

The Triple Bottom Line for Complete Streets



Walk audit at Harrison Elementary, May 2019



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This region can't afford NOT to institutionalize complete streets



Walkability Action Institute Team:

Leslie McKnight, PhD, Ray Lees

Sid Ruckriegel, Bill Lewis

Andy Thornton, Sarah Chusid

Stephen Letsky, Anthony Corso

Main Street walk audit:

- Accessibility issues; narrow sidewalks, sign posts, lack of ADA ramps, etc.
- Wide street encourages speed; lacks bicycle facilities.
- Lack of signage and wayfinding
- Inconsistent design elements.



Why Complete Streets matter . . .

- A. Health perspective
- B. The year(s) of upheaval
- C. Triple bottom line benefits
- D. A local example of opportunity & success.



We should be physically active.



Peoria

But mostly we are not.



Harrison Elem.
2019

Three elements support “active transportation.”



Land Use Mix



Network



Safe & Accessible Designs



The upheavals of 2020-21.

COVID-19



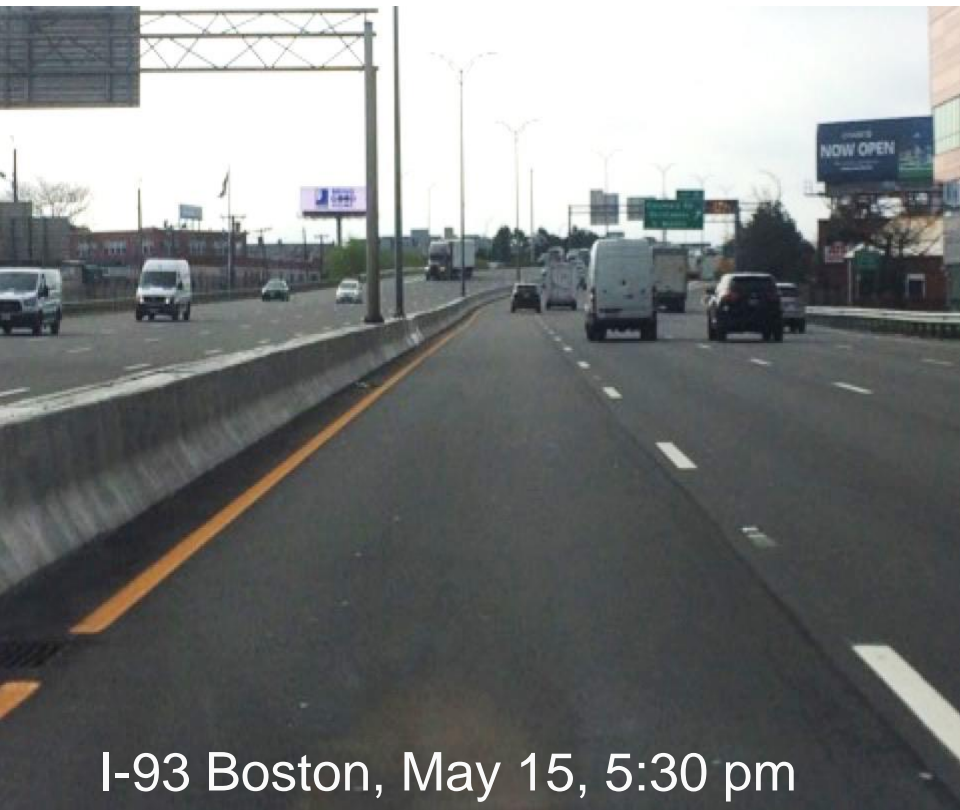
BLM, social justice



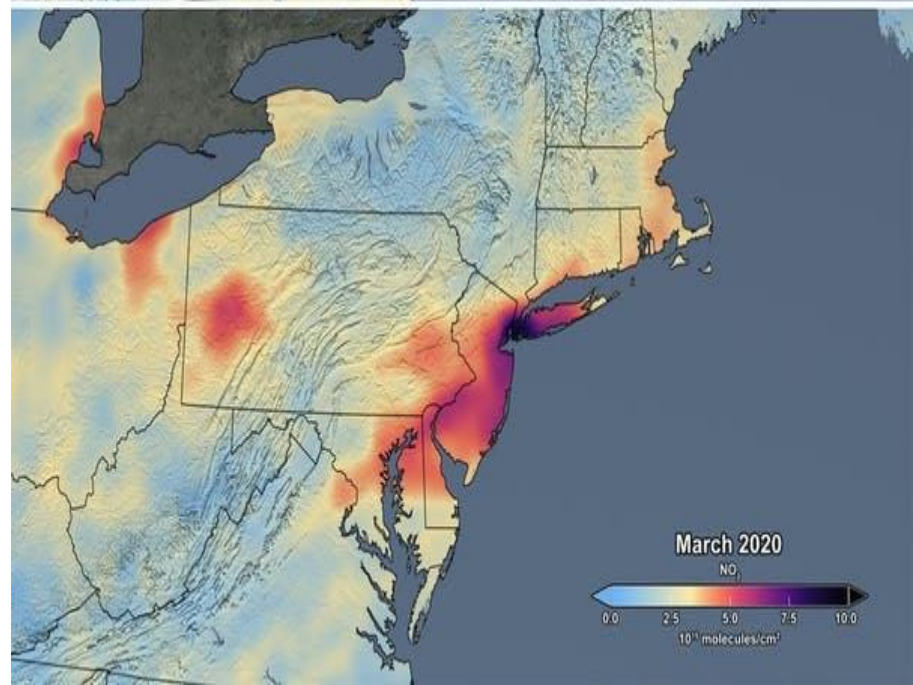
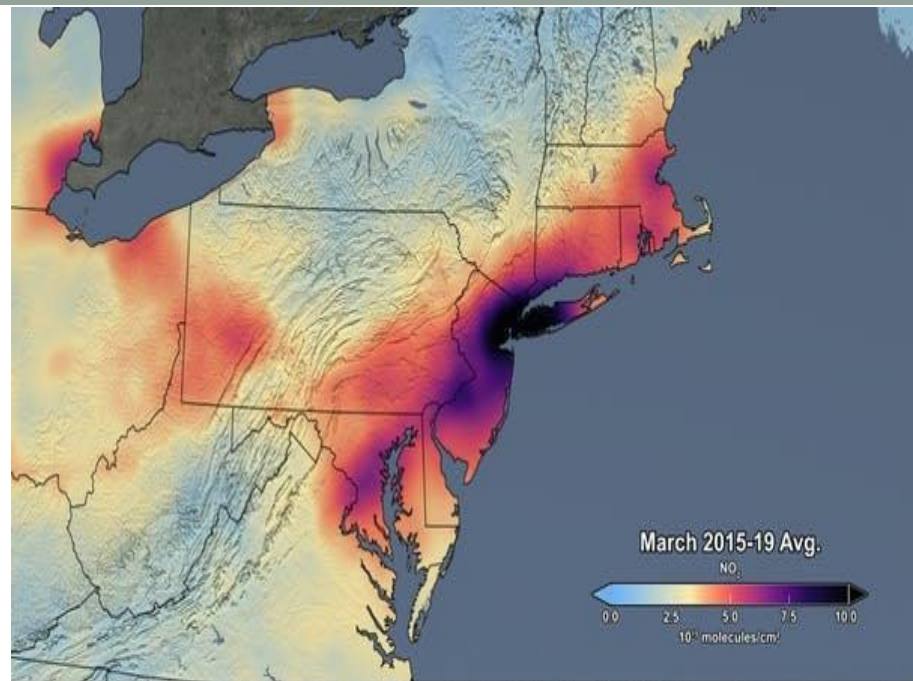
Whitetale Loop fire, 2020

Climate impacts





I-93 Boston, May 15, 5:30 pm



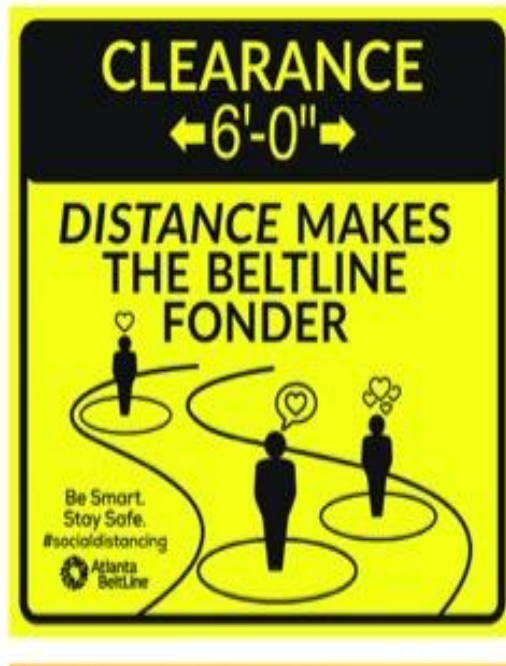
www.nasa.gov/feature/goddard/2020/drop-in-air-pollution-over-northeast



