



**The question is obvious, right?**

# USVI Walkability Action Institute



Pedestria Ambulatoris



Vanishing  
species or  
making a  
comeback?



Mark Fenton  
Tufts University

US Virgin Islands  
June 2017



NO PARKING  
ON THIS  
SIDE OF  
THE STREET

KEEP  
LEFT

Public  
Storage Available For  
RENT

Even safe for PRETZELS!

**The 2017 USVI Walkability Institute is made possible through a partnership with TEPHINET, a program of The Task Force for Global Health (TFGH), the Centers for Disease Control and Prevention (CDC), and the USVI Department of Health (USVIDOH).**

**Its contents are the sole responsibility of the authors and do not necessarily represent the views of The Task Force for Global Health, Inc., TEPHINET, or the CDC.**

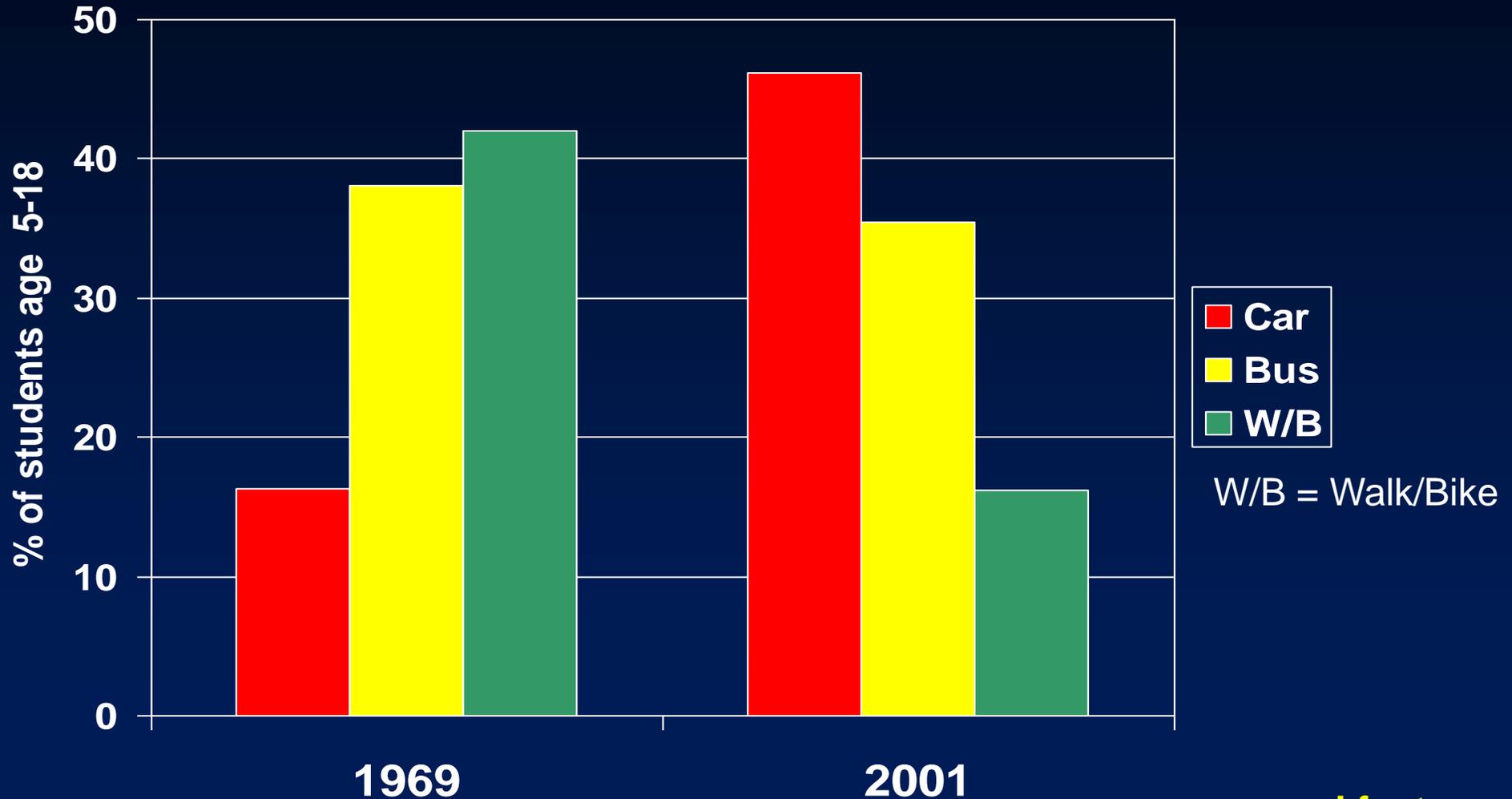


# Introductions & Perspective



# Changes in Walking & Cycling to School, 1969 to 2001

Ham et.al., *Jour. of Physical Activity & Health*, 2008, 5, 205-215



# Trends in Childhood Obesity & Overweight



Centers for Disease Control and Prevention. National Center for Health Statistics. National Health Examination Surveys, 1963-2006

[www.rwjf.org/files/publications/annual/2008/year-in-review/](http://www.rwjf.org/files/publications/annual/2008/year-in-review/)

[www.markfenton.com](http://www.markfenton.com)



The  
real  
risk . . .



[freerangekids.org](http://freerangekids.org)

[www.markfenton.com](http://www.markfenton.com)

# Walkability Action Institute

## Day #1: 8:30 am-6:30 pm

- Welcome & introductions
- Principles of walkability
  - Epi-Aid Assessment
  - **Team presentations**
- Partners & resources
  - **Lunch discussions**
- **Get out: walk audit**
- Peer Panel – Kauai, HI.
- **Team planning (dinner)**



# WAI, Day #2: 8:30 am-3:30 pm

- **Report on action idea #1**
- **Presentation – putting ideas into action**
- **Team work**
- **Elected officials (?)**
  - Territory-wide goals
- **Team presentations & discussion of Action Plans**



- **The stickiness problem.**
- **Healthier designs.**
- **Keys to success:**
  - **Stealth team**
  - **Policy goals**
  - **True community engagement**
  - **Trying stuff! >**

Weslaco TX



# We should be physically active.



# Surgeon General's Report 1996 Physical Activity Guidelines 2008

[www.health.gov/paguidelines](http://www.health.gov/paguidelines)

- **150 min/week**; more better.
- Any is better than none.
- Can be **broken up**.
- **300 min/week** for youth.
- Reduced risk for CVD, diabetes, osteoporosis, obesity, dementia, clinical depression, cancers . . .



