

# Crossing Crashes

## Part 1: General Principles

Designing for Pedestrian Safety – Crossing Principles



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

Doylestown PA



**People shouldn't have to run to cross a street**

Depoe Bay OR



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

Depoe Bay OR



**But we can't provide signals everywhere people cross**

Depoe Bay OR



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

Depoe Bay OR

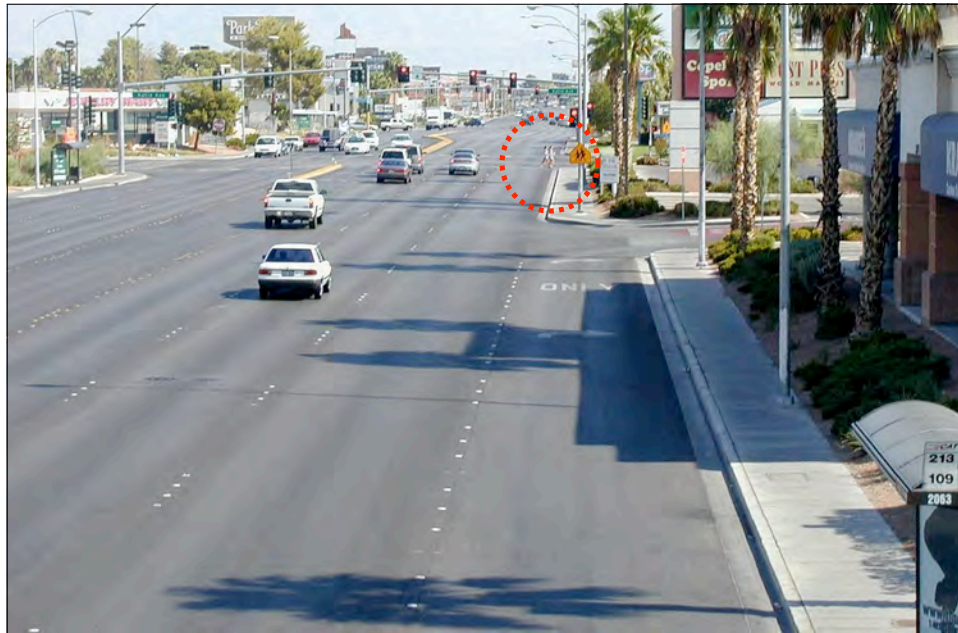


**Pedestrian behavior varies:  
Some use crosswalks, others don't**



**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

## General Principles

- Pedestrians want and need to cross streets safely
- Drivers need to understand pedestrians' intent
- Keep crossings short
- Speed Matters
- Pedestrians will cross where it's convenient

**Good design makes use of these principles**

## Principle # 1



**Pedestrians want and need to cross the street safely**

Corvallis OR

## Principle # 2



**Drivers need to understand pedestrians' intent**

Depoe Bay OR

## Principle # 3

### Keep Crossings Short

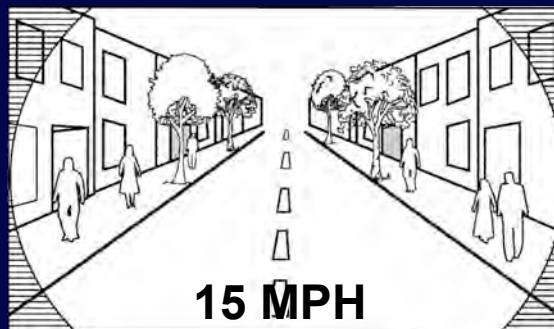
Impacts of long crossing distance:

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

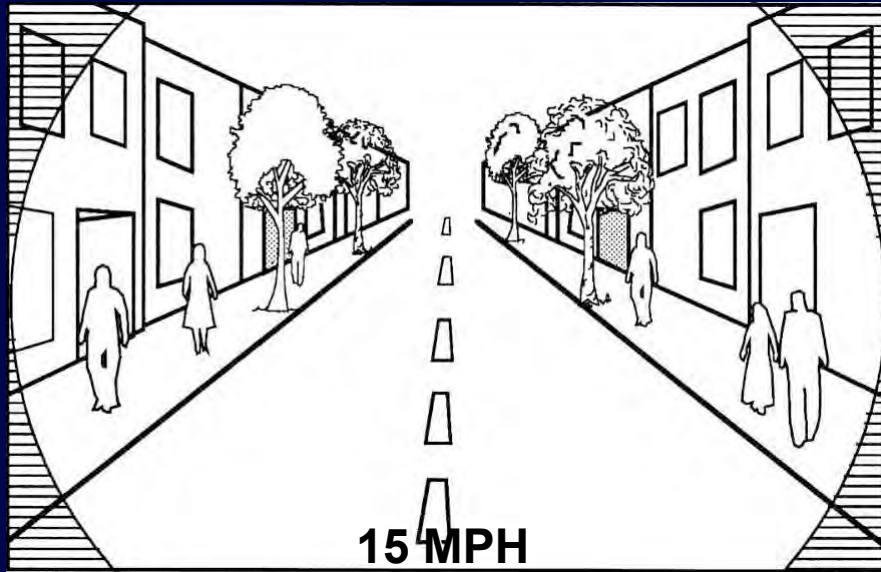


## Principle # 4: Speed Matters

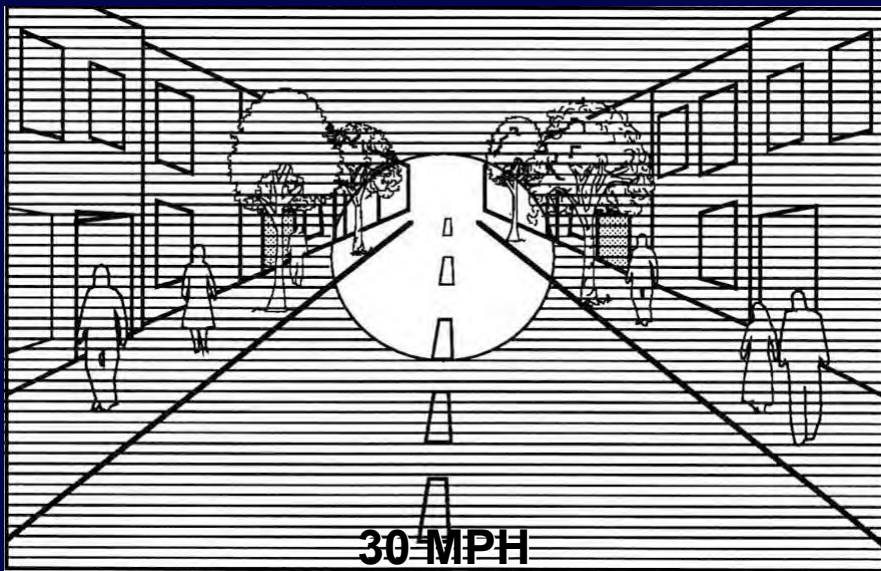
- Drivers' field of vision & ability to see pedestrians
- Drivers' ability to react and avoid a crash
- Crash Severity



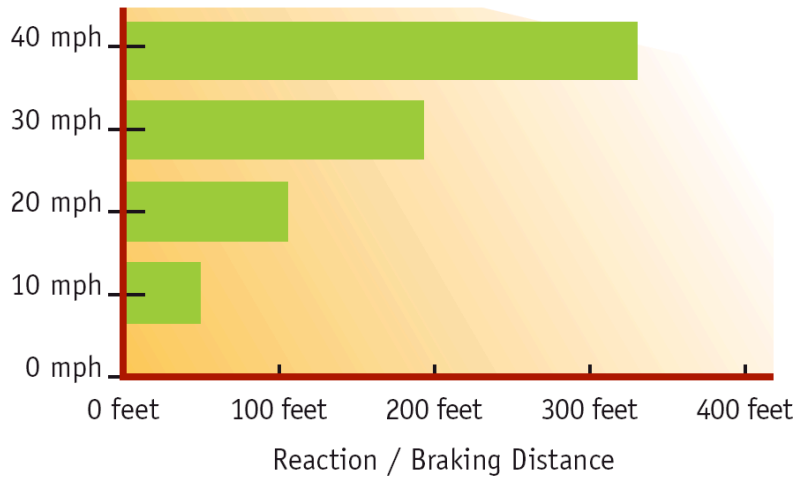
**As speed increases, driver focuses less on surroundings**



