



LEE COUNTYWIDE BICYCLE & PEDESTRIAN

Safety Action Plan

Engineering: Street Crossings

Part 1: General Principles



**Why do people cross the street?
Because there's someplace good on the other side**



People shouldn't have to run to cross a street

Depoe Bay OR



Ideally, we'd always cross at locations with positive control

Ft. Myers



But we can't provide signals everywhere people cross

Lee County, FL



**These people are not criminals...
They're simply trying to deal with a situation**



**Pedestrian behavior varies:
Some use crosswalks, others don't**

Various Locations - Lee County, FL



Ped behavior varies: some cross midblock (*and do so safely*)

Las Vegas NV



Ped behavior varies: others cross at signal (*and do so safely*)

Las Vegas NV

5 Principles of Pedestrian Crossings

1. Pedestrians want & need to cross streets safely
2. Drivers need to understand pedestrians' intent
3. Keep crossings short
4. Speed Matters
5. Pedestrians will cross where it's convenient

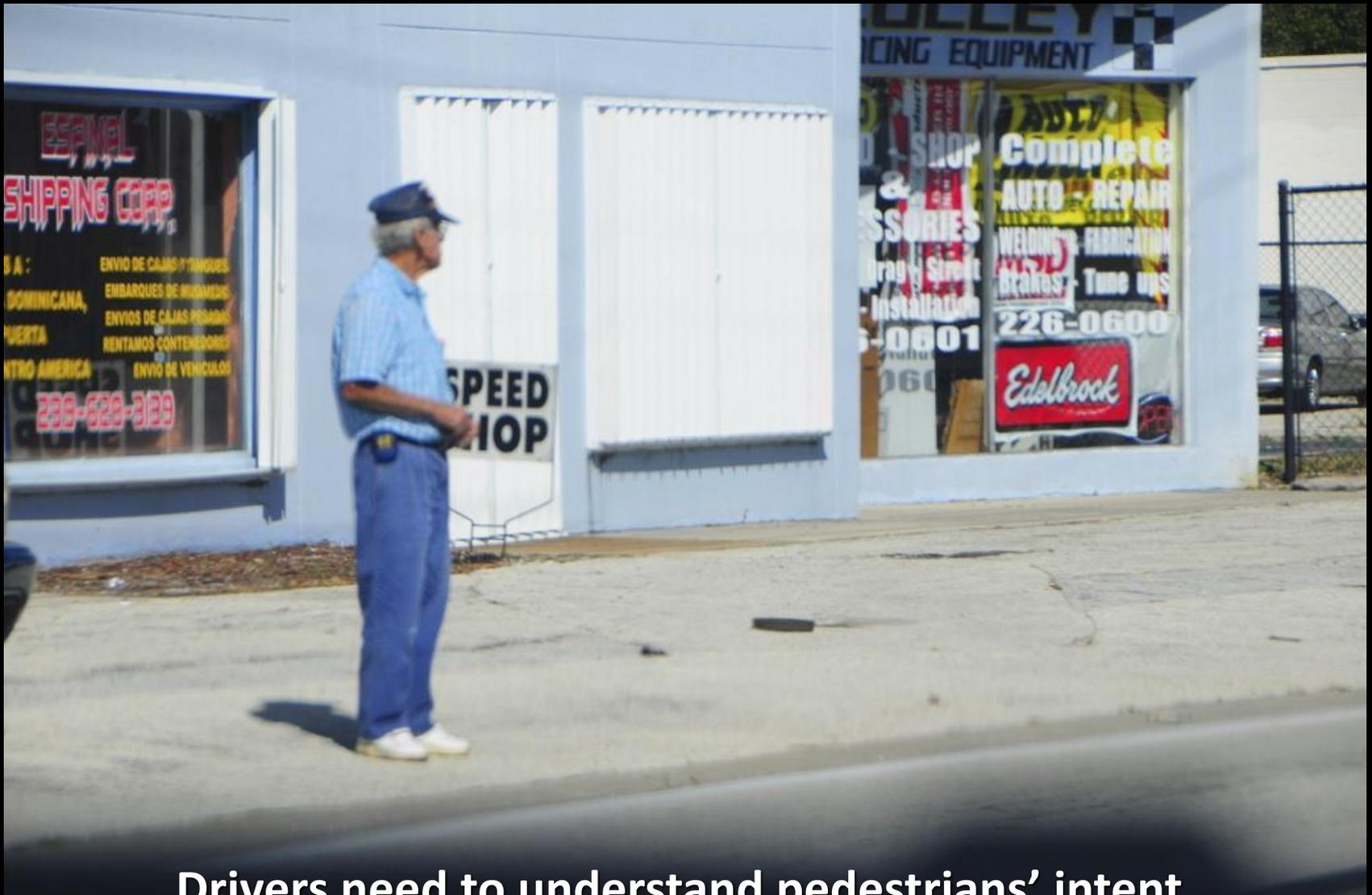
Good design makes use of these principles.