**This counts!**

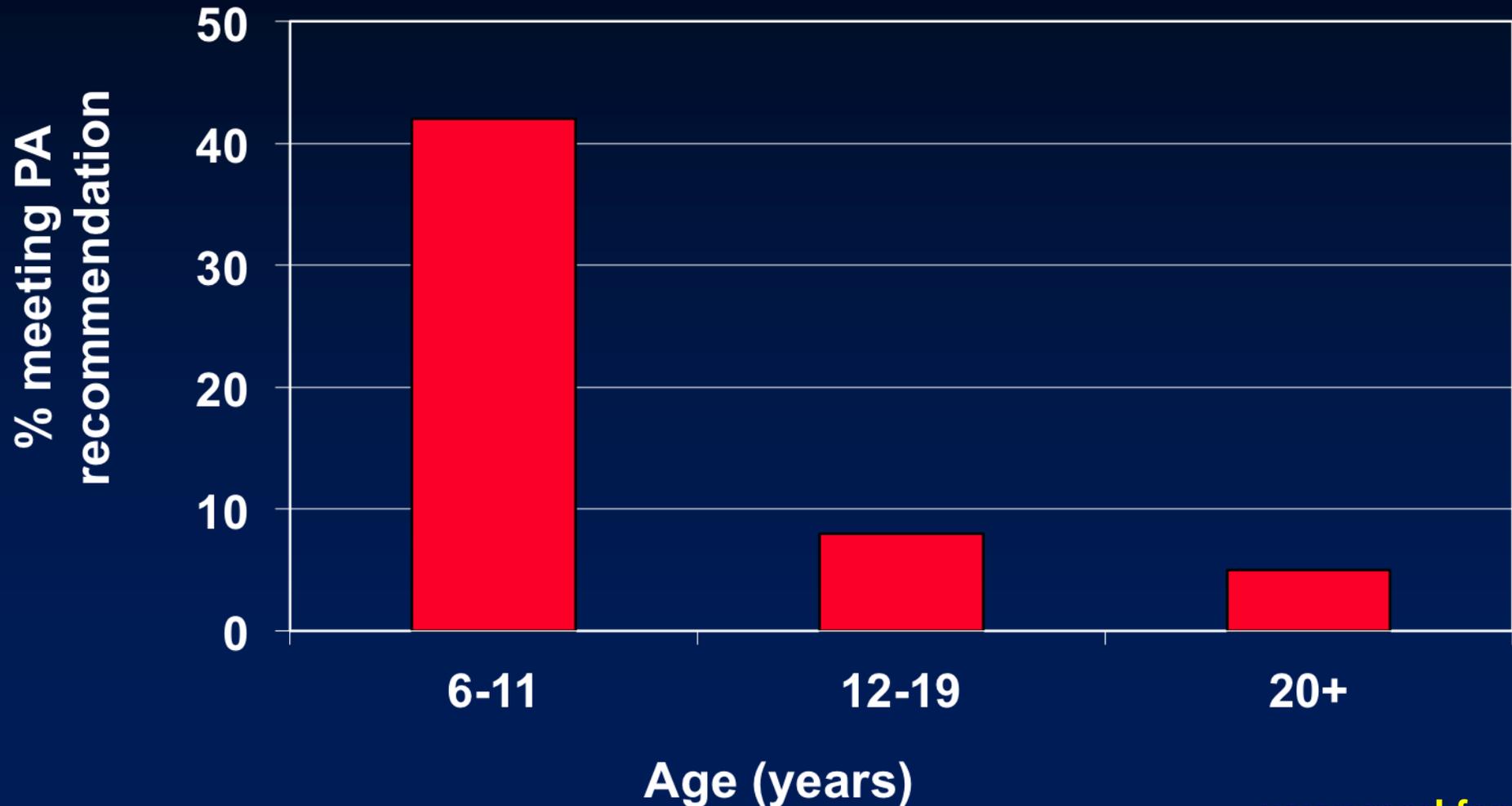
[www.markfenton.com](http://www.markfenton.com)

