

Planning for Complete Streets

Module 3



Planning Elements of Complete Streets

- Land Use
- Street Connectivity
- Access Management
- Site Design
- Revisiting Level of Service



Land Use



Why do we have cities?



To minimize travel & maximize exchange (to be closer together)



Boston MA

How have we built our urban roadway system?



To facilitate travel over longer distances



Las Vegas NV

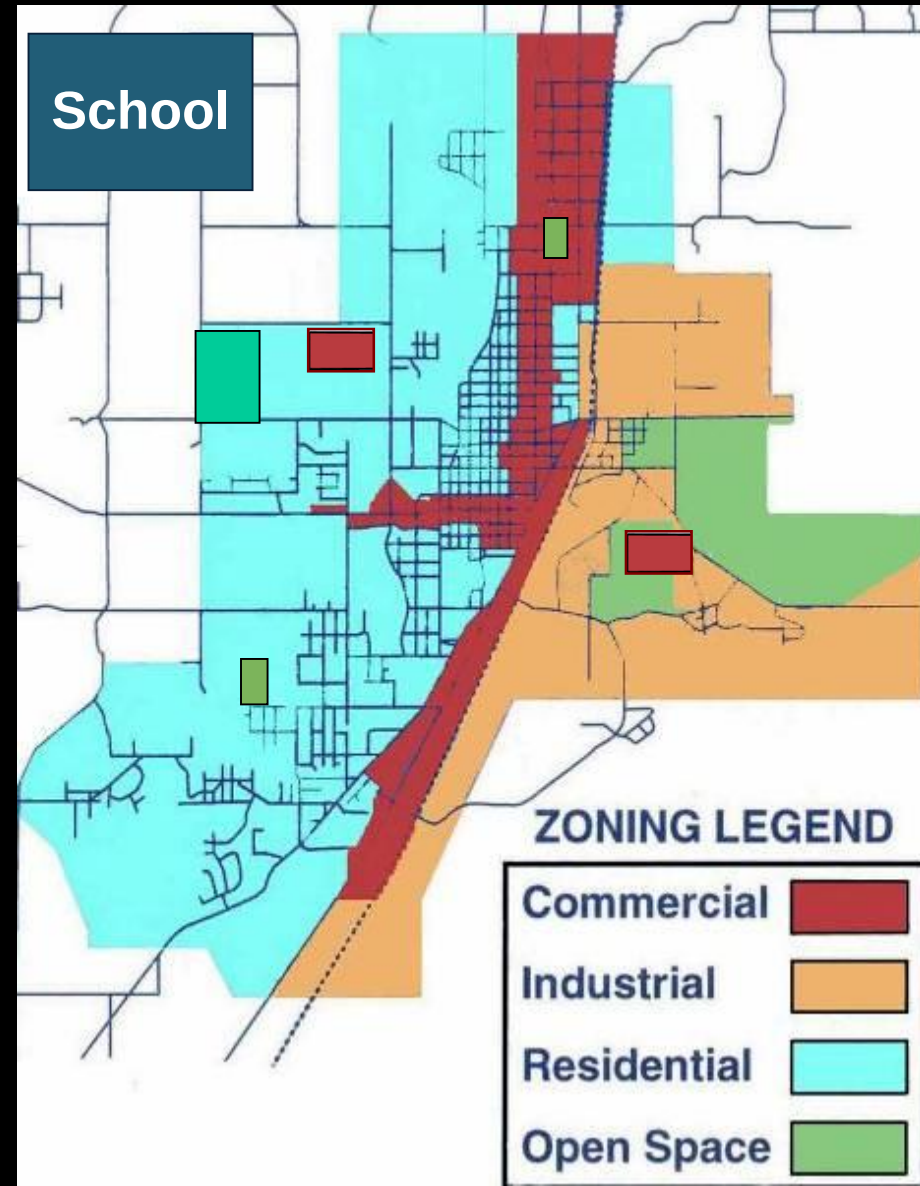
Reducing travel demand is best achieved through Land Use policy

Problem

- Commercial land clustered in automobile corridors
- Segregated land use
- Travel distances not conducive to walking

Potential solutions?

- Allow small-scale retail in neighborhoods
- Create neighborhood parks
- Site school closer to residences & parks

