

PennDOT Connects

Pedestrian Safety Audits





How to get from Point A to Point B? In Jeffrey Smart's *Cahill Expressway* (1962), that's a head-scratcher for a man marooned in a motorists' landscape.

Agenda

1. What is a Pedestrian Safety Audit?
2. How do you Conduct an Audit?



A photograph of a city street intersection. In the foreground, a wide crosswalk with white stripes leads across the road. Several cars are visible in the background, some stopped at a traffic light. A traffic light pole on the right shows a red hand symbol, indicating a pedestrian crossing. A blue sign on the pole reads "SOUTH". A red sign with a white "E" and a blue sign with a white "P" are also visible. A blue trash can is on the sidewalk. The background shows trees and buildings.

Part 1: What is a Pedestrian Safety Audit?

A group of people, including students and adults, are gathered at a street intersection. In the background, there are trees with autumn foliage, a brick building with a green roof, and a white barn-like structure. A traffic light pole with yellow lights is visible on the right side of the frame. The sky is clear and blue.

Part 1: What is a Ped Safety Audit?

What is a Road Safety Audit?

A Road Safety Audit (RSA) is a formal safety performance examination of an existing or future road or intersection by an independent audit team.

The RSA team considers the safety of all road users, qualitatively estimates and reports on road safety issues and opportunities for safety improvement.

▶ Part 1: What is a Ped Safety Audit?



Part 1: What is a Ped Safety Audit?

Walkability Checklist

How walkable is your community?

Take a walk with a child and decide for yourselves.

Everyone benefits from walking. These benefits include improved fitness, cleaner air, reduced risks of certain health problems, and a greater sense of community. But walking needs to be safe and easy. Take a walk with your child and use this checklist to decide if your neighborhood is a friendly place to walk. Take heart if you find problems, there are ways you can make things better.

Getting started:

First, you'll need to pick a place to walk, like the route to school, a friend's house or just somewhere fun to go.

The second step involves the checklist. Read over the checklist before you go, and as you walk, note the locations of things you would like to change. At the end of your walk, give each question a rating. Then add up the numbers to see how you rated your walk overall.

After you've rated your walk and identified any problem areas, the next step is to figure out what you can do to improve your community's score. You'll find both immediate answers and long-term solutions under "Improving Your Community's Score..." on the third page.



▶ Part 1: What is a Ped Safety Audit?



Part 1: What is a Ped Safety Audit?

Responsibilities



RSA Team



Design Team/Project Owner



Part 1: What is a Ped Safety Audit?

PROACTIVE

4



Engineering

4



Education

4



Enforcement





Part 2: How to Conduct a Pedestrian Safety Audit?

