

Designing Pedestrian Facilities for Accessibility

Module 5

PROWAG: R305 Pedestrian Crossings



R305.2 Crosswalks

- R305.2.1 Width. Marked crosswalks shall be 6 ft wide minimum. Crosswalks shall comply with R305.2 and shall contain a pedestrian access route that connects to departure and arrival walkways through any median or pedestrian refuge island.



Safety Effects for Marked vs. Unmarked Crosswalks at Uncontrolled Locations: Executive Summary and

Recommended Guidelines

<http://www.tfhr.gov/safety/pubs/04100/04100.pdf>

Crosswalk Markings

- Although the MUTCD provides for design options, research and observation indicate that the continental and ladder designs are the most visible to drivers
- These “longitudinal” markings also improve guidance for pedestrians with low vision and cognitive impairments



Crosswalk Markings

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Crosswalk Markings

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- What the pedestrian sees



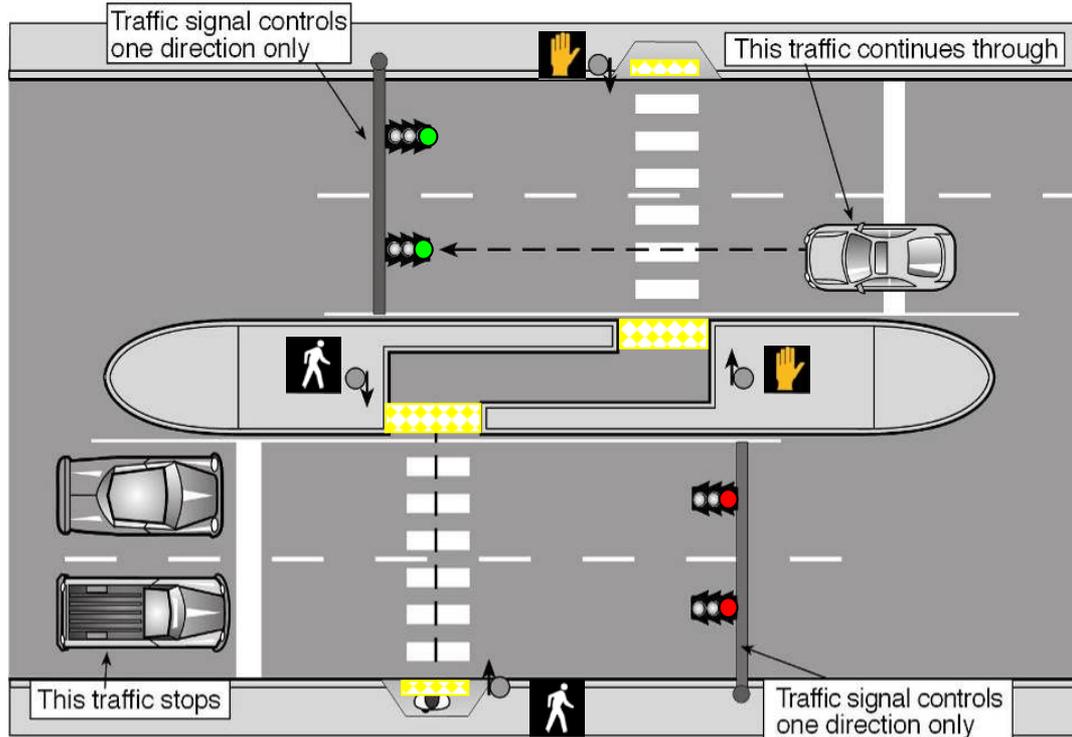
- What the driver sees



Midblock Crossings

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- Provide mid-block crossings where blocks are long or where there is pedestrian demand
- Use Accessible Pedestrian Signals (APS) for universal access [more detail in Module 6]



Textured crosswalks

- Textured crosswalks are not recommended
- Textures are aesthetically pleasing and are used to:
 - Distinguish pedestrian and vehicle space
 - Make crossings more visible in theory, but...



