Policy & Environmental Approaches to Promoting Physical Activity

PAPH course, 2022

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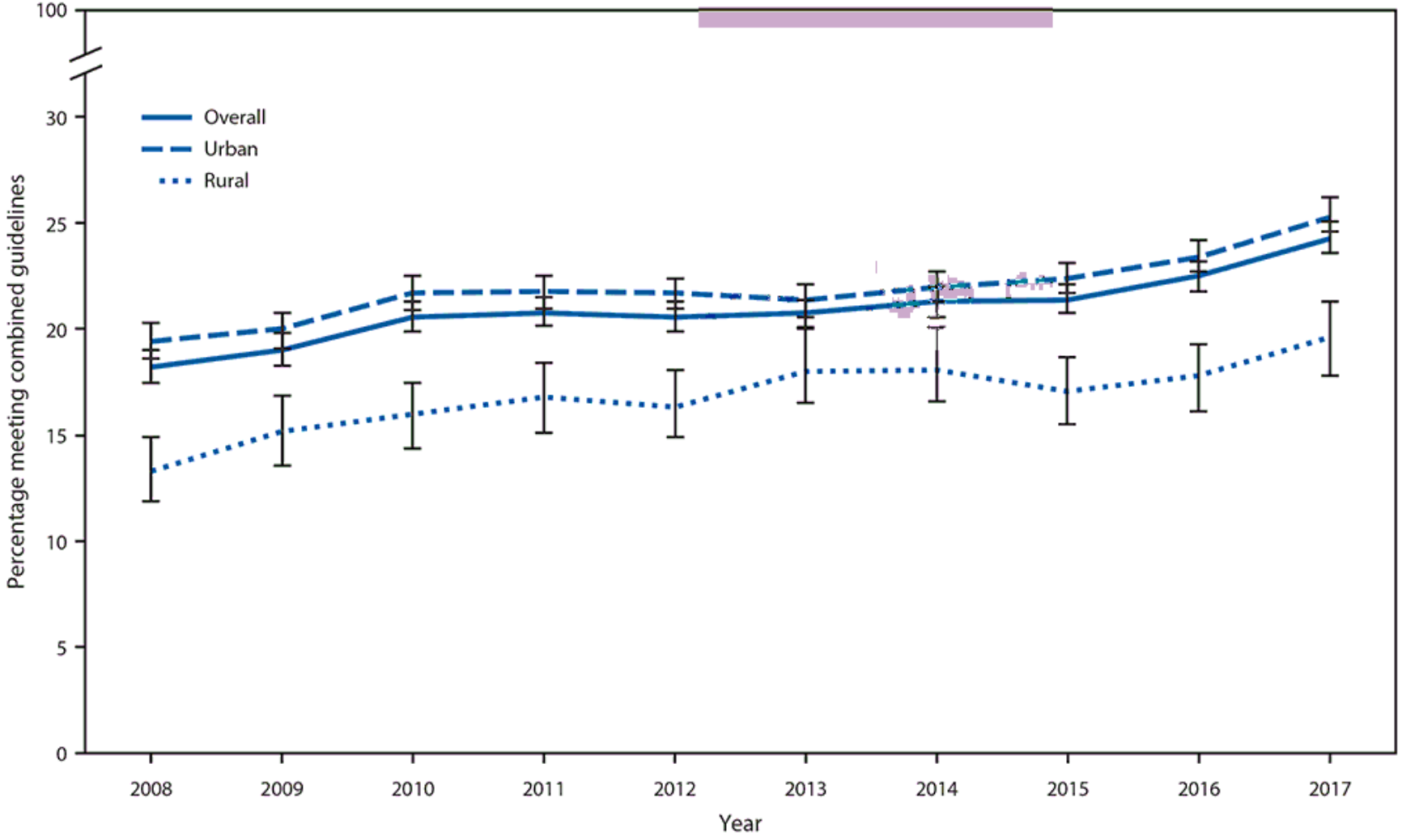
Quiz 1:

If you could ask only one question of a person and from their answer make an educated guess as to whether they meet PA guidelines, what would you ask?

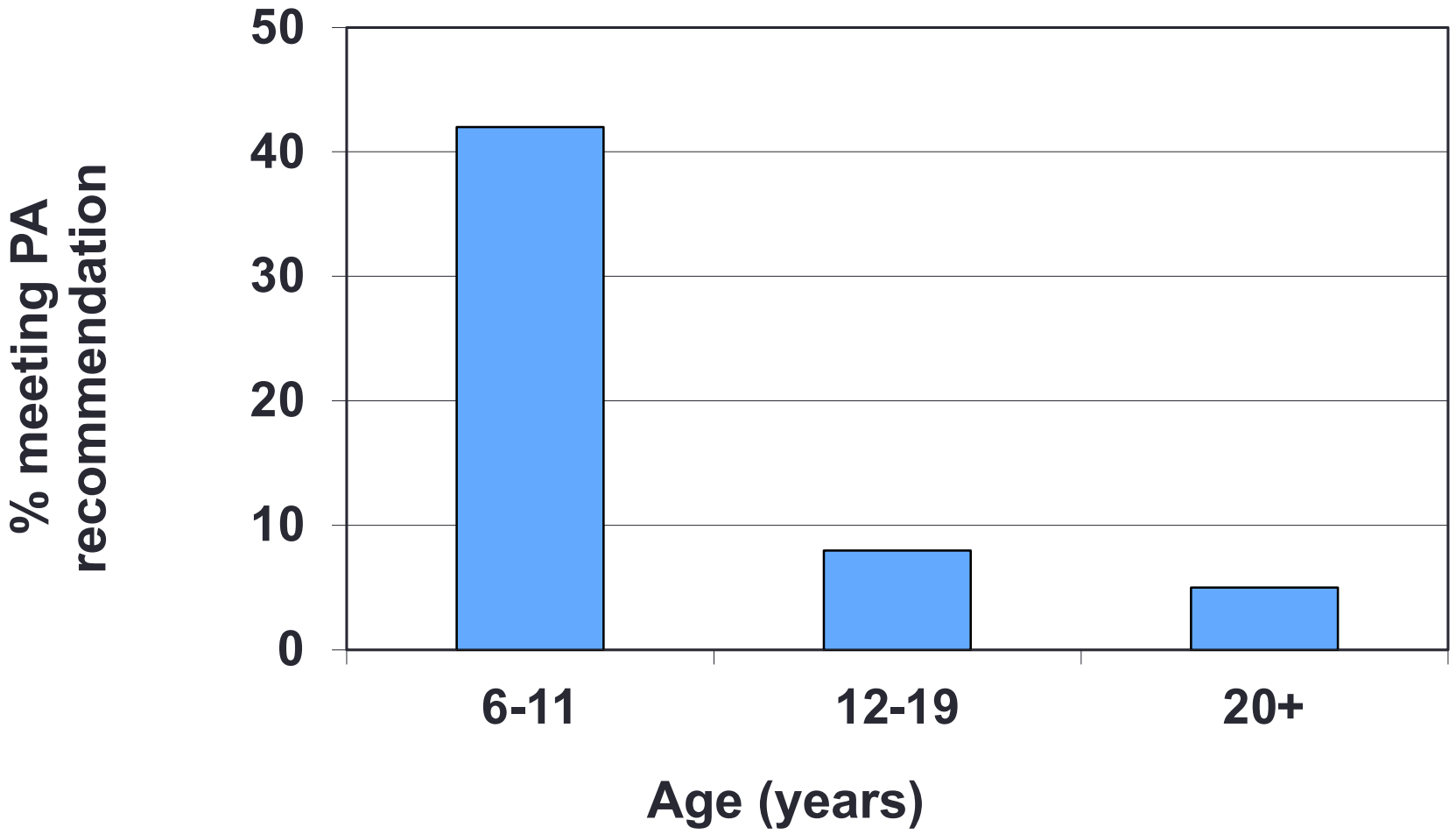
% Meeting Full PA Guidelines (BRFSS Self-Report)

Whitfield et.al. *MMWR*; 68(23);513–518; June 2019

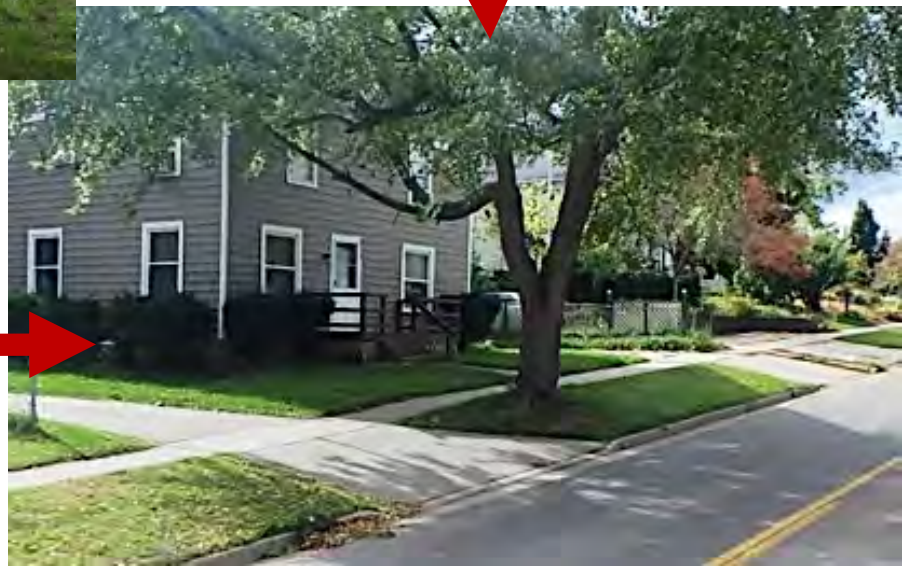


Physical Activity in the US Measured by Accelerometer

Troiano et.al., *Med Sci Sports & Ex*, 40(1), 2008



Home address . . .