Scituate MA



Denver Post/Richardson



Beltline Trail, Atlanta

WE STAND IN SOLIDARITY FOR

ERIC GARNER - JOHN CRAWFORD III - MICHAEL BROWN - EZELL FORD - DANTE PARKER - MICHELLE CUSSEAK - LAQUAN MCDONALD
 GEORGE MANN - TANISHA ANDERSON - AKAI GURLEY - JAMEL RICE - RUMAIN GRIBSON - JERAME RICE - MATTHEW AIRBADE
 FRANK SMAY - NATASHA MCKENNA - TONY ROBINSON - ANTHONY HILL - MYA HALL - PHILLIP WHITE - ERIC HARRIS - WALTER SCOTT
 WILLIAM CHAPMAN II - ALEXIA CHRISTIAN - BRENDON GLENN - VICTOR MANUEL LAROSA - JONATHAN SANDERS - FREDDIE BLUE - JOSEPH MANN
 SALVADO ELLSWOOD - SANDRA BLAND - ALBERT JOSEPH DAVIS - DARREUS STEWART - BILLY RAY DAVIS - SAMUEL DUNDEE
 MICHAEL SABBIE - BRIAN KEITH DAY - CHRISTIAN TAYLOR - TROY ROBINSON - ASHMAN PHAROAH BAILEY - FELIX RUMI
 KEITH HARRISON MCLEOD - JUNIOR PROSPER - LAMONTAY JONES - ANDERSON BROWN - DOMING RITCHENSON - ANTHONY ANDREWS
 ALONZO SMITH - TYREE CRAWFORD - INDIA KAGER - LEWANTE BUDS - MICHAEL LEE WARDHILL - JAMAR CLARA
 RICHARD PERKINS - NATHANIEL HARRIS PICKETT - BERRY LEE TURNER - MIGUEL ESPINAL - MICHAEL SOEL - KEVIN MATTHEWS
 BETTIE JONES - GUNTONIO LEGRER - KEITH CHILDRESS JR - JAMES WILSON - RANDY NELSON - ANDRONE SCOTT
 WENDELL CELESTINE - DAVID JOSEPH - CALN ROQUEMORE - DYZHARRN PERKINS - CHRISTOPHER DAVID - MARCO LIND - PETER GAMES
 TORREY ROBINSON - DARUS ROBINSON - KEVIN HICKS - MARY TRUJALO - DENANUS SEMER - WILLE TILMAN - TERRILL THOMAS - SYLVIA SMITH
 ALTON STERLING - PHILANDO CASTLE - TERENCE CRUTCHER - PAUL O'NEAL - ALTERNA WOODS - JORDAN EDWARDS - AARON BAILEY - KUNELL FOSTER
 STEPHON CLARK - ANTON BOSE II - BOTHAM JEAN - PAMELA TURNER - DOMINIQUE CLAYTON - ATATIAMA JEFFERSON - CHRISTOPHER WATFIELD
 CHRISTOPHER MCCORVEY - ERIC REASON - MICHAEL LORENZO DEAN - BREONNA TAYLOR - TRAYVON MARTIN - AMARIO JARRET

AND THE MANY OTHERS



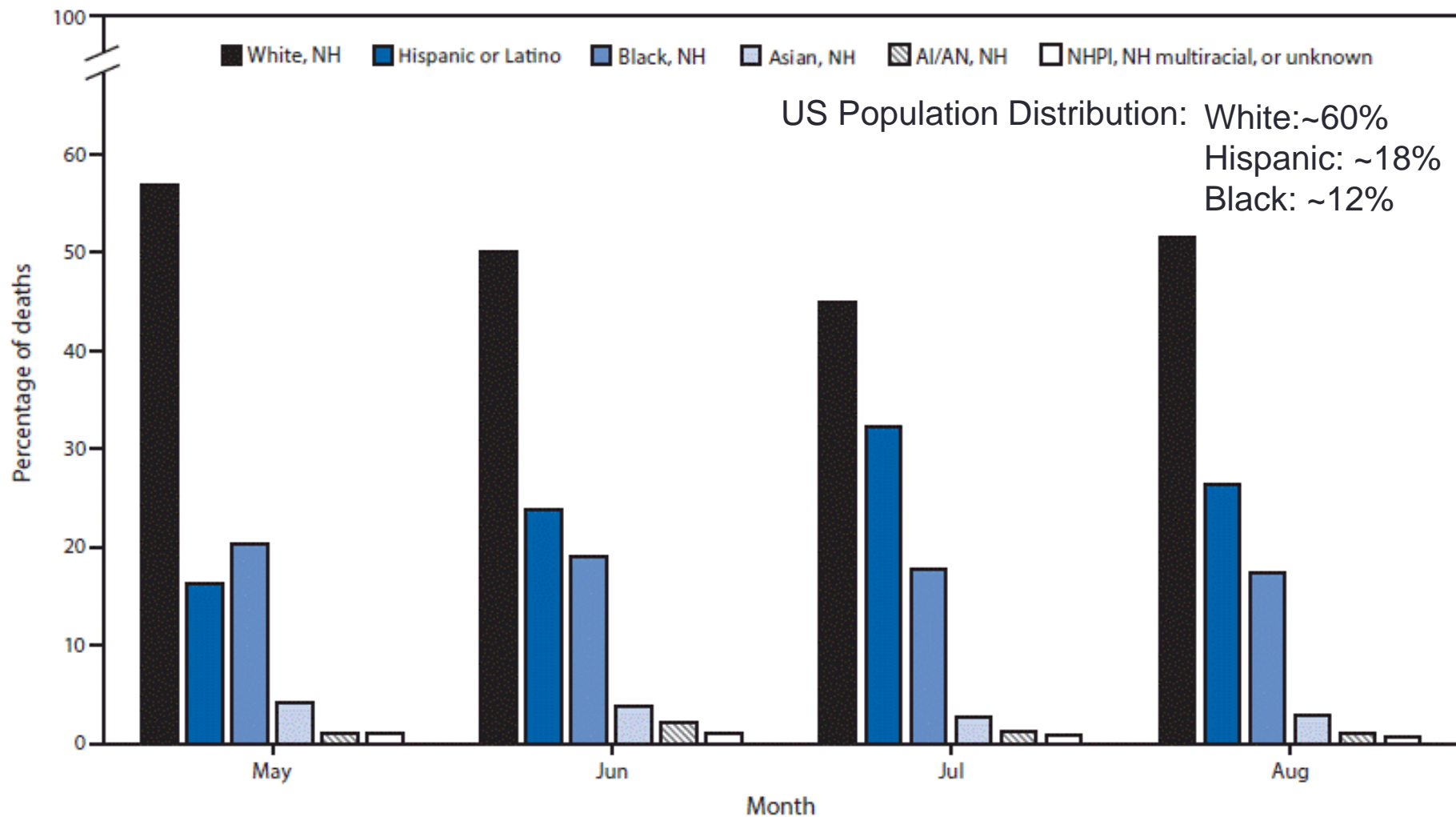
Washington DC, June 7, 2020



The Impact of Covid-19 on Minority Communities

Interview w/ Dr. Michelle Evans, Nat'l Inst. of Health;

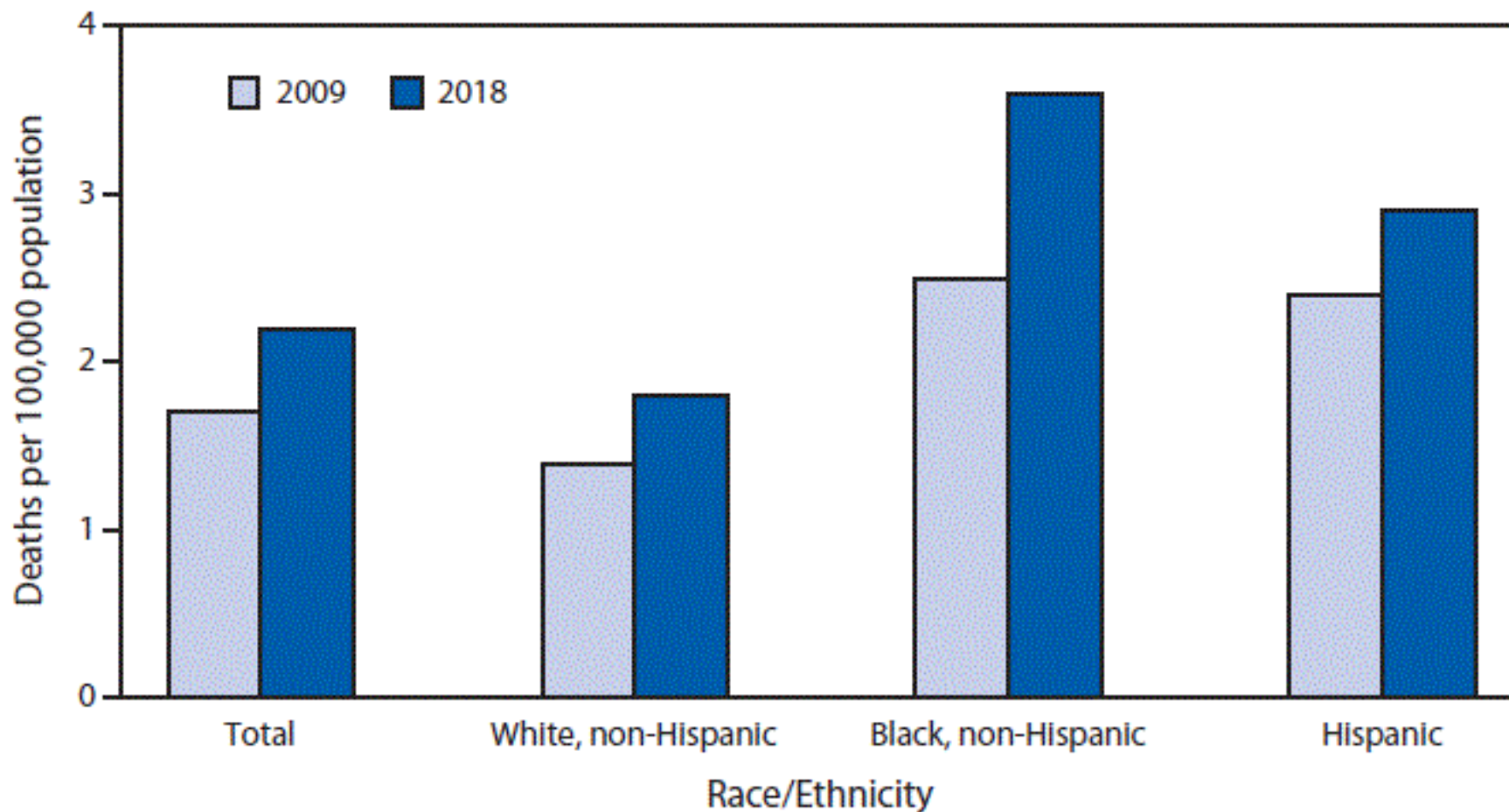
<https://www.nejm.org/doi/full/10.1056/NEJMp2005944>



Gold JA et al. Race, Ethnicity, and Age Trends in Persons Who Died from COVID-19. *MMWR* 2020;69.