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What the pedestrian sees – good visibility for most; not much help to those with low vision

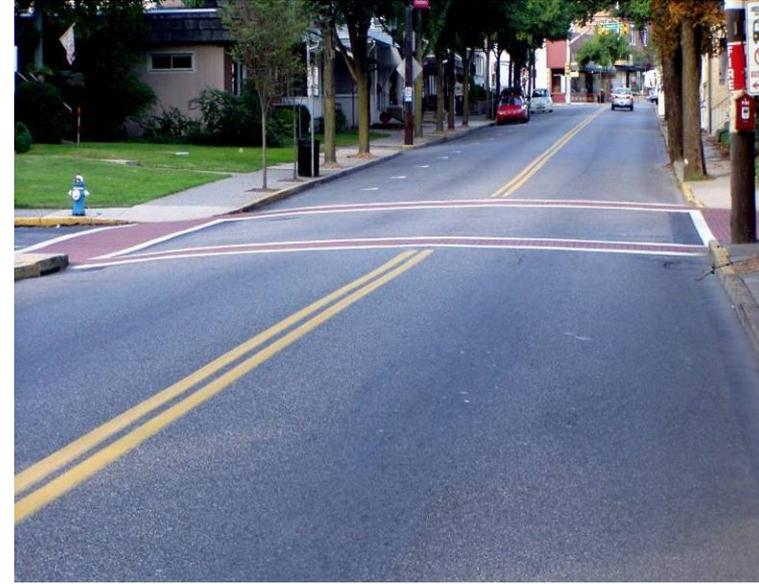
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Textured Crosswalks

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- If textured crosswalks are used, outline with white



Potential Solution: Smooth Crosswalks, Textured Street

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Crosswalk Design Details



- Crosswalks are part of the pedestrian access route.
- Cross-slope:
 - At approaches with yield/stop sign or signal: 2% max
 - At approaches without control: 5% max
 - Mid-block crossings: may equal street grade
- Smooth slip resistant surface with running grade of 5% maximum
- Width: 10' recommended to ensure ramps are in crosswalk; 6 ft min per MUTCD

Inaccessible Crosswalk: Crosswalk exceeds 2% cross-slope

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Inaccessible Crosswalk: Crosswalk is rough and probably exceeds 2% cross-slope

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Inaccessible Crosswalk: Exaggerated crown exceeds 5% and even 8.3% slope

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R305.4 Medians and Pedestrian Refuge Islands

- Medians & Refuge Islands shall:
 - contain a pedestrian access route
 - be 6-feet minimum in length in the direction of pedestrian travel



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Crossing Island & Median Design