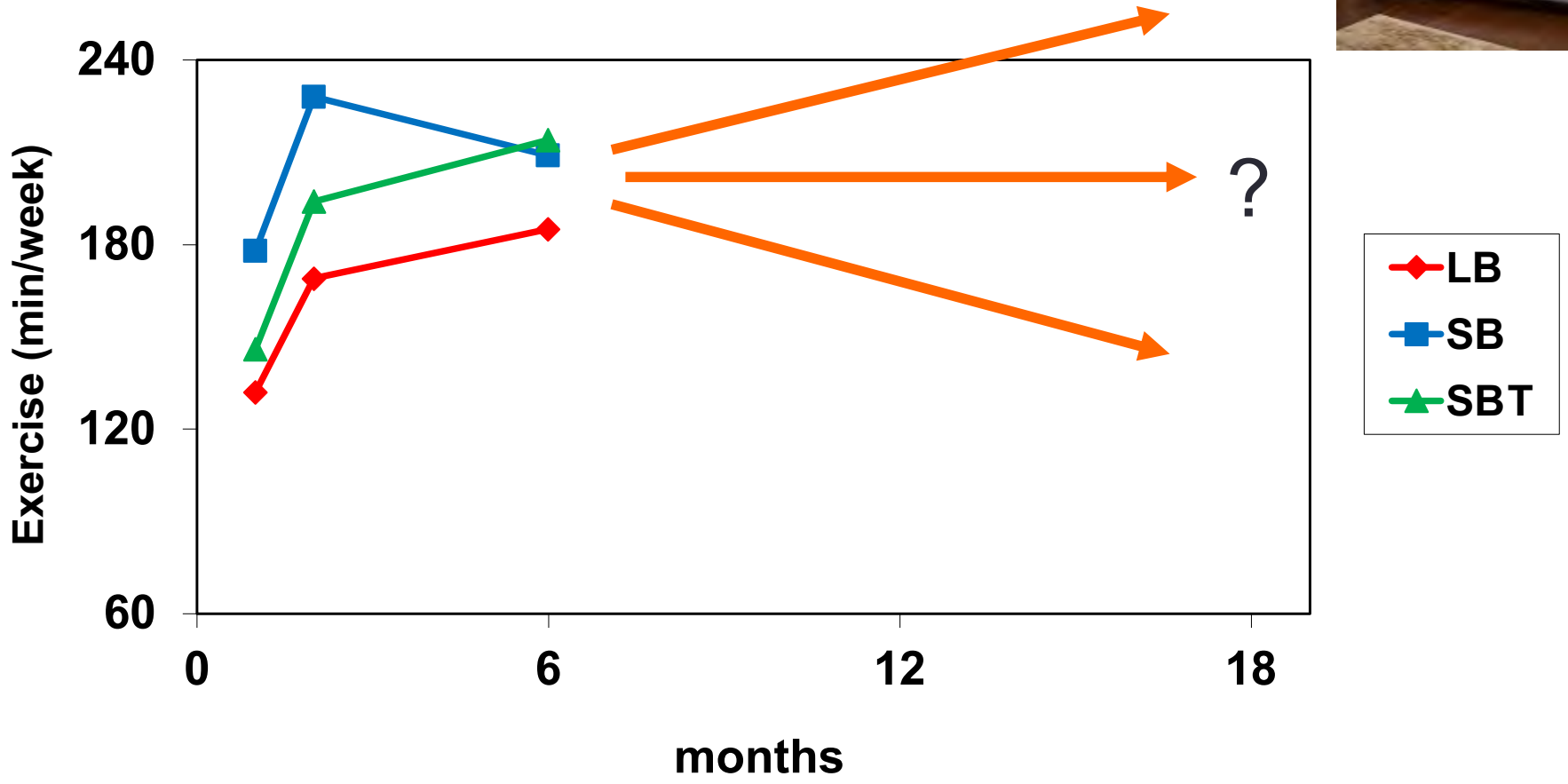
My points:

- The stickiness problem . . .
- The social ecology solution.
- Built environment's (BE) strong influence on PA.
- Improving the BE requires interdisciplinary effort . . ..
- . . . & truly inclusive community engagement.
- Applying this to your work: PhotoVoice Assignment

Exercise Participation

Effect of Short Bouts, Home Treadmills

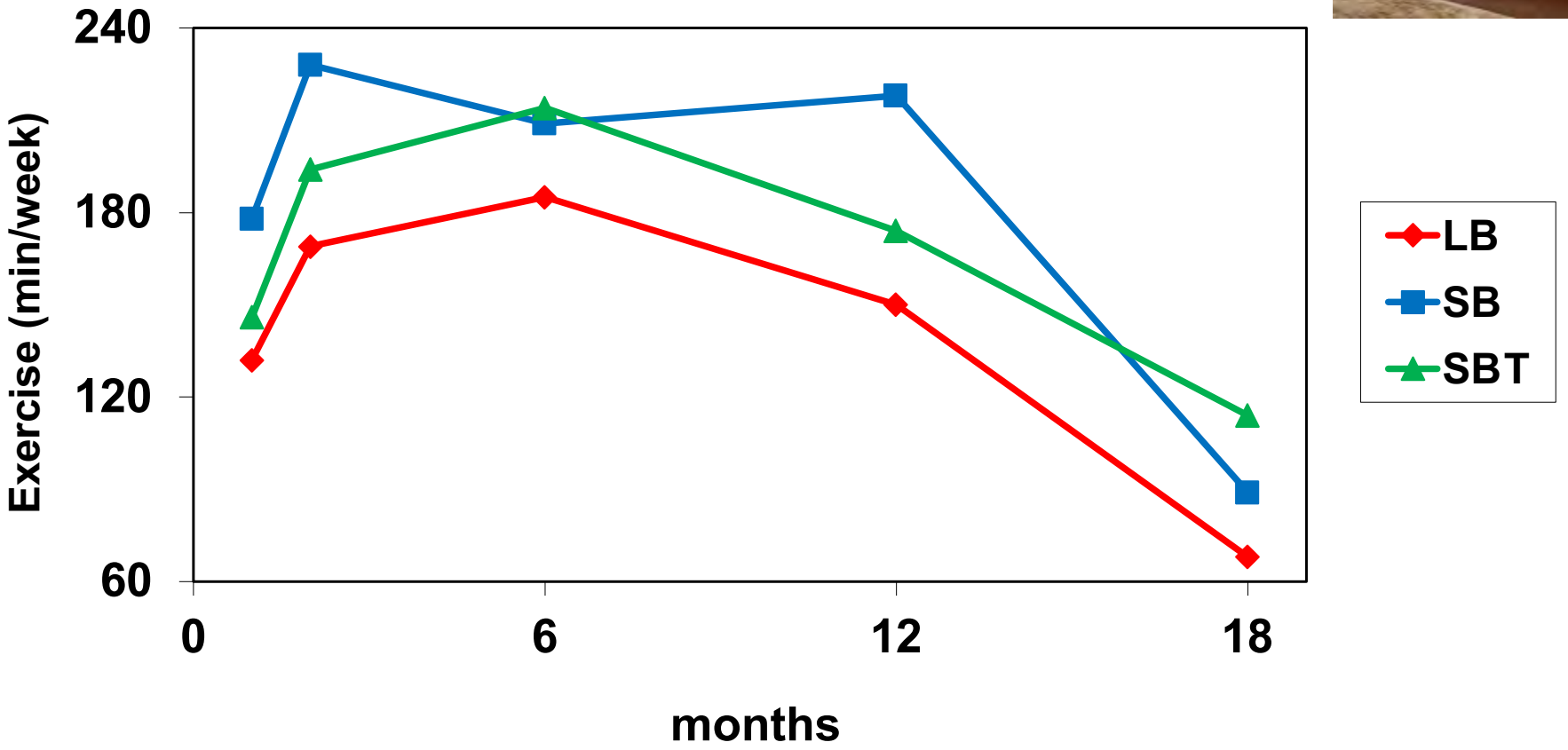
Jakicic et.al., *J. Amer. Med. Assoc.*, 282, 16