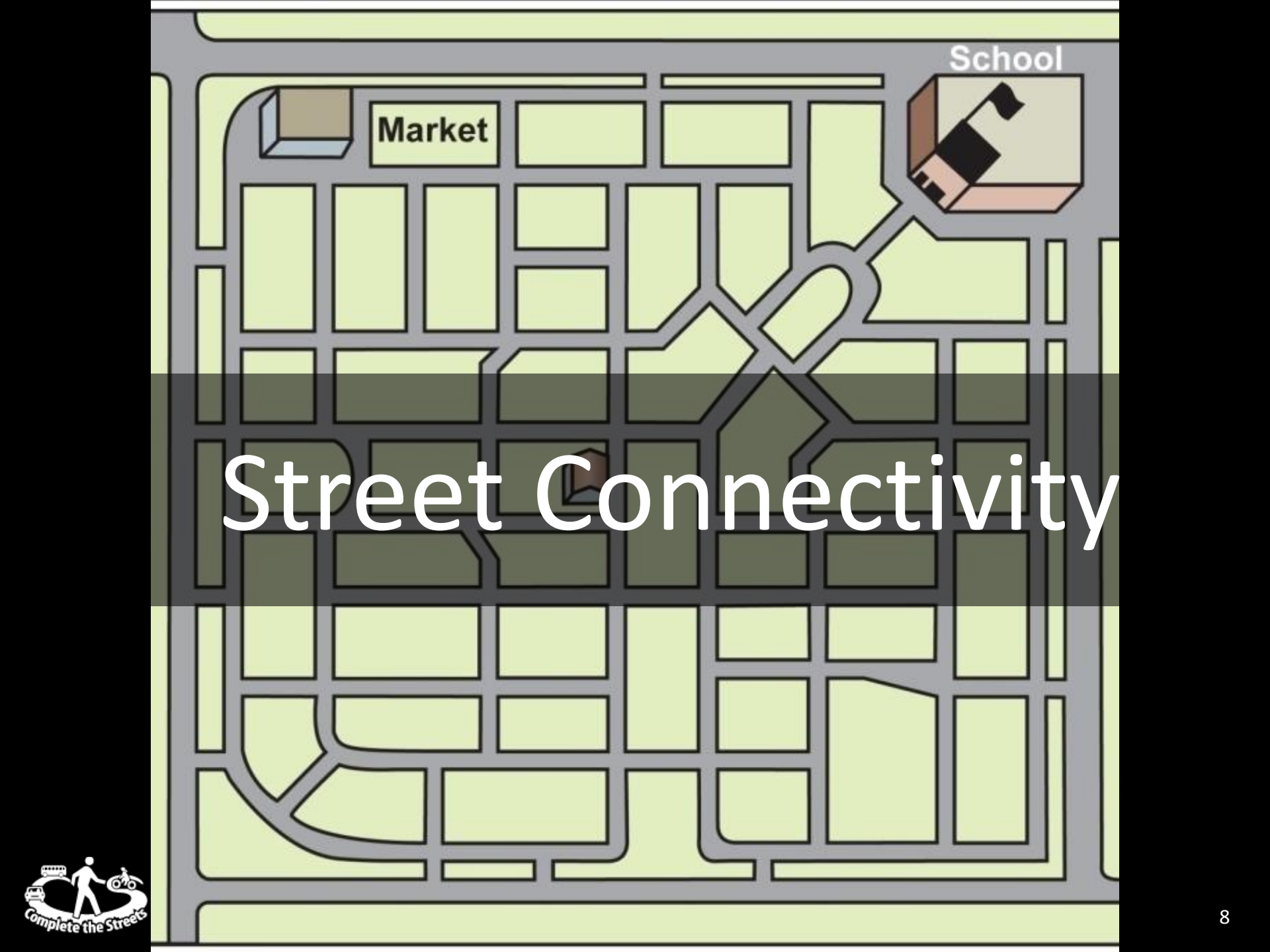




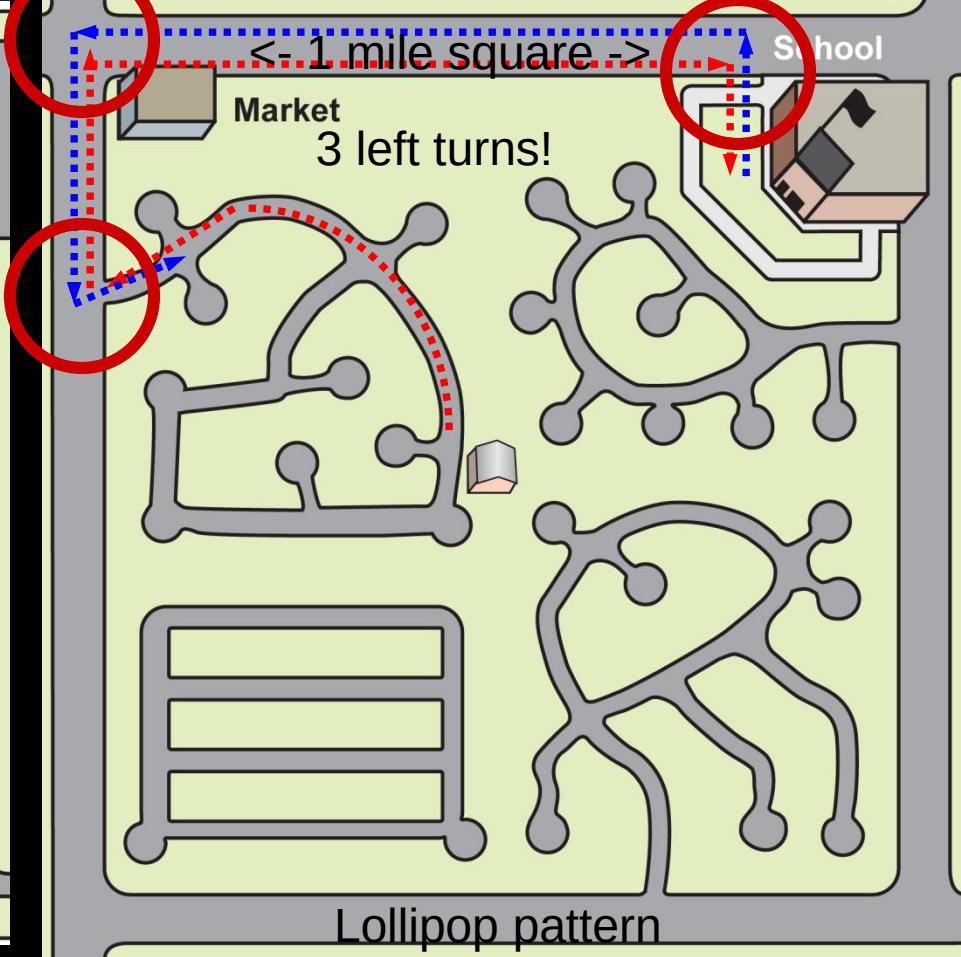
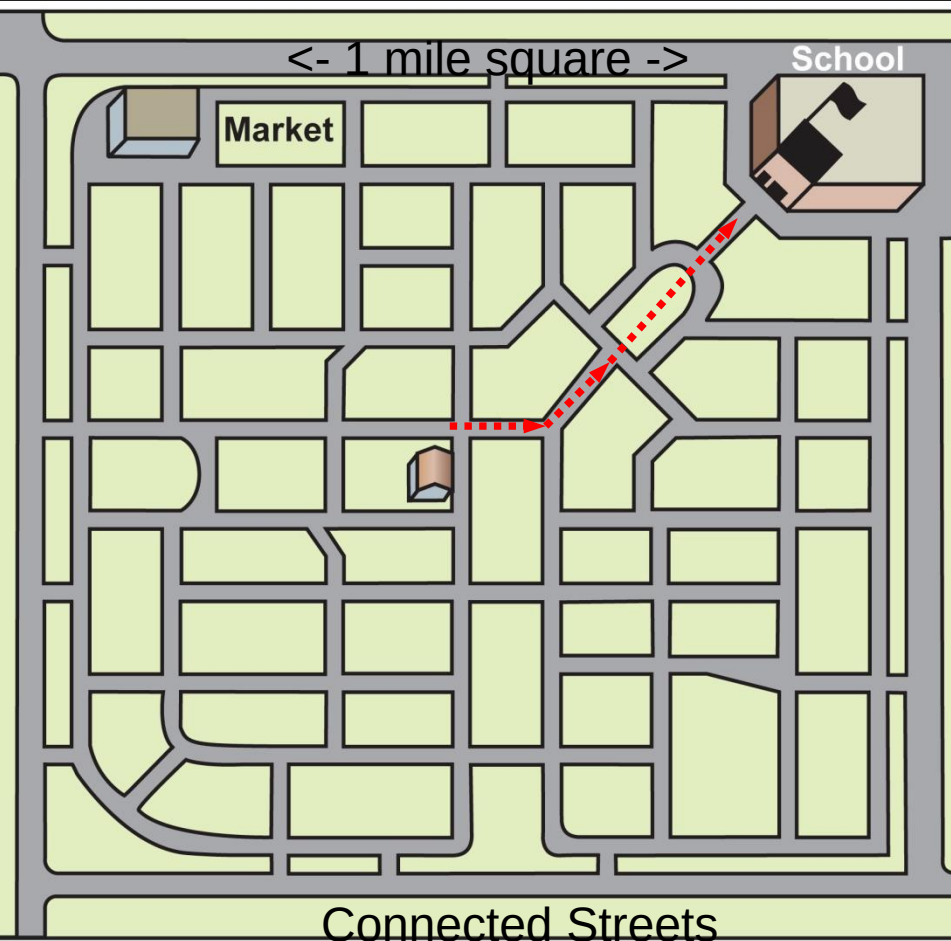
Mixed Use Development: destinations are close to residential areas