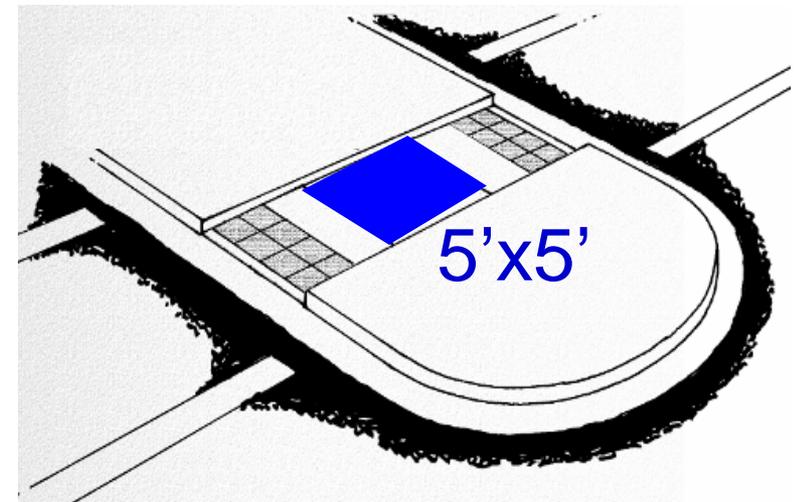
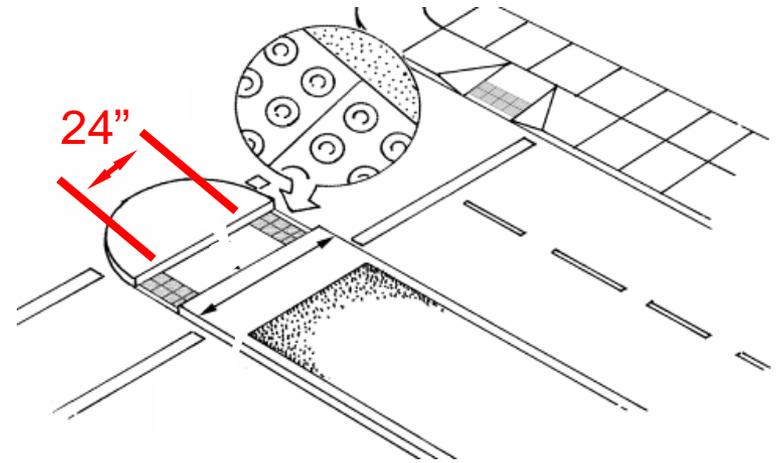
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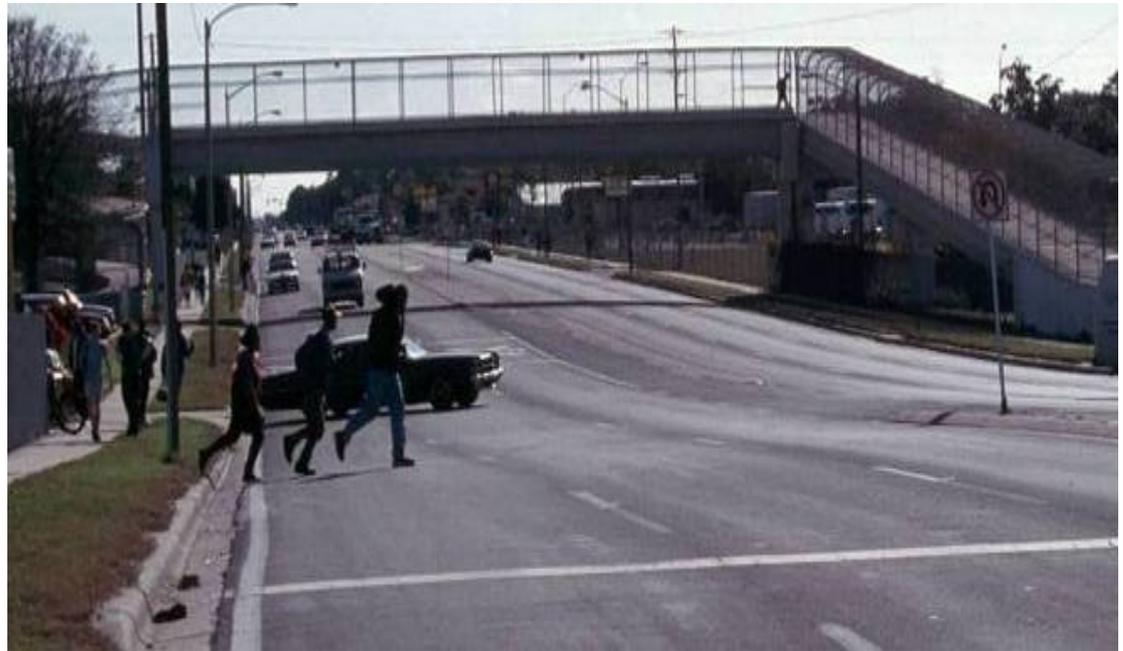
Crossing Island & Median Design

- 24" DW required at both openings
 - Provide 24" smooth pavement in center (if possible)
- If ramped, use landing (5' x 5' min) between ramps
 - Landing need not be full median height; 3" is enough