**But mostly we are not.**



# Physical Activity in the US Measured by Accelerometer

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





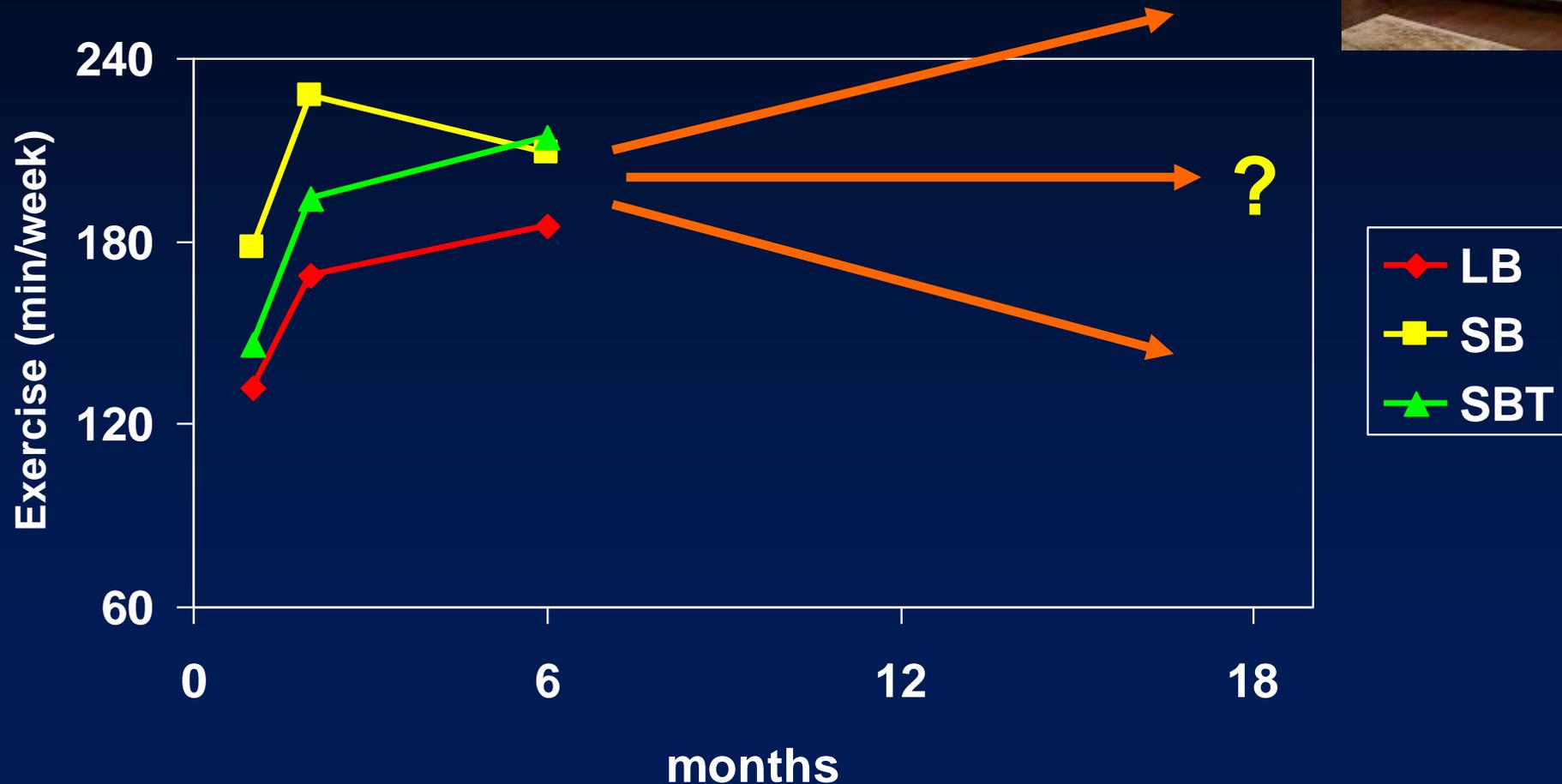
**Simply encouraging & educating does not work.**

[www.markfenton.com](http://www.markfenton.com)

# Exercise Participation

## Effect of Short Bouts, Home Treadmills

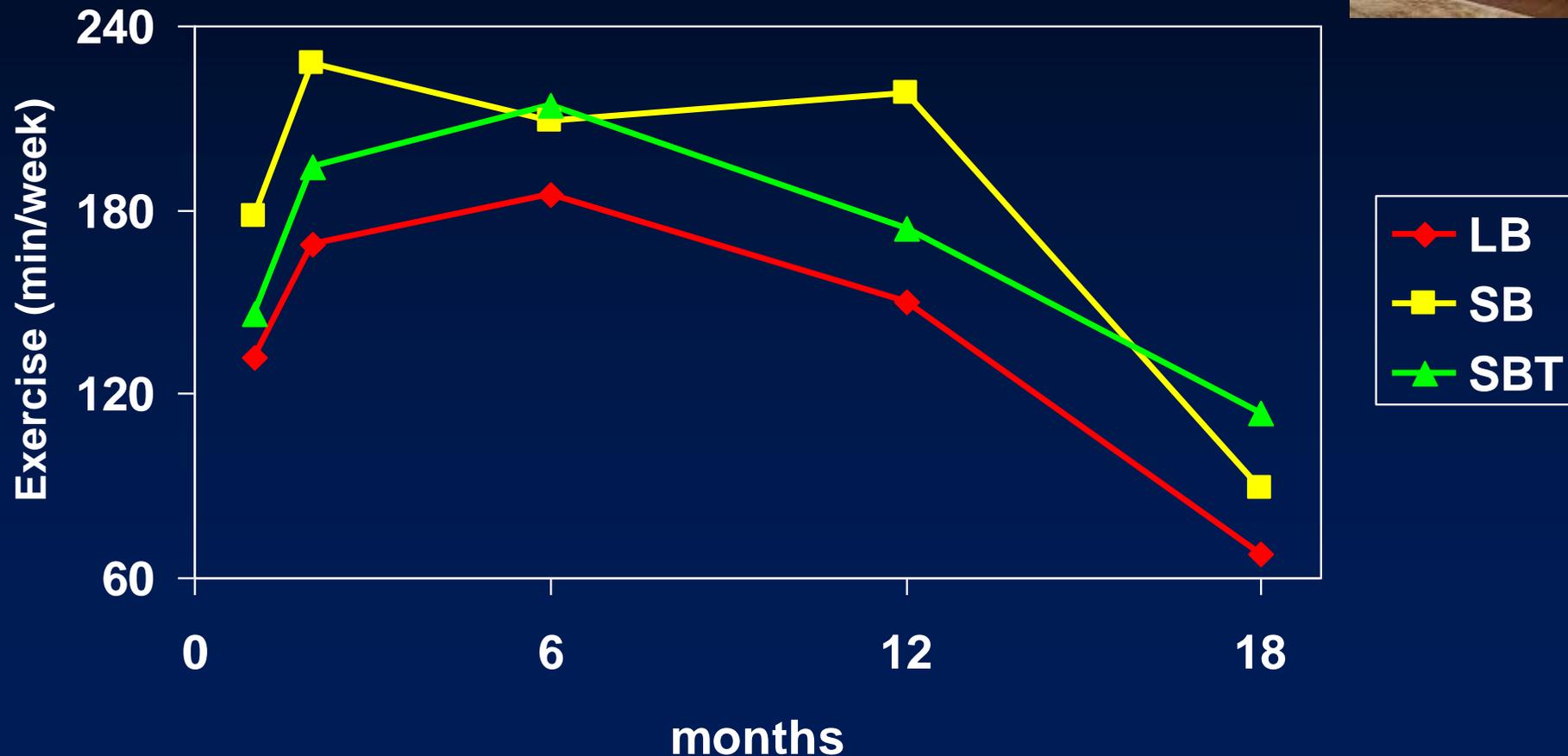
Jakicic et.al., *J. Amer. Med. Assoc.*, 282, 16



