PRINCETON
bicycle master plan

SAC Meeting #1
October 27, 2015

Meeting Agenda

- Introductions
- Meeting Goals
- Overview of Bicycle Master Plan Process
- Envisioning the Future
- The Nitty Gritty
- Next Steps

Meeting Goals

- Share Best Practices Findings to Inform Plan
- Brainstorming to Inform Plan Goals and Challenges
- Identify Problem Areas

Bicycle Master Plan Process Overview

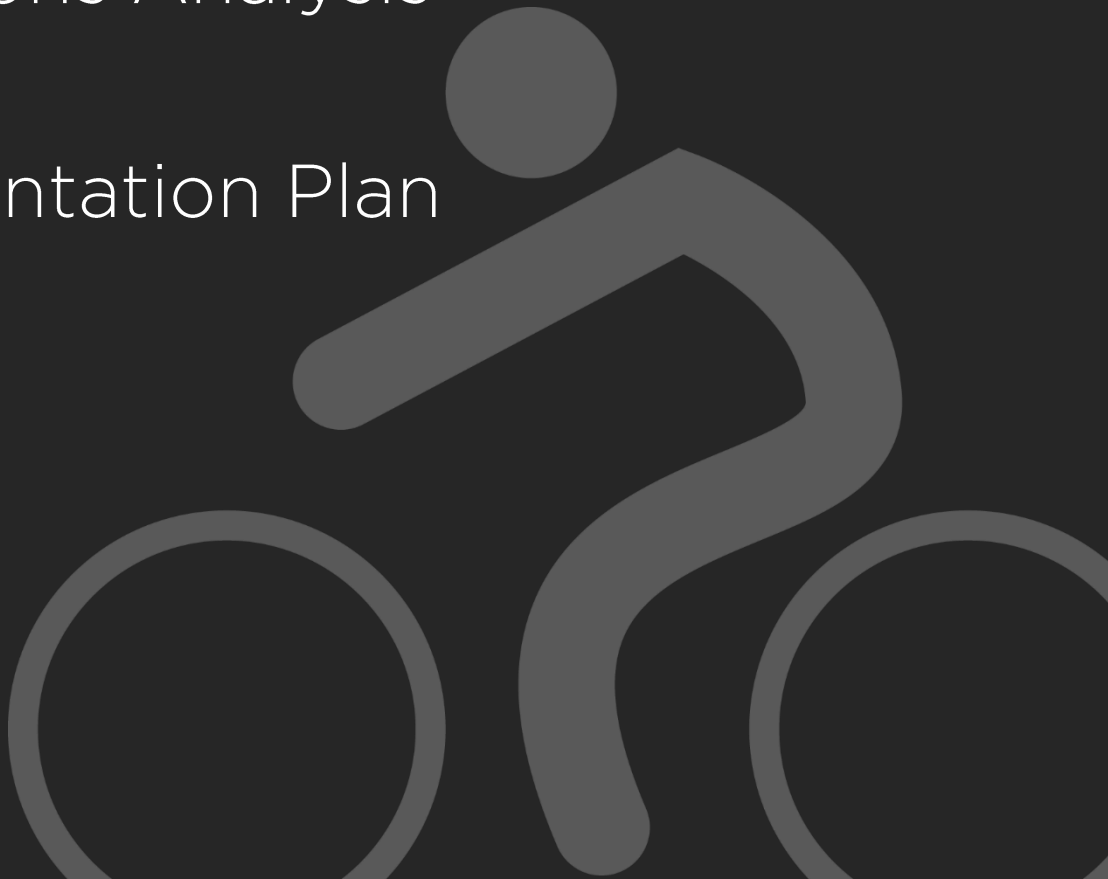
Bicycle Master Plan Overview

Desired Outcomes:

- Adopt Bicycle Master Plan
- Adopt Bicycle Network Plan
- Identify Capital Improvements
- Identify Potential Ordinance Changes to Support the Plan

Study Outline

- Community Outreach
- Existing Conditions Analysis
- Bicycle Network
- Bicycle Implementation Plan



Community Outreach

- Engage throughout planning process
- Gather local input and feedback
  - Needs and objectives
  - Problems and constraints
  - Identify and develop recommendations
- Build consensus and support for implementation

Community Outreach

- Planning Board (4 mtgs)
- Local Study Advisory Committee (3 mtgs)
- Public Meetings (3 mtgs)
- Informal Focus Groups/Interviews (5)
- Community Events (1)
  - National Night Out, August 4
- Crowdsourcing (wikimapping)

Role of the SAC

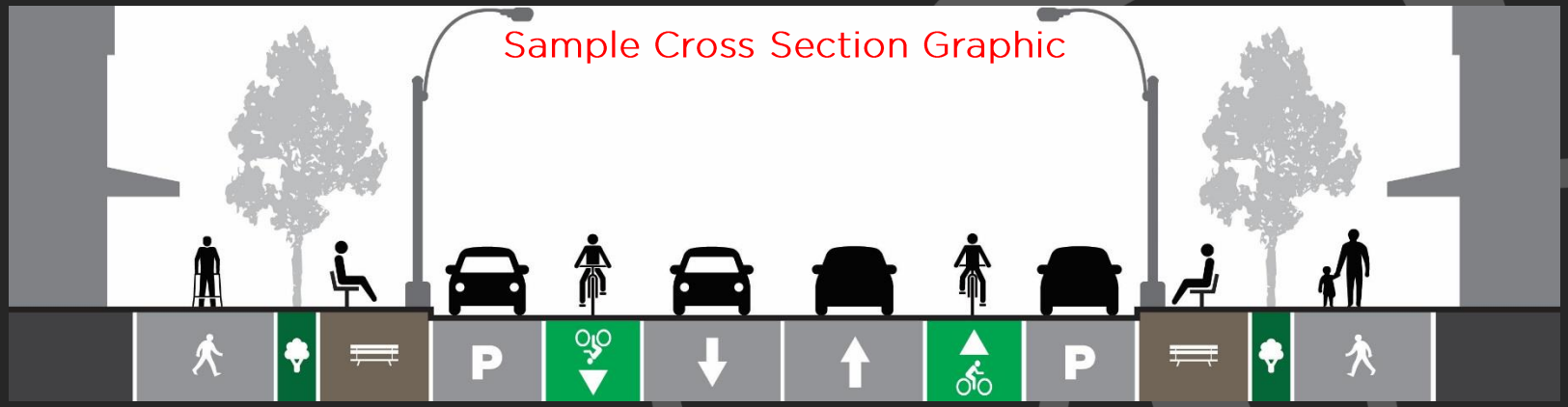
- Provide input
- Represent the expertise of various stakeholder groups
- Assist in community outreach
- Comment on draft products