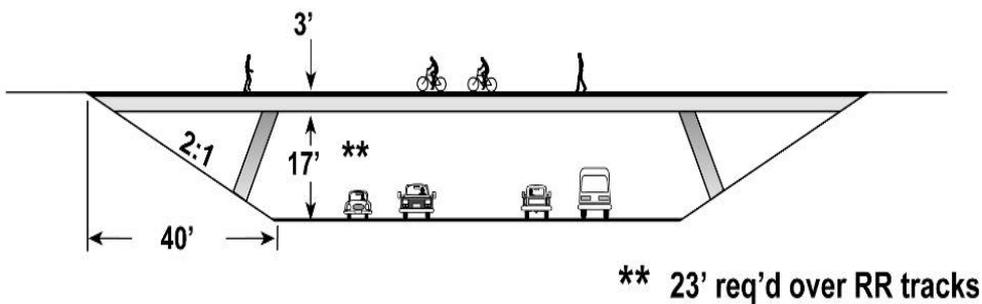
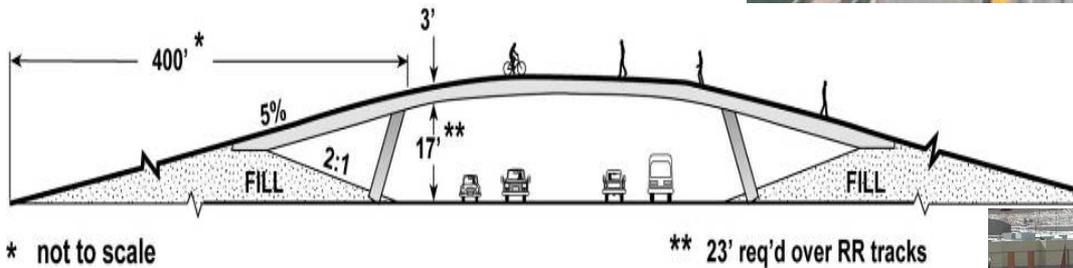
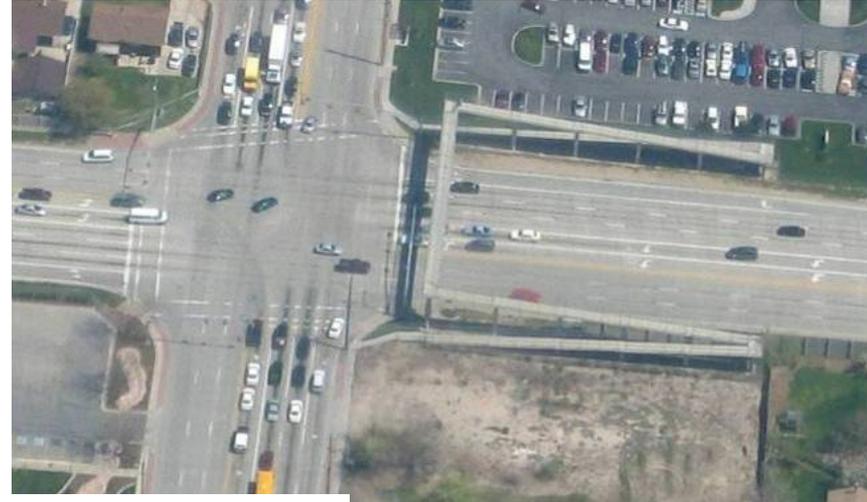
Overpasses & Underpasses

- ADAAG: pedestrian access route shall meet same requirements as other pedestrian routes, with regards to widths, slopes, etc.
- Elevator or platform lift required if approach slope $>5\%$



Overpasses

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Underpasses

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Roundabouts

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Roundabouts

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PROWAG to require some form of signalization at new multi-lane roundabout pedestrian crossings.