Pedestrian Deaths by Race

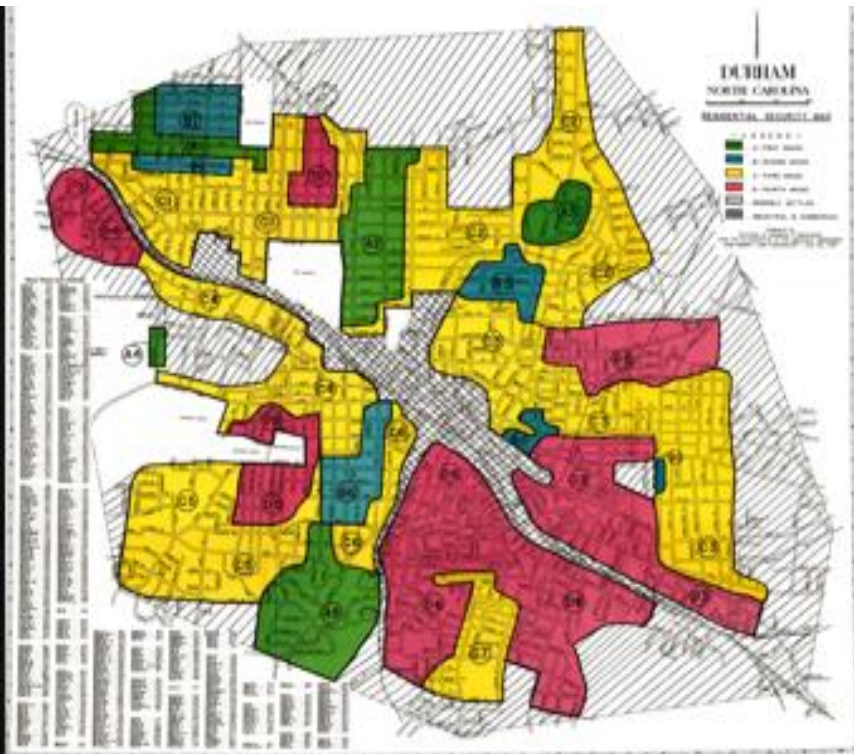
Age-Adjusted Pedestrian Death Rates, by Race/Ethnicity — National Vital Statistics System, United States, 2009 and 2018. *MMWR* 2020;69:1434.



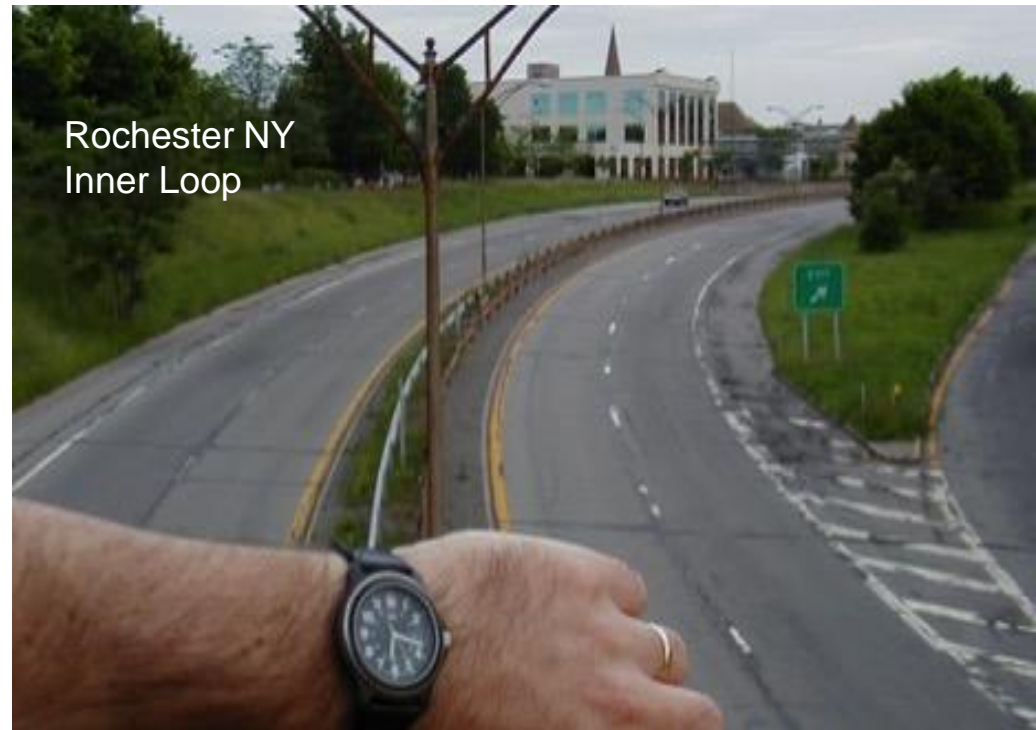
Historic land use and transportation decisions created environments that institutionalized these inequities.

Red-lining in home mortgages.
(Home Ownership Loan Corp.)

Highway construction through poor, ethnic, & black neighborhoods.



The original Home Owners' Loan Corporation map of Durham, dated July 23, 1937. Red areas were largely African-American communities, and considered to be too risky for new home loans.



Zoning for de-facto school segregation.

Rochester NY
Inner Loop

2004



2016



2019

CS design can yield a *triple* bottom line.



