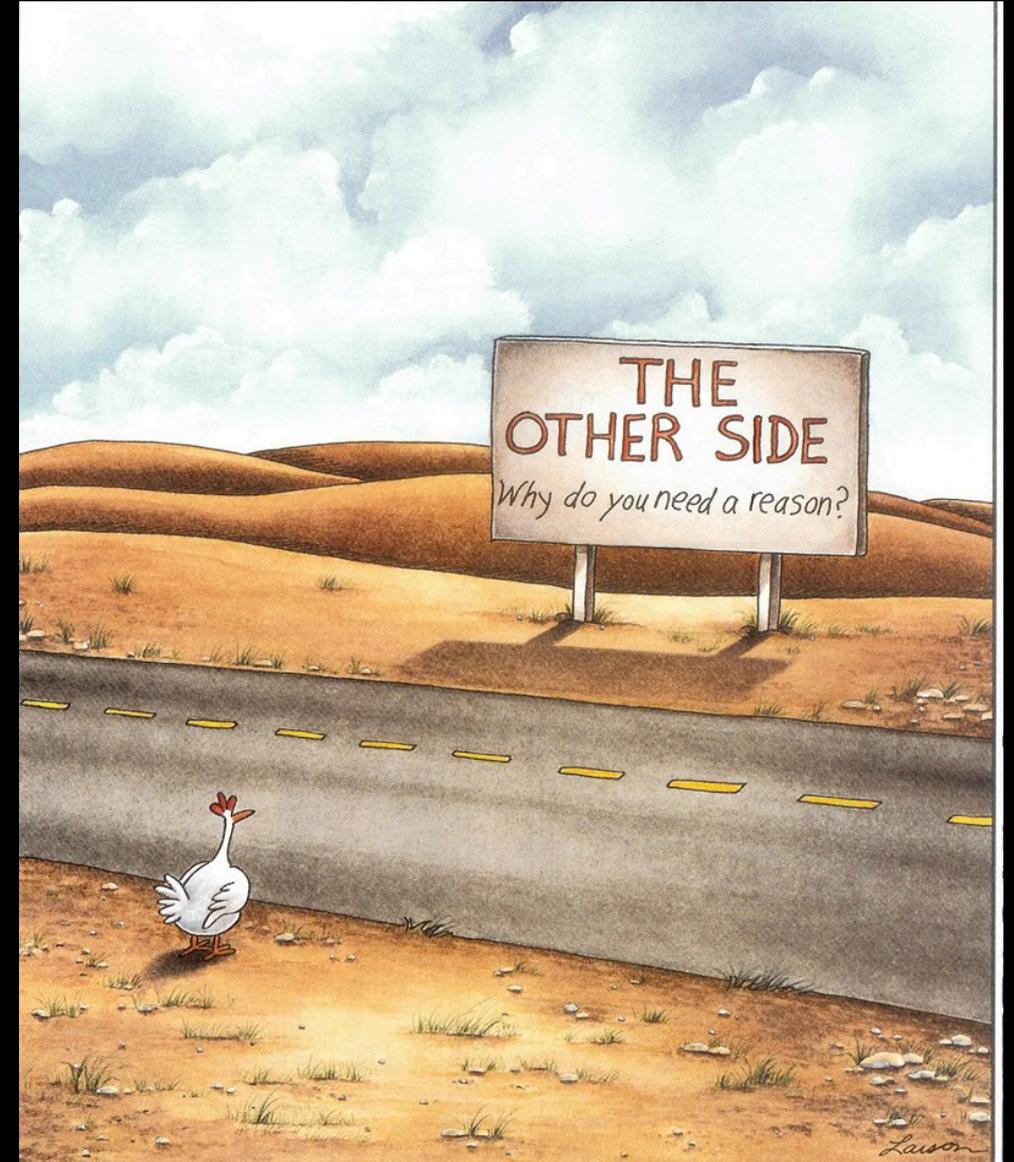
Research

- Research was initiated through IL Center for Transportation in 2015
- Southern Illinois University Edwardsville was awarded the research
 - Prof. Yan Qi serving as Principal Investigator
 - Prof. Huaguo Zhou, Auburn Univ. provided data analysis
- Research completed August 2017
 - <https://apps.ict.illinois.edu/projects/getfile.asp?id=5292>