# Exercise Participation

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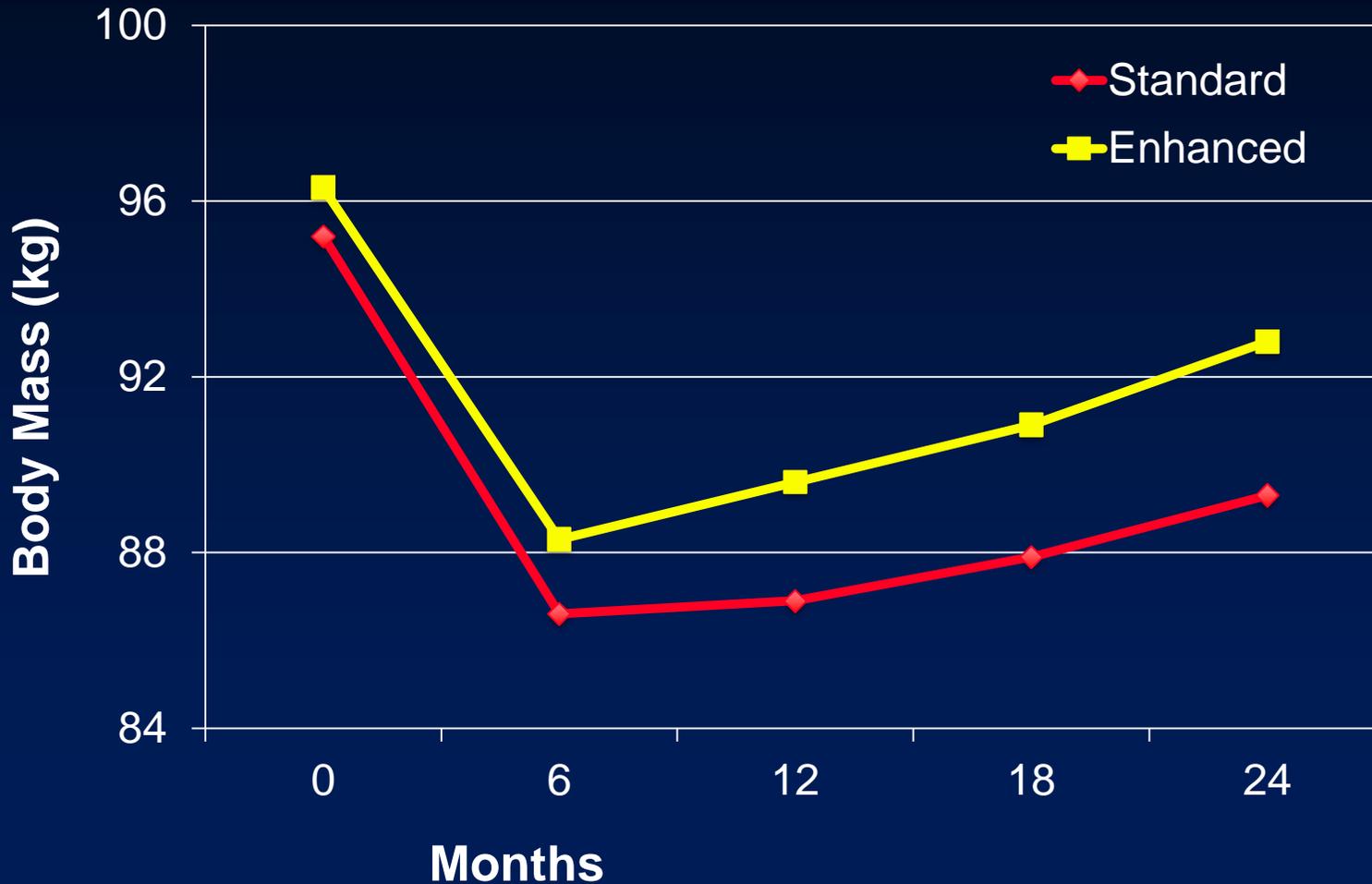
Jakicic et.al., *J. Amer. Med. Assoc.*, 282, 16



# Weight Loss with Wearable Technology

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

## Weight Loss



**But  
Social  
Ecology  
does!**

**Sallis & Owen,  
*Physical Activity &  
Behavioral Medicine.***



**Individual**



**Group**



**Institutional**

**Community**



**Public Policy**



# Healthy design yields a Triple Bottom Line!



**Prosperity**



**Planet**

**Healthy  
Economy**

**Healthy  
Environment**

**Healthy  
People**



**People**

# The built environment matters!



**Destinations**



**Network**



**Safety & Access**



**Site Design**

# i. Land use.

Live, work, shop, play, learn, pray.



Grocery, library, post office, etc.

Compact neighborhoods  
& shared open space.



Housing  
above  
retail  
below?