**As speed increases, driver focuses less on surroundings**



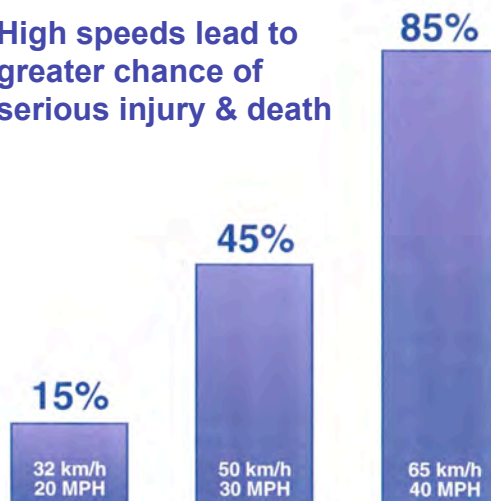
## Speed Affects Crash Avoidance



**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**  
SOURCE: *Killing Speed and Saving Lives*, UK Department of Transportation



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

Joseph OR

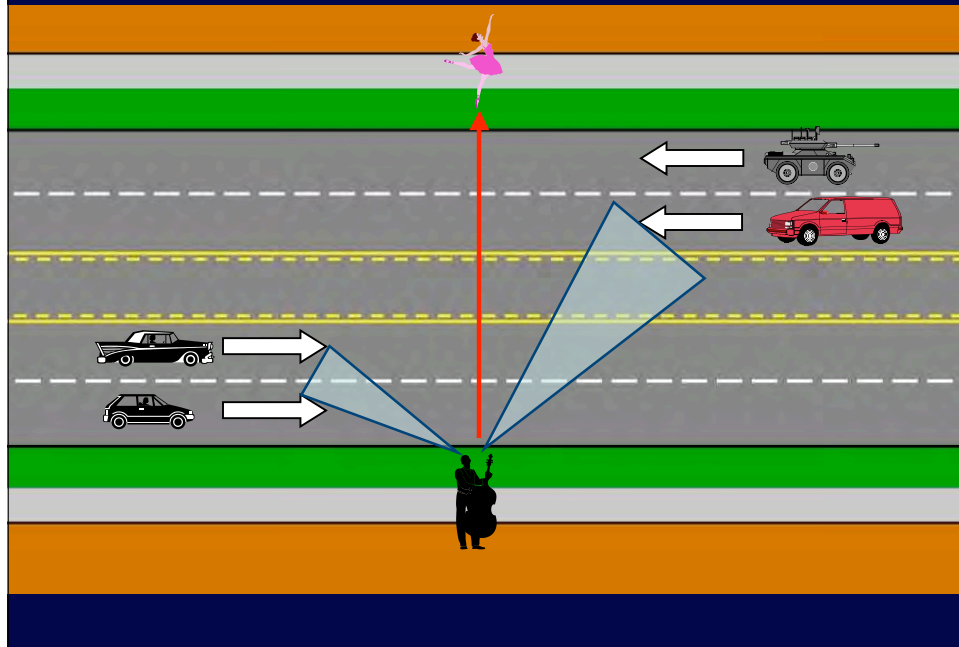
**Principle # 5  
Pedestrians will cross where  
it's most convenient**



