

WICHITA

Pedestrian Facility Workshop

Wednesday, September 11, 2013



Logistics

- Health and safety (emergency exits, procedures for evacuation, etc.)
- Please silence your cell phones/pagers
- Breaks (when, restrooms, snacks)
- Lunch arrangements
- Other site-specific issues

Designing for Pedestrian Safety - Introduction

I-2

Self Introductions

Please tell us:

1. Your Name and Title
2. Your employer
3. What you would like to get out of the workshop

Designing for Pedestrian Safety - Introduction

I-3

Contact Information:



Peter Lagerwey

Toole Design Group
Seattle, Washington
plagerwey@tooledesign.com
206-200-9535

Ciara Schlichting

Toole Design Group
Minneapolis, Minnesota
Oak Creek, Wisconsin
cschlichting@tooledesign.com
612-584-4094 x 501

Designing for Pedestrian Safety - Introduction

I-4

This is a workshop:
Expect to do some work!

- Ask questions and issues as you have them
- May be covered in course material or
- Will be placed on the "Park Bench" for later
- Exercises, questions, and discussions – YOU provide the answers!
- Field trip: Assess the situation, apply the principles, and make recommendations
- Identify and prioritize potential policies and procedures



Designing for Pedestrian Safety - Introduction

I-5

Agenda overview

- **Introduction: Planning Factors the Impact Pedestrian Safety:** land use, street connectivity, access management, site design, and level of service
- **Sidewalk Design Elements that Impact Pedestrian Safety**
- **Street Crossings:** Human behavior, midblock crossings, crosswalks, medians, signals, over/under-crossings
- **Intersection Geometry:** Radii, curb extensions, islands, crosswalks
- **Intersections Signalization:** Making them better for pedestrians
- **Road diets:** Making room for pedestrians
- **Field Exercise:** Apply what we have learned
- **Policy Decision:** What potential policies and procedures are need to further enhance pedestrian safety and accessibility

Designing for Pedestrian Safety - Introduction

I-6

Why is it important to accommodate pedestrian safety and accessibility?



Because we are all pedestrians

Why?



Because many people do not drive

Why?



Because other modes depend on walking



Because it's good for business – people walk into stores

Why?



Because pedestrians use and belong on streets and highways

Why?



Because walking is healthy exercise

Why?



Because it will make roads safer for all road users

Why?

- Myth: Accommodating pedestrians increases liability
- Fact: ignoring a problem increases liability
- A good solution is to identify the problem and have a plan to address it.

"A Circuit Court civil jury ... awarded \$3.3 million to relatives of a woman killed by a motorist as she walked on a stretch of Pennsylvania Avenue that did not have a sidewalk or guard rails. The jury found the state of Maryland liable in the wrongful death lawsuit, and voted to award \$2.5 million to Kayla Martin, the daughter of Kelay Smith, who was struck and killed by a motorist on Aug. 12, 2008."

--Washington Post; March 11, 2011

To reduce liability

Why?



AASHTO: "Because of the demands of vehicular traffic in congested areas, it is often extremely difficult to make adequate provisions for pedestrians. Yet this must be done, because pedestrians are the lifeblood of our urban areas..." (1994 edition, AASHTO Green Book, page 97)

Why?

USDOT Policy Statement on Bicycle & Pedestrian Accommodation (Announced March 15, 2010)

- Every transportation agency, including DOT, has the responsibility to improve conditions and opportunities for walking and bicycling and to integrate walking and bicycling into their transportation systems.



"This is the end of favoring motorized transportation at the expense of non-motorized."

--Ray LaHood,
Transportation Secretary

**Because it's
Federal policy!**

Why?

USDOT Policy Statement – Actions to integrate non-motorized modes into future projects:

- Consider walking and bicycling as equals with other transportation modes;
- Ensure convenient choices for people of all ages and abilities;
- Go beyond minimum design standards;
- Collect data on walking and biking trips;
- Set mode share targets for walking and bicycling
- Maintain sidewalks paths, including snow removal
- Improve non-motorized facilities during maintenance projects.

Because it's Federal policy!

