

Street Crossings

Part 1: General Principles

Designing for Pedestrian Safety – Crossing Principles

Principle # 1



Pedestrians want & need to cross the street safely

Oyster Bay NY

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Principle # 2



Drivers need to understand pedestrians' intent

Depoe Bay OR

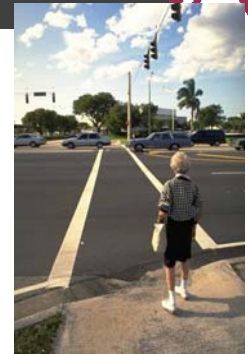
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Principle # 3

Keep Crossings Short

Impacts of long crossing distance:

- Increases exposure time
- Increases vehicle-pedestrian conflict
- Increases vehicle delay
- Decreases ability of slower pedestrians to cross

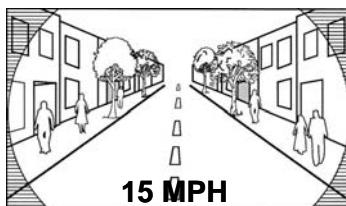


Orlando FL

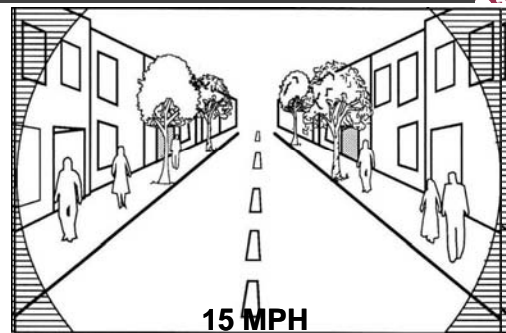
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Principle # 4: Speed Matters

1. Drivers' field of vision & ability to see pedestrians
2. Drivers' ability to react and avoid a crash
3. Crash Severity

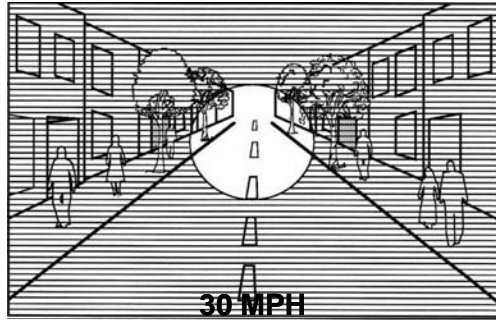


As speed increases, driver focuses less on surroundings



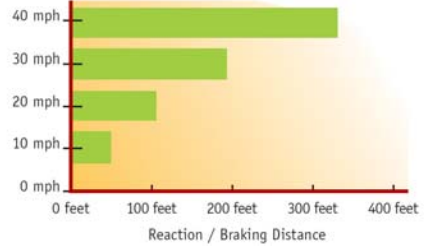
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As speed increases, driver focuses less on surroundings



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Speed Affects Crash Avoidance

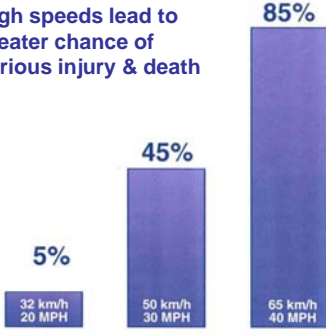


High speeds equate to greater reaction and stopping distance

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Speed Affects Crash Severity

High speeds lead to greater chance of serious injury & death



Source: *Walking, Speed and Safety Levels*, United Kingdom DOT
 Vehicle: *Travel Speeds and Pedestrian Injuries*, NHTSA DOT HS 909 021

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Traffic-calming methods such as curb extensions help slow traffic

Los Gatos CA

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Speed Management

- Speed management is the single most effective way to increase safety for all modes
- Speed limits must be realistic, consistent, and enforceable and able to be adjudicated.



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Speed Management Guidance and Strategic Initiatives

Uniform Guidelines for State Highway Safety Programs

Speed Management

Each state, in cooperation with its political subdivisions, shall promulgate and enforce an appropriate speed limit and enforcement system...
 Speed management is the single most effective way to increase safety for all modes...
 Speed limits must be realistic, consistent, and enforceable and able to be adjudicated.

Speed Management Strategic Initiative



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USLIMITS

- Web-based expert advisor system.
- User friendly, logical, and objective.
- Calculates speed limit based on site specific information.
- <http://www2.uslimits.org/>

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Principle # 5: Pedestrians will cross where it's most convenient



Salem OR

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How far are you willing to go out of your way for an "improved" crossing?

Would you walk:

25' 50' 75' 100' 125'



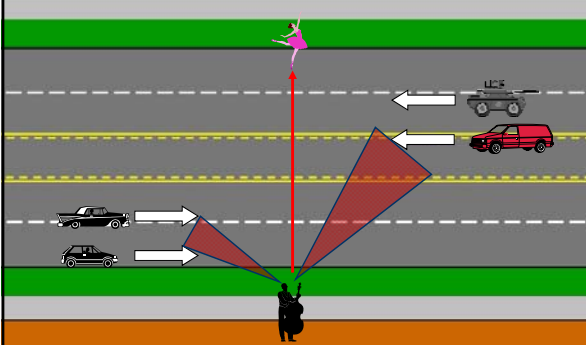
Tampa FL

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What is the relative risk of crossing midblock vs. crossing at an intersection?

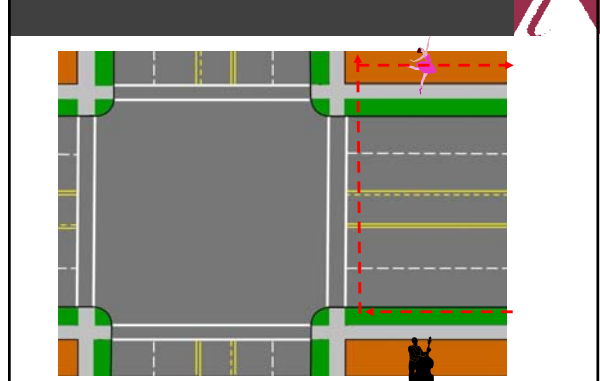
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Midblock: pedestrian faces 2 directions of traffic



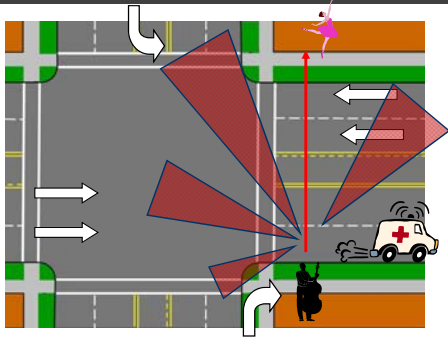
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Intersection: pedestrian must walk out-of-direction



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Intersection: pedestrian faces other conflicts



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Midblock vs. Intersection

- People choose based on their perceived risk
- The data is inconclusive

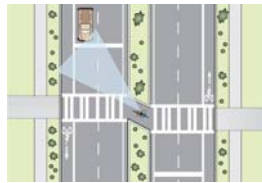


Tampa FL

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Shared Use Path Crossings

- Shared use paths often meet roadways at mid-block locations.
- Combination of pedestrian and bicycle use increases the design challenge
- GOOD NEWS! – Most pedestrian crossing treatments (as described in the rest of this course) work at path crossings



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Questions?

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