Exercise Participation

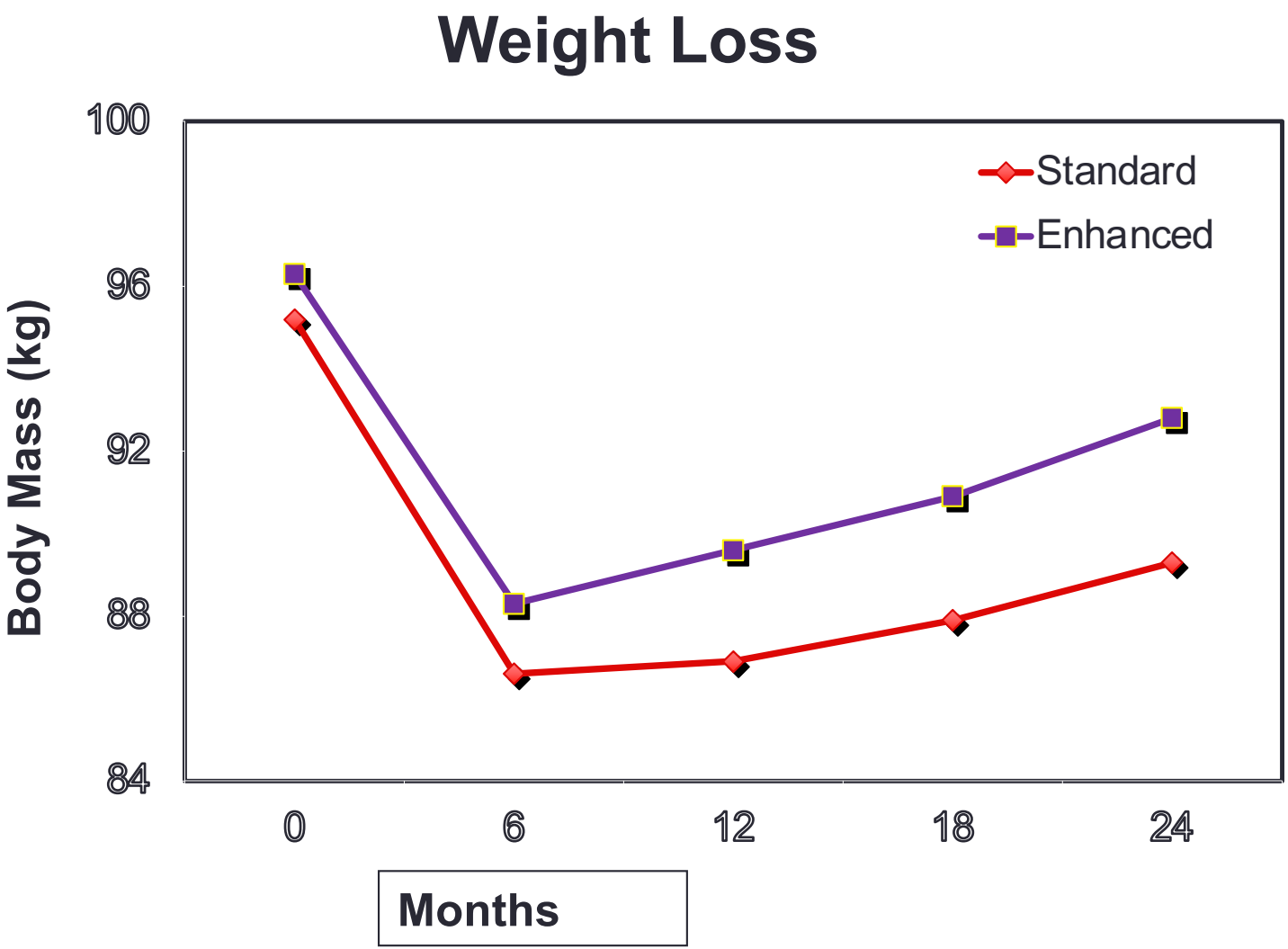
Effect of Short Bouts, Home Treadmills

Jakicic et.al., *J. Amer. Med. Assoc.*, 282, 16



Weight Loss with Wearable Technology

Jakicic et.al., J. Amer. Med. Assoc., 316(11), Sep 2016.



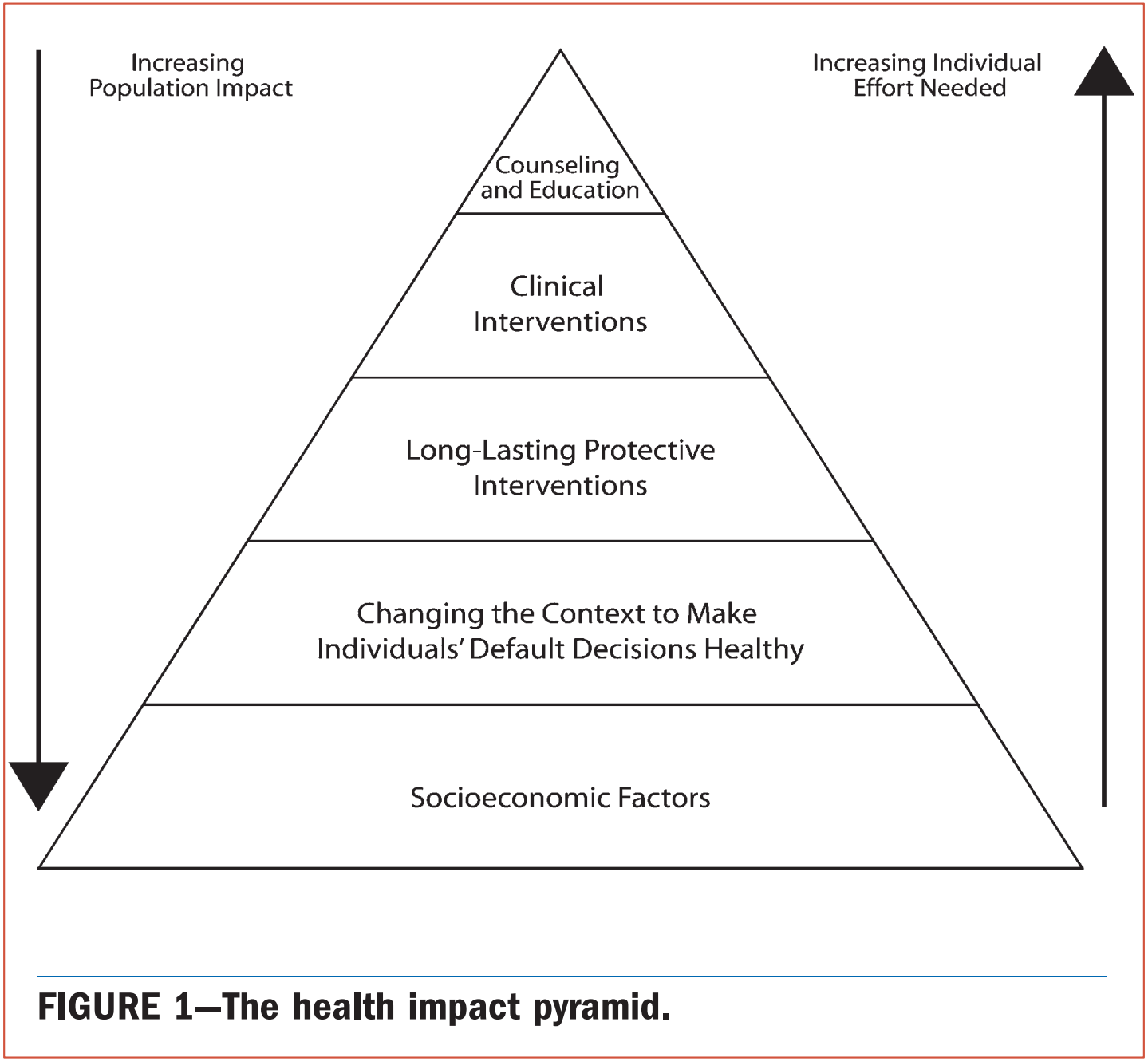
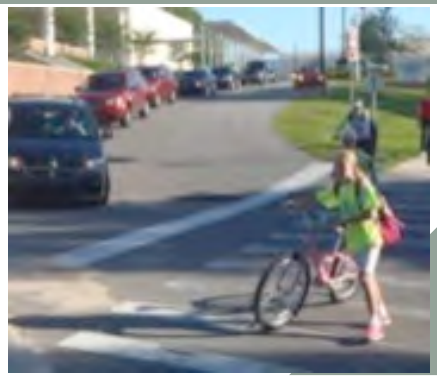


FIGURE 1—The health impact pyramid.