Existing Conditions

- “Level-of-Stress” analysis
- Crash analysis
- Current bicycle facilities
- Roadway characteristics
- Map key destinations
- Role of cycling in Princeton
- Previous studies

Bicycle Implementation Plan

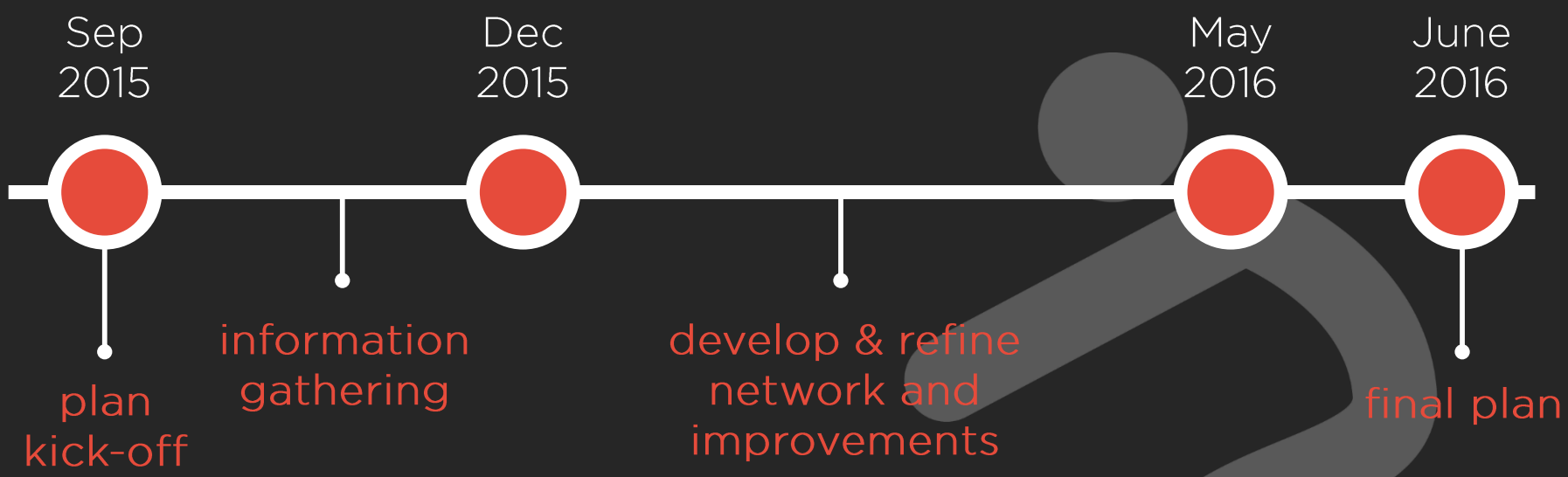
- Create a municipal-wide network
- Identify potential bicycle facility types
  - Recommended cross sections
  - Sample photo simulations



Bicycle Network

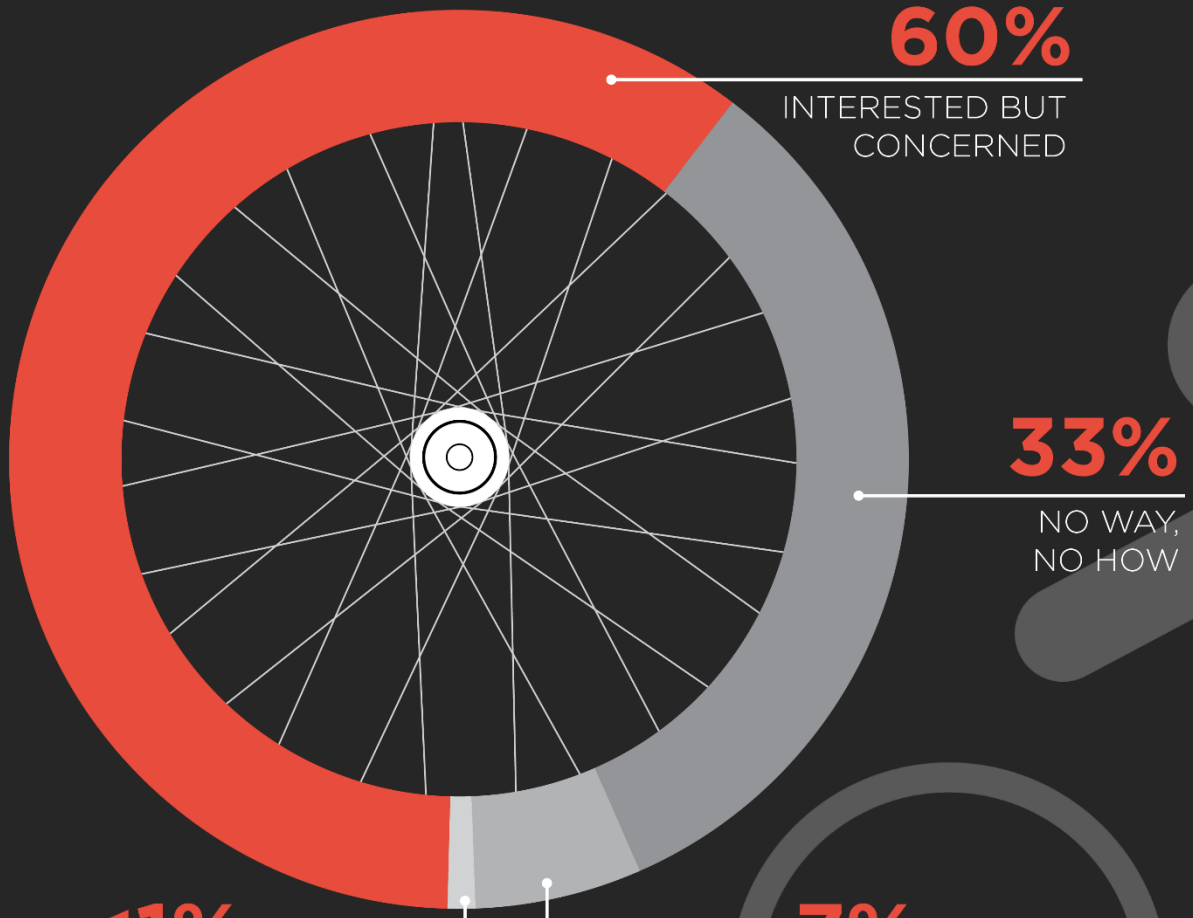
- Link major destinations
- Review constraints and opportunities
- Assess off-road connections
- Reflect community input