Requirements at Roundabouts

- PROWAG - R305.6.2
 - At roundabouts with multilane crossings a pedestrian activated signal shall be provided for each segment of each crosswalk including the signal island



Possible Solutions for Roundabout Accessibility

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- Audible/tactile cues at crossing locations
- Good sight distance
- Setback sidewalks
- Rumble strips at vehicle exits
- In Pavement lighting
- Pedestrian signals/beacons

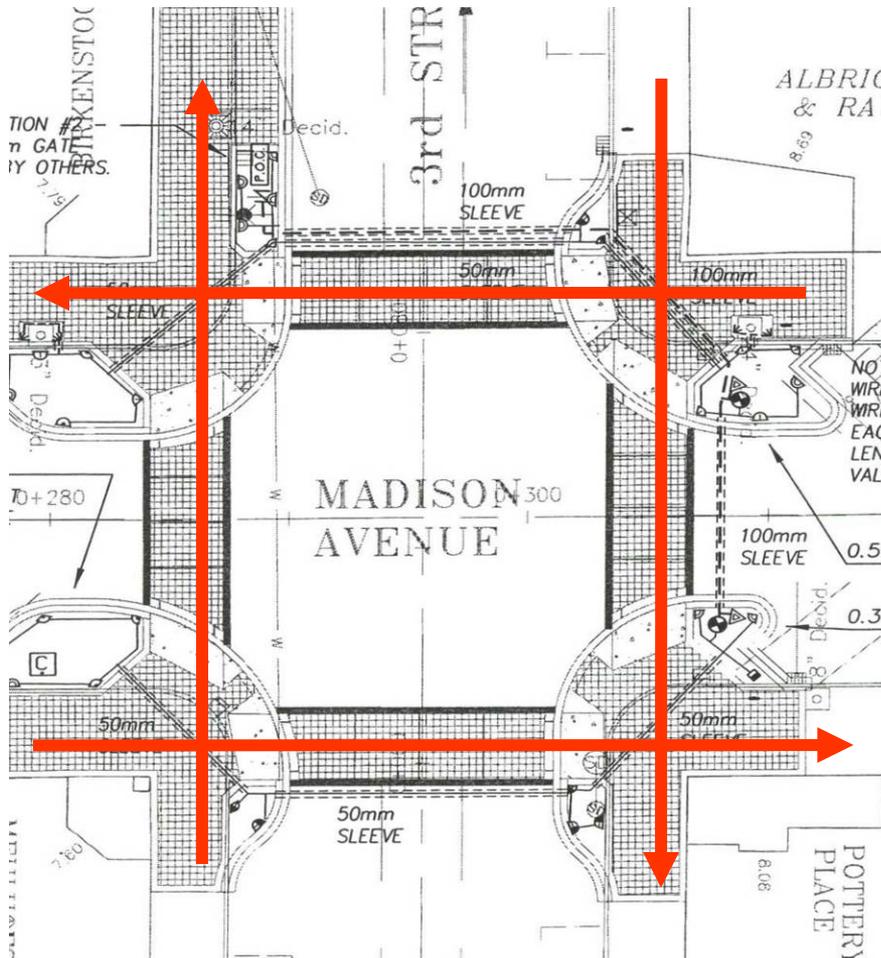
	What Drivers See	What Pedestrians See
1.	 DARK	 Push the button.
2.	 FLASHING	
3.	 STEADY	
4.	 STEADY	 Start crossing.
5.	 ALTERNATING (like RXR) Stop. Then go if clear.	 FLASHING Continue crossing.
6.	 DARK	