A physician's take on the social ecology model.

Frieden, *AJPH*, 100(4), 2010

Social Ecology



Individual

Group

Institutional

Community

Policy

Physical Activity & Behavioral Medicine, Sallis & Owen.

Four elements support active transportation

Land Use Mix

Network

Safety & Access

Four elements support active transportation.

i. A variety of nearby destinations.

Four elements support active transportation.

ii. A connected network of ”active transportation” facilities.

Quiz 2:

#1

Brockport, NY

#2

Which setting is more inviting for travel on foot and by bicycle? And why?

Four elements support active transportation.

iii. Functional & rewarding spaces for pedestrians, bicyclist, & transit riders.

Four elements support active transportation.

iv. Accessible & safe
for all ages, races, abilities & disabilities.

- Walkable, Livable Communities.
- Safe Routes to School (Parks, etc.).
- Age-Friendly Comm. (AARP, WHO)
- Sustainability, Smart Growth.
- Transportation Demand Management.
- Transit Oriented Development.
- Vision Zero; ”Slow Streets”
- New Urbanism (CNU)

CREATING AN ACTIVE AMERICA, TOGETHER
ACTIVE PEOPLE, HEALTHY NATION℠

Policies that support "physically active routes to everyday destinations"

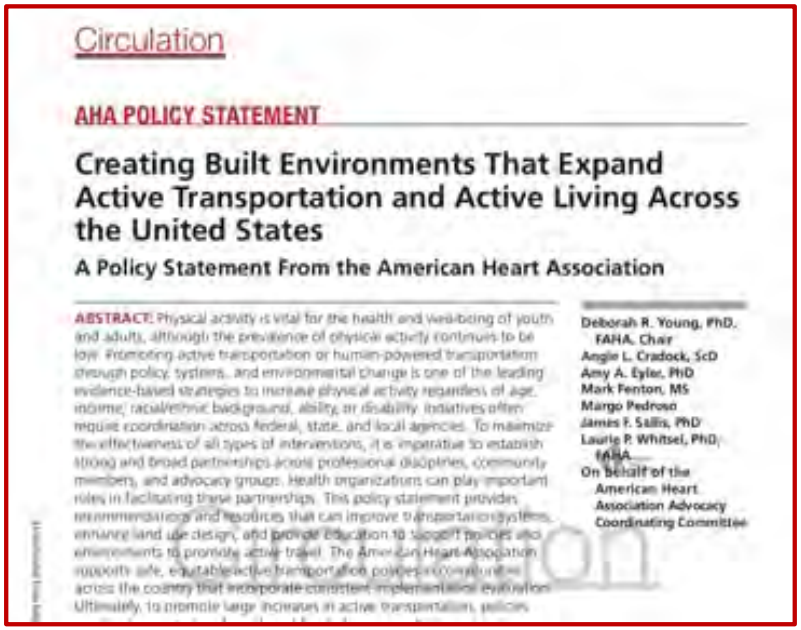
i. Complete Streets.

ii. Healthy planning & zoning.

iii. Transportation trail networks & requirements.

iv. Transit- & bicycle-friendly infrastructure & practices. (TDM: Transportation Demand Management).

v. Accessible, affordable, & diverse housing policies.



Circulation

AHA POLICY STATEMENT

Creating Built Environments That Expand Active Transportation and Active Living Across the United States

A Policy Statement From the American Heart Association

ABSTRACT: Physical activity is vital for the health and well-being of youth and adults, although the prevalence of physical activity continues to be low. Promoting active transportation or human-powered transportation through policy, systems, and environmental change is one of the leading evidence-based strategies to increase physical activity regardless of age, income, racial/ethnic background, ability, or disability. Initiatives often require coordination across federal, state, and local agencies. To maximize the effectiveness of all types of interventions, it is imperative to establish strong and broad partnerships across professional disciplines, community members, and advocacy groups. Health organizations can play important roles in facilitating these partnerships. This policy statement provides recommendations and resources that can improve transportation systems, enhance land use design, and provide education to support policies and environments to promote active travel. The American Heart Association supports safe, equitable active transportation policies and systems across the country that incorporate consistent implementation evaluation. Ultimately, to promote large increases in active transportation, policies

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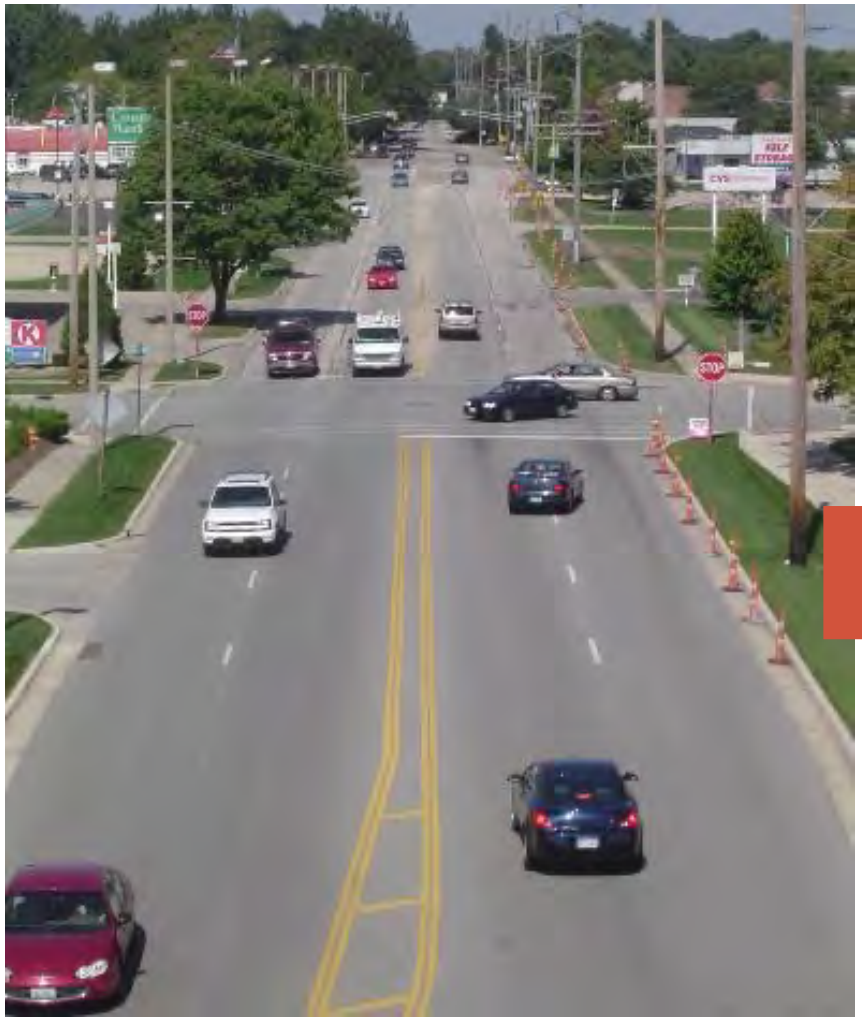
Angie L. Cradock, ScD
Amy A. Eyler, PhD
Mark Fenton, MS
Margo Pedroso
James F. Sallis, PhD
Laurie P. Whitsel, PhD, FAHA
On behalf of the American Heart Association Advocacy Coordinating Committee

- Macro: Land use.
- Meso: Connecting networks.
- Micro: Functional design details.

i) Complete Streets

E.g. Lane reduction (road diet).

All roads should accommodate all users of all ages, races, incomes, abilities, in all modes, all of the time. completestreets.org



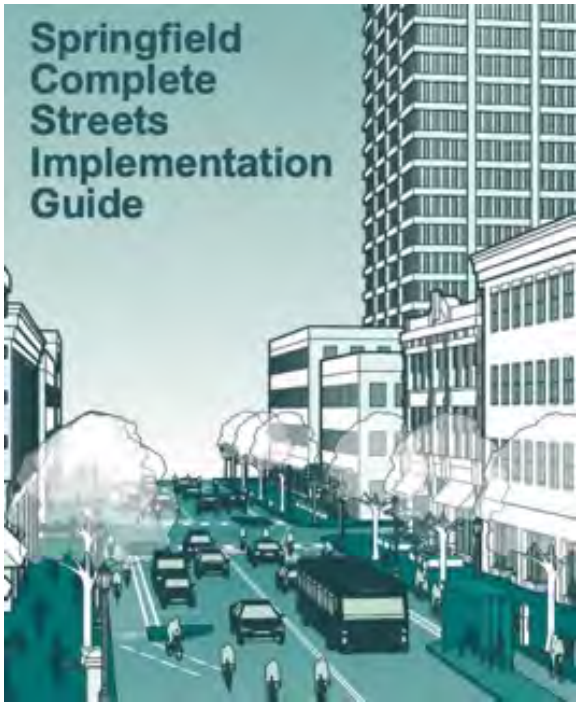
Urbana, IL; before . . .