Study Timeline



Types of Cyclists

Four Types of Riders



Source: City of Portland, 2005

Strong and Fearless

Enthused and Confident

Interested But Concerned

Example Bicycle Facility Treatment Types

Bicycle Facility & Treatment Types

- Bicycle Lanes
- Buffered Bicycle Lanes
- Separated Bicycle Lanes
- Shared Lanes
- Bicycle Boulevards
- Multi-Use Trails/Side Paths

Bike Lane

- Provides dedicated space for cyclists
- Typical Width: 5+ ft
- Typical Application:
  - 25-35 mph
  - Volumes ≥ 3,000

Buffered Bike Lane

- Provides space between cyclists and traffic
- Improves cyclist comfort
- Typical Width: 5 ft lane, 3 ft buffer
- Typical Application:
  - 25-35 mph
  - Volumes ≥ 3,000

RUTGERS
PARK
RUTGERS
J10 EJY

Separated Bike Lane

- Provides physical separation from traffic
- Creates low stress facility
- Preferred treatment for “interested but concerned” cyclists
- Typical Width: 5+ ft lane, 3 ft buffer
- Typical Application:
  - Higher speeds & volumes

Two-Way Separated Bike Lane

Shared Lane Markings

- Used to designate bike routes and connect dedicated facilities
- Improves driver awareness of cyclists
- Indicates to cyclists proper lane positioning
- Preferred Application:
  - ≤ 25 mph; Low volumes (≤ 3,000 AADT)
  - No minimum width
  - As short connection between dedicated facilities
  - At intersections or other areas where cartway width is constrained

BLUE POINT GRILL
ONE WAY

Bicycle Boulevard

- Traffic calmed streets
- Low speed differential between bicyclists and motorists
- Reduced vehicular through traffic
- Continuous route, often parallel to busier thoroughfares
- Typical Application:
  - ≤ 25 mph (20 mph preferred)
  - Low volume, residential streets

NO
DOGS
ALLOWED
SHARE THE ROAD
SPEED
LIMIT
15
M.P.H.
15

Multi-Use Trail

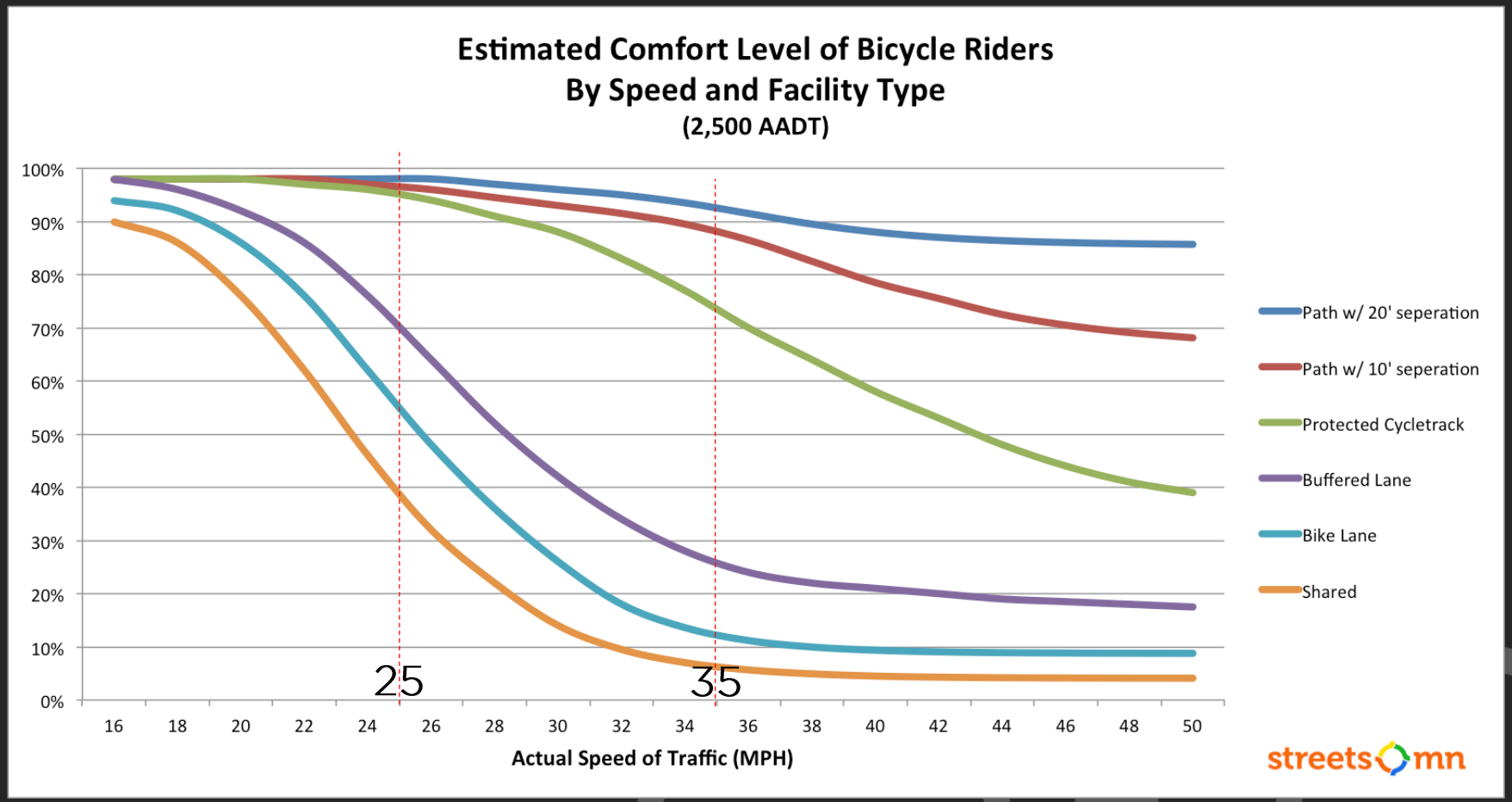
- Low-stress path for cyclists and pedestrians
- Often within its own ROW, separated from roadway by open space
- Typical Width: 10+ ft
- Typical Application:
  - Linear corridor
  - Few roadway intersections
  - Own right-of-way

