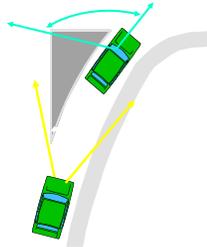


## Intersection Geometry



## Intersection Crashes

1. Most (urban) crashes occur at intersections
2. Most occur at signalized intersections
3. Most are associated with turning movements
4. Geometry matters: keeping intersections tight, simple & slow speed make them safer for everyone

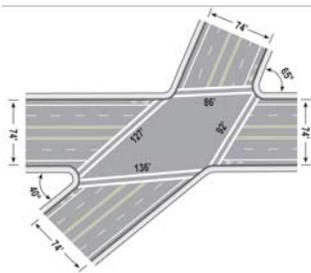


**Small, tight intersections best for pedestrians...  
Simple, few conflicts, slow speeds**

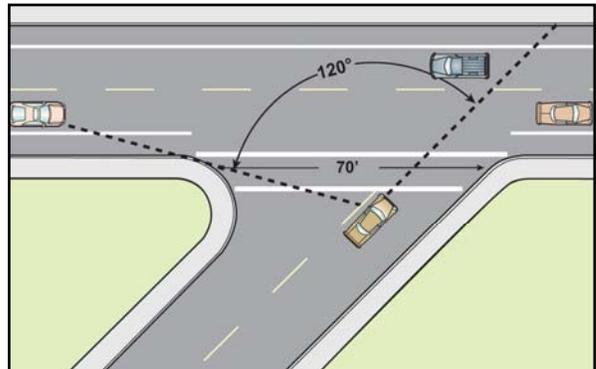


**Large intersections can work for pedestrians  
– with mitigation**

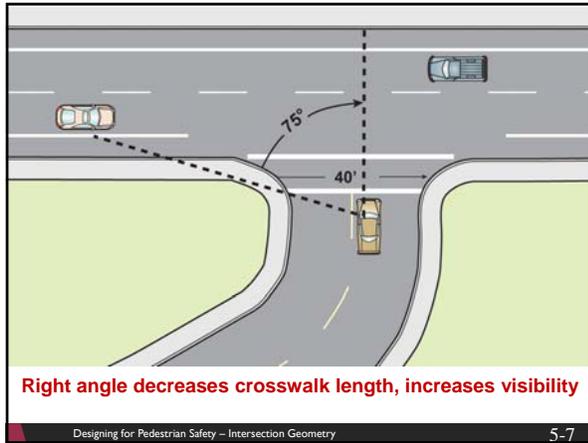
## Skewed intersections



**Skew increases crossing distance & speed of turning cars**



**Skew increases crosswalk length, decreases visibility**

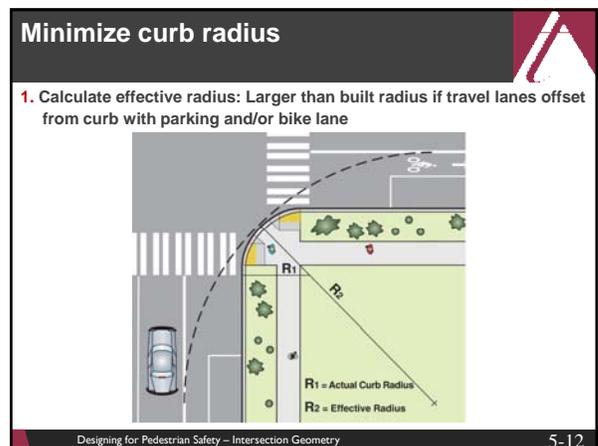
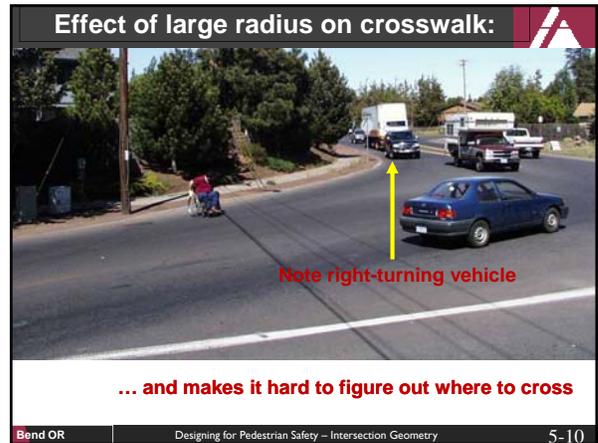
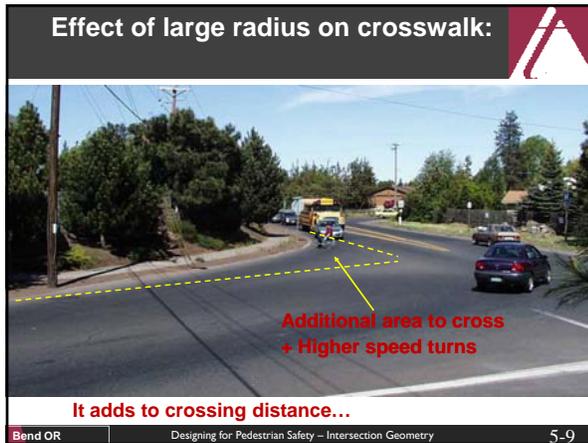