Madison WI





Street Connectivity

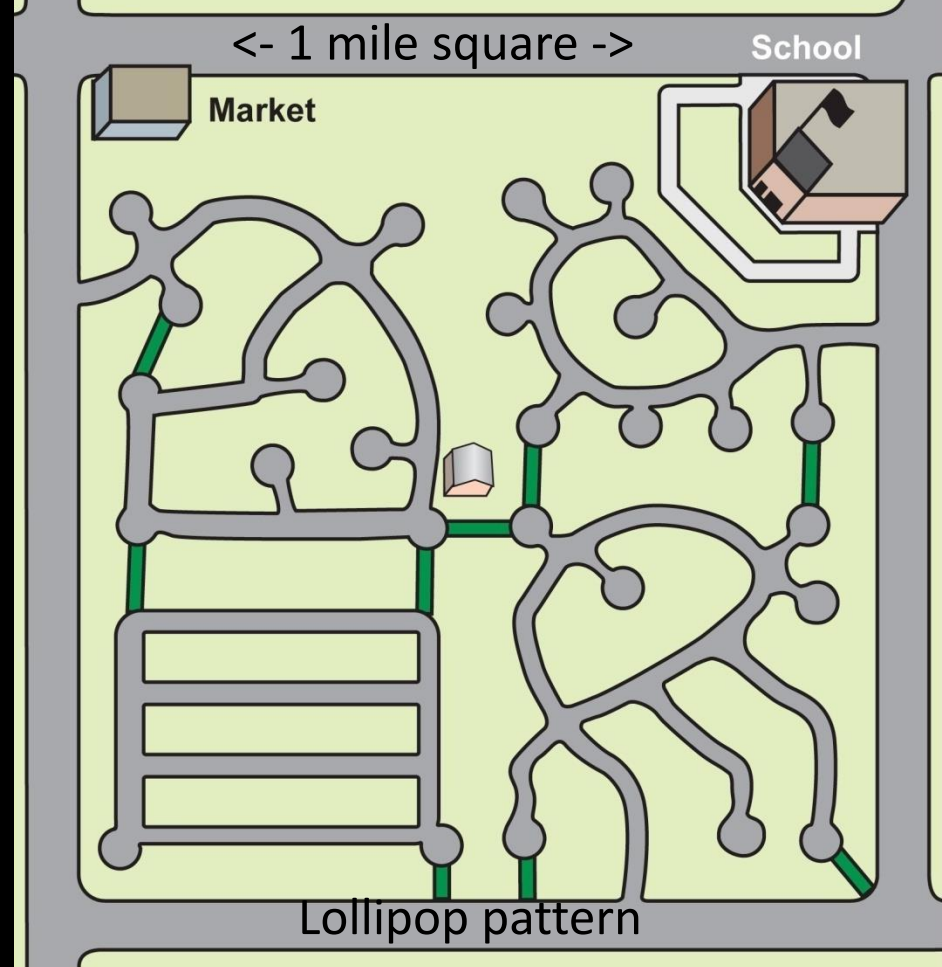


- Connectivity creates a walkable street system by:
- Reducing walking distances;
- Offering more route choices on quiet local streets;
- Dispersing traffic – reducing reliance on arterials for all trips

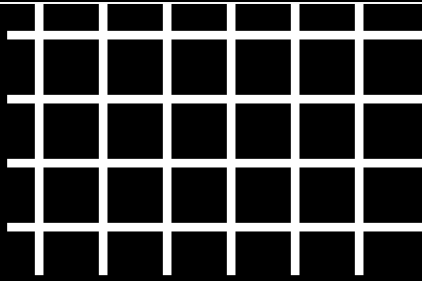


Can you increase connectivity with paths, greenways?

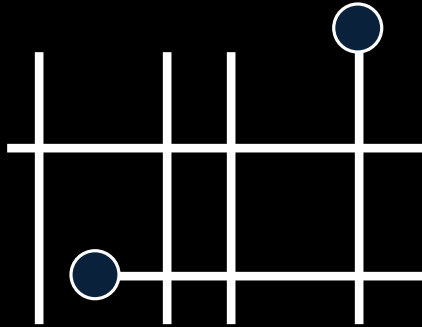
- Reduces walking distances:
- Offers more route choices:
- Does not increase automobile cut-through traffic



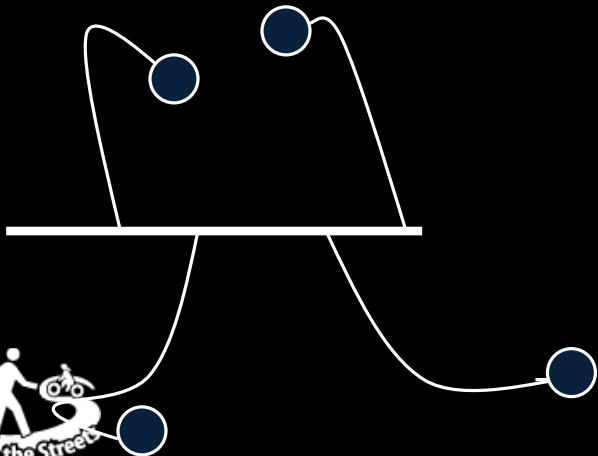
High Connectivity



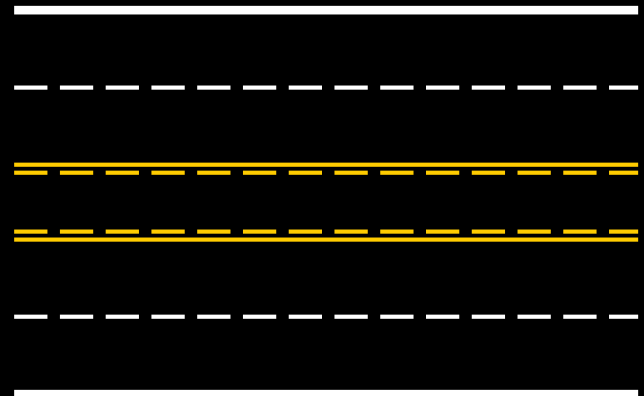
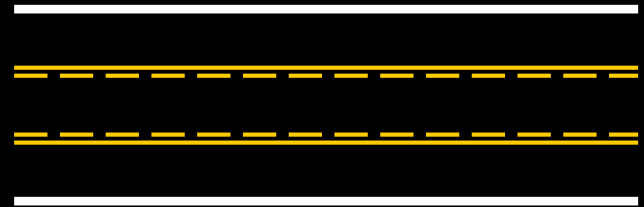
Moderate Connectivity