Side Path

- Shared-use path adjacent to road
- Unlike sidewalks, designed for bicycle operating speeds
- Low-stress
- Typical Width: 8-10 ft
- Typical Application:
  - Limited driveway and intersection interruptions
  - On-street bicycle facilities impractical

SPEED LIMIT 35
STOP HERE FOR

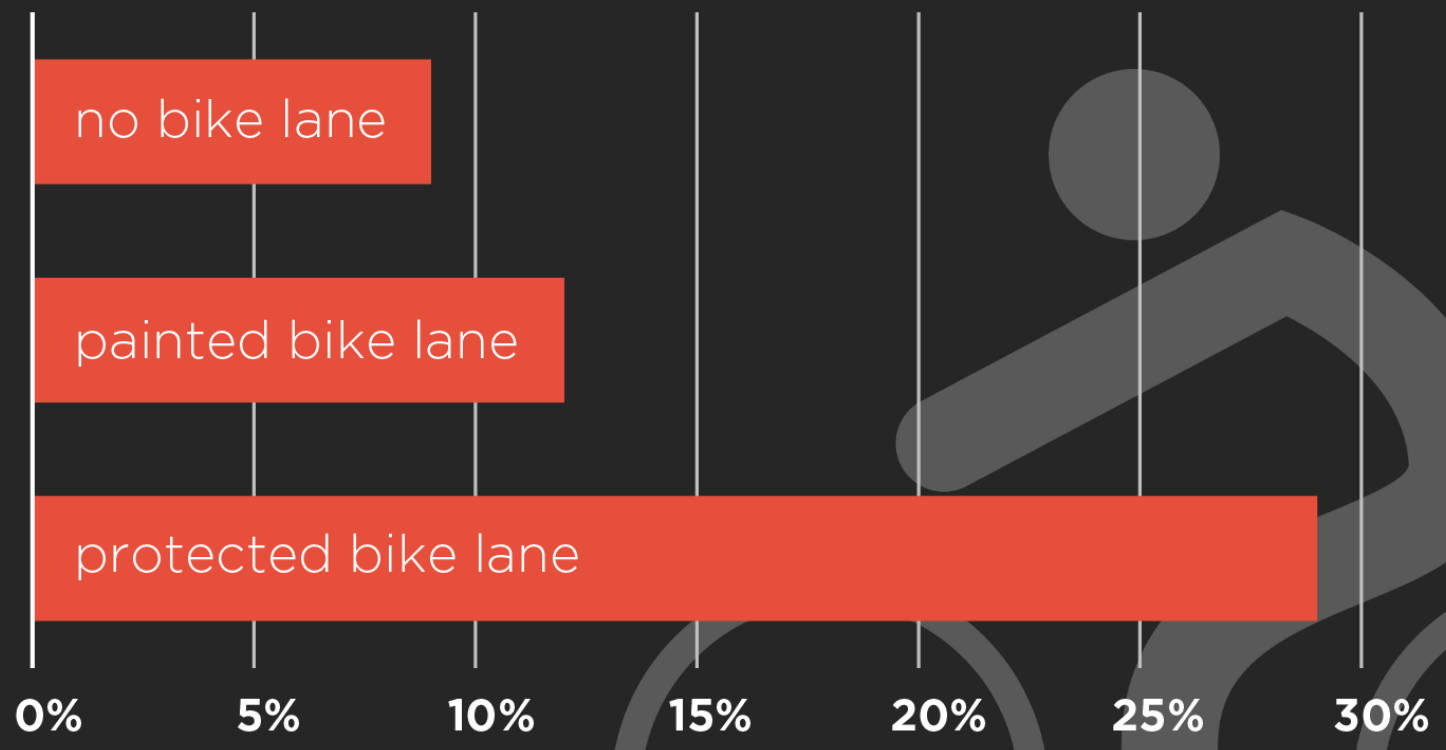
Basis for Comfort Level



http://tcstreetsforpeople.org/

Basis for Comfort

Percent of U.S. adults who feel "very comfortable" biking on a four-lane street with parking