& after.

Research on Active Design, Springfield (ROADS)

Study of Complete Streets policy impacts

- Are there more multi-modal facilities?
- Reductions in pedestrian, bike collisions, injuries?
- Resident perceptions, expectations?
- Increased ped, bike, & transit mode split?
- Increased PA?

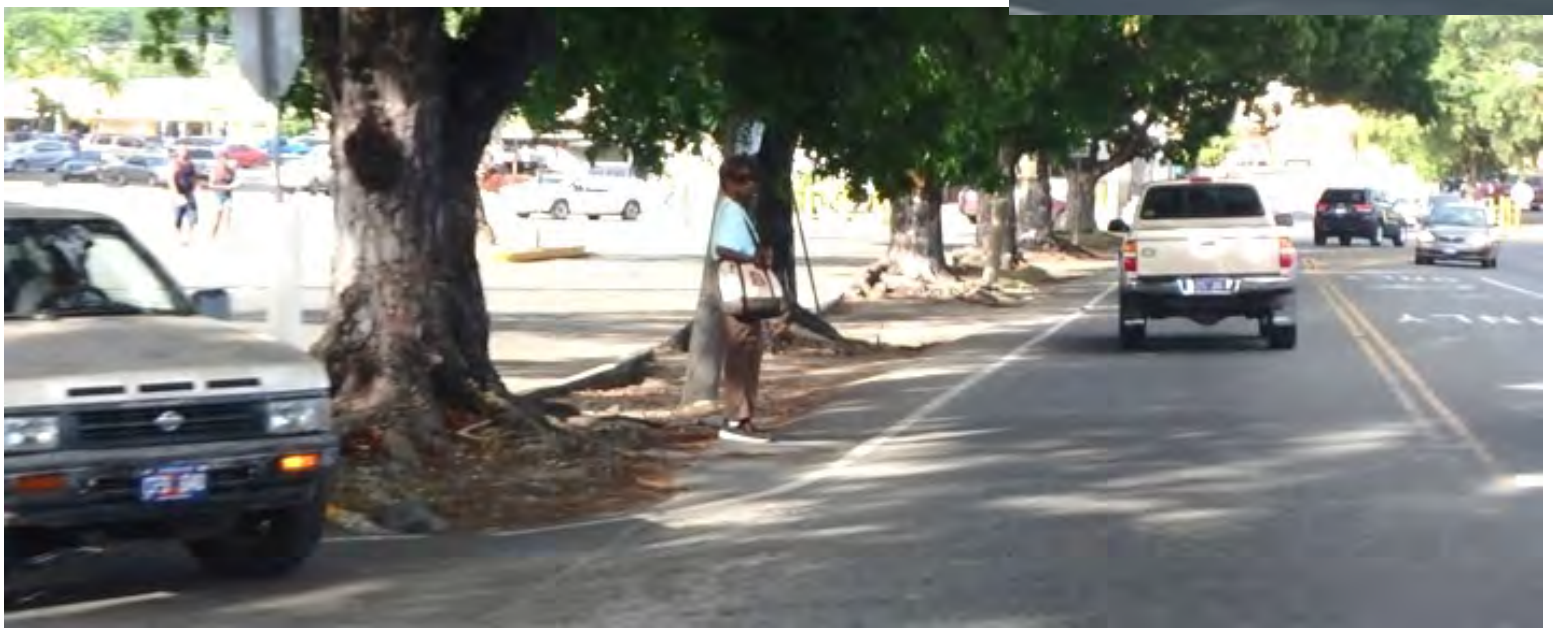


A pilots to policy approach . . .

Whitefish MT
2015 demo

Example:

St. Croix: Pedestrian crossing near Sunny Isle Shopping Center.



Data collected before and after

- Vehicle speeds
- Pedestrian crossing locations
- Vehicle yielding

(three weeks & one year after installation)

USVI WALKABILITY INSTITUTE

ST. CROIX CROSSWALK STUDY

Were crosswalks at Sunny Isles effective?

More people used the crosswalk the longer it was in place.

Immediately after the crosswalk was installed, 14% of pedestrians used it to cross the street.

More than half of pedestrians used the crosswalk one year after it was installed.

Cars drove slower after a crosswalk was installed near the Sunny Isles Shopping Center in St. Croix.

24 MPH >>> **18** MPH

Average car speed without a crosswalk

Average car speed one year after the crosswalk was installed

Most pedestrians had to wait for a car to pass before they could cross the road.

70 - 80%

Before and after the crosswalk was installed, at least seven in ten pedestrians could not cross the street until a car passed.

Crosswalks in Sunny Isles are effective at slowing down traffic. More efforts are needed to ensure drivers stop for pedestrians in crosswalks.

This project was supported by TEPHINET, a program of the Task Force for Global Health, Inc., via Cooperative Agreement number NU2GGH001873, funded by the Centers for Disease Control and Prevention. The contents of this infographic are solely the responsibility of the authors and do not necessarily represent the official views of the Centers for Disease Control and Prevention, the Department of Health and Human Services, The Task Force for Global Health, Inc. or TEPHINET.

ii) Healthy land use planning & zoning.

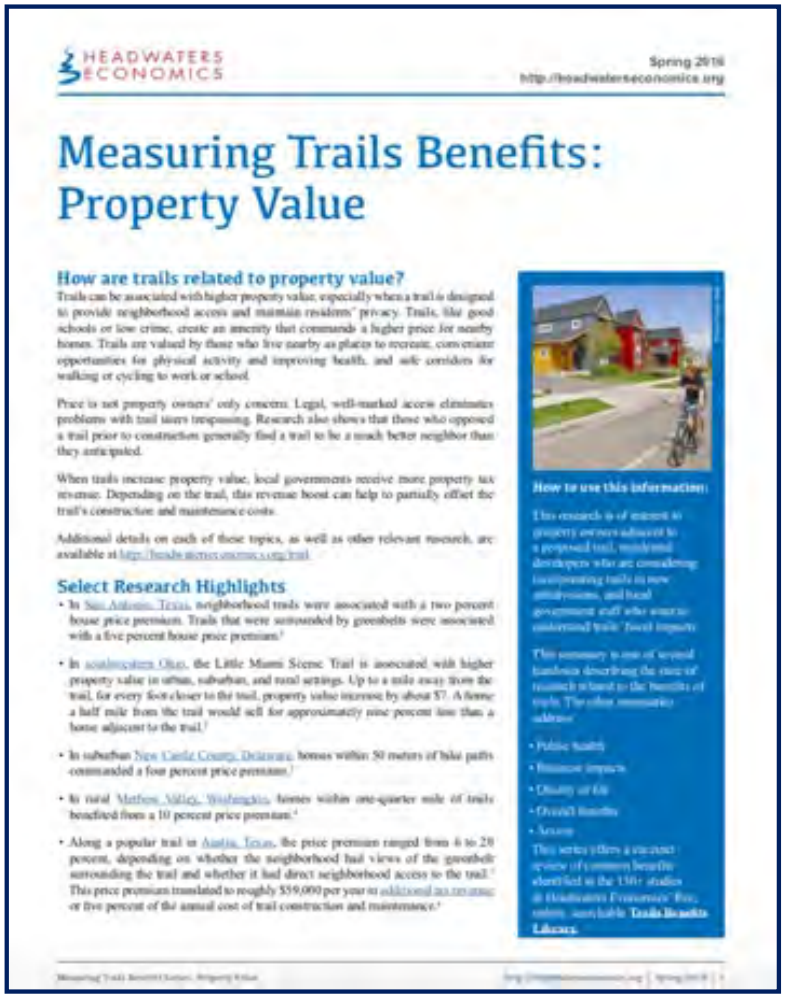
- Narrower streets, sidewalks both sides, links to trail system (existing & planned).
- Compact design, shared open space.
- Mix housing types, sizes (& incomes).
- Neighborhood retail; downtown residential.

E.g., Winter Park FL


SOCCER
LOCKER
SOCCER
LOCKER
110


THE CHEESECAK
Cheesecake Factory

iii) Transportation Trail Networks



HEADWATERS ECONOMICS

Spring 2016
http://headwaterseconomics.org

Measuring Trails Benefits: Property Value

How are trails related to property value?

Trails can be associated with higher property value, especially when a trail is designed to provide neighborhood access and maintain residents' privacy. Trails, like good schools or low crime, create an amenity that commands a higher price for nearby homes. Trails are valued by those who live nearby as places to recreate, convenient opportunities for physical activity and improving health, and safe corridors for walking or cycling to work or school.

Price is not property owners' only concern. Legal, well-marked access eliminates problems with trail users trespassing. Research also shows that those who opposed a trail prior to construction generally find a trail to be a much better neighbor than they anticipated.