▶ Part 2: How to Conduct a Ped Safety Audit



Part 2: How to Conduct a Ped Safety Audit

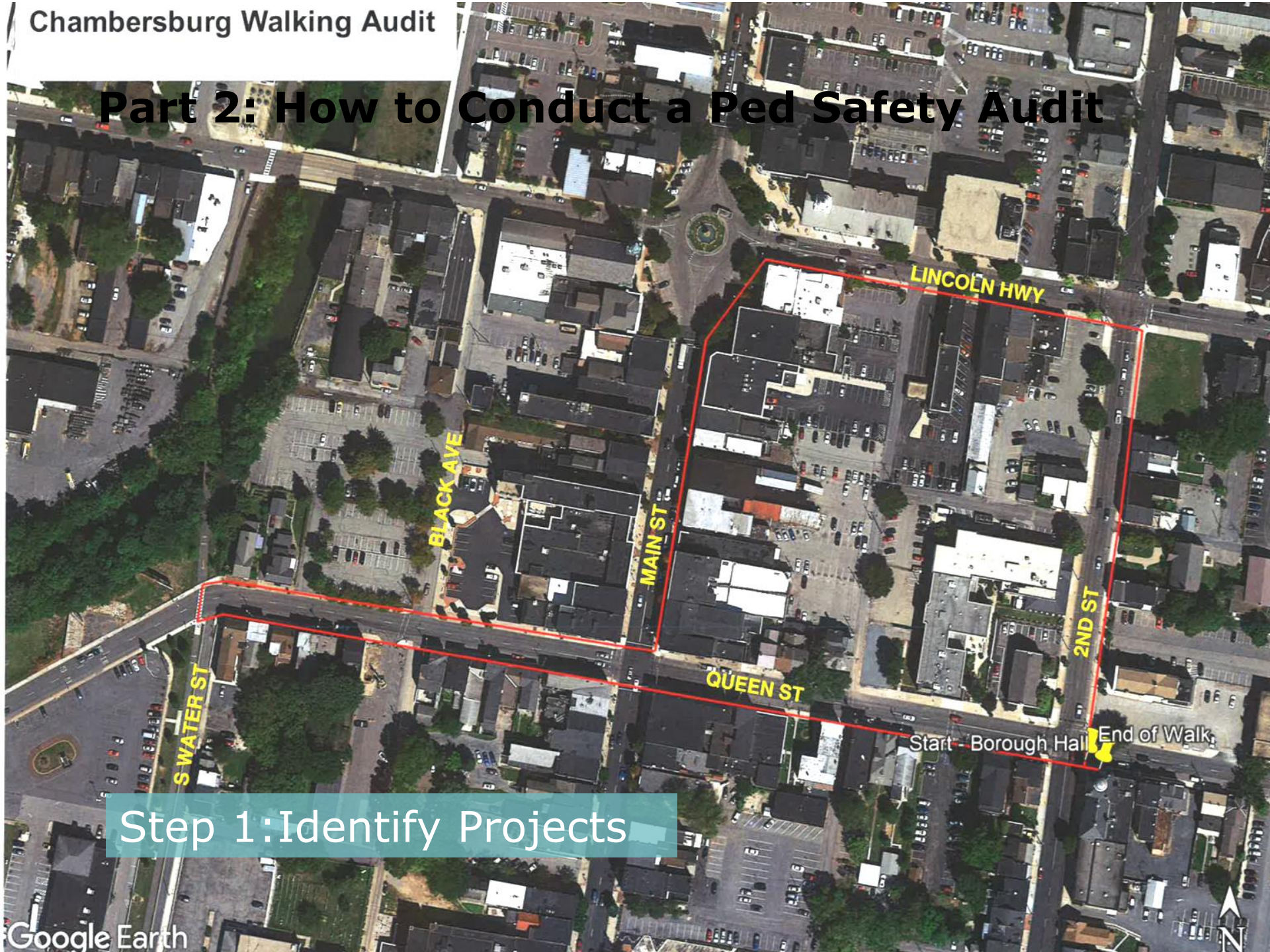


Part 2: How to Conduct a Ped Safety Audit

Step 1: Identify Projects



Part 2: How to Conduct a Ped Safety Audit



Start - Borough Hall End of Walk

Step 1: Identify Projects



Part 2: How to Conduct a Ped Safety Audit



Step 2: Pick Team

Part 2: How to Conduct a Ped Safety Audit



Step 2: Pick Team



Part 2: How to Conduct a Ped Safety Audit



Step 3: Start-up Meeting

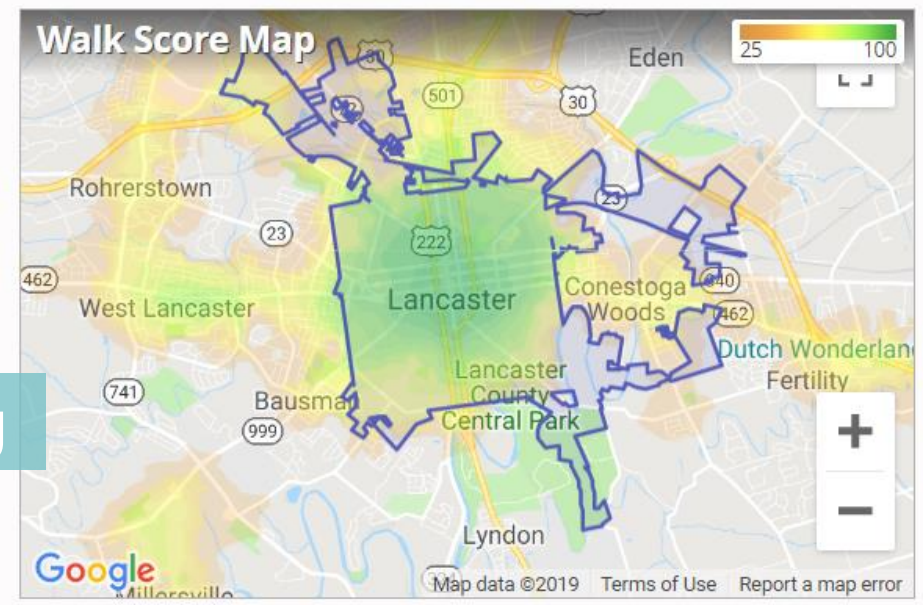


Walk Score
82

Lancaster is Very Walkable

Most errands can be accomplished on foot.

Step 3: Start-up Meeting



Part 2: How to Conduct a Ped Safety Audit

Step 4: Conduct Field Review



▶ Part 2: How to Conduct a Ped Safety Audit



Part 2: How to Conduct a Ped Safety Audit

Pedestrian Road Safety Audit Guidelines and Prompt Lists



FHWA-SA-07-007
July 2007



Step 4: Conduct Field Review

Master Prompt List

RSA Matrix

Topic	Subtopic	RSA Zones			
		A. Streets	B. Street Crossings	C. Parking Areas/Adjacent Developments	D. Transit Areas
Universal Considerations (For Entire RSA Site)	I. Needs of Pedestrians: Do pedestrian facilities address the needs of all pedestrians?				
	II. Connectivity and Convenience of Pedestrian Facilities: Are safe, continuous, and convenient paths provided along pedestrian routes throughout the study area?				
	III. Traffic: Are design, posted, and operating traffic speeds compatible with pedestrian safety?				
	IV. Behavior: Do pedestrians or motorists regularly misuse or ignore pedestrian facilities?				
	V. Construction: Have the effects of construction on all pedestrians been addressed adequately?				
	VI. School Presence: Is the safety of children in school zones adequately considered?				
Pedestrian Facilities	1. Presence, Design, and Placement	Sidewalks, paths, ramps, and buffers	Crossing treatments, intersections	Sidewalks and paths	Seating, shelter, waiting/loading/unloading areas