Principle # 1



Pedestrians want & need to cross the street safely

Principle # 2

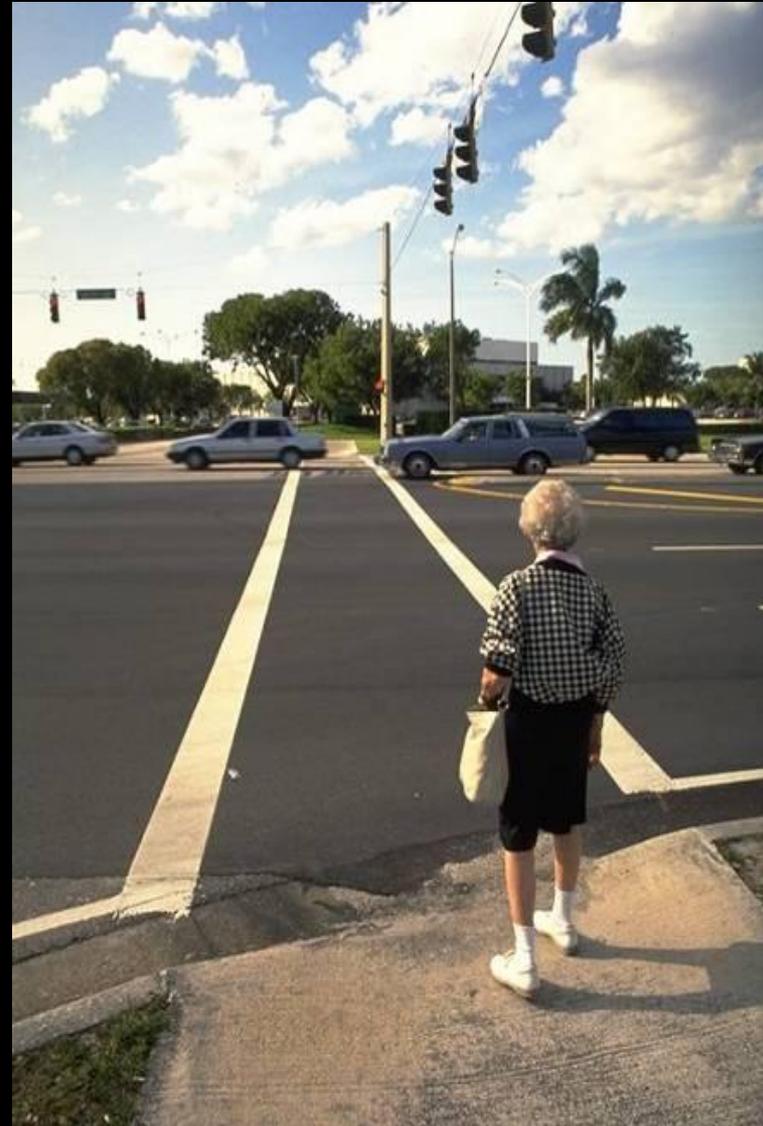


Drivers need to understand pedestrians' intent

Principle # 3: Keep Crossings Short

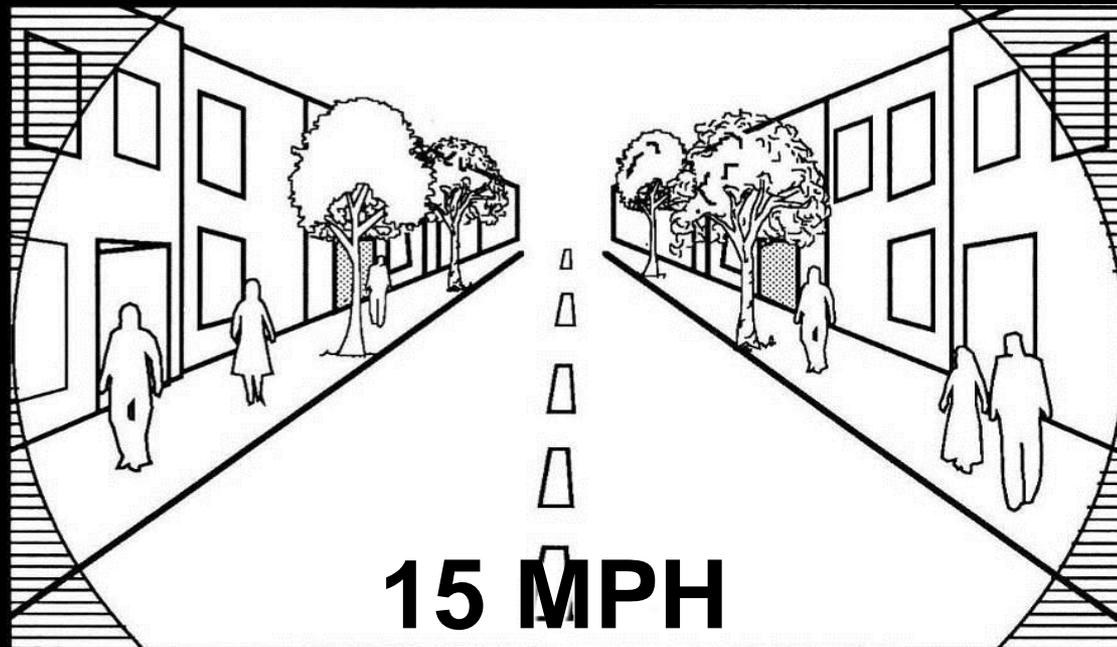
Impacts of long crossing distance:

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



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



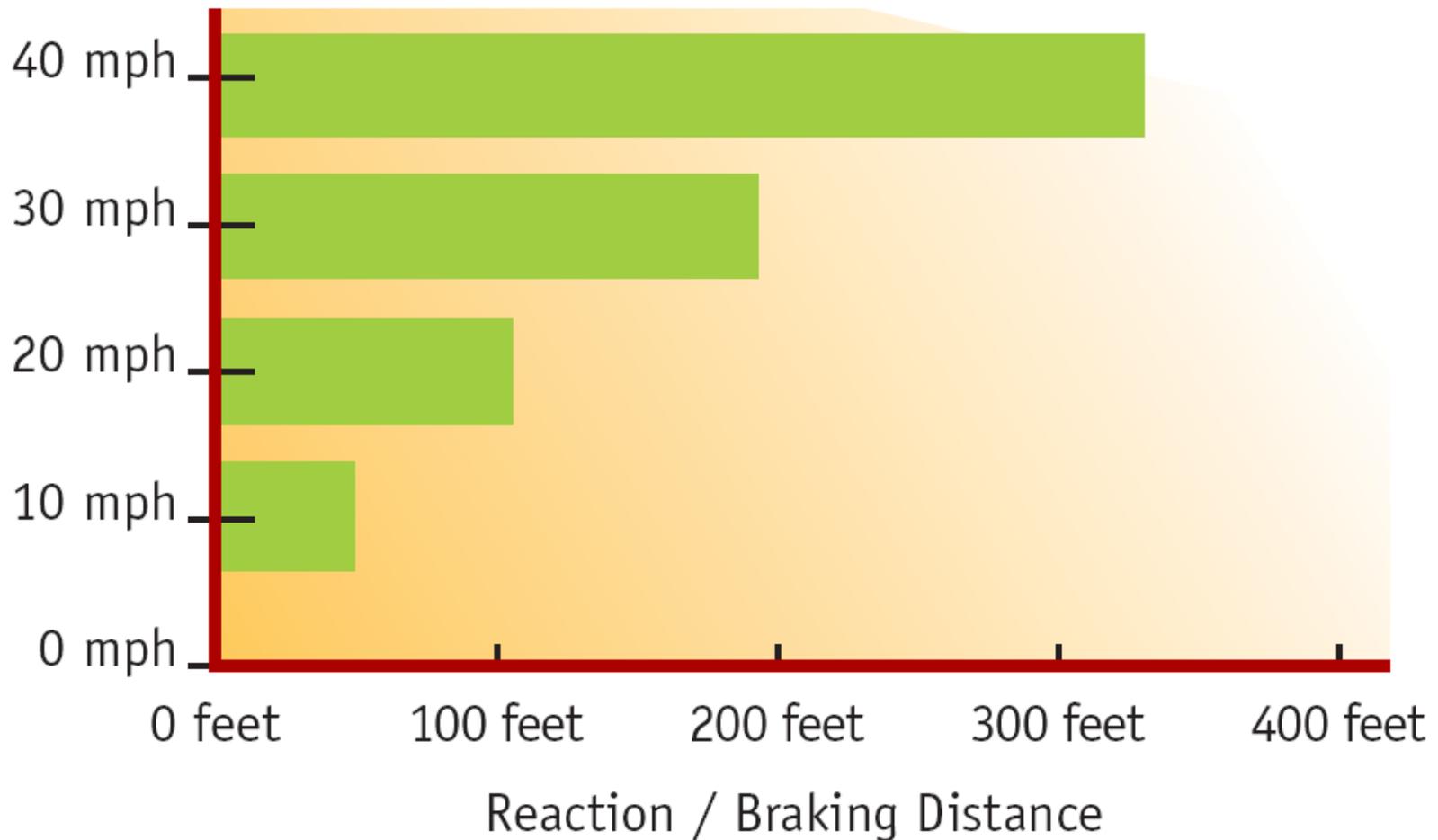
Speed Matters

45 mph
35 mph

Stopping distance 185 feet



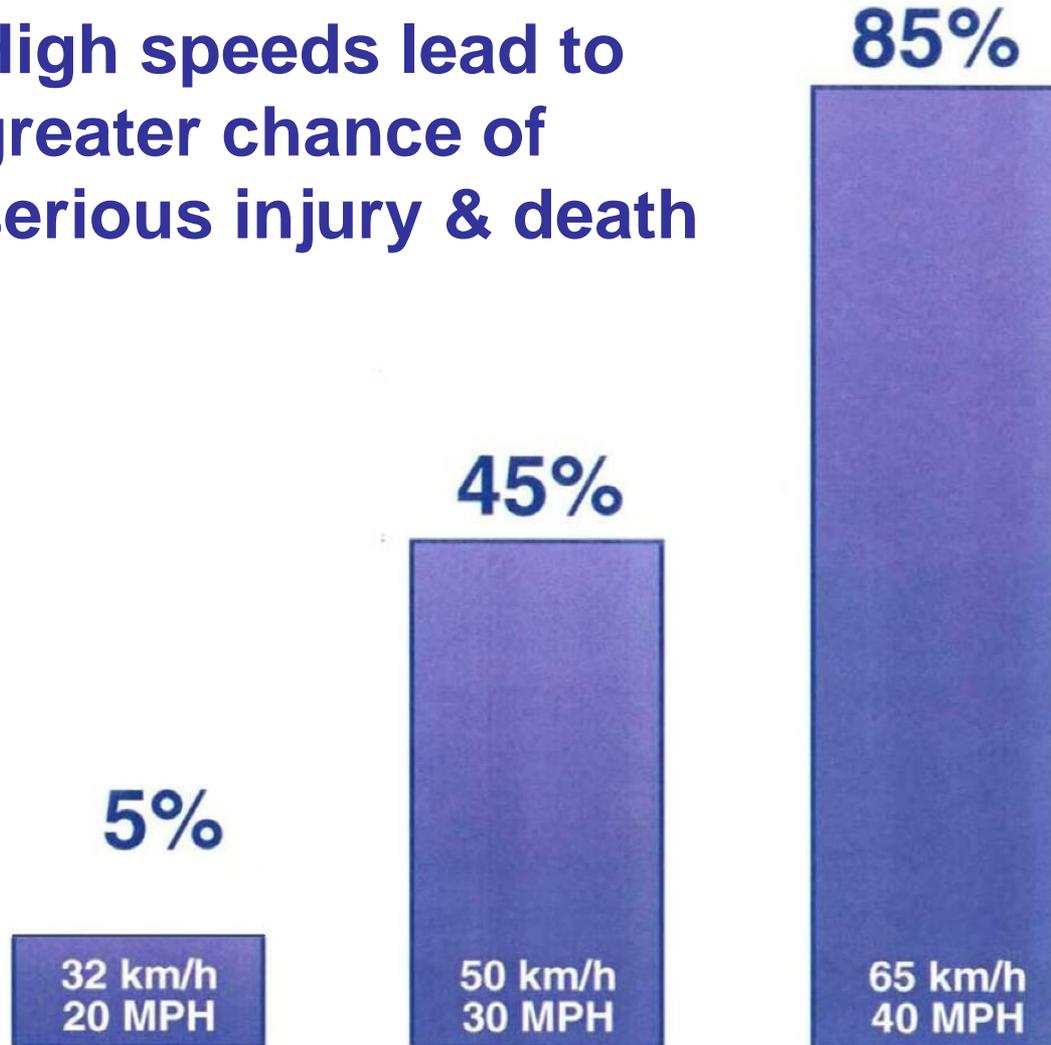
Speed Affects Crash Avoidance



High speeds equate to greater reaction and stopping distance

Speed Affects Crash Severity

High speeds lead to greater chance of serious injury & death