## ii. Network encourages active travel with:



Kauai shore path

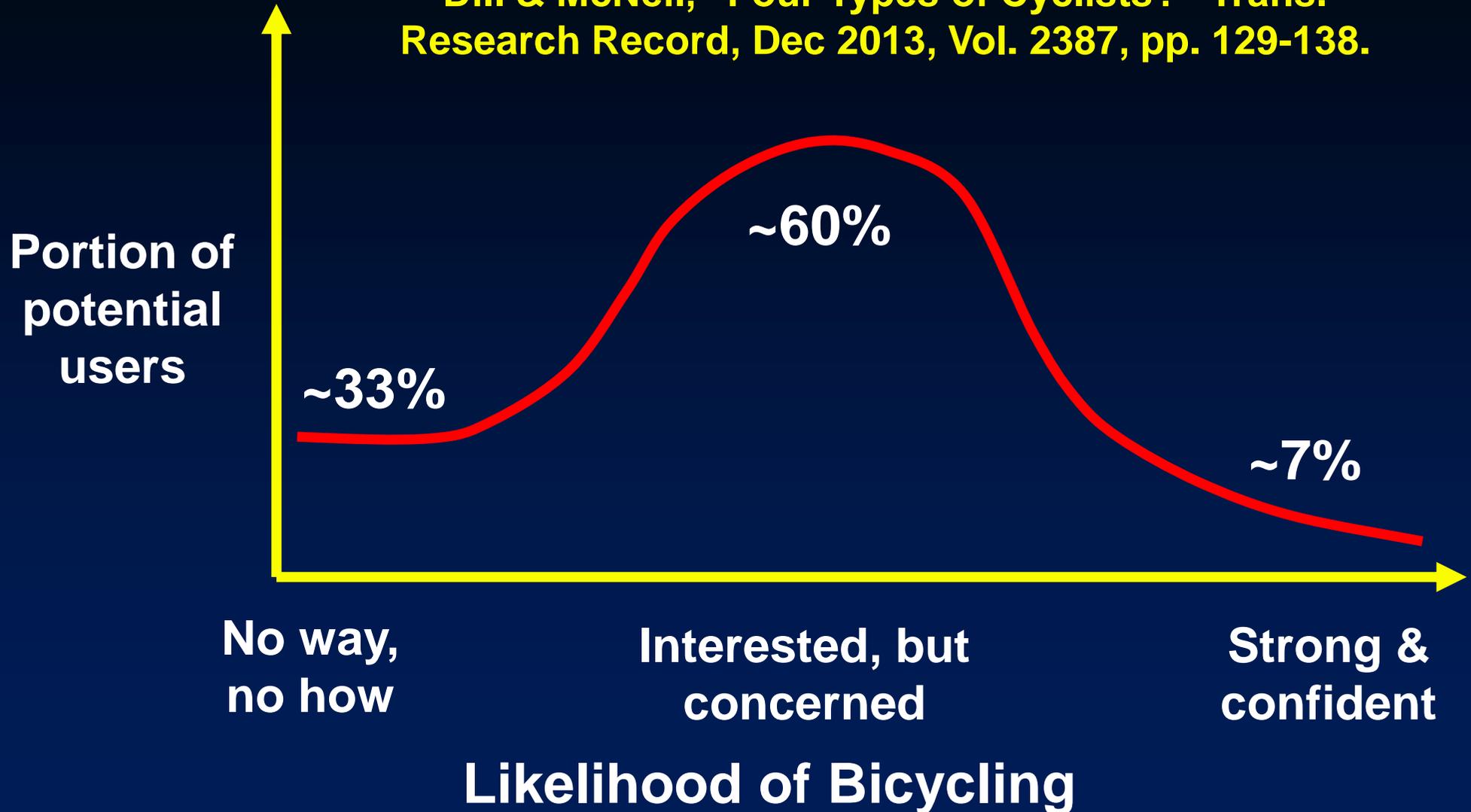


- Presence of sidewalks, pathways, bike lanes.
- Grid, not cul-de-sacs.
- Quality, reliable *transit*.



# Potential Cyclists

Dill & McNeil, "Four Types of Cyclists?" Trans. Research Record, Dec 2013, Vol. 2387, pp. 129-138.



# Bicycle network elements:



Nantucket bike trails



Protected bike lane

### iii. Site Design:



Which setting is more inviting for travel on foot or by bicycle?

**Site design research & practice suggest:**



St. Thomas

- Buildings near the sidewalk, not set back; parking on street or behind.
- Trees, benches, lighting, awnings, “human” scale.
- Details: bike parking, open space, plants, art, materials.



## Possible incentives:

- Decrease, share parking (include bike racks).
- Build-to, not set-back requirements.
- 2<sup>nd</sup> story residential.
- Expedite permits.



Neenah WI

## Appleton WI



**Elected, appointed  
officials & staff  
must be supported  
if expected to act  
courageously!**

# iv. Safety & access. • Engineering can markedly improve safety.

- Increasing pedestrian and bike trips *decreases* overall accident & fatality rates.



Median islands



Roundabouts



Curb extensions

(Jacobsen P, Injury Prevention, 2003; 9:205-209.)

[www.markfenton.com](http://www.markfenton.com)

# Mini-roundabout on St. Thomas



# 5-way intersection at Rattan & Northside . . .



# Nantucket





# STEP IT UP!

Surgeon General's Call to Action to Promote Walking and Walkable Communities



[surgeongeneral.gov/StepItUp](http://surgeongeneral.gov/StepItUp) ^

- Walkable Communities.
- Livable Communities.
- Sustainable communities
- Smart Growth.
- TND Traditional Neighborhood Design
- TOD Transit Oriented Development
- CNU Congress for a New Urbanism