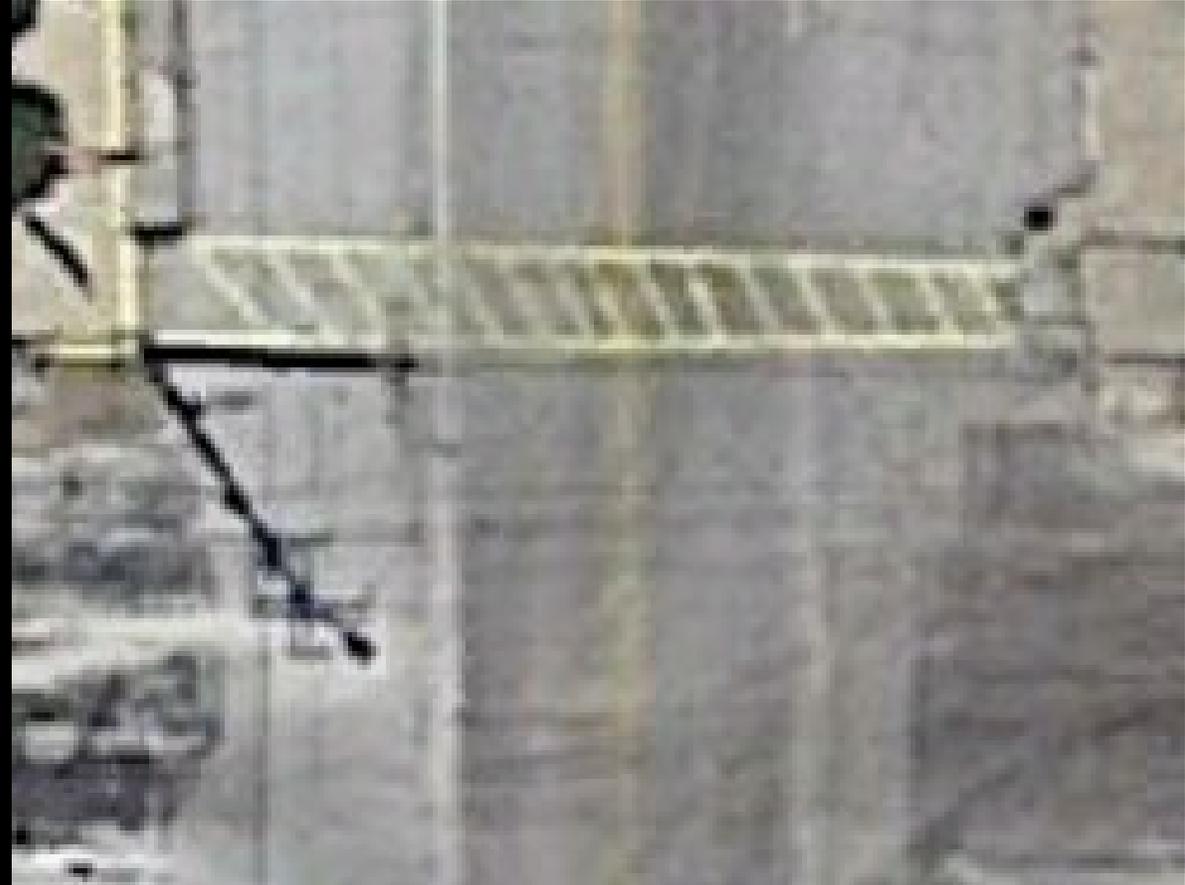
Creation of Policy

- Intent:
 - Consolidate research
 - Provide uniform guidance
 - Provide policy reasons as to why some locations are not conducive to establishing marked crosswalks.



Creation of Policy

- Why?
 - Frequent source of complaints
 - Lack of uniformity may result in requests that are defended by other undesirable installations
 - Guerilla installations
- Why can't you just leave things alone?



What's in it?