Low Connectivity



Travel Lanes Required





Lack of connectivity: overly wide streets



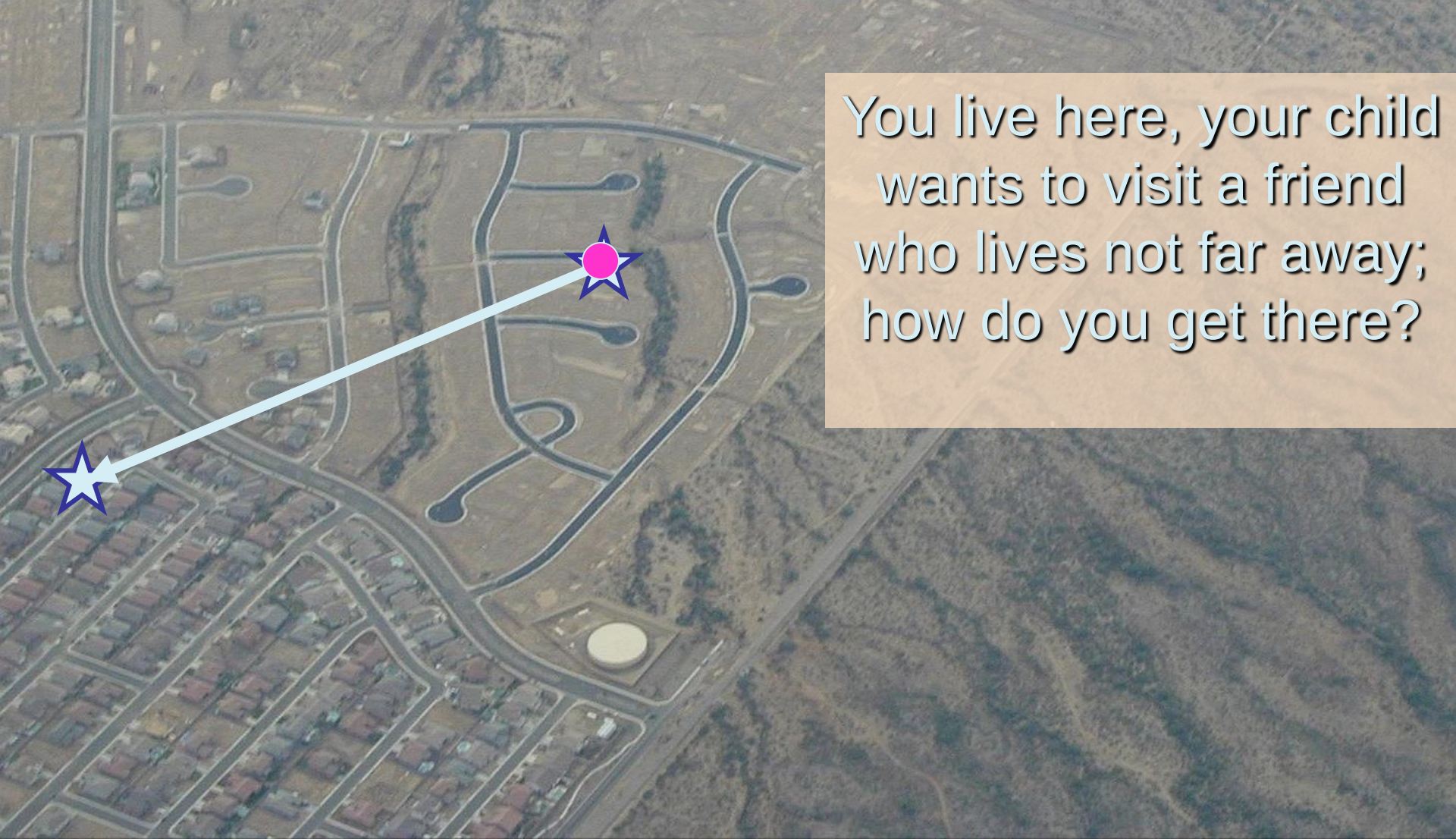
Las Vegas NV



Lack of connectivity: few but large intersections



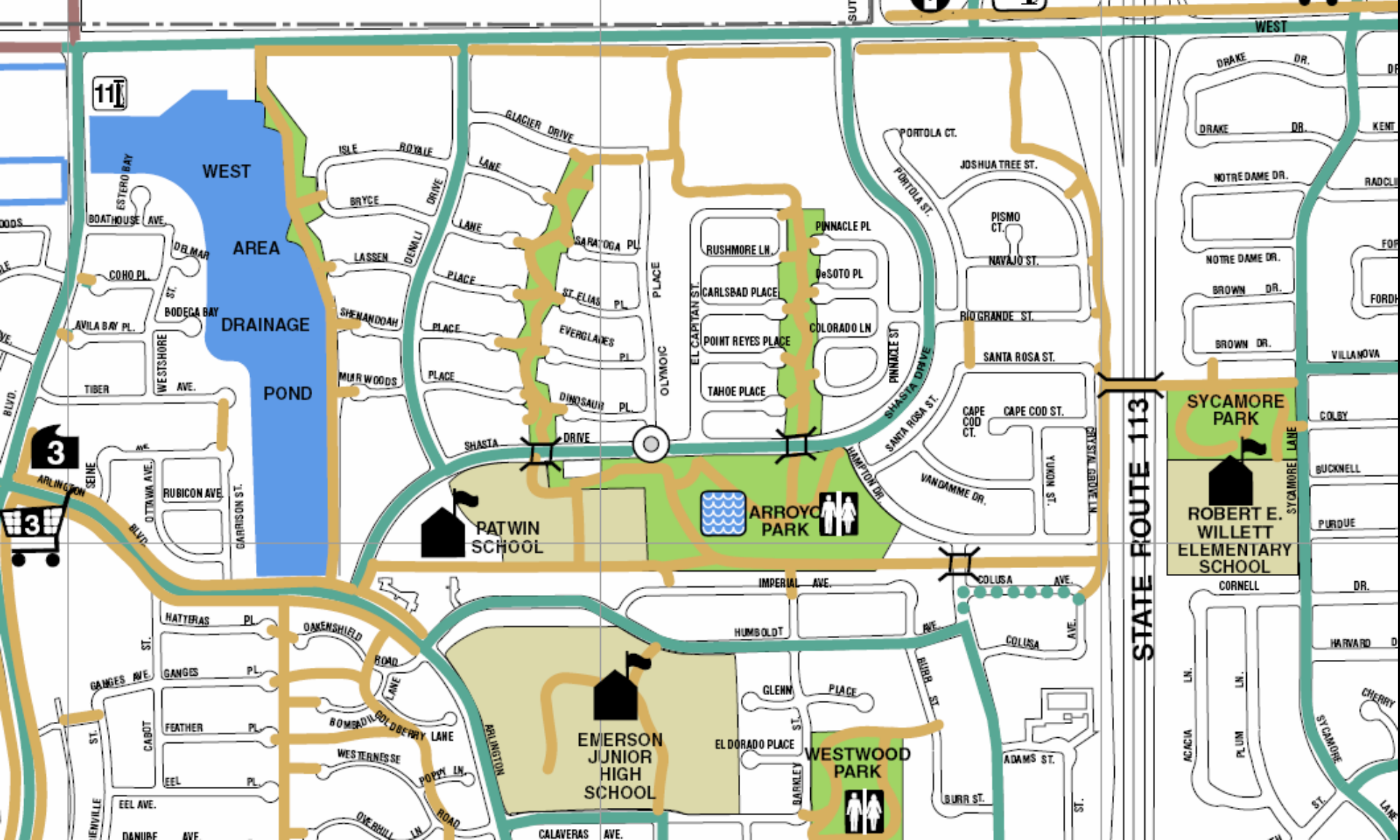
Albuquerque NM



You live here, your child
wants to visit a friend
who lives not far away;
how do you get there?

Cul-de-sac patterns increase walking distances