[health.gov/paguidelines](http://health.gov/paguidelines) >

## Implementing Physical Activity Strategies

*Put the National Physical Activity Plan into action with 42 proven programs*

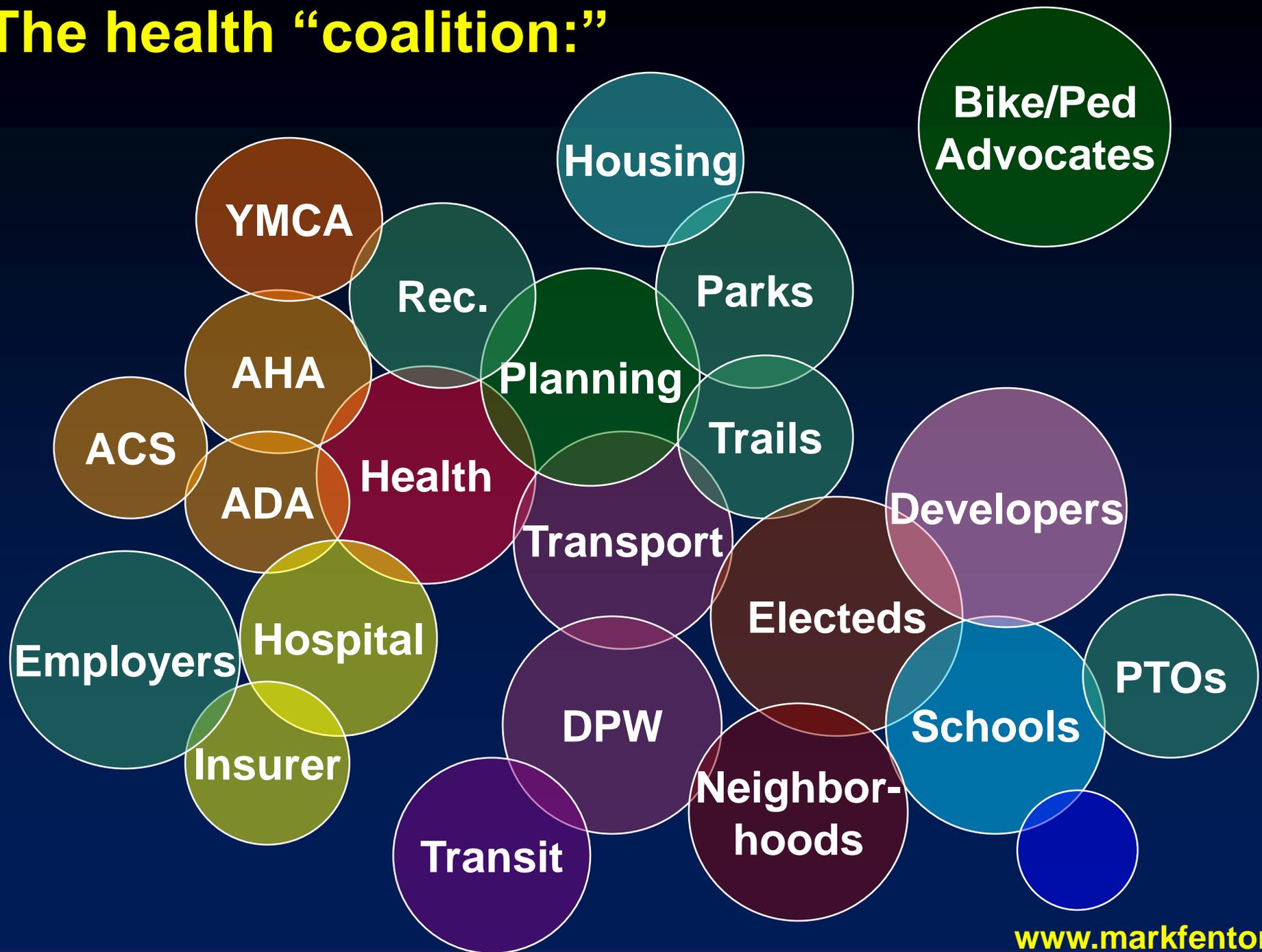
Russell R. Pate  
David M. Buchner  
Editors