**Curb radius – small radii are safer for pedestrians**

**Large radii:**

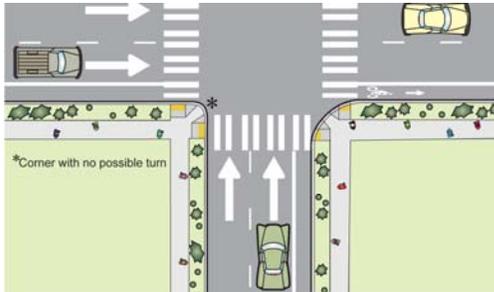
- Increase crossing distance and
- Make crosswalk & ramp placement more difficult

Designing for Pedestrian Safety – Intersection Geometry 5-8



## Minimize curb radius

2. At one-way streets, corner with no turns can have tight radius



Designing for Pedestrian Safety – Intersection Geometry

5-13

## Minimize curb radius

3. Don't choose larger design vehicle than necessary



Bus makes turn several times an hour

Canyonville OR

Designing for Pedestrian Safety – Intersection Geometry

5-14

## Minimize curb radius

3. Don't choose larger design vehicle than necessary



Moving van, once or twice a year; peds cross every day

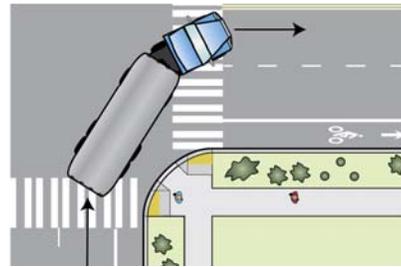
Santa Barbara CA

Designing for Pedestrian Safety – Intersection Geometry

5-15

## Minimize curb radius

4. Where appropriate, let trucks use 2<sup>nd</sup> lane



Designing for Pedestrian Safety – Intersection Geometry

5-16

## Minimize curb radius

5. Trucks can make very tight turns at slow speeds



Canyonville OR

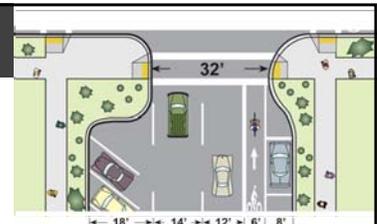
Designing for Pedestrian Safety – Intersection Geometry

5-17

## Curb extensions

Most focus is on reduced crossing distance

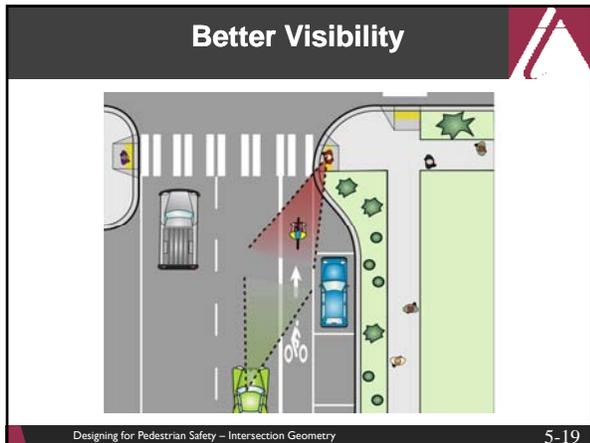
Other advantages:



Curb extensions should be the width of the parking lane and not encroach on bike lanes or travel lanes

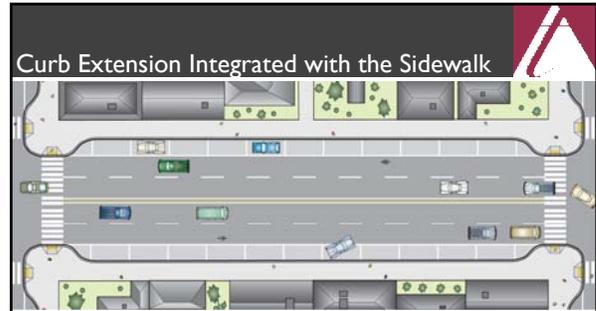
Designing for Pedestrian Safety – Intersection Geometry