<http://www.youtube.com/watch?v=ReNk2T5ay1c>

Crosswalk & Ramp Placement

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Crosswalk & Ramp Placement

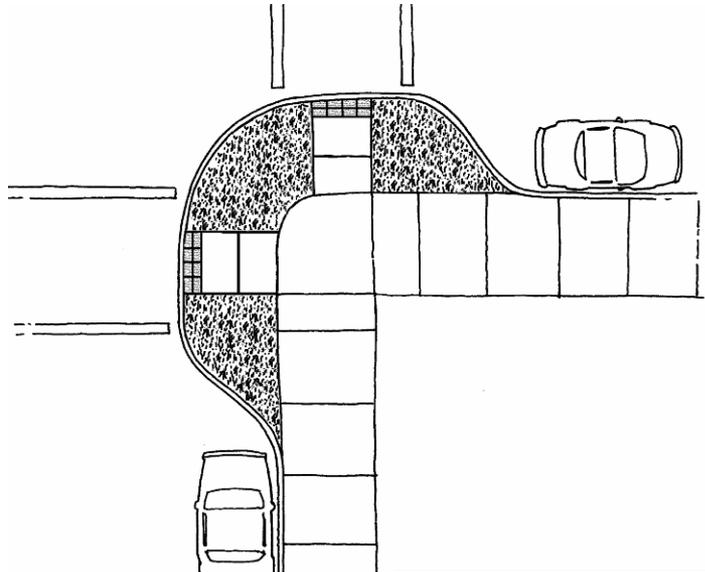
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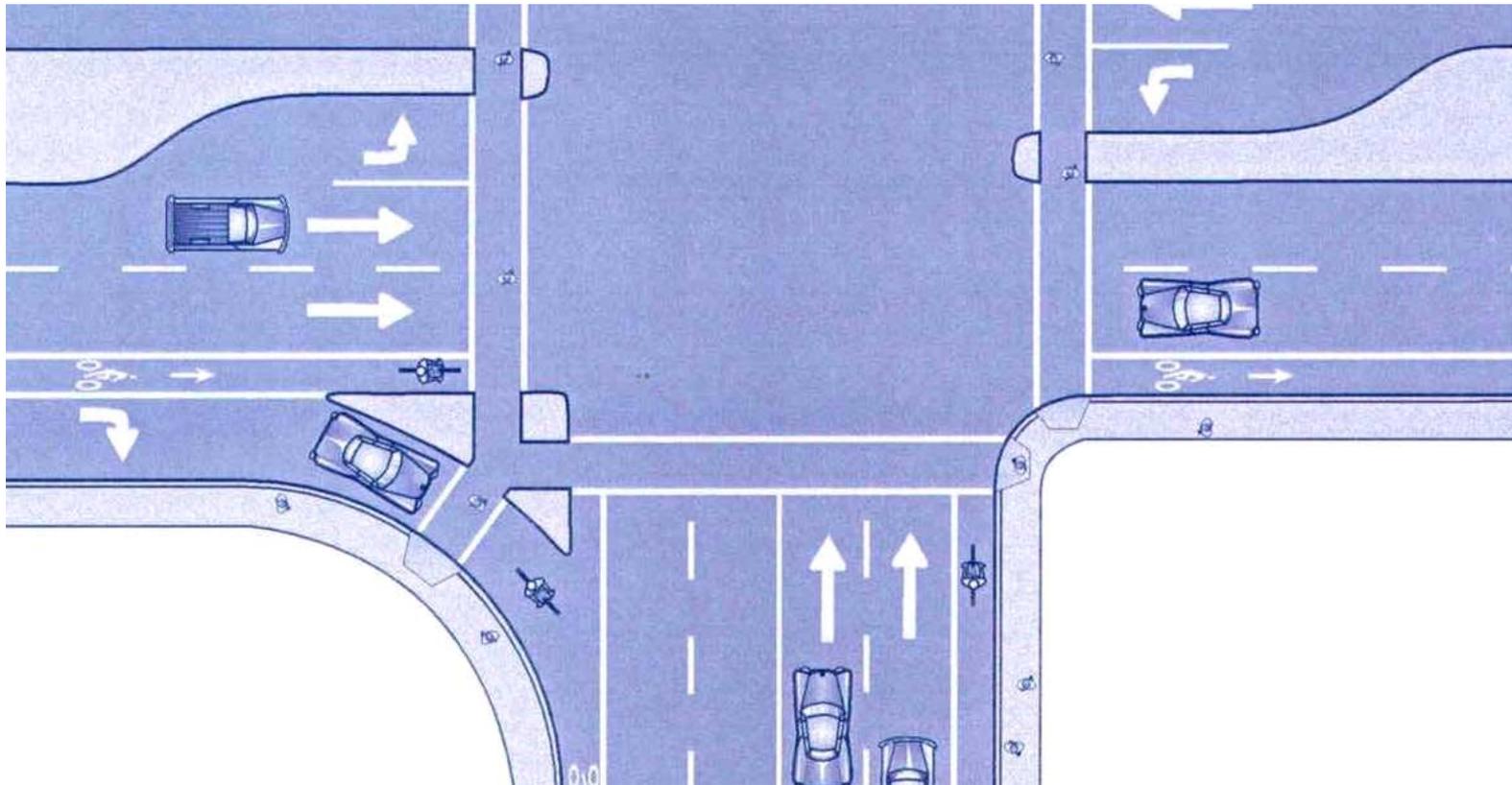
Possible Solution Crosswalk & Ramp Placement