When trails increase property value, local governments receive more property tax revenue. Depending on the trail, this revenue boost can help to partially offset the trail's construction and maintenance costs.

Additional details on each of these topics, as well as other relevant research, are available at http://headwaterseconomics.org/trail.

Select Research Highlights

- In San Antonio, Texas, neighborhood trails were associated with a two percent house price premium. Trails that were surrounded by greenbelts were associated with a five percent house price premium.[1]
- In southwestern Ohio, the Little Miami Scenic Trail is associated with higher property value in urban, suburban, and rural settings. Up to a mile away from the trail, for every foot closer to the trail, property value increase by about $7. A home a half mile from the trail would sell for approximately nine percent less than a home adjacent to the trail.[2]
- In suburban New Castle County, Delaware, homes within 50 meters of bike paths commanded a four percent price premium.[3]
- In rural Methow Valley, Washington, homes within one-quarter mile of trails benefited from a 10 percent price premium.[4]
- Along a popular trail in Austin, Texas, the price premium ranged from 6 to 20 percent, depending on whether the neighborhood had views of the greenbelt surrounding the trail and whether it had direct neighborhood access to the trail.[5] This price premium translated to roughly $59,000 per year in additional tax revenue or five percent of the annual cost of trail construction and maintenance.[6]

How to use this information:

This research is of interest to property owners adjacent to a proposed trail, residential developers who are considering incorporating trails in new developments, and local government staff who want to understand trails' fiscal impacts.

This summary is one of several handouts describing the state of research related to the benefits of trails. The other summaries address:

- Public health
- Business impacts
- Quality of life
- Overall benefits
- Access

This series offers a succinct overview of common benefits identified in the 150+ studies at Headwaters Economics' free, online, searchable **Trails Benefits Library.**

headwaterseconomics.org/wp-content/uploads/trails-library-property-value-overview.pdf

NIMBY?

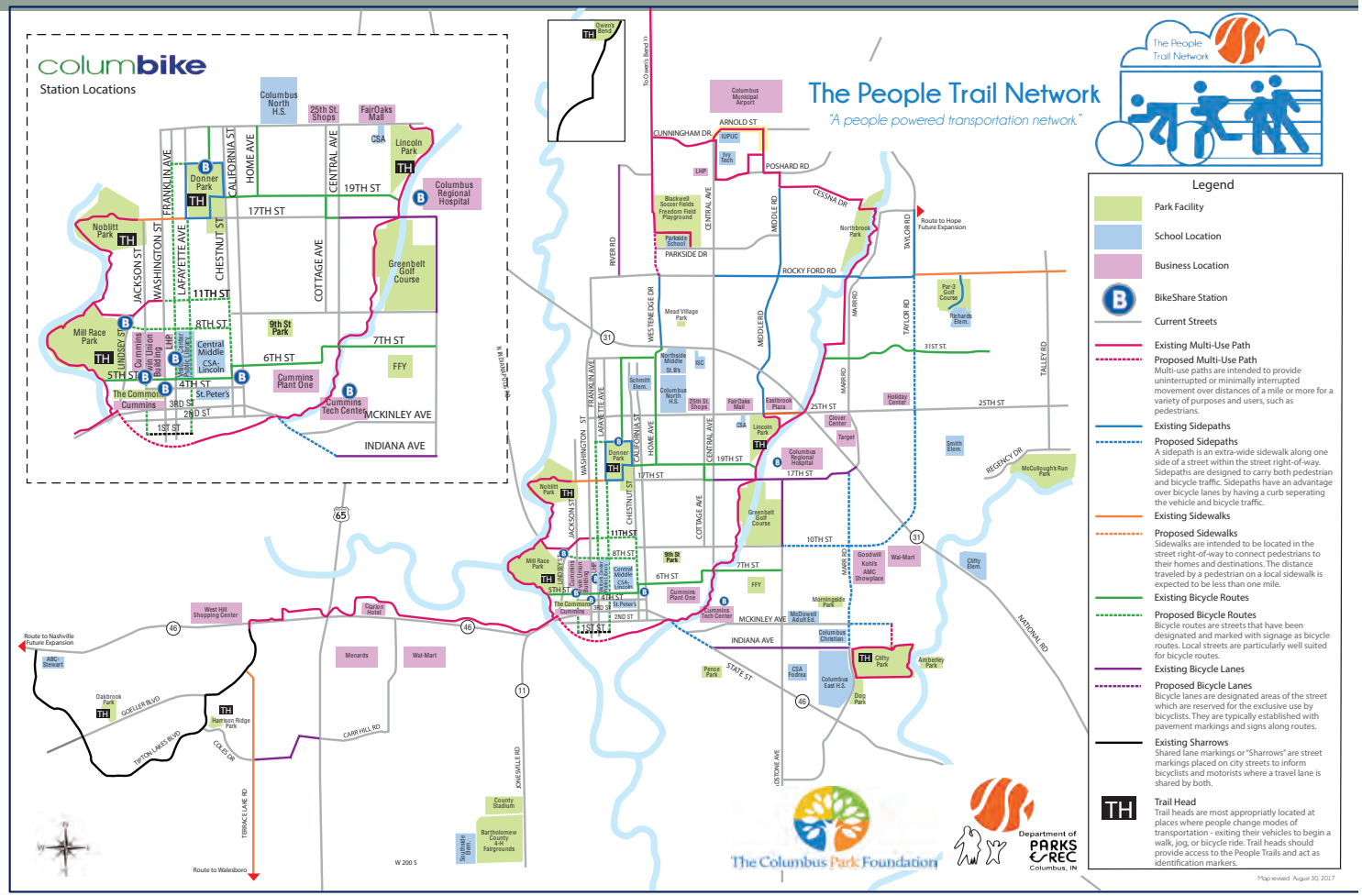
Whitesburg KY

LIMBY: Link It to My Back Yard!

The People Trail Network

"A people powered transportation network"

Columbus IN



Trails: loops, exercise stations vs. *functional* links.

Columbia MO

iv) TDM policies

- Lockers
- Showers
- Bike parking
- Transit pass
- Flex time
- Limit & pay for parking

Perth AU

v) Policies can anticipate & preclude gentrification, displacement; support mix, housing affordability. E.g. ...

- Inclusionary zoning (required affordable %).
- Mix of rental & ownership.
- Mix styles & sizes; townhomes, row houses, cottage clusters, mini-homes; shared housing.
- Accessory dwelling units (e.g. garden & garage apartments).
- First right of refusal for tenants.
- Provide the *missing middle*.


Washington


Texas


South Carolina

Healthy Community Design, Anti-displacement, and Equity Strategies in the USA: A Scoping Review

Natalicio Serrano · Lindsey Realmuto · Kaitlin A. Graff · Jana A. Hirsch · Lauri Andress · Mojgan Sami · Ken Rose · Akimi Smith · Katherine Irani · Jean McMahon · Heather M. Devlin

Journal of Urban Health
(2023) 100:151-180

Table 1 Typology of displacement prevention and mitigation strategies

Category	Definition	Examples
1. Preservation	Preserve existing affordable rental units	• Right to purchase laws • Demolition control
2.Protection	Help long-time residents who wish to stay in the neighborhood	• Employer assisted housing • Rent skewing
3.Inclusion	Ensure that a share of new development is affordable	• Inclusionary zoning policy • Density bonuses
4.Revenue generation	Harness growth to expand financial resources for affordable housing	• Tax Increment Financing (TIF) • Housing trust funds
5.Incentives/disincentives	Create incentives for developers of affordable housing, and/or discourage developers from increasing rents	• Anti-speculation taxes • Impact fees
6.Property acquisition	Facilitate acquiring sites for affordable housing	• Expropriation • Community land trusts
7.Stabilization	Stabilizing long time/historical residents by securing long-term housing	• Individual development accounts • Down payment assistance
8.Community engagement/education	Educate and engage with community members on factors related to affordable housing and displacement	• Coalition building • Awareness campaigns
9.Cross-cutting	Overarching thematic approaches related to displacement or affordable housing	• Health in all policies • Community planning