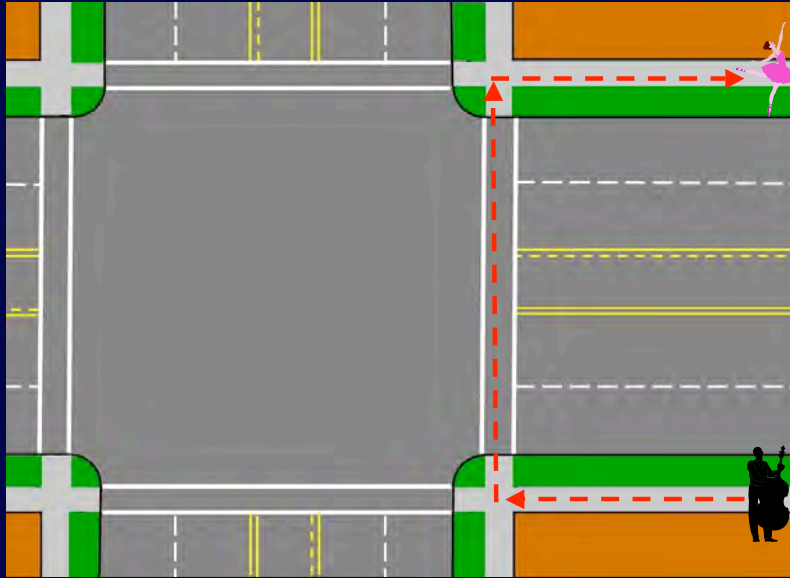
Salem OR

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

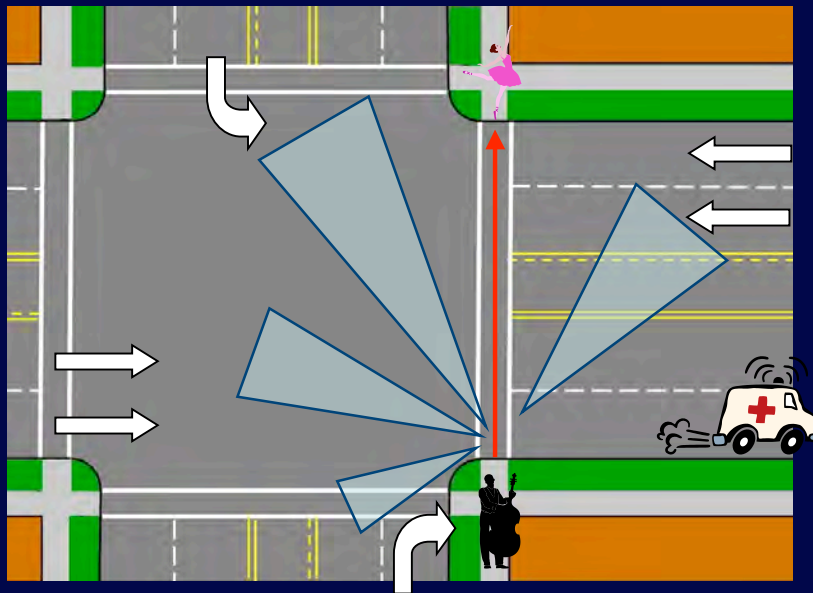
Midblock: pedestrian faces 2 directions of traffic



**Intersection: pedestrian must walk out-of-direction**



**Intersection: pedestrian faces other conflicts**



## Midblock vs. Intersection

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



## California laws governing pedestrian safety

### Legislative intent:

- 21949. (a) The Legislature hereby finds and declares that it is the policy of the State of California that safe and convenient pedestrian travel and access, whether by foot, wheelchair, walker, or stroller, be provided to the residents of the state.
- (b) In accordance with the policy declared under subdivision (a), it is the intent of the Legislature that all levels of government in the state, particularly the Department of Transportation, work to provide convenient and safe passage for pedestrians on and across all streets and highways, increase levels of walking and pedestrian travel, and reduce pedestrian fatalities and injuries.

## California laws governing pedestrian crossings

Drivers must yield to pedestrians:

- 21950. (a) The driver of a vehicle shall yield the right-of-way to a pedestrian crossing the roadway within any marked crosswalk or within any unmarked crosswalk at an intersection, except as otherwise provided in this chapter.

But...

- (b) This section does not relieve a pedestrian from the duty of using due care for his or her safety. No pedestrian may suddenly leave a curb or other place of safety and walk or run into the path of a vehicle that is so close as to constitute an immediate hazard.

## California laws governing pedestrian crossings

Pedestrians may cross midblock – must yield to traffic:

- 21954. (a) Every pedestrian upon 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 so near as to constitute an immediate hazard.

But...

- (b) The provisions of this section shall not relieve the driver of a vehicle from the duty to exercise due care for the safety of any pedestrian upon a roadway.

## California laws governing pedestrian crossings

### Pedestrians may not cross midblock :

- **21955. Between adjacent intersections controlled by traffic control signal devices or by police officers, pedestrians shall not cross the roadway at any place except in a crosswalk.**

## California Law — Summary

- **Motorists must yield to pedestrian crossing at a marked crosswalk or at an unmarked crosswalk at an intersection**
  - Pedestrian must use due care
- **Pedestrians may cross midblock (if not between two signalized intersections)**
  - Must yield to motor vehicles
- **Pedestrians may not cross midblock between two signalized intersections**
  - Must cross at crosswalk

# Questions?

Designing for Pedestrian Safety – Crossing Principles