An initiative of

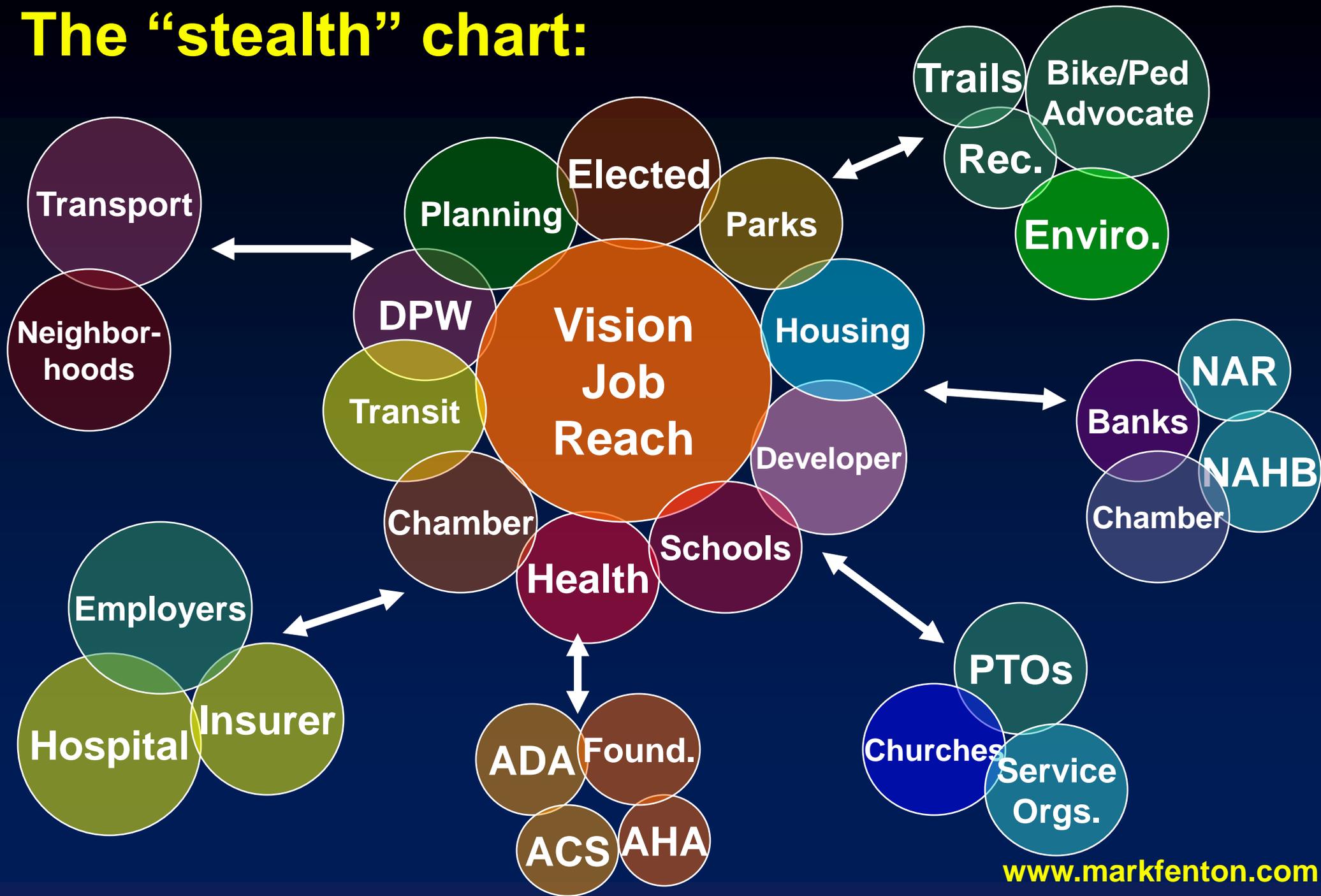


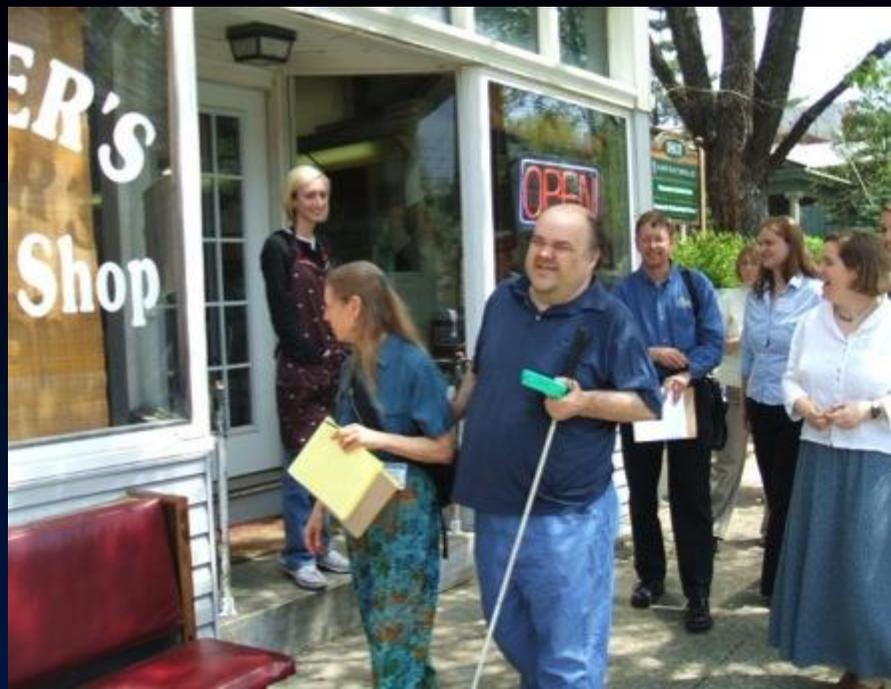
[www.markfenton.com](http://www.markfenton.com)

# 1. The health “coalition:”



# The "stealth" chart:





## 2. Active input:

- Listening, focus groups
- Surveys
- Photo-voice
- Audits
- Charrettes





**Connect w/ local experts,  
non-traditional partners.**



**Community church; San Bernadino CA**



**“Main Street” Okmulgee OK**



# MT walk audit training focused on including disability community & expertise.



Rural Institute for Inclusive Communities; Helena MT

### 3. The big “policy” ideas . . .

- Create villages, centers.
- Connect them with Complete Streets & *transportation* trails.
- Design details to be safe, functional, and inviting for pedestrians (& bikes) of all ages, abilities, incomes.

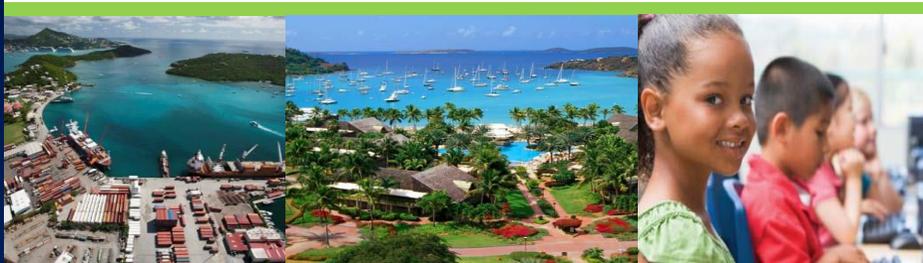




# Five priorities

- Economic competitiveness.
- Education & workforce development.
- Infrastructure, environment & quality of life.
- Health care.
- Government support systems.

**The United States Virgin Islands 2015**  
**COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY**



# Keep things in town.



Putting  
Smart Growth  
to Work  
in Rural Communities



**ICMA** *Leaders at the Core of Better Communities*

[epa.gov/smartgrowth](http://epa.gov/smartgrowth)



[www.markfenton.com](http://www.markfenton.com)



St.Croix by-pass

More land for sale



# Complete Streets for all four users!



[completestreets.org](http://completestreets.org)

[www.markfenton.com](http://www.markfenton.com)