	2. Quality, Condition, and Obstructions	Sidewalks, paths, ramps, and buffers	Crossing treatments (see prompts in A)	Sidewalks and paths (see prompts in A)	Seating, shelter, waiting/loading/unloading areas (see prompts in A)
Traffic	3. Continuity and Connectivity	Continuity/Connectivity with other streets and crossings	Continuity/connectivity of crossing to ped network; channelization of peds to appropriate crossing points	Continuity/connectivity of pedestrian facilities through parking lots/adjacent developments	Connectivity of ped network to transit stops
	4. Lighting	Pedestrian level lighting along the street	Lighting of crossing	Pedestrian level lighting in parking lots/adjacent developments (see prompts in A and B)	Lighting at and near transit stop
	5. Visibility	Visibility of all road users	Visibility of crossing/walking pedestrians and oncoming traffic	Visibility of pedestrians and backing/turning vehicles; visibility of pedestrian path	Visibility of pedestrians/walking passengers and vehicles/buses
Traffic Control Devices	6. Access Management	Driveway placement and design along streets	Driveway placement next to intersections	Driveway placement and use in relation to pedestrian paths	n/a*
	7. Traffic Characteristics	Volume and speed of adjacent traffic, conflicting conditions	Volume and speed of traffic approaching crossing, conflicting movements	Traffic volume and speed in parking lots and developments, conflicting conditions	Volume and speed of adjacent traffic and traffic at crossings to bus stops, conflicting conditions
Traffic Control Devices	8. Signs and Pavement Markings	Use and condition of signs, pavement markings, and route indicators	Use and condition of signs, pavement markings, and crossing indicators	Use and condition of signs, pavement markings for travel path and crossing points	Use and condition of transit-related signs and pavement markings
	9. Signals	n/a*	Presence, condition, timing, and phasing of signals	n/a*	See prompts in B