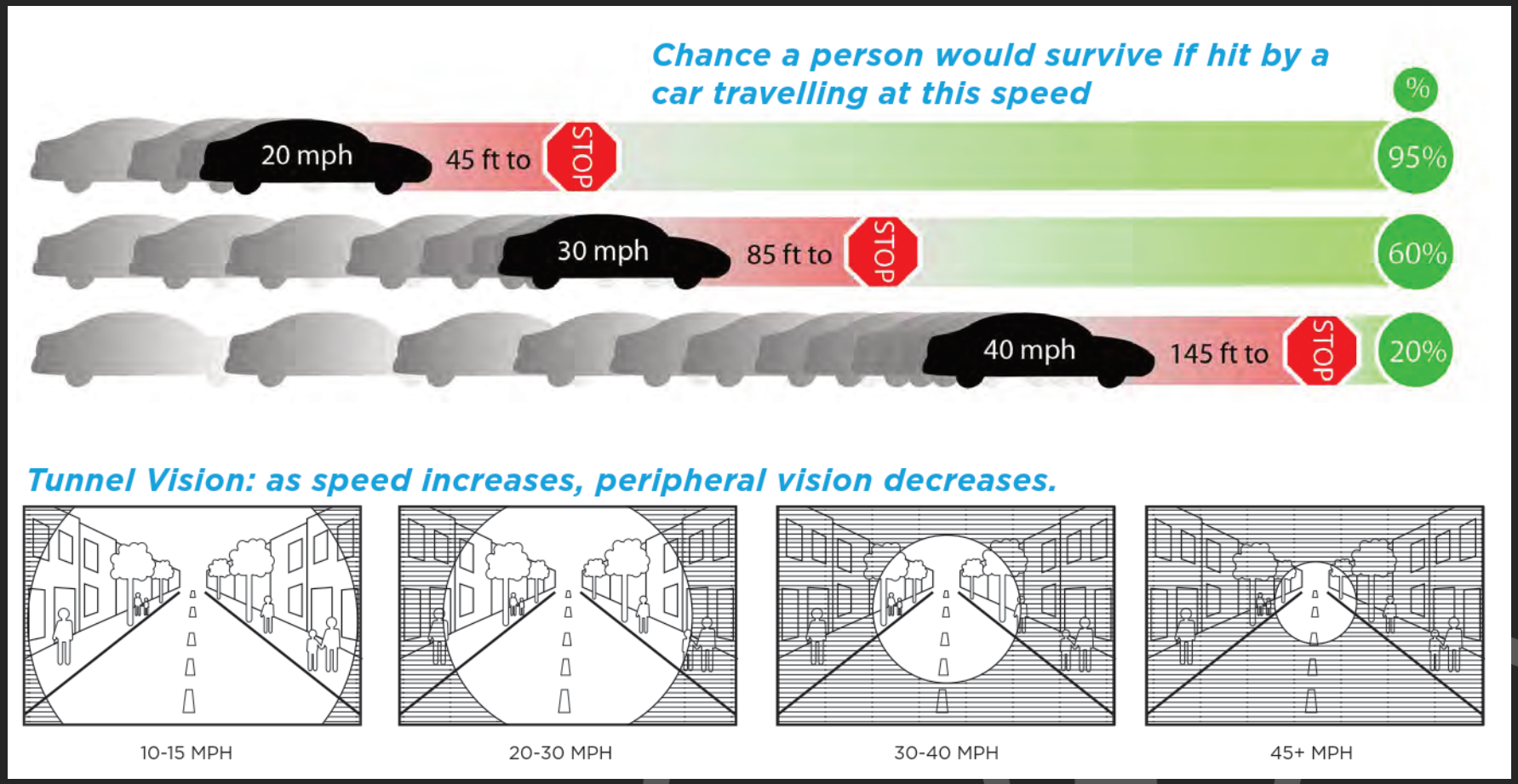
Source: Portland State University, 2015

Best Practice Guides

- NACTO *Urban Bikeway Design Guide*
- NACTO *Urban Street Design Guide*
- AASHTO *Guide for the Development of Bicycle Facilities*
- FHWA *Separated Bike Lane Planning and Design Guide*