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Channelized slip lanes

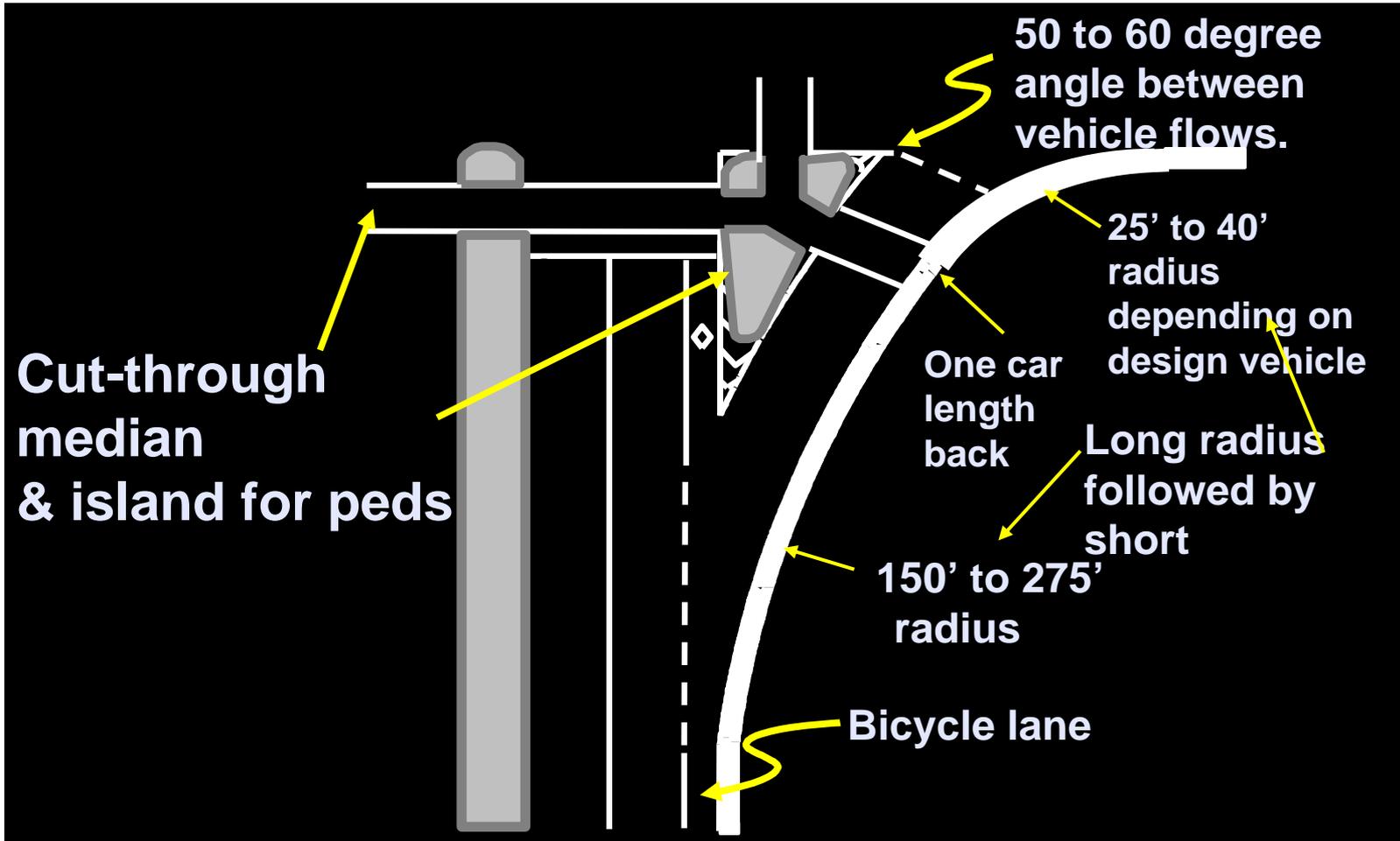
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Islands reduce crossing distance & separate conflicts but increase need for cues for non-visual travel