5-18





**Curb extensions enable signs to be moved in**



**“Parking pockets” in furniture zone have similar surface materials as the sidewalk**



**Before: road looks and feels wide**



**After: curb extension integral to sidewalk  
Street looks narrow even with no parked cars**



**More examples: curb extension integral to sidewalk**

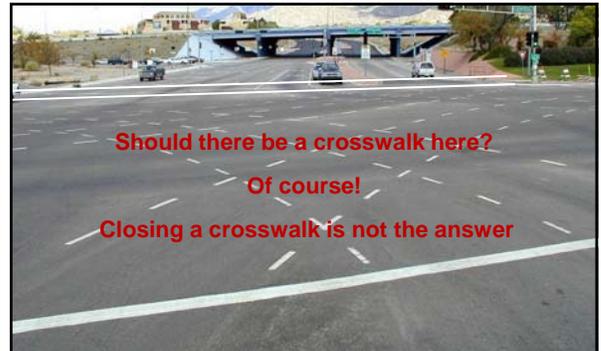
**Reminder – crosswalks are provided:**

1. To indicate to pedestrians where to cross
2. To indicate to drivers where to expect pedestrians



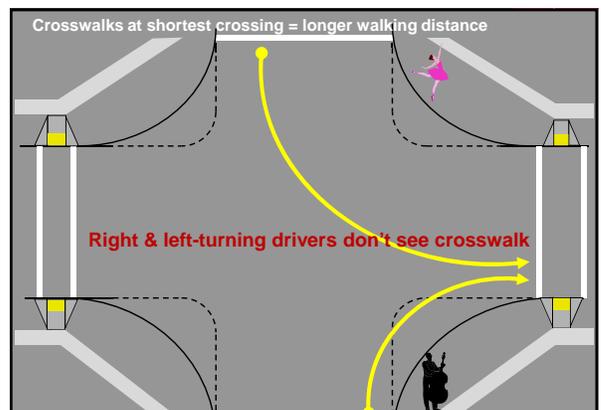
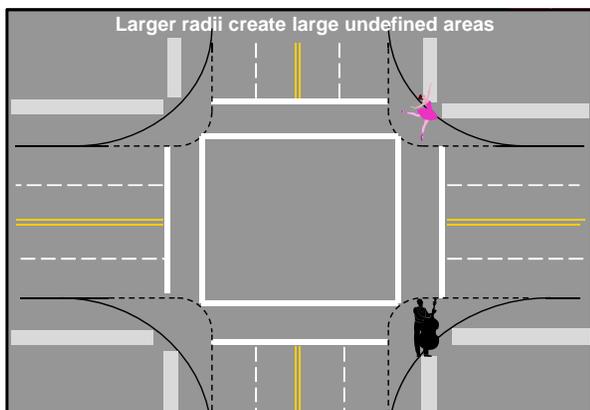
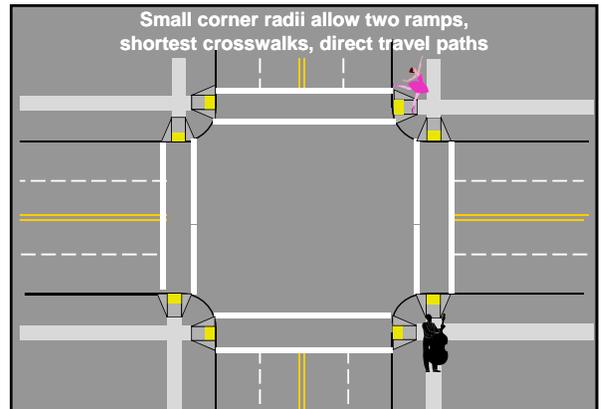