Best Practice Research Findings

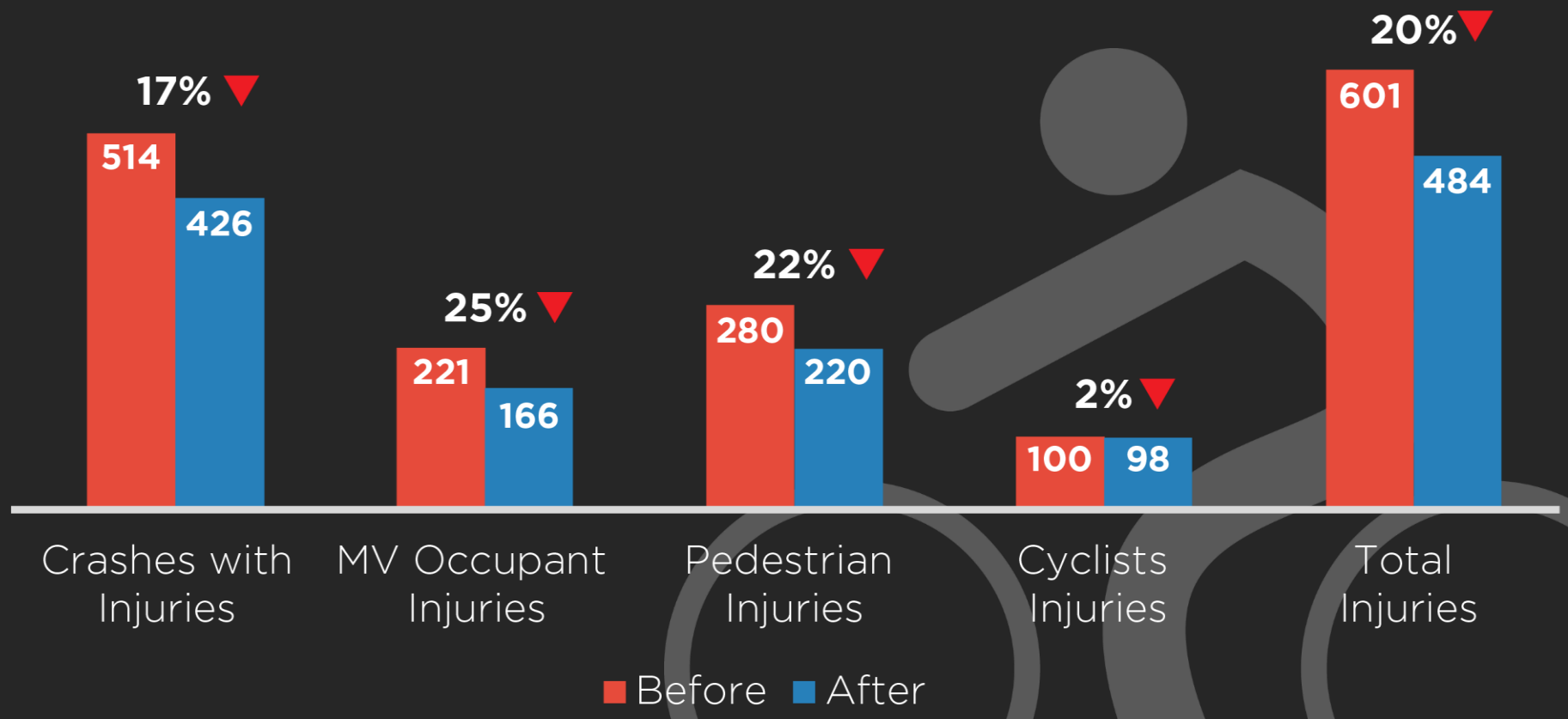
Safety vs. Speed



Source: Chicago Complete Street Guidelines

Improved Safety – All Users

NYC Separated Bicycle Lanes: Before/After Safety Trends
(Corridors with 3 Years of Data)

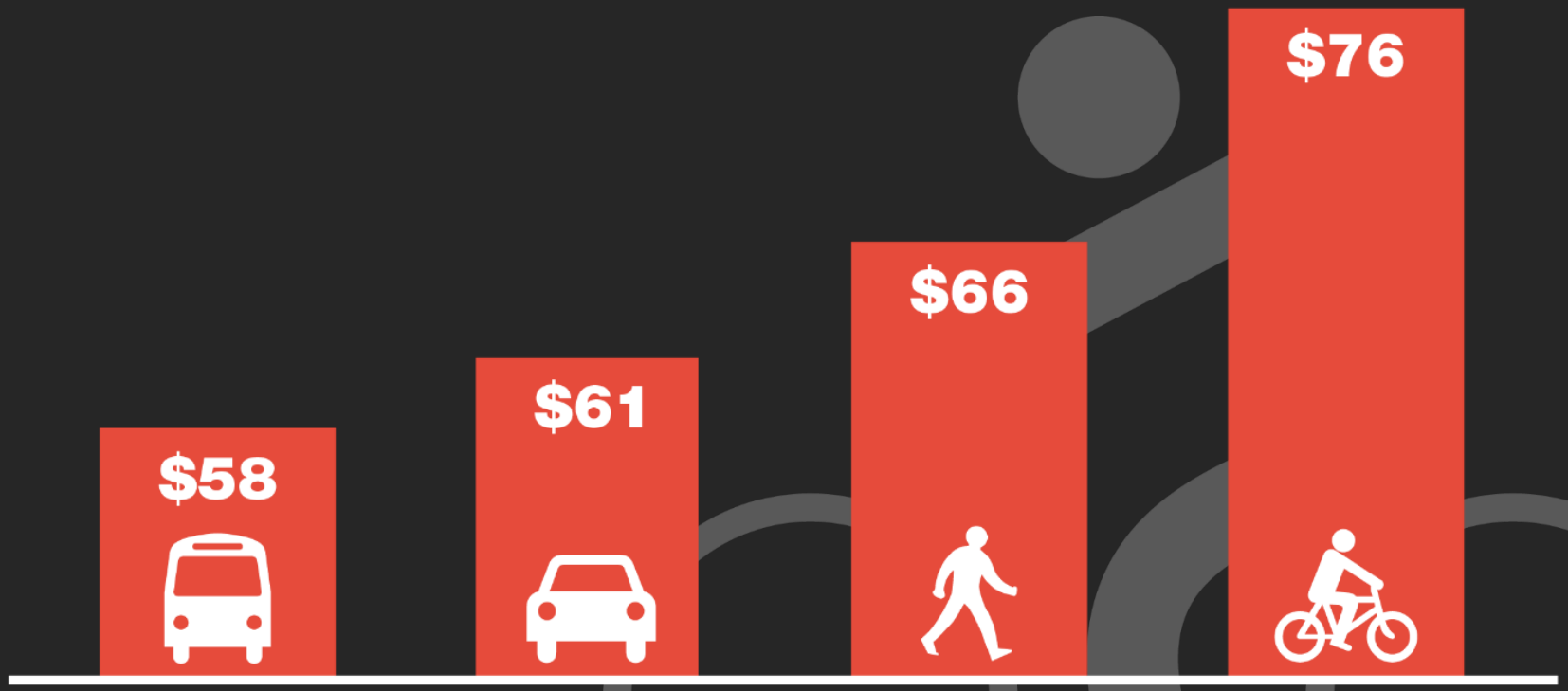


Good for Property Values!

- Positive, statistically significant impact on home values (Arlington, VA)
- Median home prices increase $510 every ¼ mile closer to off-street bikeways (Minneapolis)
- Increased 148% within one-block of Indianapolis Cultural Trail

Good for Business!