Prosperity

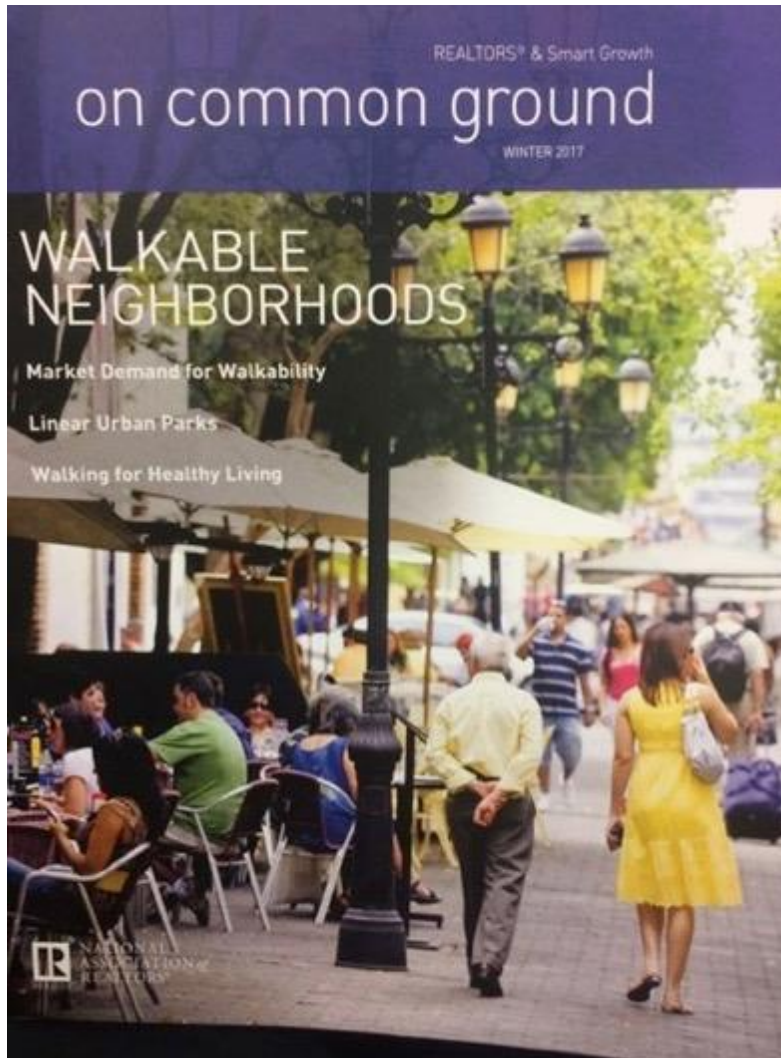


Planet

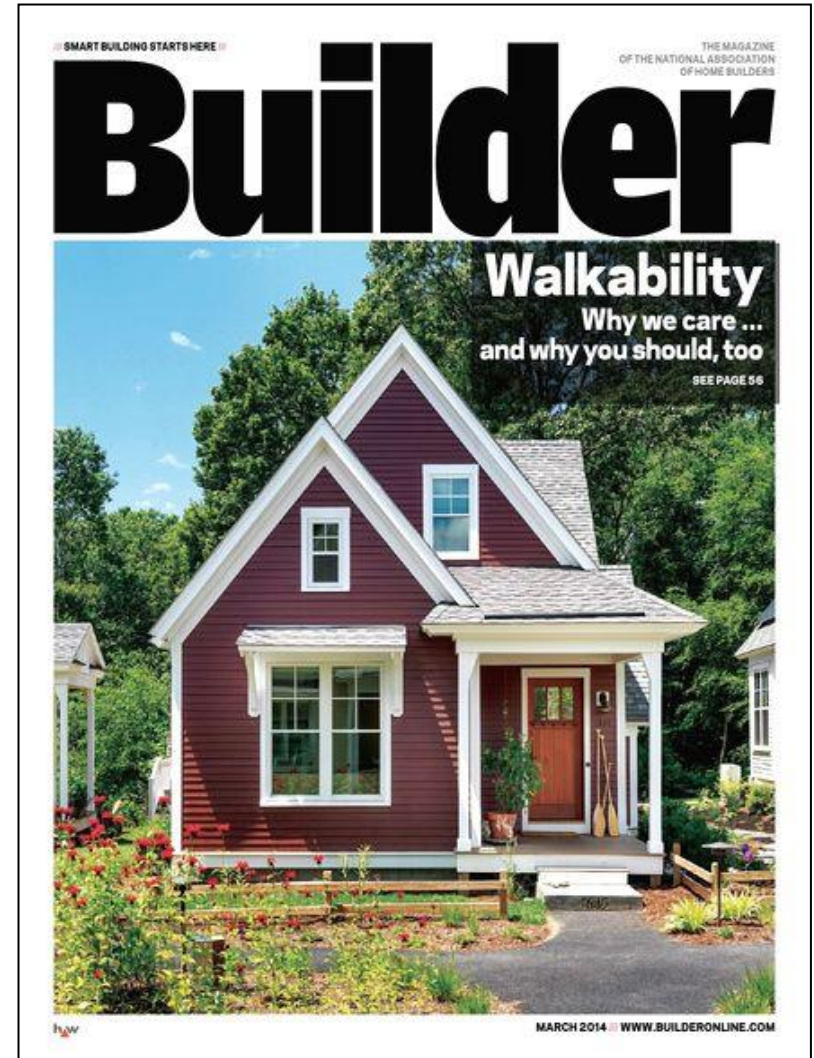


People

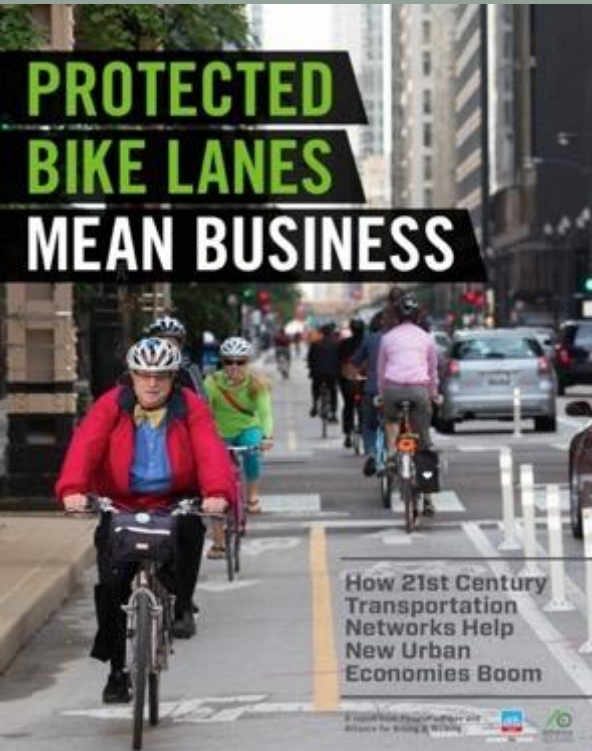
Healthier economics . . .



realtor.org



builderonline.org



Active transport infrastructure supports:

- Real estate values & redevelopment.
- Employee recruitment & retention.
- Employee health & productivity.
- Retail visibility & sales volume.

A SHIFT TO CAR-LITE LIFE

The average young person is driving less and biking and taking transit more. ⁴

+24%



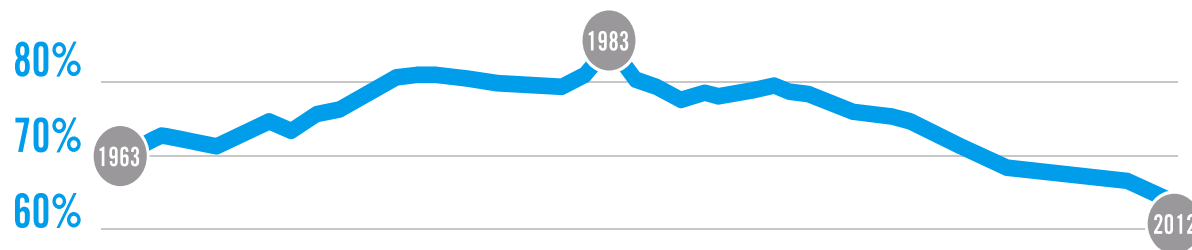
+40%

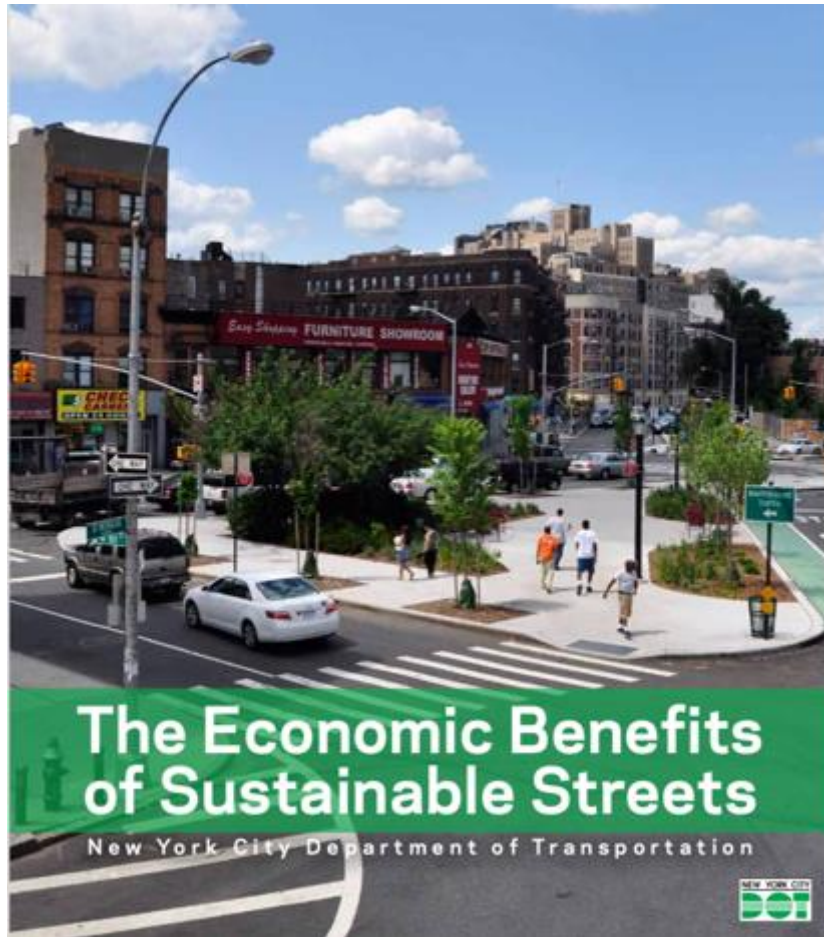


-23%

LICENSE TO DRIVE: A LOWER PRIORITY

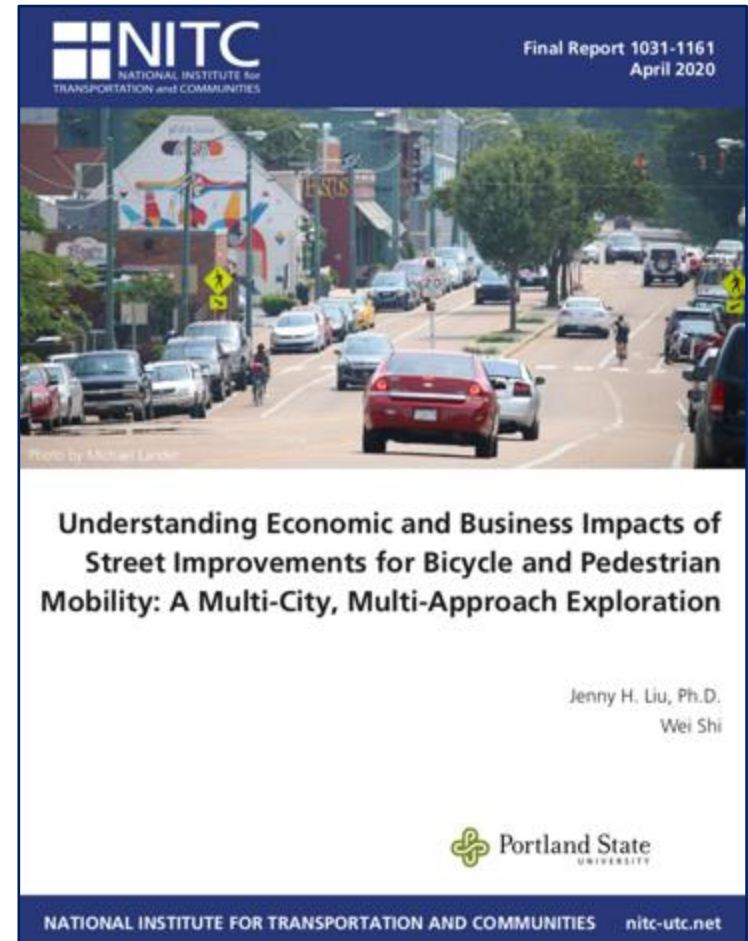
The percent of people 16-24 with a driver's license peaked in 1983 and is now at its lowest rate since 1963. ⁵





10%-100% increases in retail sales, compared to control streets & borough averages.

www.nyc.gov/html/dot/downloads/pdf/dot-economicbenefits-of-sustainable-streets.pdf



Increases in retail sales, food employment. (Indianapolis, Portland, Memphis, Seattle, Minneapolis, San Francisco.)

peopleforbikes.org

2015 – Peoria’s Complete Streets policy.