Part 2: How to Conduct a Ped Safety Au

Five major elements:

1. Universal considerations
2. Streets/sidewalks/trails
3. Street crossings
4. Adjacent development
5. Transit

Step 4: Conduct Field Review

I. Needs of Pedestrians: Do pedestrian facilities address the needs of all pedestrians?

II. Connectivity and Convenience of Pedestrian Facilities: Are safe, continuous, and convenient paths provided along pedestrian routes throughout the study area?

III. Traffic: Are design, posted, and operating traffic speeds compatible with pedestrian safety?

IV. Behavior: Do pedestrians or motorists regularly misuse or ignore pedestrian facilities?

V. Construction: Have the effects of construction on all pedestrians been addressed adequately?

VI. School Presence: Is the safety of children in school zones adequately considered?



B. Street Crossings

Master Prompt	Detailed Prompt		RSA Stages			
			planning	design	construction	post-construction
B.1 Presence, Design, and Placement	B.1.1	Do wide curb radii lengthen pedestrian crossing distances and encourage high-speed right turns?		✓	✓	✓
	B.1.2	Do channelized right turn lanes minimize conflicts with pedestrians?		✓	✓	✓
	B.1.3	Does a skewed intersection direct drivers' focus away from crossing pedestrians?	✓	✓	✓	✓
	B.1.4	Are pedestrian crossings located in areas where sight distance may be a problem?	✓	✓	✓	✓
	B.1.5	Do raised medians provide a safe waiting area (refuge) for pedestrians?	✓	✓	✓	✓
	B.1.6	Are supervised crossings adequately staffed by qualified crossing guards?				✓
	B.1.7	Are marked crosswalks wide enough?		✓	✓	✓
	B.1.8	Do at-grade railroad crossings accommodate pedestrians?		✓	✓	✓
	B.1.9	Are crosswalks sited along pedestrian desire lines?	✓	✓	✓	✓

Step 4: Conduct Field Review



Crossing distance

10th St

902

Vehicle Impact Speed vs. Pedestrian Injury

(initial impact only)