Pedestrians' chances of death if hit by a motor vehicle

Sources:

Killing Speed and Saving Lives, United Kingdom DOT

Vehicle Travel Speeds and Pedestrian Injuries; NHTSA.DOT HS 809 021

Florida Statutes 316.183 (1)

No person shall drive a vehicle on a highway at a speed greater than is reasonable and prudent under the conditions and having regard to the actual and potential hazards then existing. In every event, speed shall be controlled as may be necessary to avoid colliding with any person, vehicle, or other conveyance or object on or entering the highway in compliance with legal requirements and the duty of all persons to use due care.



**Traffic-calming methods
such as curb extensions help slow traffic**

Principle # 5

Pedestrians will cross where it's most convenient



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

Would you walk:

25'

50'

75'

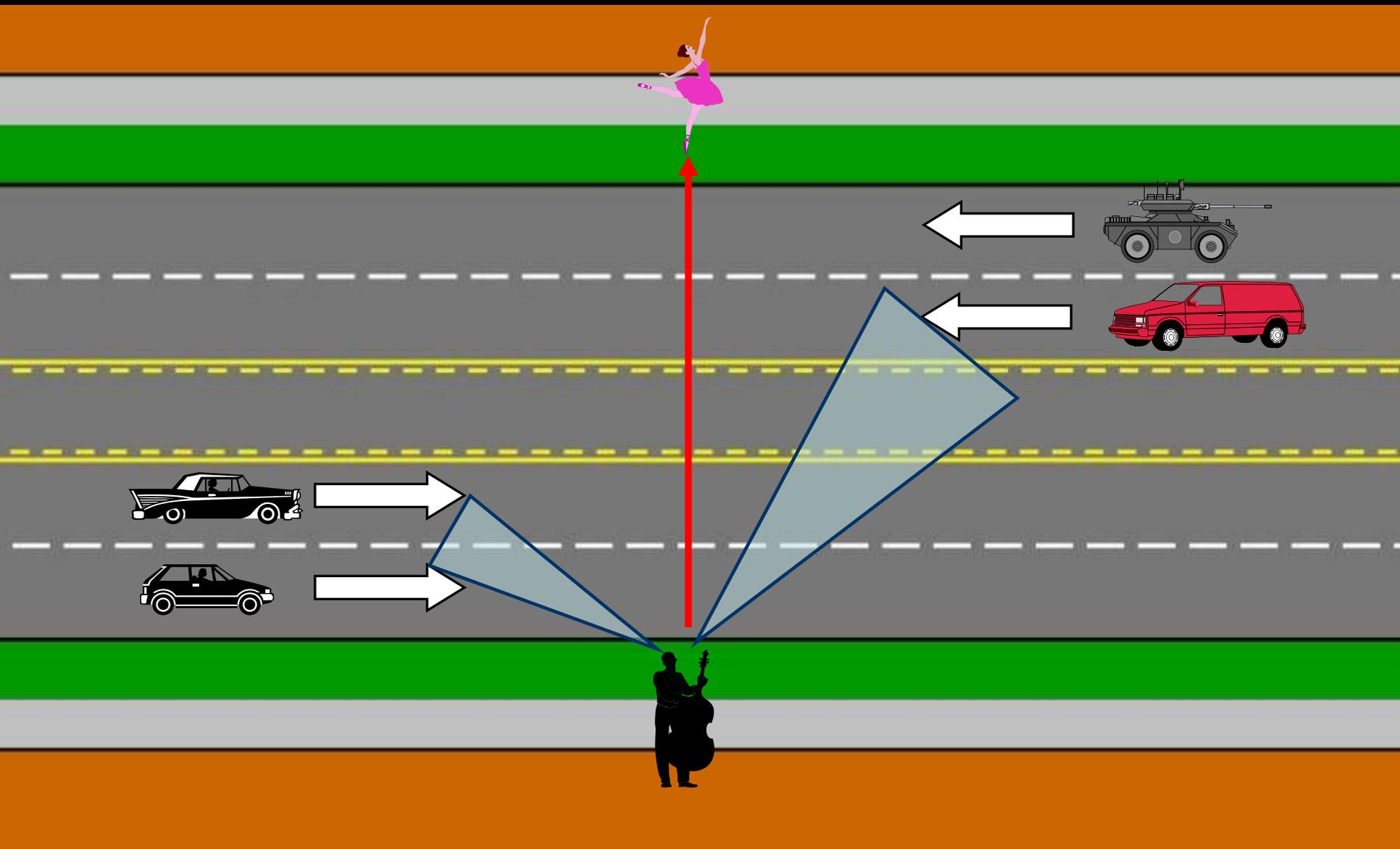
100'