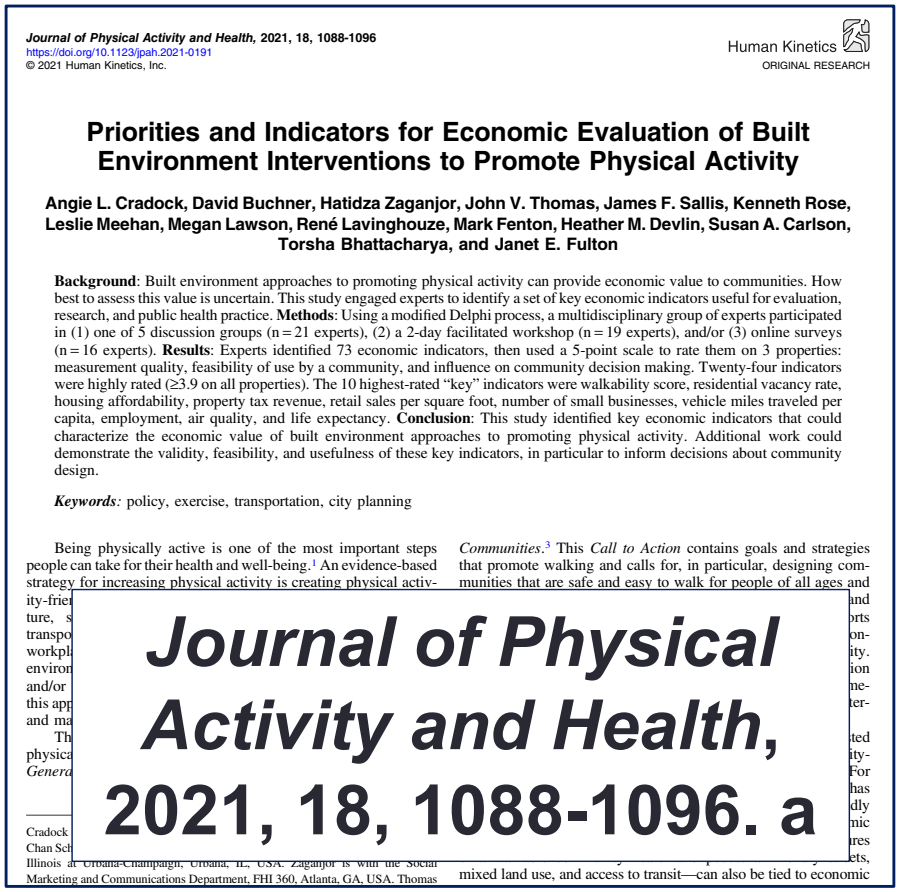
4. Make the case, with economic evidence

Environmental Health:

1. Greater walkability and bike-ability.
2. Better air quality.
3. Fewer vehicle miles traveled.

Economic Activity:

4. More small business development.
5. Lower vacancy rates.
6. Increased property values and tax revenues.
7. More affordable housing opportunities.
8. Increased retail sales.



Journal of Physical Activity and Health, 2021, 18, 1088-1096
https://doi.org/10.1123/jpah.2021-0191
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Human Kinetics
ORIGINAL RESEARCH

Priorities and Indicators for Economic Evaluation of Built Environment Interventions to Promote Physical Activity

Angie L. Cradock, David Buchner, Hatidza Zaganjor, John V. Thomas, James F. Sallis, Kenneth Rose, Leslie Meehan, Megan Lawson, René Lavinghouze, Mark Fenton, Heather M. Devlin, Susan A. Carlson, Torsha Bhattacharya, and Janet E. Fulton

Background: Built environment approaches to promoting physical activity can provide economic value to communities. How best to assess this value is uncertain. This study engaged experts to identify a set of key economic indicators useful for evaluation, research, and public health practice. **Methods**: Using a modified Delphi process, a multidisciplinary group of experts participated in (1) one of 5 discussion groups (n = 21 experts), (2) a 2-day facilitated workshop (n = 19 experts), and/or (3) online surveys (n = 16 experts). **Results**: Experts identified 73 economic indicators, then used a 5-point scale to rate them on 3 properties: measurement quality, feasibility of use by a community, and influence on community decision making. Twenty-four indicators were highly rated (≥3.9 on all properties). The 10 highest-rated "key" indicators were walkability score, residential vacancy rate, housing affordability, property tax revenue, retail sales per square foot, number of small businesses, vehicle miles traveled per capita, employment, air quality, and life expectancy. **Conclusion**: This study identified key economic indicators that could characterize the economic value of built environment approaches to promoting physical activity. Additional work could demonstrate the validity, feasibility, and usefulness of these key indicators, in particular to inform decisions about community design.

Keywords: policy, exercise, transportation, city planning

Being physically active is one of the most important steps people can take for their health and well-being.[1] An evidence-based strategy for increasing physical activity is creating physical activ-

Communities.[3] This *Call to Action* contains goals and strategies that promote walking and calls for, in particular, designing communities that are safe and easy to walk for people of all ages and

mixed land use, and access to transit—can also be tied to economic

***Journal of Physical Activity and Health*, 2021, 18, 1088-1096. a**

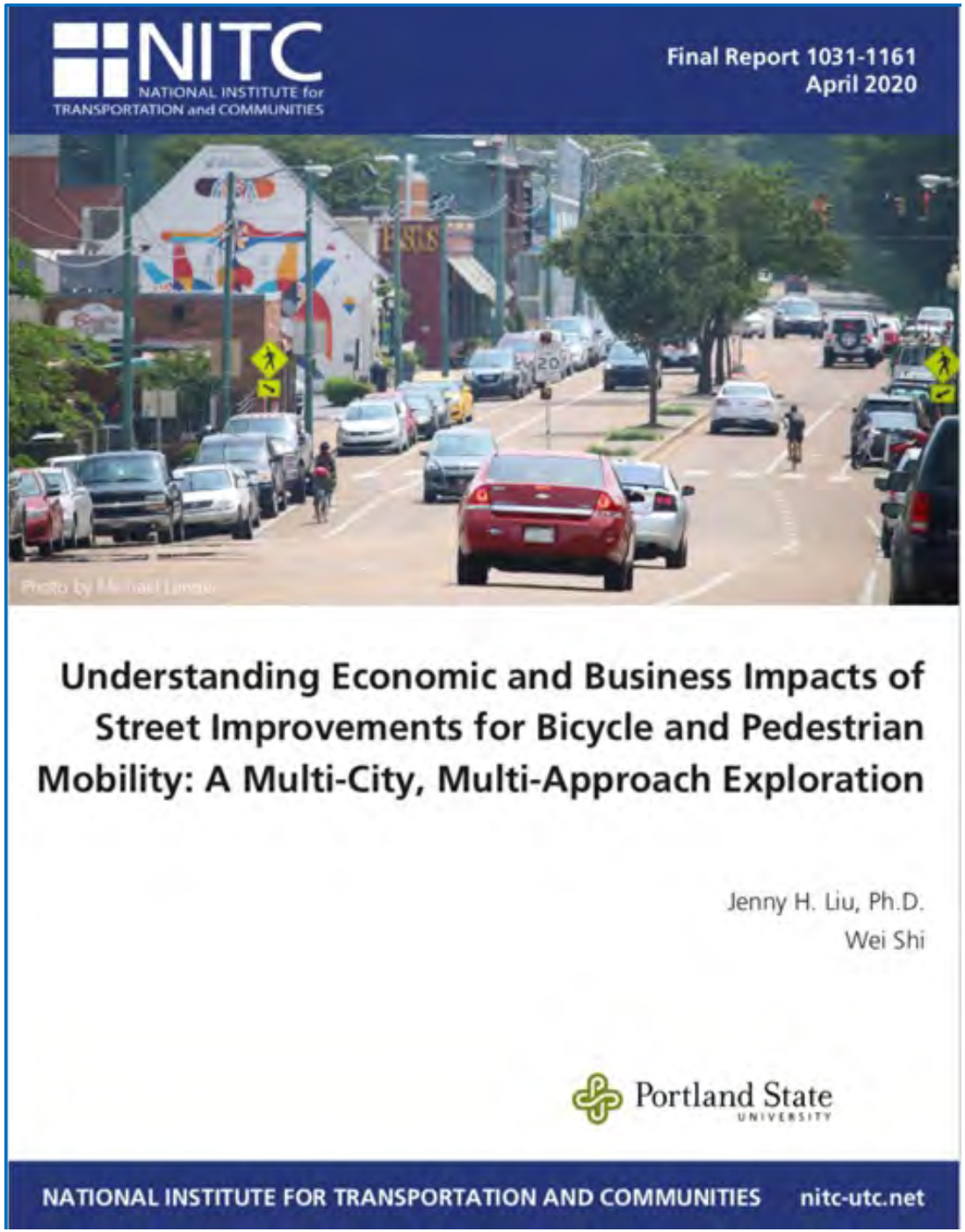
Social Health and Welfare:

9. Higher employment rates.
10. Longer and healthier lives.

Trends following Complete Streets improvements:

- Increases in retail sales.
- Increases in food retail & employment.

(Memphis, San Francisco, Minneapolis, Seattle, Indianapolis, Portland.)



The economic pull of “healthy” designs:

Best of both worlds: Maurice Turner and Preet Bassi wanted urban amenities with a homey feel.