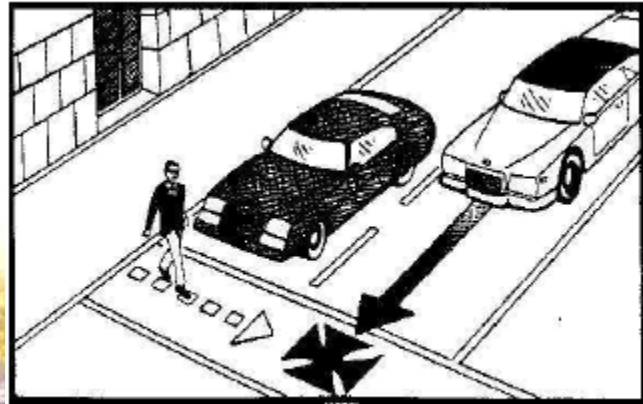
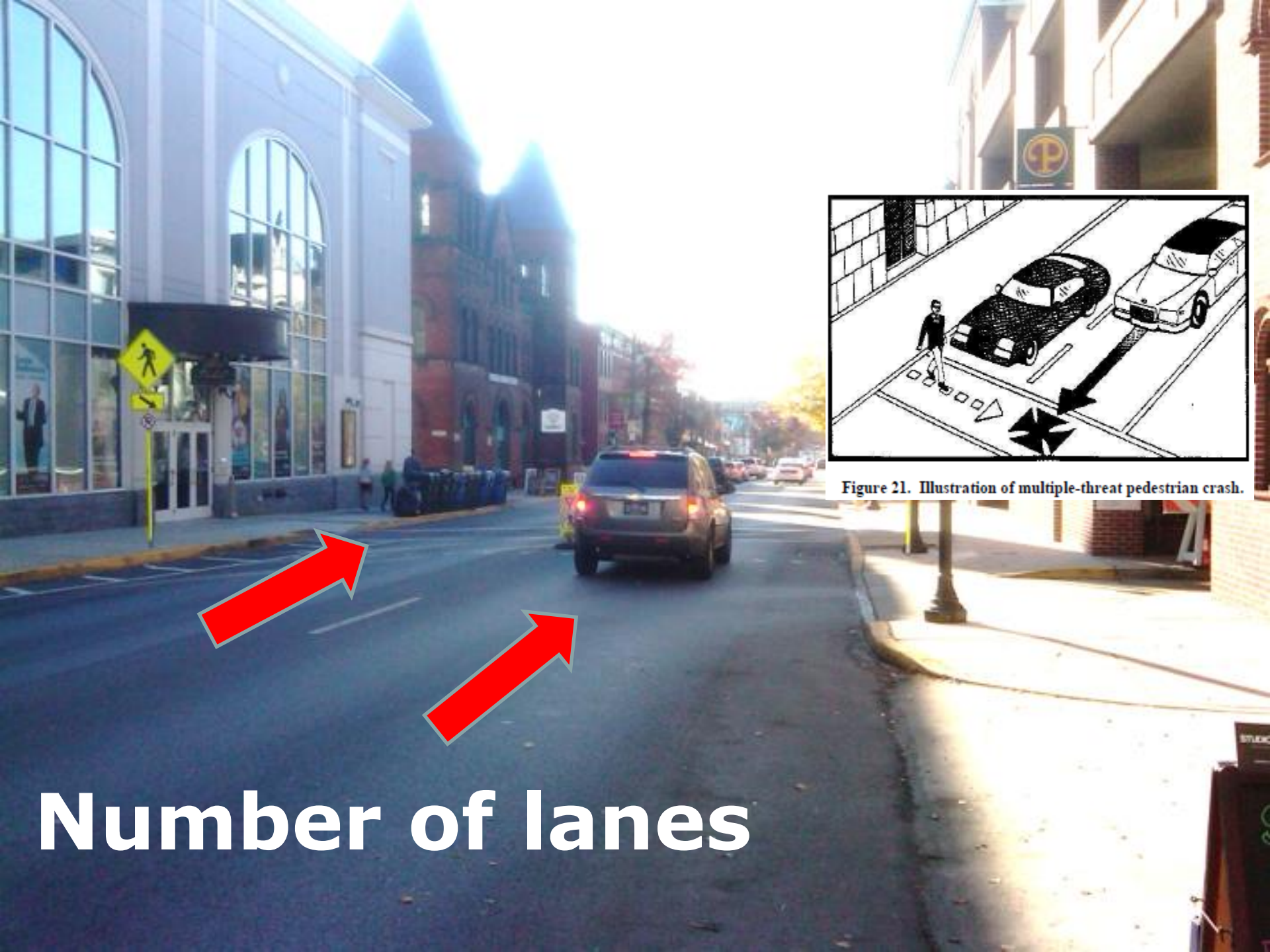


Figure 21. Illustration of multiple-threat pedestrian crash.

Number of lanes



Turning vehicles

A nighttime photograph of a street scene. The street is illuminated by several tall, modern streetlights that cast a bright glow. On the left side of the road, there is a white building with a green section, a fire hydrant, and a black trash can. A yellow sign with a black silhouette of a person walking and the text "STATE LAW" and "WALKING" is positioned on the road. In the background, there are several vehicles, including a white van and a red car. The sky is dark, and the overall atmosphere is quiet and well-lit.