“Complete Streets design should be understood as a *process, not a specific product.*”

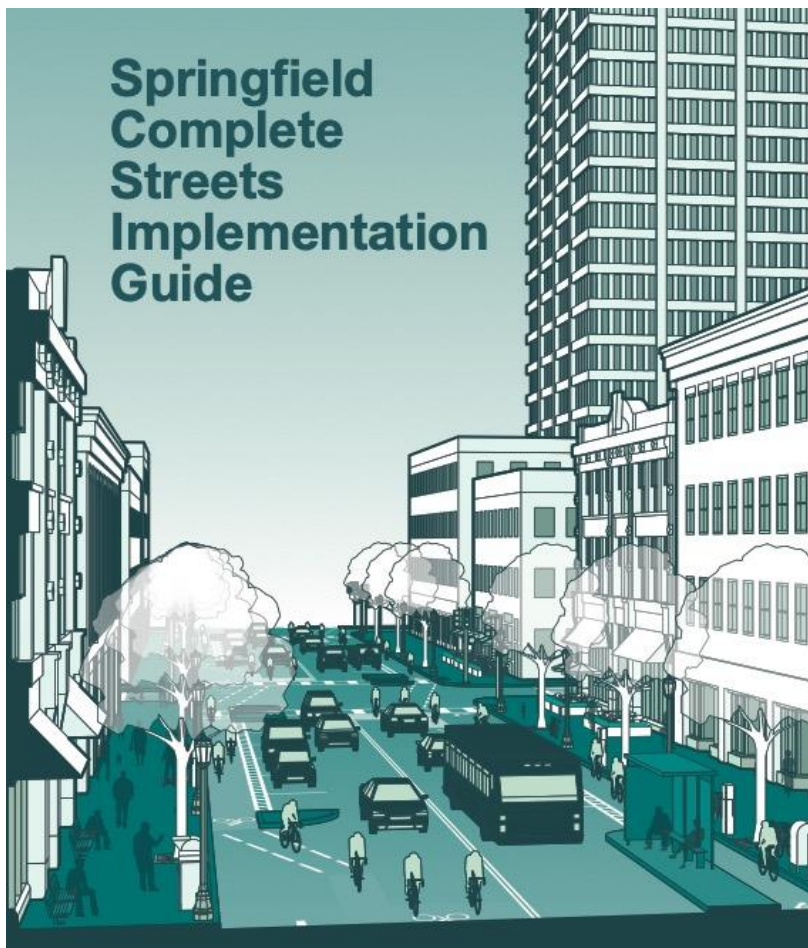
Major & Collector Street Plan, Nashville TN.

1. A plan for implementation.
2. Changes to procedure and process (e.g. granting permits).
3. Training & education for staff.
4. Limited, defined exemptions.
5. Specific design & maintenance guidance & requirements.
6. New performance measures.

smartgrowthamerica.org/resources/complete-streets-implementation-a-resource-appendix/



Speak up: Complete Streets design guide, Springfield MA (~24 pgs.)



Lane reduction, right-sizing, “road diet” . . .

ROAD DIET



Safety | Livability | Low Cost

P · O · L · I · C · I · E · S

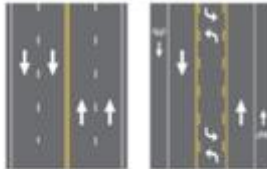
Expanding Beyond a Single Implementation

Road Diets reallocate travel lanes and utilize the space for other uses and travel modes. The most common type of Road Diet reduces the number of through lanes from four to two and adds a center two-way left-turn lane (TWLTL). Other uses for the reallocated space include:

- Facilities for alternate modes of transportation (e.g., bicycle lanes, transit lanes, and bus turnouts)
- Physical safety barriers (e.g., raised medians, pedestrian refuge islands, and curb extensions)
- On-street parking
- Wider shoulders

This document describes the benefits and highlights real-world examples of agencies including Road Diets within new or revised transportation policies and guidance.

Example of a Road Diet



Before

After

POLICY BENEFITS

A single Road Diet project can yield numerous safety, operational, and multimodal benefits. Additionally, developing Road Diet-related policies and guidance – and therefore encouraging implementation on a large scale – can result in widespread advantages:

Improve Safety. Increasing Road Diet implementation can translate to more lives saved. An FHWA study¹ found that converting a road from four to two through lanes with a center TWLTL can reduce overall crashes by 19 to 47 percent.

Save Time. Agency-standardized guidance or policy allows engineers to use an approved Road Diet template, framework, or set of design criteria that can jumpstart the design and implementation process. Non-standardized or “first time” designs tend to require more levels of management scrutiny and approval.

Save Money. Road Diets are already a relatively inexpensive countermeasure, but incorporating them into policies can provide the foundation for combining Road Diets with other efforts (e.g., resurfacing) to reduce costs further.

1. Hinkle, “Evaluation of Lane Reductions: Road Diet” (Research Report, FHWA Report No. FHWA-2011-040), (Washington, DC: FHWA).



U.S. Department of Transportation
Federal Highway Administration

safety.fhwa.dot.gov/road_diets



Before

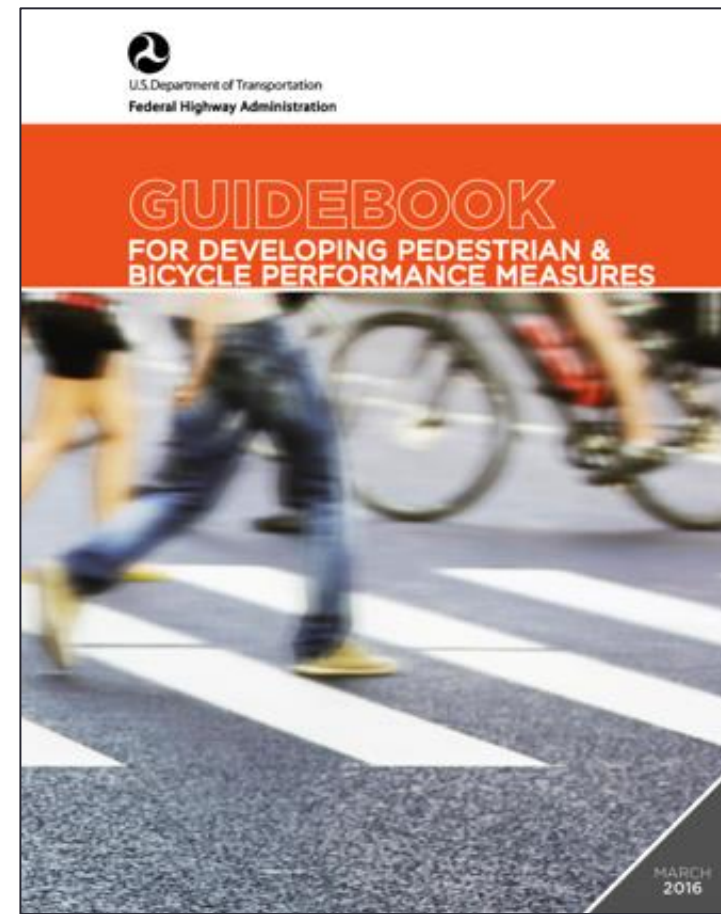


After

Urbana IL

Balance performance measures for roads:

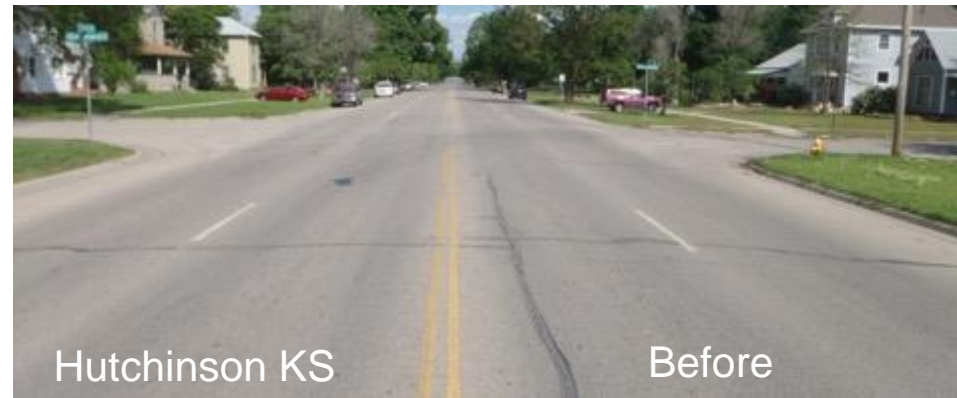
- Reduce *vehicle miles traveled*.
- Increase walk, bike, & transit trips.
- Health, equity outcomes.
- Job & retail access & activity.
- Real estate values & revenue.
- Access for underserved residents.
- Environmental impacts (congestion, air quality)



Routine Accommodation



**Incorporating
On-Road Bicycle Networks
into Resurfacing Projects**



E.g. Simple maintenance checklist questions

- What are current lane widths? Can they be narrowed to 9.5'-10'? Can a fog line be added?
- Is there a shoulder? Can one be added? Cost?
- Can a bike lane (5') be marked?
- Are there sidewalks?
 - Yes – should they be repaired/improved?
 - No – Can they be added? One side? Both?
- At intersections:
 - Crosswalks? Curb extensions?
 - Signs, signals, countdown, auditory?
 - Curb ramps? Meet ADA?