- Procedure for evaluating a request for a new crossing.
- Chart with recommended treatments for a series of cases

Figure 1 – Summary of Recommendations for Pedestrian Crossings at Uncontrolled Locations, Two Way Streets Only

Configuration, including turn and parking lanes *	ADT ≤ 9000				9000 < ADT < 15,000				15,000 < ADT < 25,000				25,000 < ADT < 35,000				ADT > 35,000		
	Posted Speed or 85 th Percentile Speed, mph																		
	≤30	35	40	≥ 45	≤30	35	40	≥ 45	≤30	35	40	≥ 45	≤30	35	40	≥ 45	All		
2 lanes or 3 with refuge	1	2	4	Site-Specific Design	1	3	4	Site-Specific Design	2	3	4	Site-Specific Design	2	4	4	Site-Specific Design	Site-Specific Design		
3 lanes no refuge	1	2	4		1	4	4		3	4	4		4	4	4			4	5
4 lanes with refuge	2	3	4		3	4	4		4	4	4		4	4	4			5	5
6 lanes with refuge	3	4	4		3	4	5		4	4	5		4	4	5			5	5
> 4 lanes no refuge	Site-Specific Design								Site-Specific Design										
4 lanes, refuge not feasible	3	3	5	3	4	5	4	5	5	5	5	5	5	5					

Treatment Number	Treatment Detail
1	Four W11-2 Ped Signs, two with W16-9P "Ahead", two with W16-7P Slanted Down Arrow plaques
2	Treatment 1 + Timed or pedestrian actuated warning beacons. Continuously operated beacons are not recommended.
3	Treatment 2 + R1-5b Stop Here for Pedestrians signs at stop bar pavement marking (omit R1-5b for single lane approach)
4	Treatment 1 + Rectangular Rapid Flashing Beacon
5	Standard Traffic Signal or Pedestrian Hybrid Beacon; review IL MUTCD for placement restrictions

Crosswalk Pavement Marking	Application
Parallel lines	Signal controlled intersections, stop controlled legs of intersections
Continental	Uncontrolled intersections, mid-block crossings, uncontrolled legs of intersections
Ladder	Enhanced conspicuity at uncontrolled locations

* Refuge is defined as a raised median or other pedestrian safety island

Evaluation

- Site-Specific Design

- Consider:

- Pedestrian Refuge Islands
 - Bump-Outs
 - Road Diet
 - Pedestrian Structures

- Or, a pedestrian accommodation may not be feasible



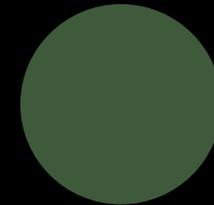
Evaluation

- What about RRFB?
 - Rectangular Rapid Flashing Beacons must be used under the terms of the MUTCD Interim Approval IA-21.
 - Report Location to Central Operations
 - Pedestrian actuated only
 - Supplemental signs and pavement markings required

- What about PHBs?
 - MUTCD Chapter 4F
 - IL MUTCD limits PHBs:
 - 100 ft from side street or driveway
 - 300 ft from traffic signals or RR with active devices
 - Why – concerned about half signals



Evaluation



Evaluation – Scoping Costs

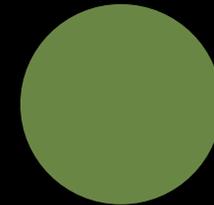
Table A2

Treatment Number	Scoping Estimate
1 (Signs)	\$1600
2 (Treatment 1 + Timed or Actuated Beacons)	\$6500 (pedestrian actuated beacon) \$5200 (timed beacon)
3 (Treatment 2 + Stop Bars and signs)	Selected option from #2 + \$1500 for signs and markings
4 (Treatment 1 + RRFB)	\$15,000
5 (Traffic Signal or PHB)	\$150 - \$200K

- Site visit
 - Verify need for the crossing
 - Evaluate if an appropriate origin and destination exist
 - Examine sight distance
 - Verify appropriateness of design speed used for crossing type selection
 - Review lighting
 - Review proposed locations for warning signs and devices
 - Consider overhead signs for wide crossing locations



Evaluation



Questions / Comments?

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