& increase reliance on arterials





Land Use & Connectivity: Schools next to parks.
 Dedicate R.O.W. to link cul-de-sacs with linear parks



Davis CA

Access Management



Every driveway is a potential conflict



Atlanta GA



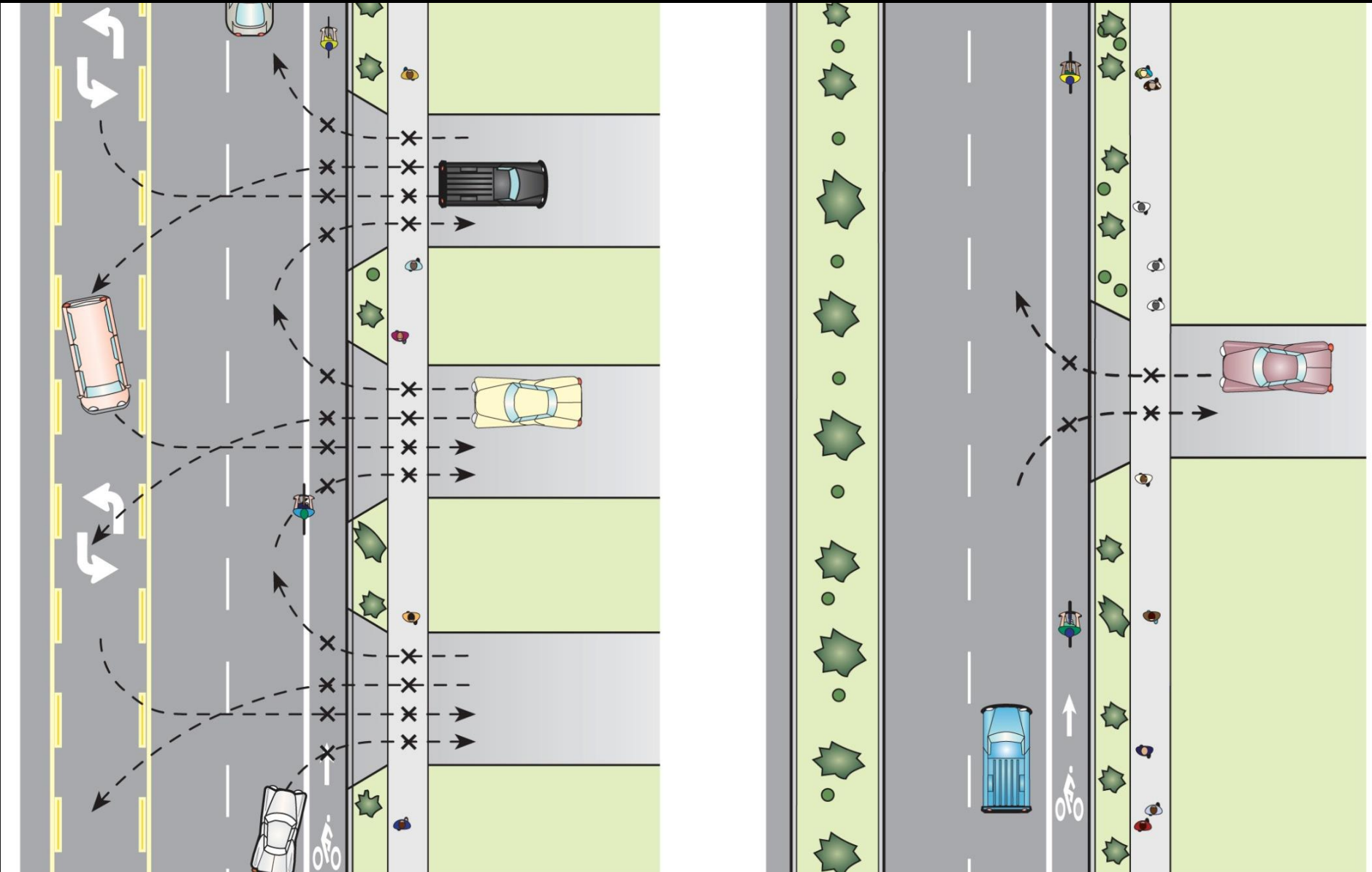
Drivers and pedestrians must make choices:
Walk in front or in back? Pull forward or back up?