125'

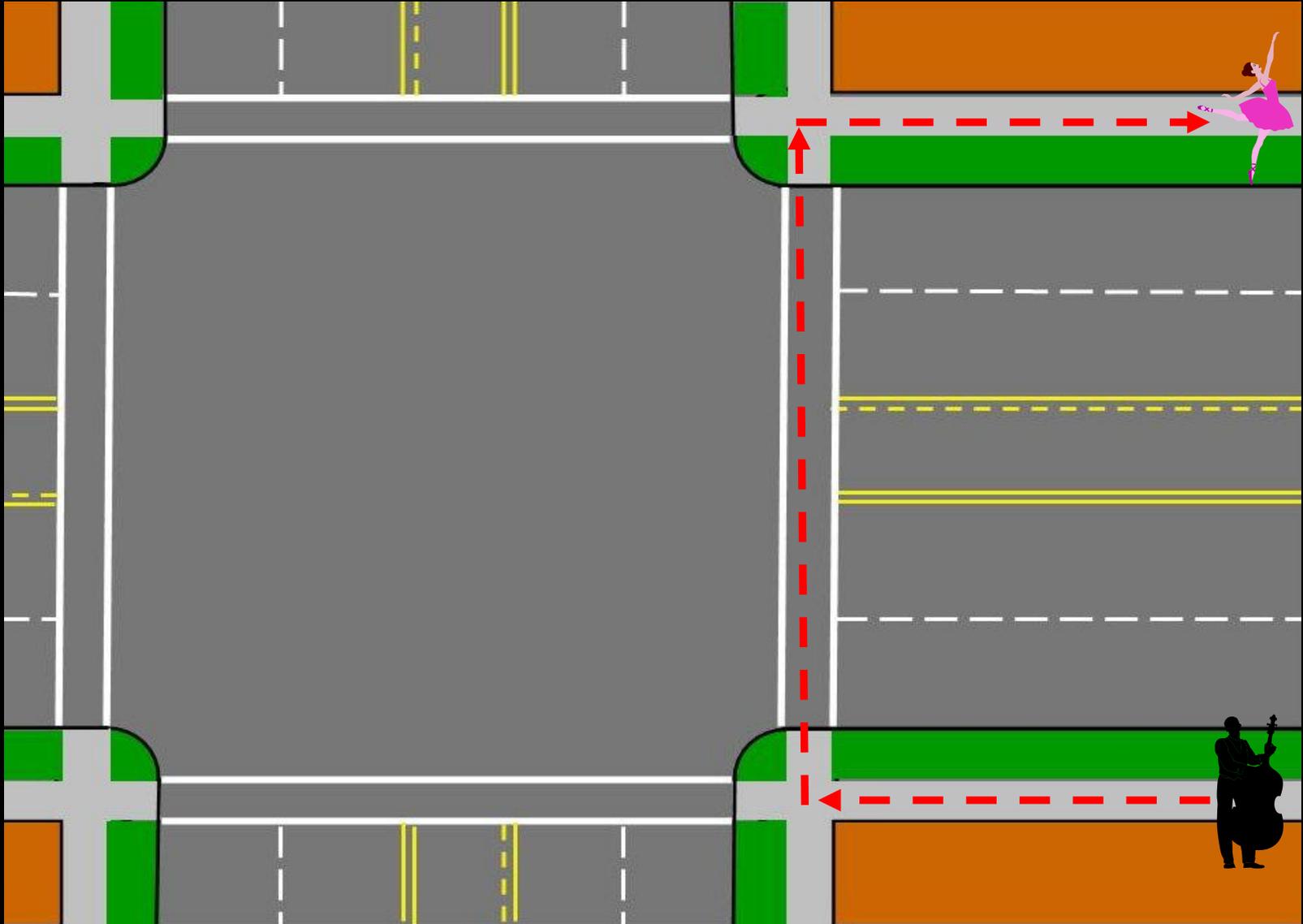


What is the relative risk of crossing midblock vs. crossing at