- Average monthly expenditures in Portland, OR

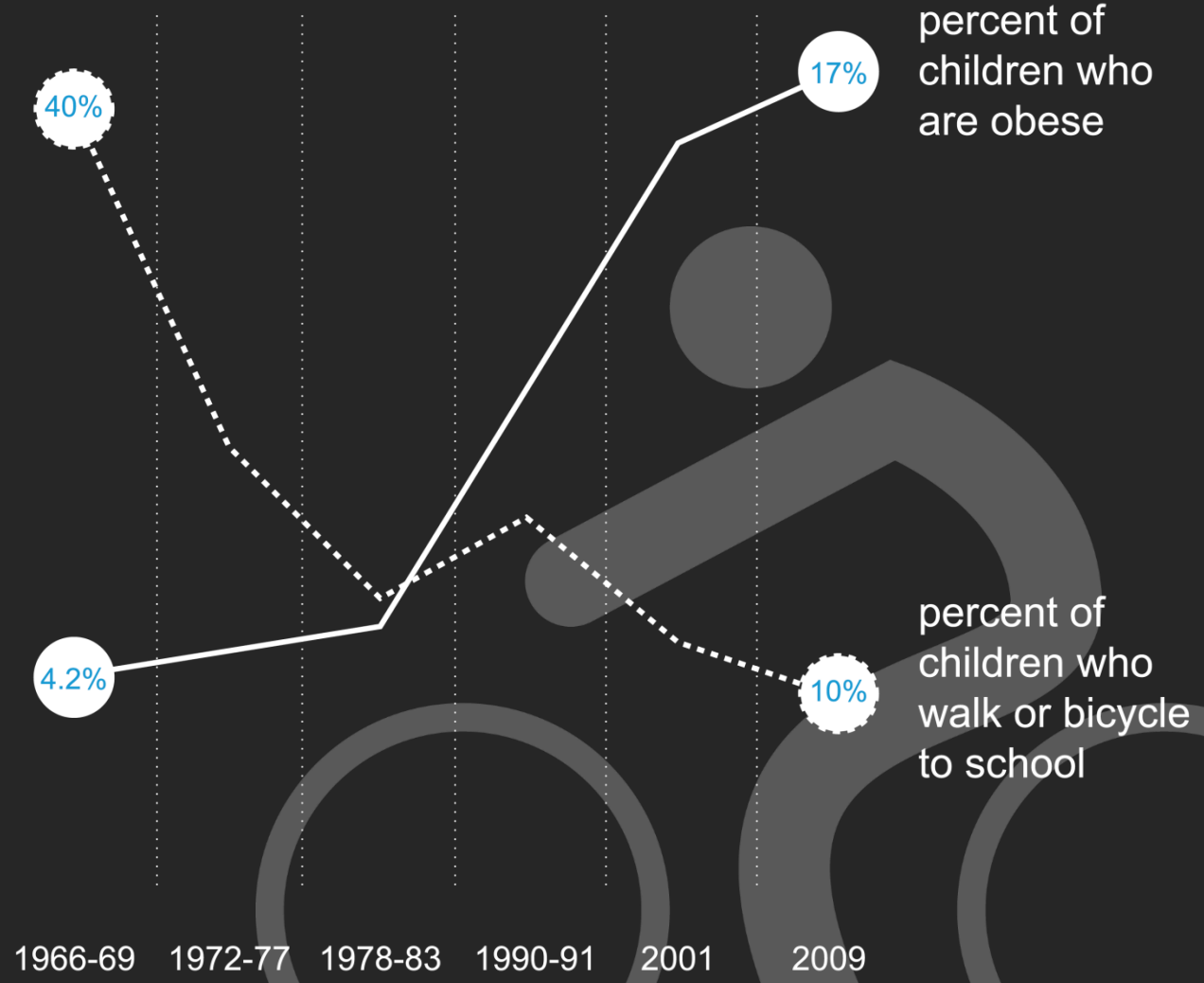


Societal Cost Savings!

- Health
  - Reduced healthcare costs
  - Improved productivity
- Transportation
  - Affordable
  - Reduced costs associated with crashes
- Infrastructure
  - Lower road maintenance costs
  - Lower capital costs of bike facilities

Cycling Rates vs Obesity

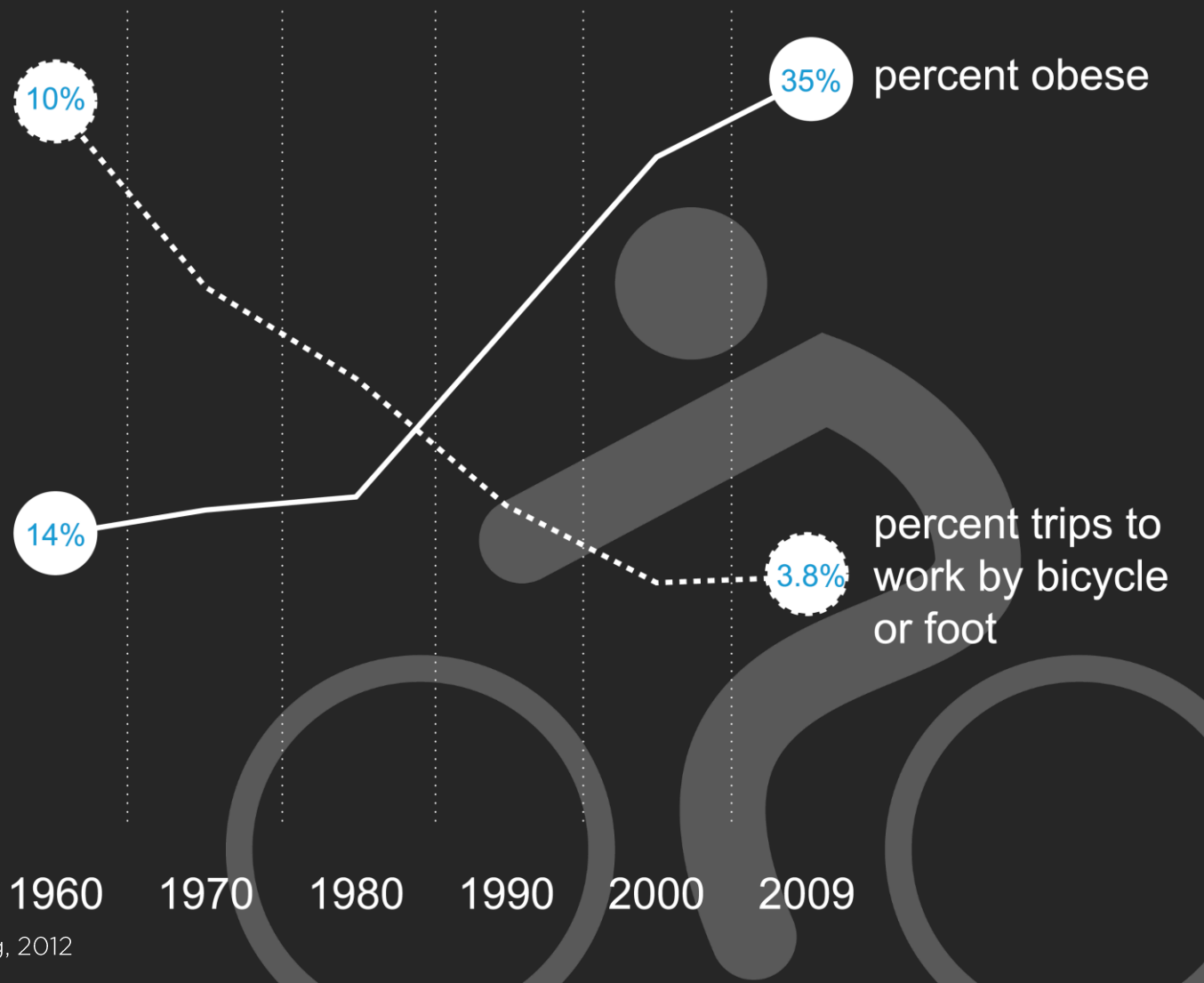
Trend in Obese Children vs. Bicycling and Walking to School