Nighttime visibility



Pedestrian type/age

Part 2: How to Conduct a Ped Safety Audit



**Controlled versus
uncontrolled approaches**

▶ Part 2: How to Conduct a Ped Safety Audit



▶ Part 2: How to Conduct a Ped Safety Audit



Part 2: How to Conduct a Ped Safety Audit



Step 5: Report



Gronger St



Academy St



Bulb-outs

Recommended Strategy	Level of Effort	Potential Safety Benefit
Pedestrian infrastructure along the SR 94 corridor: curb ramps to meet ADA standards crosswalks bollards	High	Medium
...ing curb ramps, consider providing bulb-outs to and crosswalks.	High	High
... provide traffic calming and reduce pedestrian crossing lengths.		

... provide traffic calming and reduce pedestrian crossing lengths.

PEDSAFE

Pedestrian Safety Guide and Countermeasure Selection System

Part 2: How to Conduct a Ped Safety Audit

Guide: Background & Statistics | Analysis | Implementation | Countermeasures | Tools & Software | Case Studies | Resources

The **Pedestrian Safety Guide and Countermeasure Selection System** is intended to provide practitioners with the latest information available for improving the safety and mobility of those who walk. The online tools provide the user with a list of possible engineering, education, or enforcement treatments to improve pedestrian safety and/or mobility based on user input about location.

GUIDE

Background

Understand what is needed to create a viable pedestrian system.

Analysis

How crash typing can lead to the most appropriate countermeasures.

Pennsylvania Department of Transportation

Projects & Programs

COUNTERMEASURES

Selection Tool

Find countermeasures based on desired objectives.

Selection Matrix

Find countermeasures based on



STIPA Travel Info



Submit Concern



Results



REAL ID



News

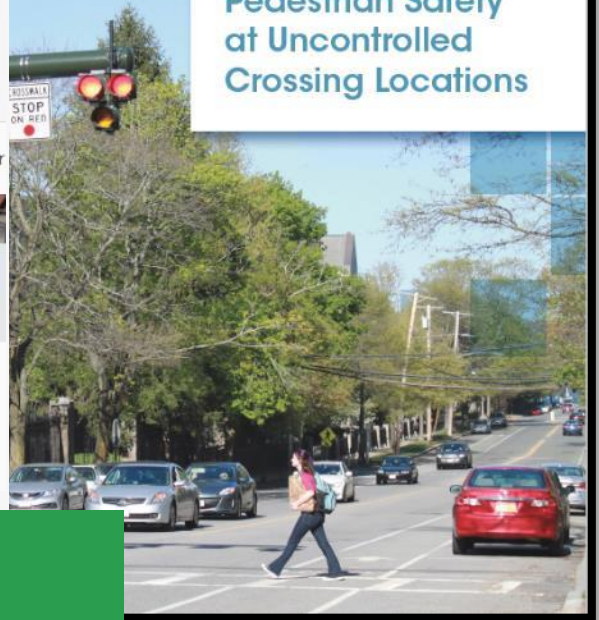
[DOT](#) > [Travel in PA](#) > [Safety](#) > [Traffic Safety & Driver Topics](#) > Pedestrian Safety