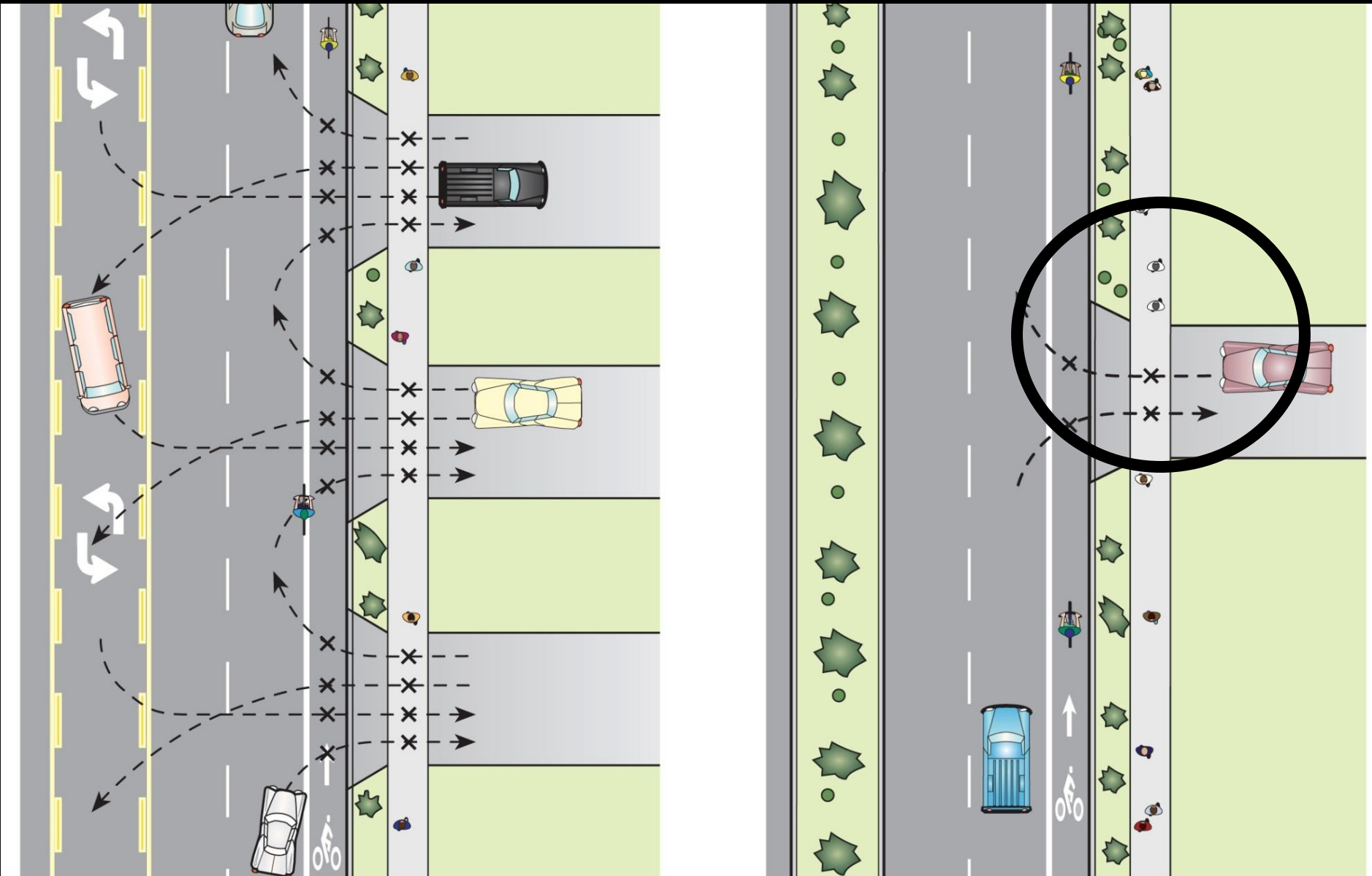
Portland OR

Access Management reduces conflicts at driveways

2 ways: (1) median (no left turns) (2) consolidate driveways



Which has greater crash modification factor:
(1) Median (no left turns) or (2) consolidate driveways?