Source: Alliance for Biking & Walking, 2012

Cycling Rates vs Obesity

Change in Bicycling and Walking Rates vs. Adult Obesity Rates



Source: Alliance for Biking & Walking, 2012

Good for the Environment!

- Reduced Vehicle Miles Traveled
- Reduced Fuel Consumption
- Reduced Pollution & Emissions
  - CO_2, CO, NO_x, VOCs
- Reduced Congestion

Brainstorming Exercise

Envisioning the future...

What does success look like?

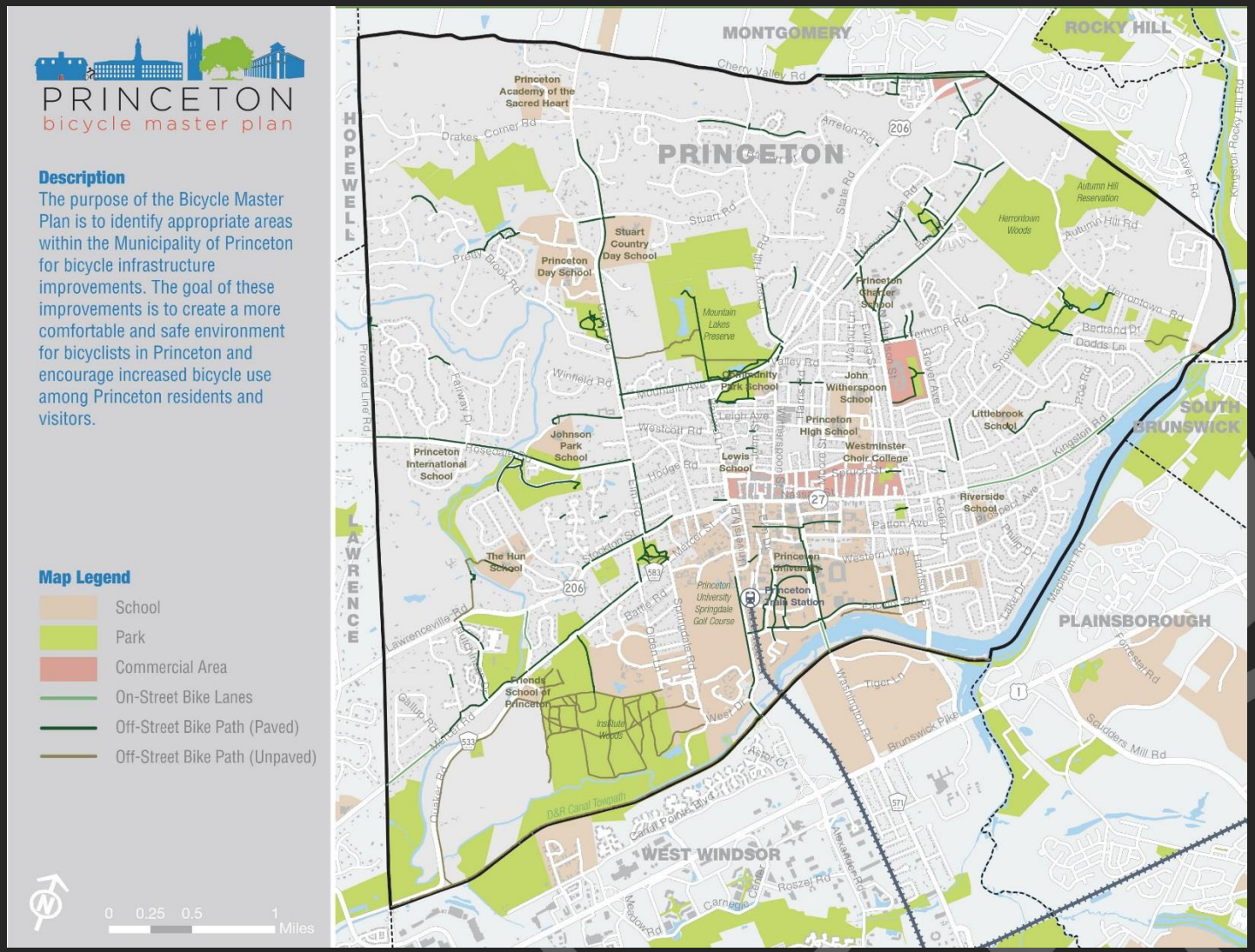
Key benefits of success ?

Your top 3 goals for the Plan:

Challenges/obstacles to success ?

Identifying Problem Areas

The Nitty Gritty…identification of problem areas



Next Steps

Next Steps

- Public Meeting November 12, 2015
- Launch Wikimapping Site
- Focus Group Meetings
- Next SAC Meeting
- SAC Input on Existing Conditions Inventory/Problem Area Identification