Pedestrian Safety

RESOURCES



Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations



FACTS & FIGURES

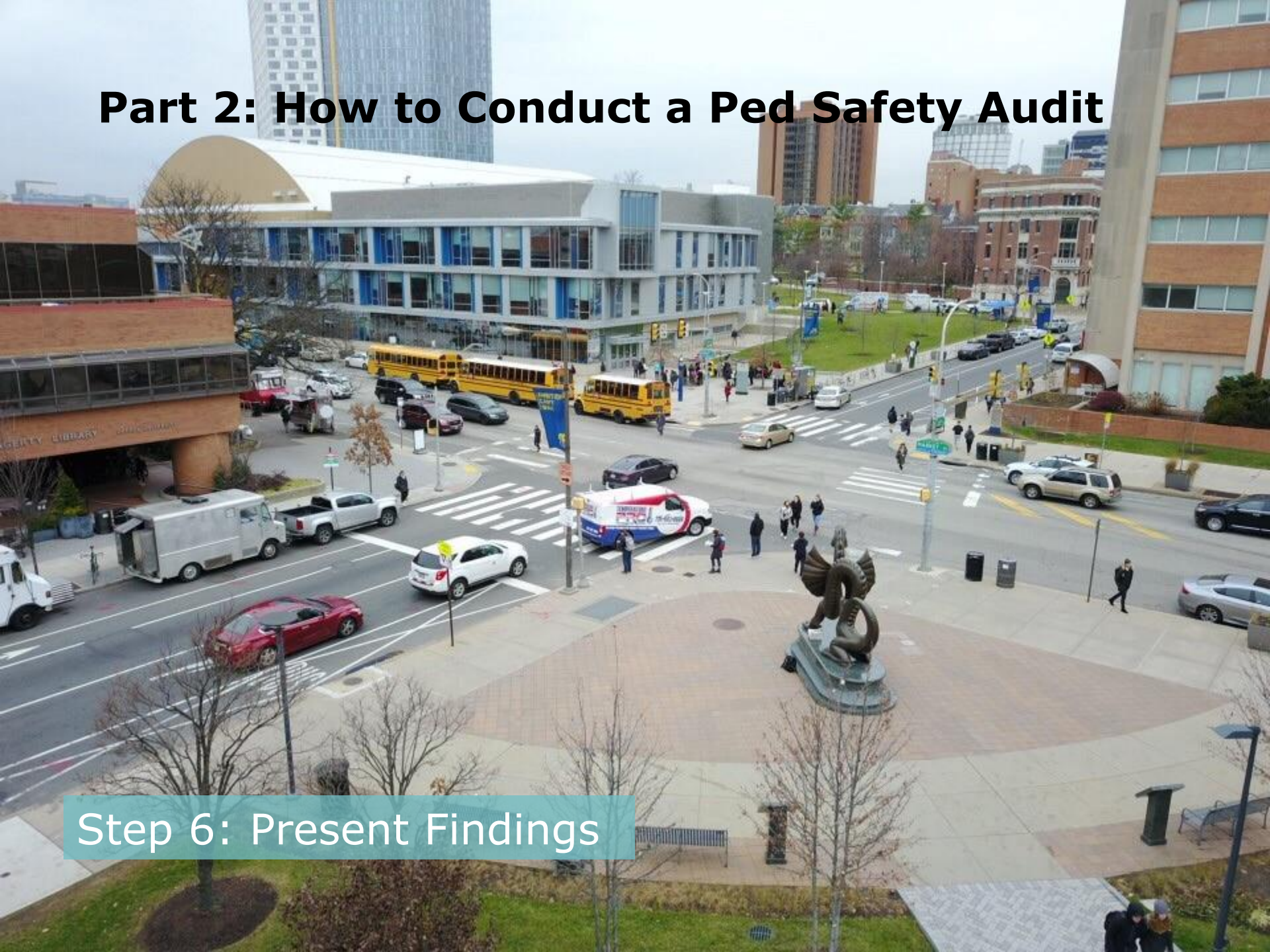
STEP

Step 5: Report

Safe Transportation for Every Pedestrian

Part 2: How to Conduct a Ped Safety Audit

Step 6: Present Findings



Part 2: How to Conduct a Ped Safety Audit



Step 7: Formal Response

Part 2: How to Conduct a Ped Safety Audit

Step 8: Implementation Plan



Part 2: How to Conduct a Ped Safety Audit



Step 8: Implementation Plan

Pedestrian Safety Audits

Summary



pennsylvania

DEPARTMENT OF TRANSPORTATION

LOCAL TECHNICAL ASSISTANCE PROGRAM