an intersection?

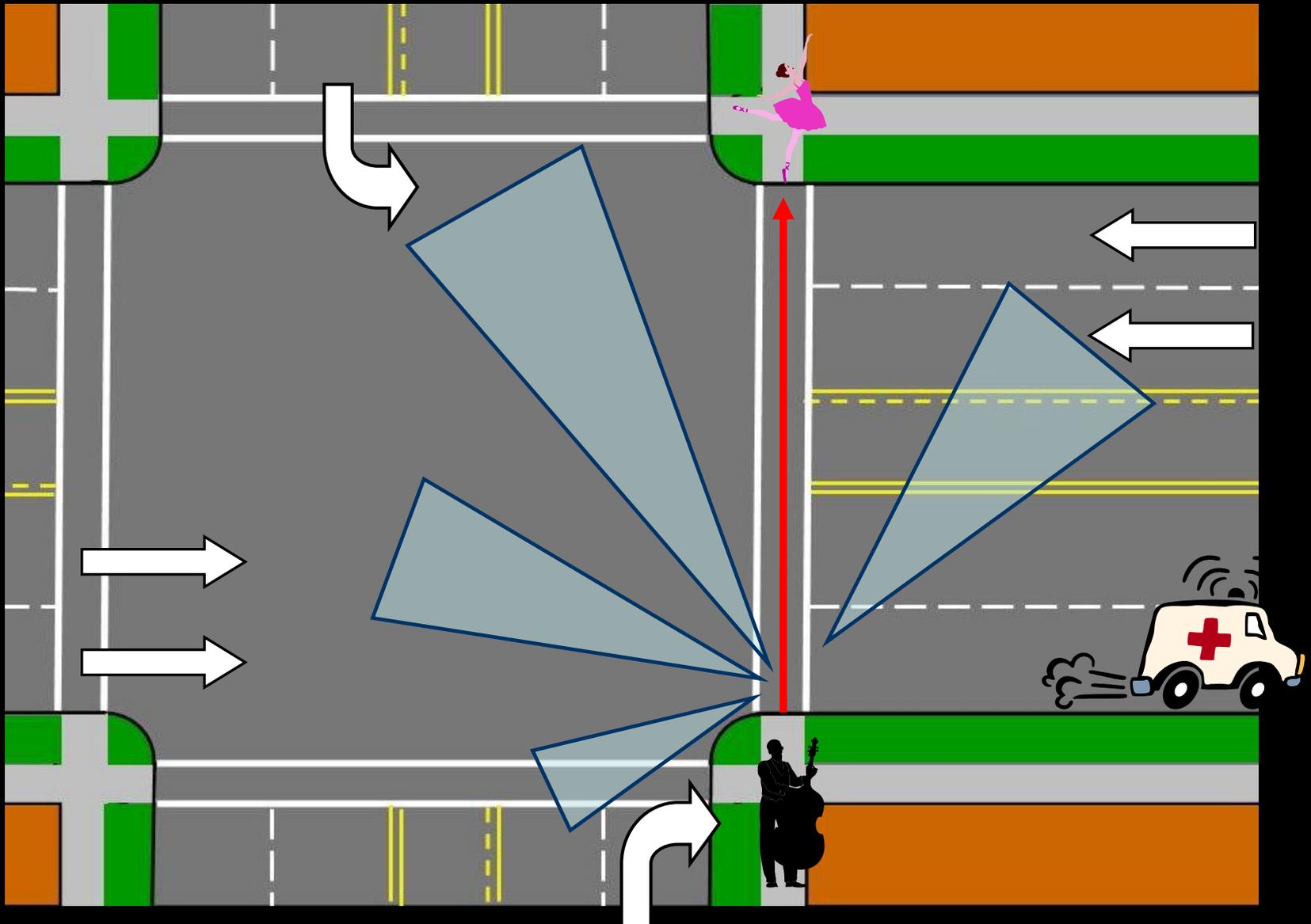
Midblock: pedestrian faces 2 directions of traffic