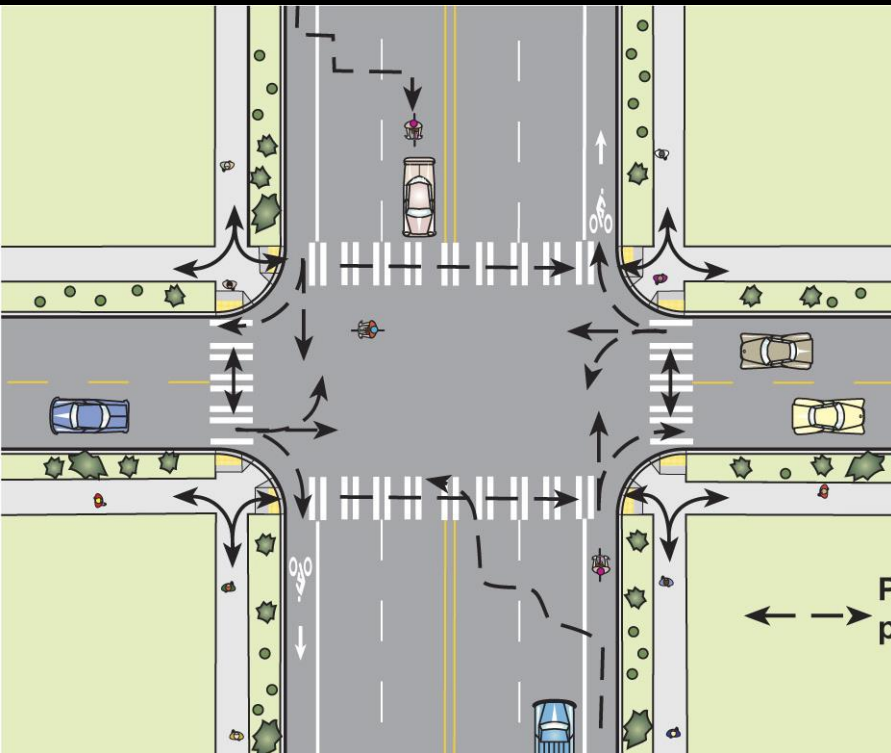


Driveways can be closed for safety

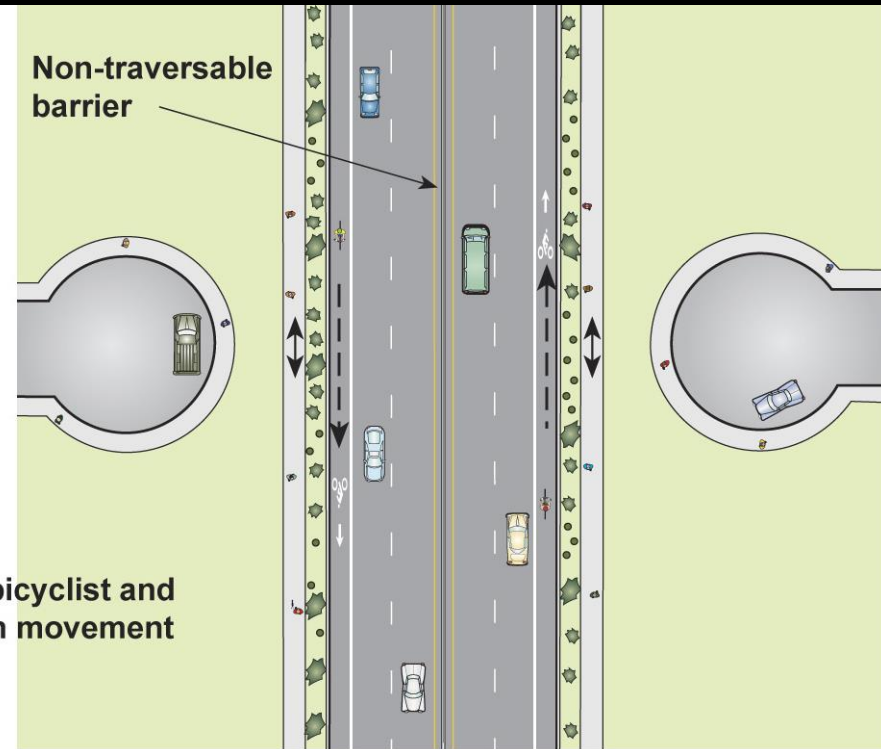


Salem OR

Severing public streets not a desirable access management technique

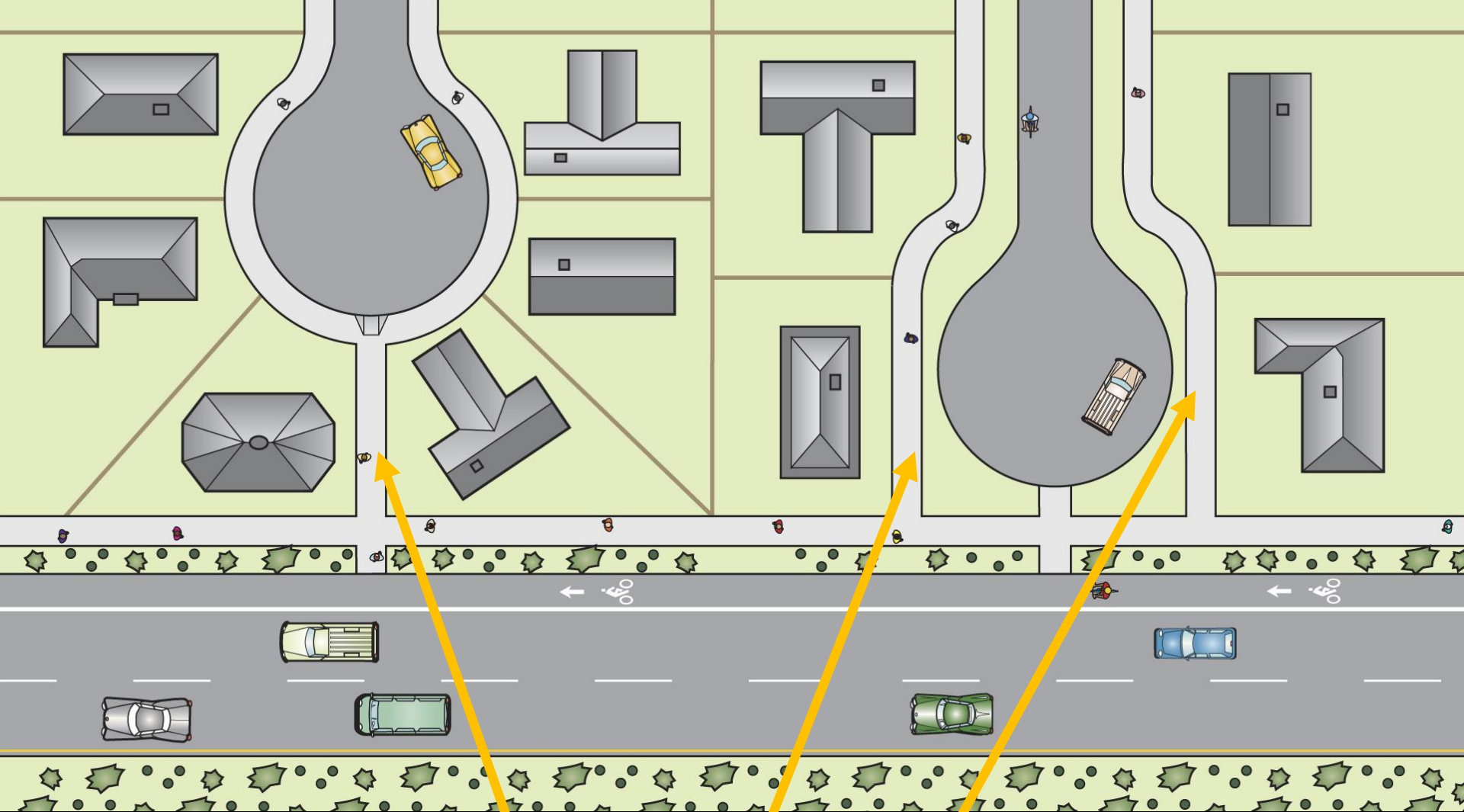


Available crossings and movements before access control



Available crossings and movements after access control

This limits people's ability to walk or bicycle



Connecting severed streets reestablishes walking routes



Severed street can be reconnected for pedestrians



Salem OR

An aerial photograph of a suburban area featuring a mix of residential houses, commercial buildings, and large parking lots. A semi-transparent dark grey horizontal band is centered across the image, containing the text 'Site Design' in a white, sans-serif font. The background shows a network of roads, green spaces, and various structures, including a large multi-story building and several smaller commercial units with associated parking areas.