E.g. One-way to two-way restorations

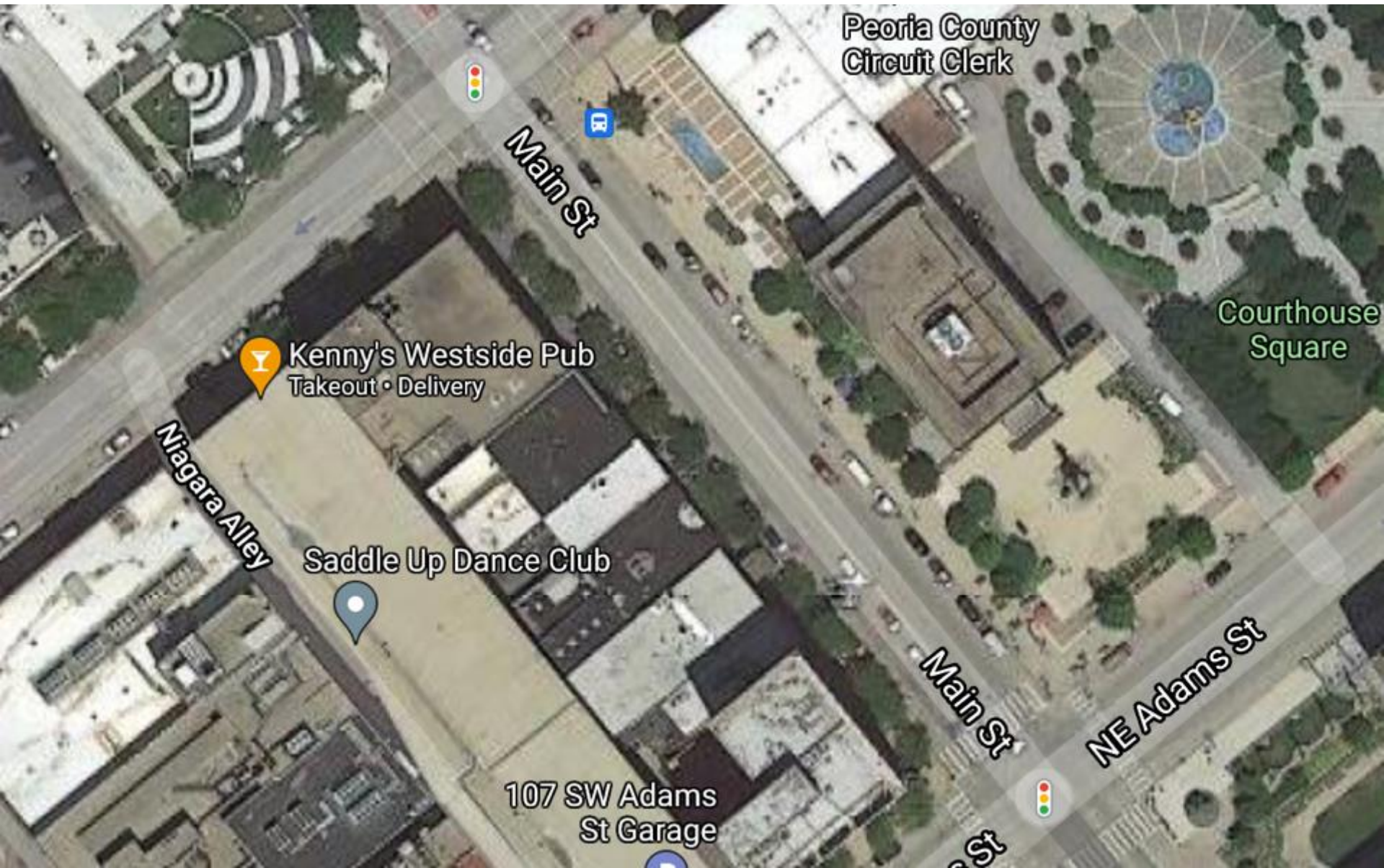
- Converted in 70's to speed traffic to & from suburbs.
- Indifferent to street life, neighborhoods, local retail.
- **Restoration** to two-way streets can help restore local access & energy!



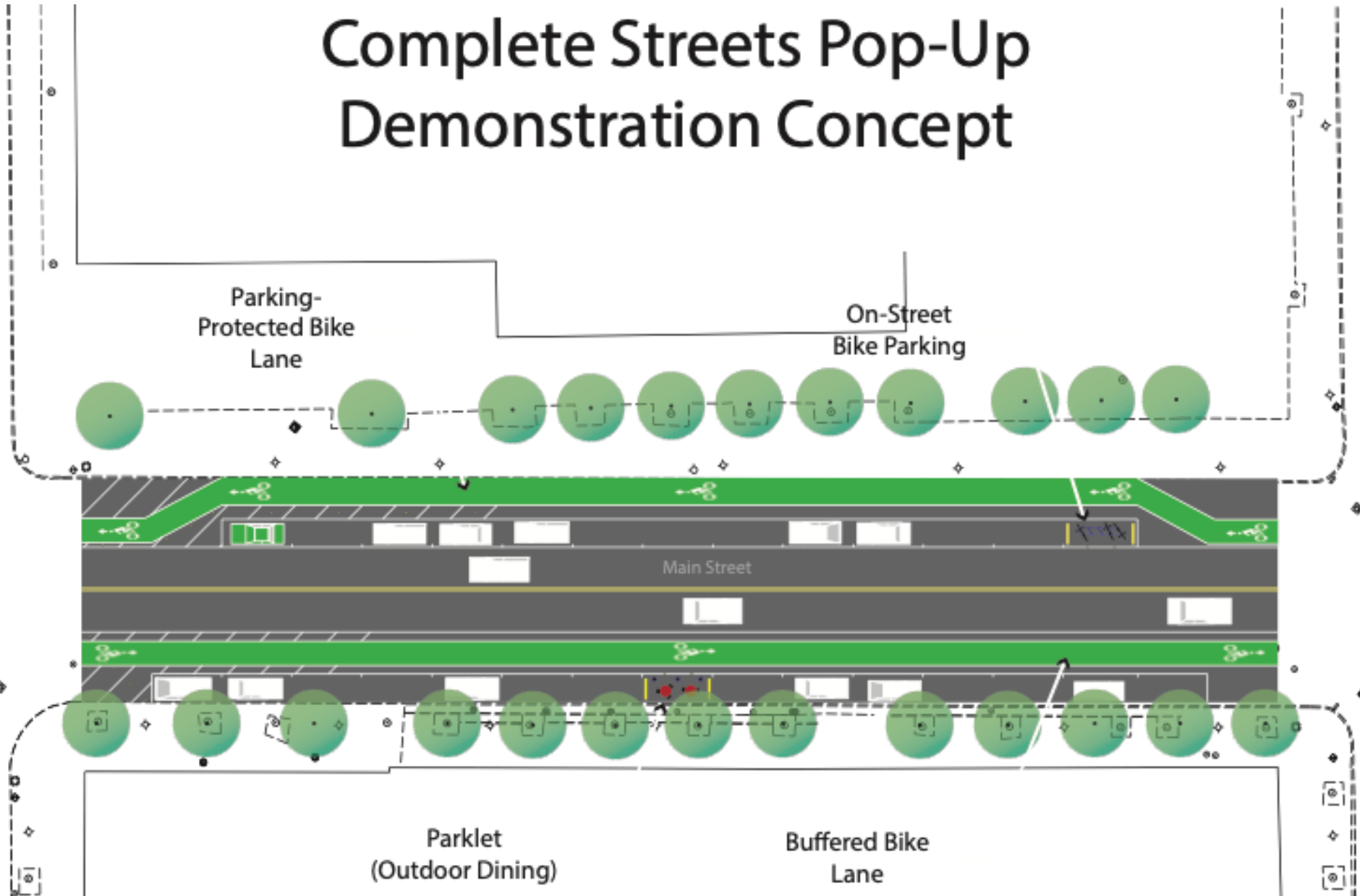
Use low-cost demonstrations to learn, get feedback, build momentum.



Main St., between Adams & Jefferson



Complete Streets Pop-Up Demonstration Concept



Peoria YMCA student street-level researchers.