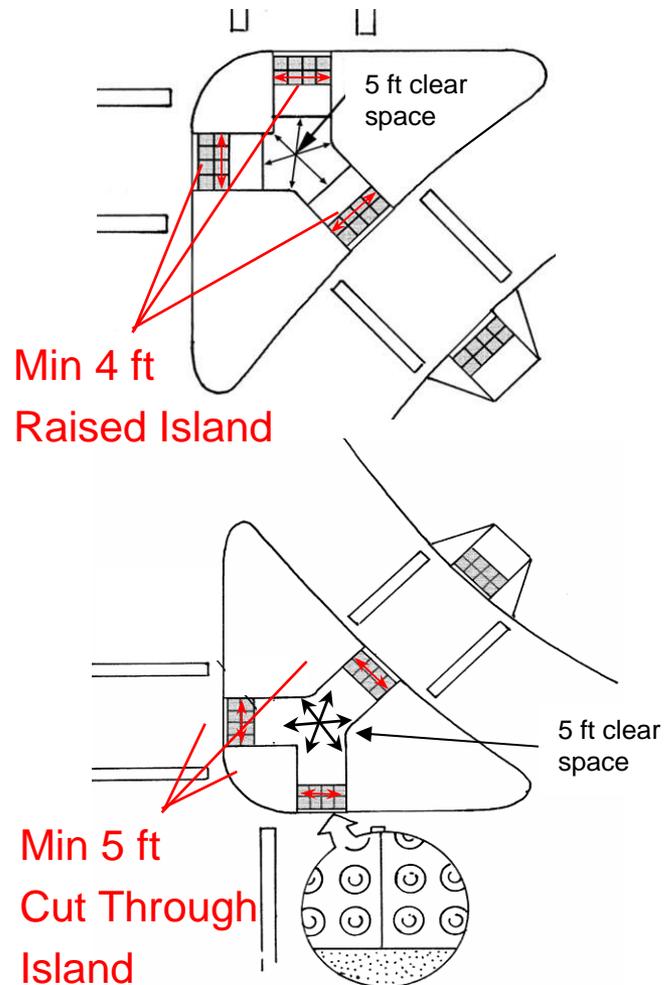
Right-Turn Slip Lane - Details

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Cut-Through or Raised Corner Islands

- With slip lanes, always use raised islands (not painted)
- Ramps must be at least 4 ft. wide
- For cut-through: must be 5 ft. wide
- Provide at least 5 feet of clear (turning) space or level landing
- Provide a 2 foot strip of detectable warnings at end of cut-through or at bottom of ramp
- Align cut-through or ramps with crosswalks



End of Module 5

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Congratulations you have completed module 5 of the Designing Pedestrian Facilities for Accessibility course.

To exit this module just close this window



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