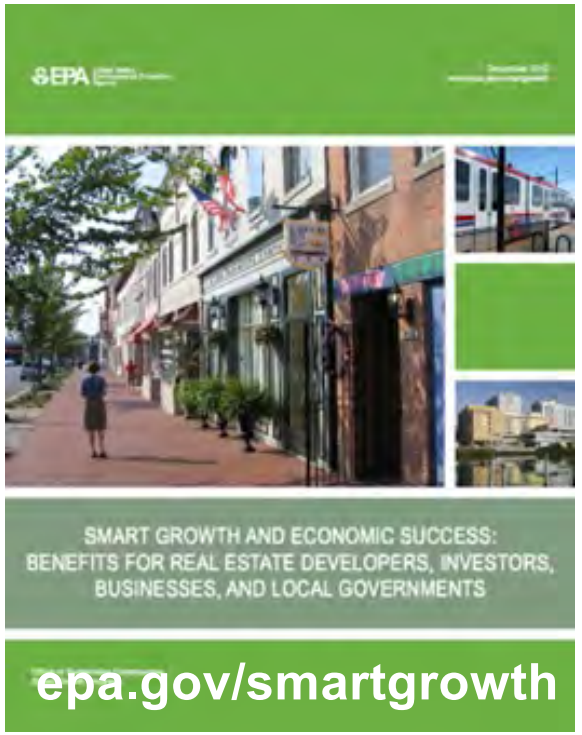
The new look — and location — of housing

Neighborhoods with suburban feel spring up in unused city sites

By Haya El Nasser
USA TODAY

Townhouses and single-family homes are sprouting on old industrial sites in the heart of

1. Market demand



2. Market performance

3. Developer interest

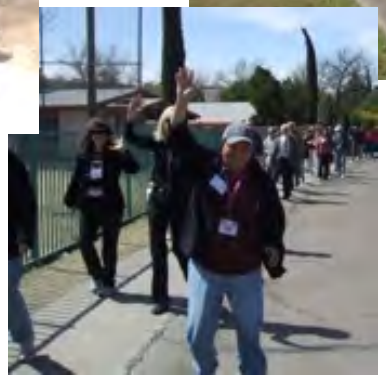
4. Quantifiable health benefits!

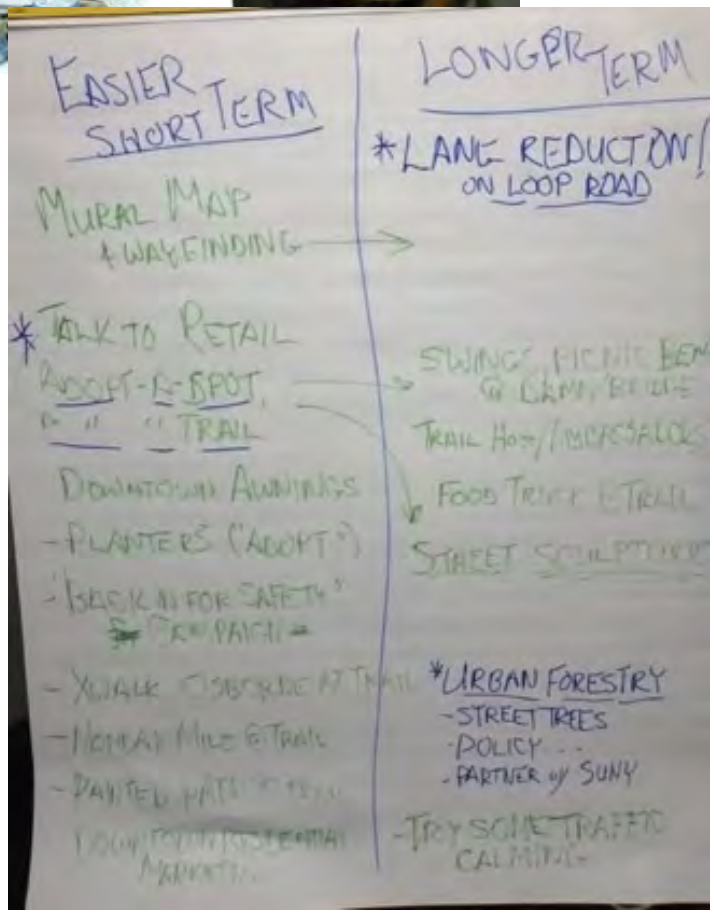
nccor.org/nccor-tools/create-thriving-activity-friendly-communities/

5. Learning from the real experts.

Inclusive Interdisciplinary Walk/Move Audits: I2Audits.

- Go to real community destinations (walk, bike, transit).
- Move with people who live & work there daily.
- Inclusive across age, race, income, ability & disability
- Shared discovery & solutions; *not* "expert answers."





3 Ps capture participant input & ideas:

- Programs: Events, education, awareness, plans, demonstrations.
- Projects: Improve the infrastructure for walking, cycling, transit.
- Policies: Ordinances, practices, procedures to support active transportation.

Lower cost & “quick build” options . . .

Your task during PAPH: Frame an action plan!

1. Identify a real-world challenge/opportunity.
2. Propose a policy – systems – environmental approach.
3. Identify key interdisciplinary partner(s).
4. Propose inclusive, equitable approach(es) to community engagement and input.
5. Possible pop-up or demonstration project for proof of concept, to gain input, build support.
6. Evaluation: How will you know if it worked? What objective evaluation is appropriate?
7. Questions, concerns for your peers & faculty?

To get started: Do a community *PhotoVoice*.

- 5-10 Photos: Of a specific area or illustrating a more general community issue around healthy design.
  - **2-4 supports;** encouraging physical activity.
  - **2-4 challenges;** discouraging physical activity.
  - **A surprise or two;** unexpected settings or uses.
  - Include a *short* caption w/ each – why you took it.

Photo tip 1: People in photos

Photo tip 2: Representative images

E.g. typical residential, retail

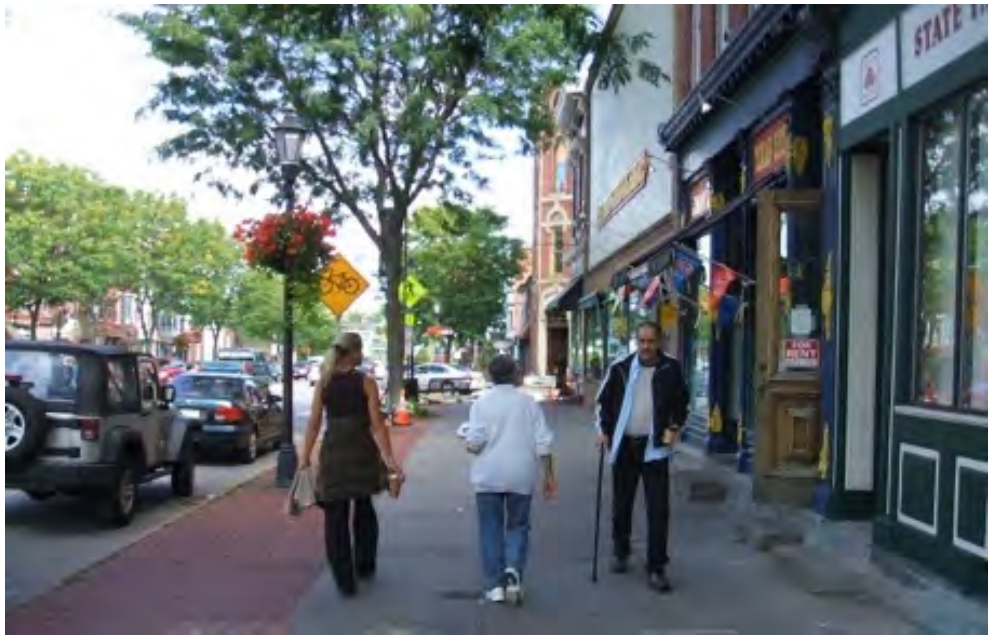


Photo tip 3: Routes to real destinations

Photo tip 4: Change perspective, explore.

Look *in* the median.

Get a bit higher.

Behind **the mall.**

Photo voice of conditions for “active transportation”

Supports & challenges to walking, bicycling, & transit

Example:
SCITUATE, MA
Mark Fenton
Planning Board Member

Encouraging

Crossing guard and high visibility crosswalk at Jenikins Elementary.

Satellite drop-off at St. Mary's church, 1/3 mile from school.

Walkable downtown: grocery, pharmacy, banks, and hardware store, movie theater, and 2nd story residential over many shops.

Discouraging

No facility for bicyclists on First Parish Rd.

Car traffic at the Jenkins school at arrival and dismissal backs out into the street.

Discouraging: New dollar store on edge of town; few healthy food choices, parking in front, no sidewalk, no bike rack.

Surprise

Informal trail (goat path) from behind school to housing subdivision.

Questions?

PhotoVoice recap: Due Sep. 15 (or at registration)

- 5-10 Photos: Of a specific area or illustrating a more general community issue around healthy design.
  - **2-4 supports;** encouraging physical activity.
  - **2-4 challenges;** discouraging physical activity.
  - **A surprise or two;** unexpected settings or uses.
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Nov. 26, 2019