Data they collected:


1. Speed of vehicles.
2. Number of pedestrians & bikes.
3. Number of cars.
4. Pedestrian crossings.

| Vehicle | Speed | |
|---------|--------|----------|
| 1 | 23 mph | Downtown |
| 2 | 21 mph | |
| 3 | 27 mph | |
| 4 | 24 mph | |
| 5 | 28 mph | |
| 6 | 27 mph | |
| 7 | 27 mph | |
| 8 | 21 mph | |
| 9 | 18 mph | |
| 10 | 22 mph | |
| 11 | 18 mph | Updown |
| 12 | 19 mph | |
| 13 | 18 mph | |
| 14 | 23 mph | |
| 15 | 21 mph | |
| 16 | 23 mph | |
| 17 | 24 mph | |
| 18 | 27 mph | |
| 19 | 21 mph | |
| 20 | 24 mph | |
| 21 | 21 mph | |


~~any other observations~~ Lacavleah walker Easton S


Data collection. Date: 9-27-2024 Time start: _____ Time finish: _____
 Observers: _____

| | Pedestrians | Ped w/ stroller, child on bike | Bicyclists |
|--|---|--------------------------------|---|
| On Main Street | X | X | X |
| A. On sidewalk, east side of Main St. | | | |
| B. On sidewalk, west side of Main St. 20 |  | |  |
| C. Crossing Main St., at Adams crosswalk | | | |
| D. Crossing Main St., NOT at a crosswalk | | | |
| DURING POP-UP Demonstration | | | |
| E. In bicycle lane, east side of street | | | |
| F. In bicycle lane, west side of street 2 |  | |  |



Data collection. Date: _____ Time start: _____ Time finish: _____
 Observers: _____

| Vehicles on the road | Vehicles | | |
|---|---|---|---|
| Main Street between Adams & Jefferson | X | X | X |
| A. Northbound (east side of street), LEFT lane | | | |
| B. Northbound (east side of street), RIGHT lane | | | |
| C. Southbound (west side of street), LEFT lane | | | |
| D. Southbound (west side of street), RIGHT lane 79 |  | | |



Vehicle counts before.