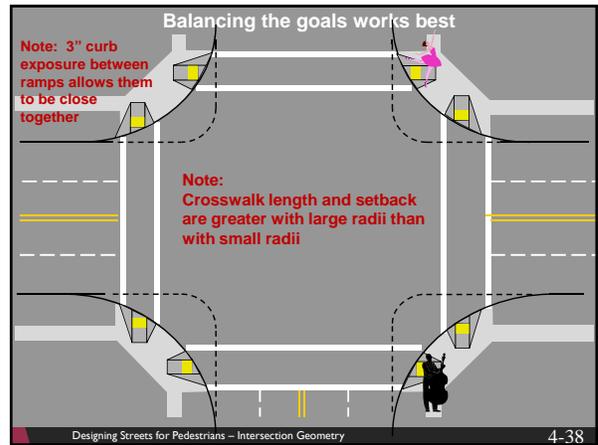
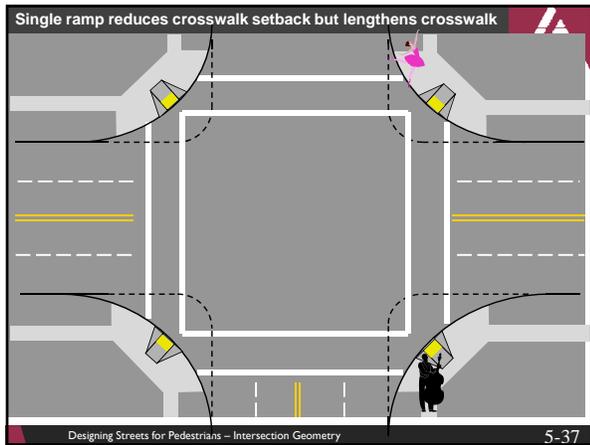
**Crosswalks should normally be placed on all legs of an intersection**

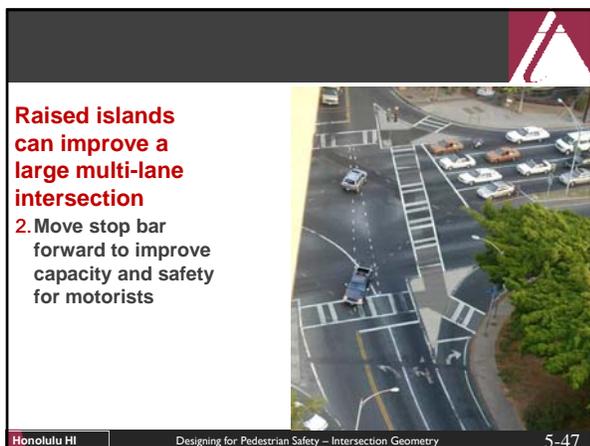
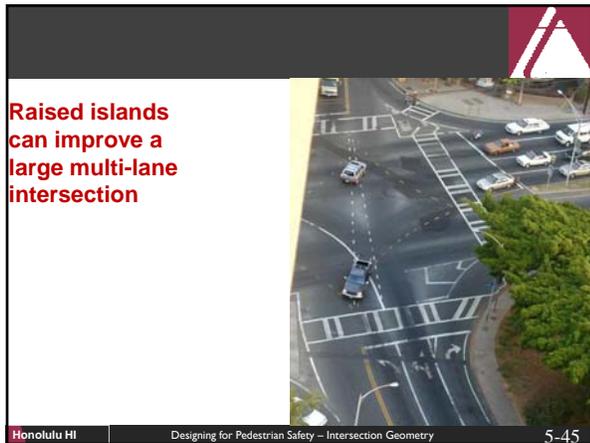
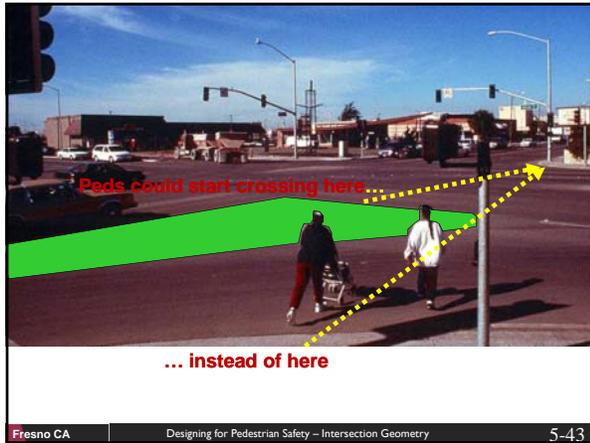


**Should there be a crosswalk here?  
Of course!  
Closing a crosswalk is not the answer**

**Large intersection is capacity driven, pedestrian unfriendly...**





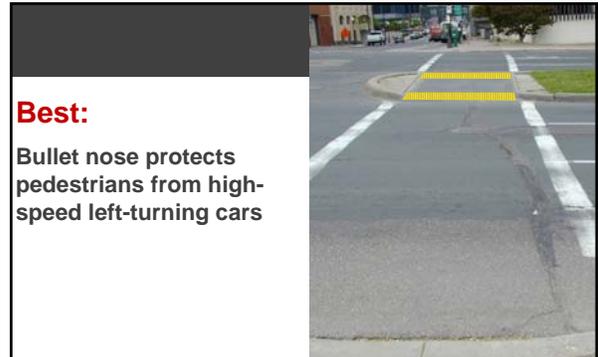




**With ramps, provide at least 48" level area**



**Not acceptable**      **Acceptable, not great**



*Questions?*