Intersection: pedestrian must walk out-of-direction



Intersection: pedestrian faces other conflicts



Midblock vs. Intersection

- People choose a location to cross based on their perceived risk
- The data is inconclusive



Let's look at the State laws

1. Duties of drivers toward pedestrians
2. Duties of pedestrians
3. Is crossing midblock illegal?

Florida laws governing pedestrian crossings

316.130 Pedestrian obedience to traffic control devices and traffic regulations.

- (7) (b) *The driver of a vehicle at any crosswalk where signage so indicates shall stop and remain stopped to allow a pedestrian to cross a roadway when the pedestrian is in the crosswalk or steps into the crosswalk and is upon the half of the roadway upon which the vehicle is traveling or when the pedestrian is approaching so closely from the opposite half of the roadway as to be in danger.*
- (c) *When traffic control signals are not in place or in operation and there is no signage indicating otherwise, the driver of a vehicle shall yield the right-of-way, slowing down or stopping if need be to so yield, to a pedestrian crossing the roadway within a crosswalk when the pedestrian is upon the half of the roadway upon which the vehicle is traveling or when the pedestrian is approaching so closely from the opposite half of the roadway as to be in danger. ...*

Florida laws governing pedestrian crossings

316.130 Pedestrian obedience to traffic control devices and traffic regulations.

- (9) *Whenever any vehicle is stopped at a marked crosswalk or at any unmarked crosswalk at an intersection to permit a pedestrian to cross the roadway, the driver of any other vehicle approaching from the rear shall not overtake and pass such stopped vehicle.*

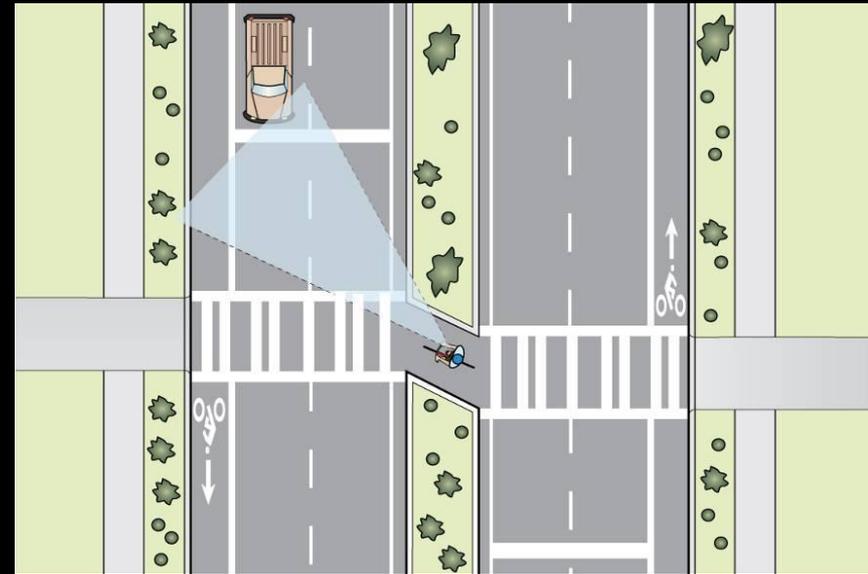
Florida laws governing pedestrian crossings

316.130 Pedestrian obedience to traffic control devices and traffic regulations.

- (8) No pedestrian shall suddenly leave a curb or other place of safety and walk or run into the path of a vehicle which is so close that it is impossible for the driver to yield.***
- (10) Every pedestrian crossing a roadway at any point other than within a marked crosswalk or within an unmarked crosswalk at an intersection shall yield the right-of-way to all vehicles upon the roadway.***
- (11) Between adjacent intersections at which traffic control signals are in operation, pedestrians shall not cross at any place except in a marked crosswalk.***

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



Questions?

Crossing Principles

Learning Outcomes:

You should now be able to:

- **Describe how and why people cross the street**
- **Describe how drivers and pedestrians perceive each other**
- **Select midblock vs. intersection locations**
- **Identify how speed affects pedestrian safety**