Resources



PBIC: www.walkinginfo.org
FHWA: safety.fhwa.dot.gov
NHTSA: nhtsa.dot.gov
ITE: www.ite.org
AASHTO/NCHRP: safety.transportation.org

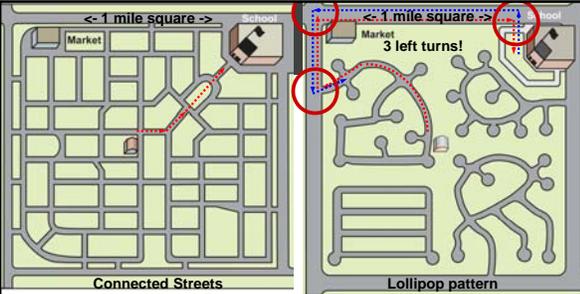
Land Use

Designing for Pedestrian Safety - Introduction 1-19

Street Connectivity



Designing for Pedestrian Safety - Introduction 1-20



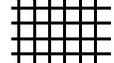
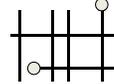
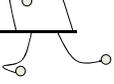
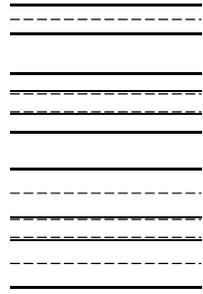
Connected Streets vs **Lollipop pattern**

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

Designing for Pedestrian Safety - Introduction 1-21

Travel Lanes Required

<p>High Connectivity</p>  <p>Moderate Connectivity</p>  <p>Low Connectivity</p> 	
---	--

Designing for Pedestrian Safety - Introduction 1-22



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

Designing for Pedestrian Safety - Introduction | Phoenix AZ 1-23



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

Designing for Pedestrian Safety - Introduction | Davis CA 1-24

Access Management => fewer conflicts at driveways
 2 techniques: (1) median (no left turns) (2) consolidate driveways

The diagram shows two street cross-sections. Option (1) features a central median that prohibits left turns, reducing the number of conflict points between vehicles. Option (2) shows a street with multiple driveways that have been consolidated into fewer, wider openings, also reducing conflict points.

Designing for Pedestrian Safety - Introduction 1-25

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

This diagram is similar to the previous one but includes a question and a small inset icon of a pedestrian. A dashed circle highlights the conflict points in option (2), suggesting a comparison of safety outcomes between the two methods.

Designing for Pedestrian Safety - Introduction 1-26

A photograph showing a residential street scene. A pedestrian is walking on a wide sidewalk. A driveway is visible on the left side of the road. A sign in the background lists house numbers: 101, 113, and 123.

Driveways can be closed for safety

Designing for Pedestrian Safety - Introduction Salem OR 1-27

The diagram illustrates a residential street layout with several cul-de-sacs and dead ends. Orange arrows point to these severed streets, indicating where they can be reconnected to the main road network.

Connecting severed streets reestablishes walking routes

Designing for Pedestrian Safety - Introduction 1-28

A photograph of a street intersection. A pedestrian is crossing the street at a crosswalk. A dark car is stopped at the intersection. The scene is set in a suburban area with grass and trees.

Severed street can be reconnected for pedestrians

Designing for Pedestrian Safety - Introduction Salem OR 1-29

Site Design

Designing for Pedestrian Safety - Introduction 1-30

Bringing Buildings closer to the Street

Creates a street where drivers know to expect pedestrians



Parking between sidewalk and building is not pedestrian-friendly



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



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



Parking and drive through are still provided



Pedway retrofitted from sidewalk to building through parking



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

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



Transforming a street



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



Bring in buildings that face the street



The impact of Level of Service (LOS) standards on street design and pedestrian safety

Designing for Pedestrian Safety - Introduction | 1-45



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"?

Designing for Pedestrian Safety - Introduction | Sisters OR | I-49

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

Designing for Pedestrian Safety - Introduction | Portland OR | I-50

...a safer road for everyone

Discussion: 1. What changed?
Discussion: 2. What didn't change?

Designing for Pedestrian Safety - Introduction | Portland OR | I-51

Questions?

Designing for Pedestrian Safety - Introduction | I-52