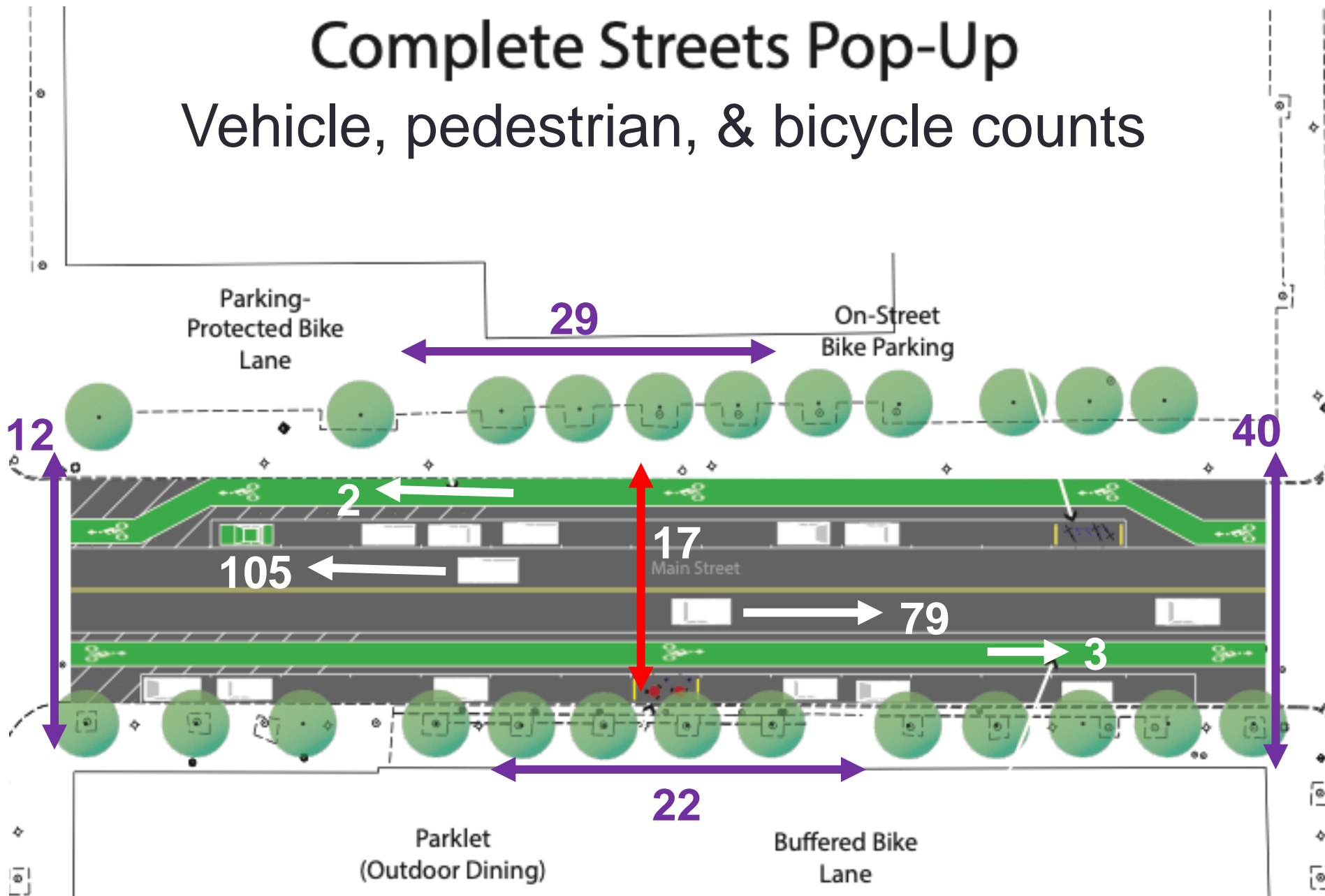


Pedestrian counts before



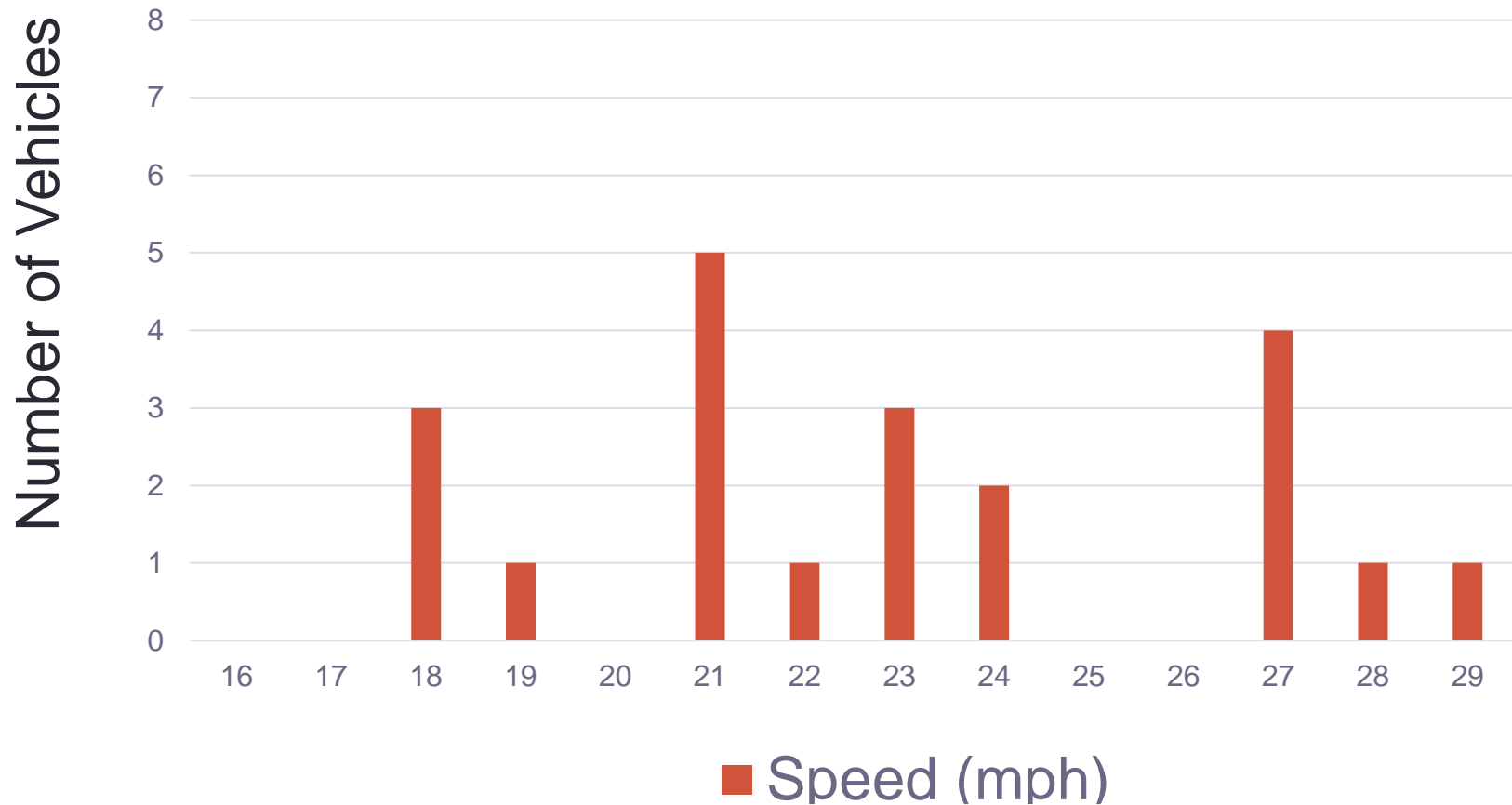
Complete Streets Pop-Up

Vehicle, pedestrian, & bicycle counts

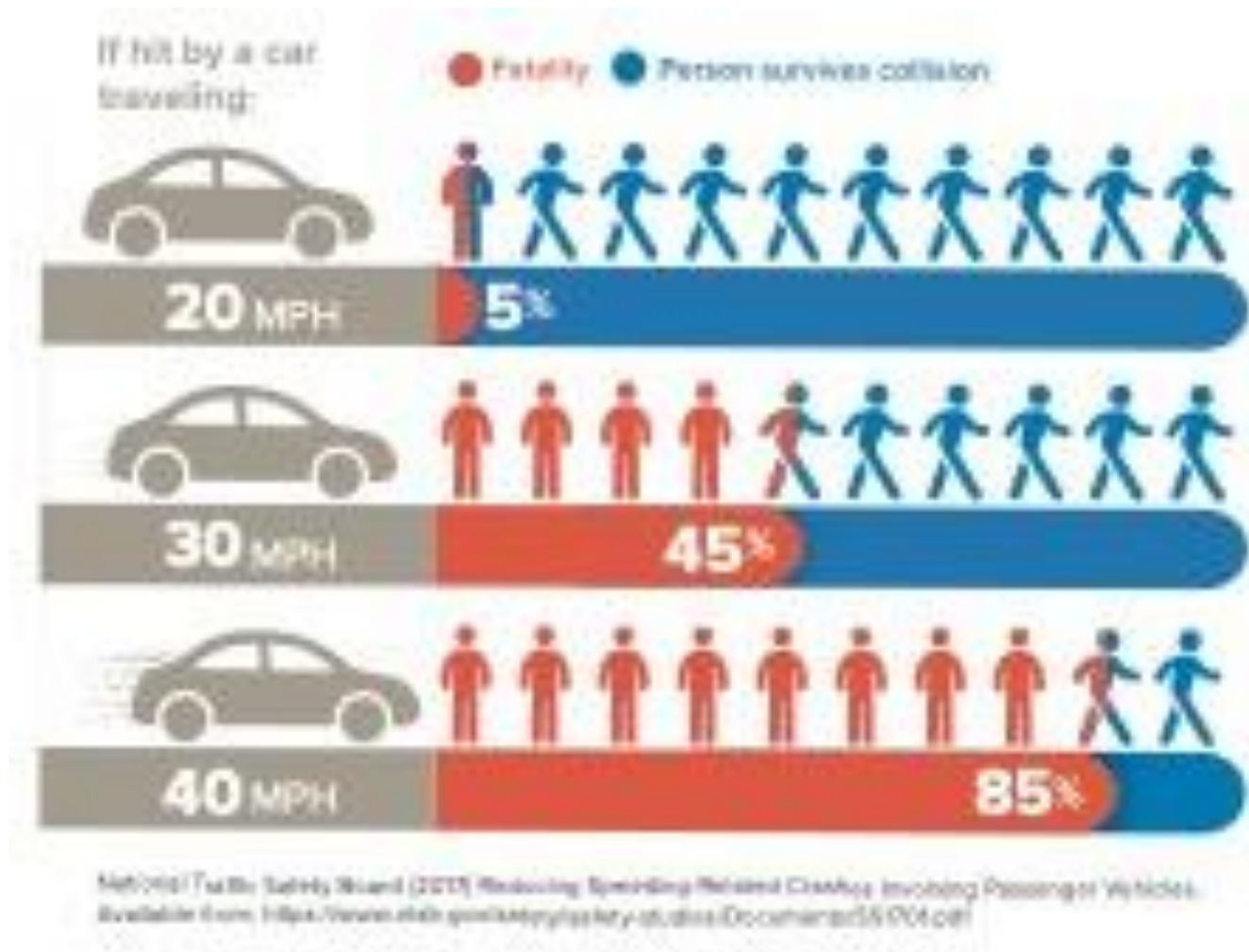


Histogram of vehicles at each speed . . .

Average speed before = 22.8 mph



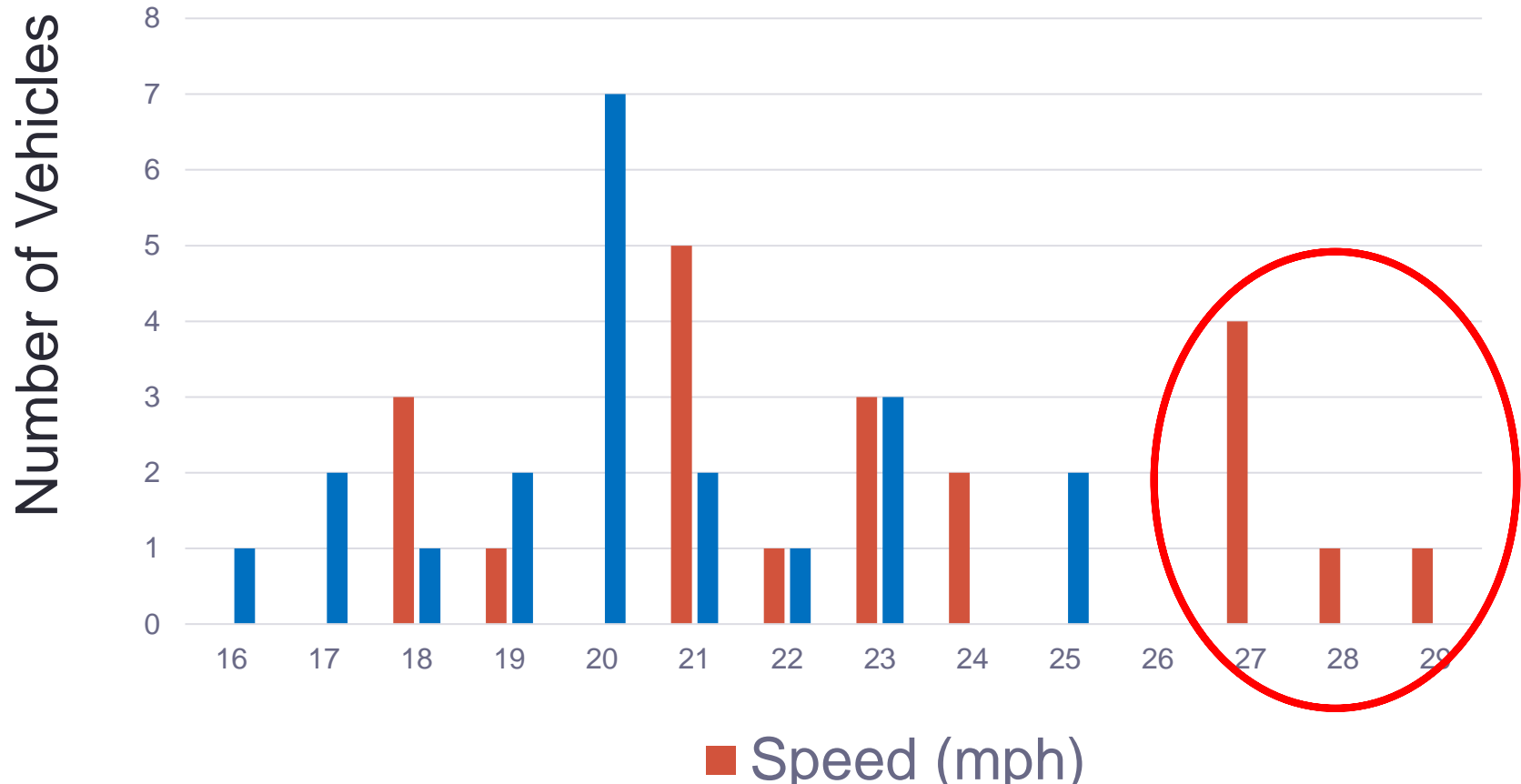
Why does it matter? Speed kills!



From: *Dangerous by Design*, Smart Growth America, 2021

Histogram of vehicles at each speed . . .

Average speed before = 22.8 mph
Average speed during demo = 20 mph



TOOLE
DESIGN

RESOURCE
GUIDE // Vol 03

Ensuring an Equitable Approach to Rebalancing Streets

14 Strategies to Manage Change with Ethics, Equity, and Empathy



Figure 3. The City of Denver initiated a Shared Street program in response to the COVID-19 crisis.

TOOLEDESIGN.COM

February 2021

Ethics



Equity

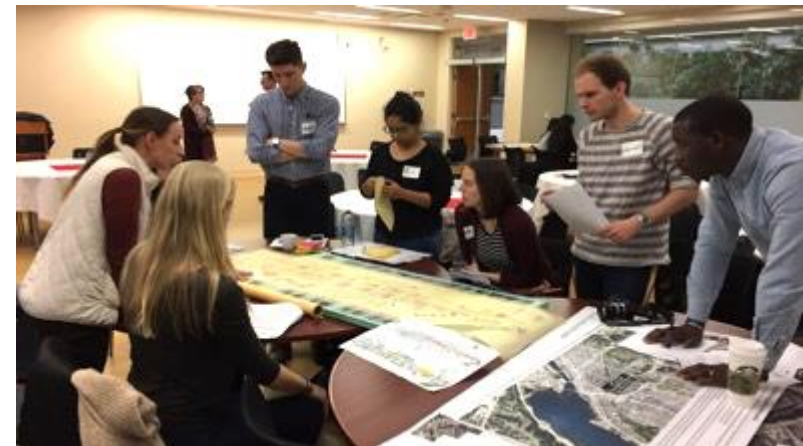


Empathy



Complete streets & active transportation . . .

- Tend to benefit the most vulnerable;
- Reduce *chronic & infectious* disease risk;
- Require three scales of intervention;
- Support robust local economies & redevelopment;
- Require inclusive community engagement & input;
- Is an urgent priority!



UIUC architecture students

The competition is not standing still . . .



Rochester NY



Rochester MN



Asheville NC



South Bend IN

Columbus, IN



New Haven CT



Neither should you!

- Improve community health
- Respond to demands of the pandemic.
- Provide a more equitable transportation system.
- Support the local economy.
- Boost employee & business recruitment & retention.
- Spur re-development.





Olshansky et.al.,
“A Potential Decline in
Life Expectancy . . .”
New Eng. J. of Med.,
March 17, 2005

Woolf et.al.,
“Life Expectancy & Mortality
Rates in the US, 1959-2017”
J. of Amer. Med. Assoc.,
Nov. 26, 2019