Site Design

Bringing Buildings
closer to the Street

Creates a street
where drivers know
to expect
pedestrians





Parking between sidewalk and building
is not pedestrian-friendly





Building at back of walk: pedestrian-oriented design



Doylestown PA



Fast food typically favors drive-thru over walk-ins
Pedestrians must cross drive-thru lane



Sweet Home OR



Alternative design: Direct pedestrian access is provided with no vehicular conflicts



Portland OR



Parking and drive through are still provided



Portland OR

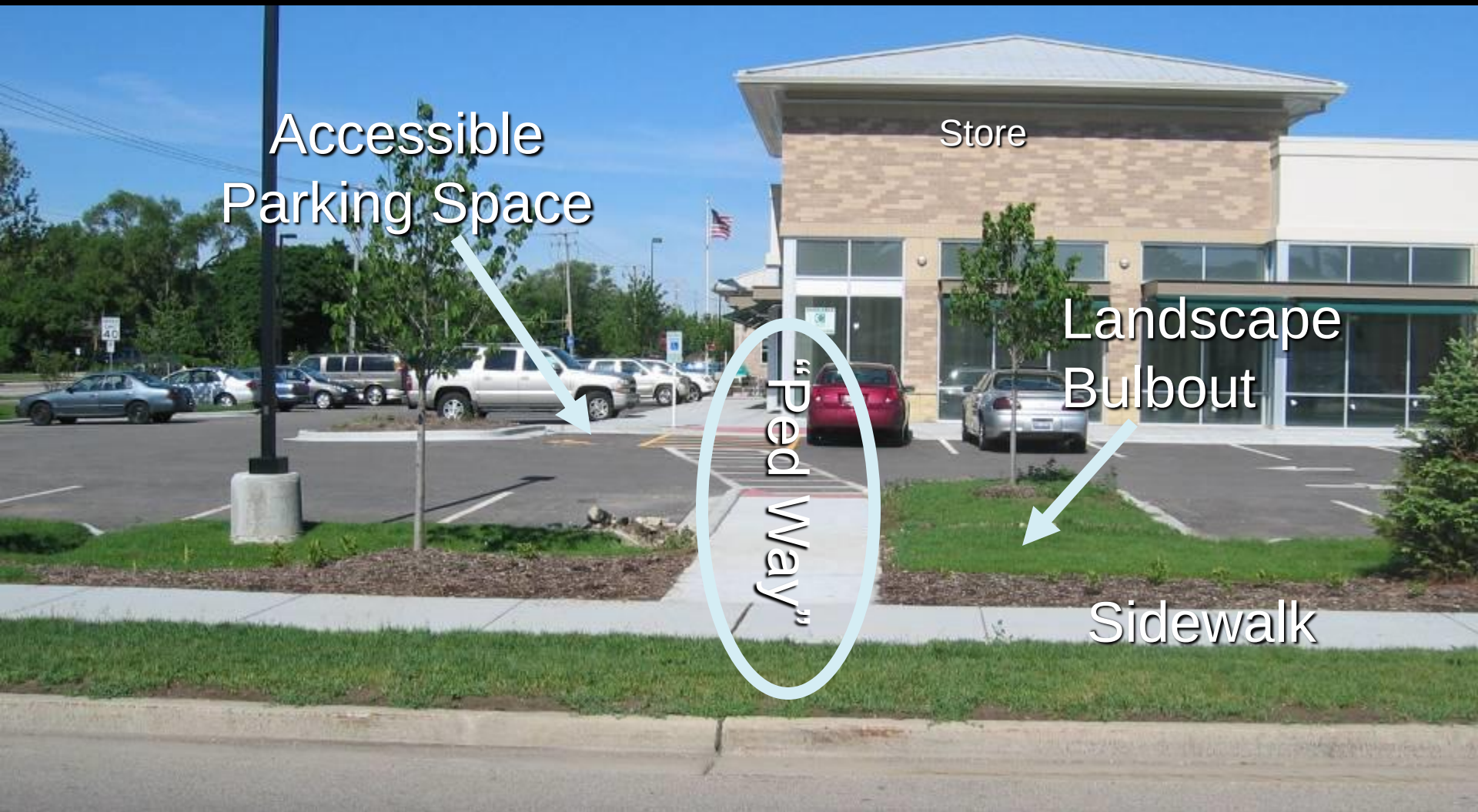


Cars enter
back here

Even a gas station / convenience store can be built
with pedestrian friendly design, at back of walk



Milwaukee WI



Pedway retrofitted from sidewalk to building through parking



Wheaton IL



Same principles apply to large-scale developments:
Direct, safe & convenient access is provided



Corvallis OR



So desperate for parking, they cut down tree!

Poor Design: Drivers use sidewalk for backing



Eugene OR

These goals are achieved by local ordinances, which must be enforced.

They are beyond the scope of road designers, yet contribute greatly to the safety, comfort and aesthetics of the walking experience.

Do your local ordinances support pedestrian-oriented planning and design?



A photograph of a city street scene. In the foreground, a green-painted bike lane with white directional arrows is visible on the asphalt. A circular manhole cover is also in the foreground. The middle ground shows a line of cars, including a silver SUV and a white taxi, moving along the street. Pedestrians are walking on the sidewalk to the right. The background features tall city buildings and trees. The title text is overlaid in the center of the image.

Rethinking The Role of Urban Streets



A “complete street” accommodates many uses and provides for all purposes of a street:

- Mobility (all modes)
- Access to destinations
- Thriving businesses
- Beauty



Portland, OR



Transforming a street



S. Pasadena CA



Narrow lanes; add bike lanes, median, trees, texture



S. Pasadena CA



Bring in buildings that face the street



S. Pasadena CA



More buildings: Infill



S. Pasadena CA



The street now has life and is safer for pedestrians



S. Pasadena CA

Revisiting Level of Service

The impact of Level of Service on street design, pedestrian comfort, and safety





HCM says LOS = A; little traffic, no impediments

Result: very wide roads that reduce pedestrian safety



Las Vegas NV



HCM 2000: Pedestrian Level Of Service = A (but no one walking)
HCM 2010: Pedestrian Level Of Service also assesses quality of pedestrian facility





HCM 2000: Pedestrian Level Of Service = F (too congested)
HCM 2010: considers quality and density for pedestrians



Boston MA



Why are pedestrians at high risk on this street?
Multilane roadway, high speeds



Las Vegas NV



Why are pedestrians at low risk on this street?
Narrow roadway, low speeds, busy



Vancouver BC

What is the core safety issue?

Pedestrians and drivers must use the streets together

- On-street parking
- Narrow cross-section
- Buildings close to street
- Sidewalks
- Crosswalk
- People!



What does the driver see that says “slow down, watch for pedestrians”?



Sisters OR



Reinventing the roadway:
Transform a 5-lane commercial strip to ...



Portland OR



...a safer road for everyone

Discussion: 1. What changed?

Discussion: 2. What didn't change?



Portland OR

End of Module