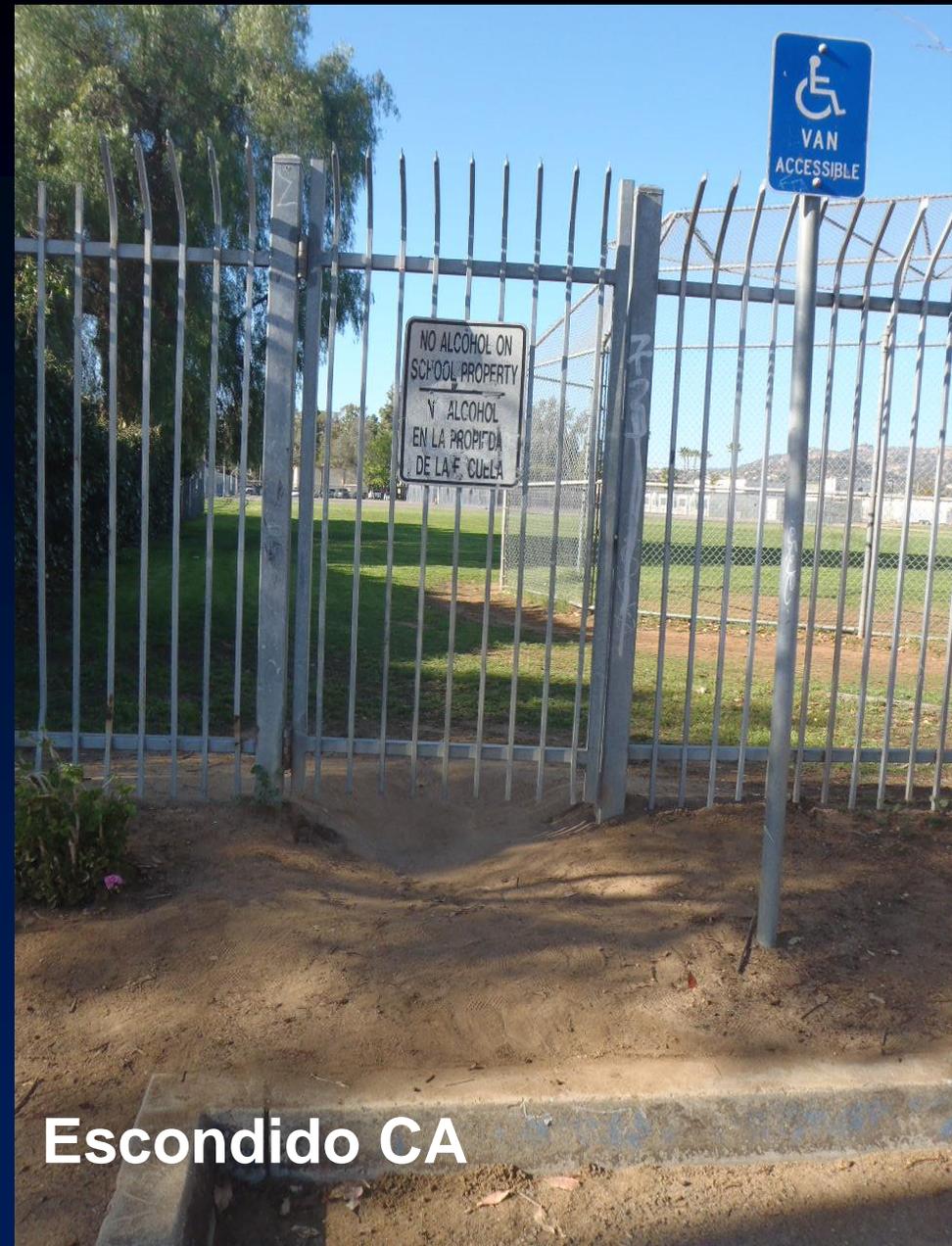
# The transit challenge



# Transportation trails



Boone NC



Escondido CA



# St. Croix school connector trail.



Midland Road

**Cool  
parking  
for bikes!**



**Scituate MA**



**North Adams, MA**

**E.g. vocational  
school designed &  
built bike racks.**

[www.markfenton.com](http://www.markfenton.com)



# Require ideas from all three P's!

- **Programs:** Build awareness, events, outreach, education.
- **Projects:** Improve the settings for walking, cycling, & transit.
- **Policies:** Zoning, development guidelines, procedures & practices.



*Waverly Middle School*

## 4. Try stuff – even simple tests.



E.g. Penitas TX, chalk & cone crosswalk!



# Trials, pilots & specials events. E.g. temporary protected bike lane.



**Whitefish MT**

# Livingston MT demo day – trial mini-circle.



## Valet bike parking corral



# Improve streetscapes



Street furnishings  
(Tinley Park)



Parklet  
(Montpelier)



< Trial way-finding  
WalkYourCity.org

# LQC - Lighter, quicker, cheaper approaches



Paint & sign

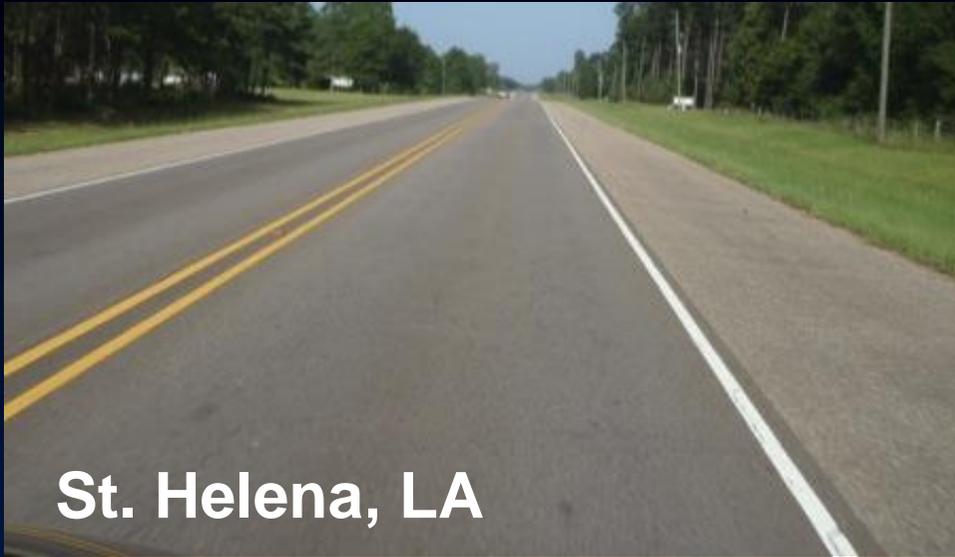


Paint & flexible bollards



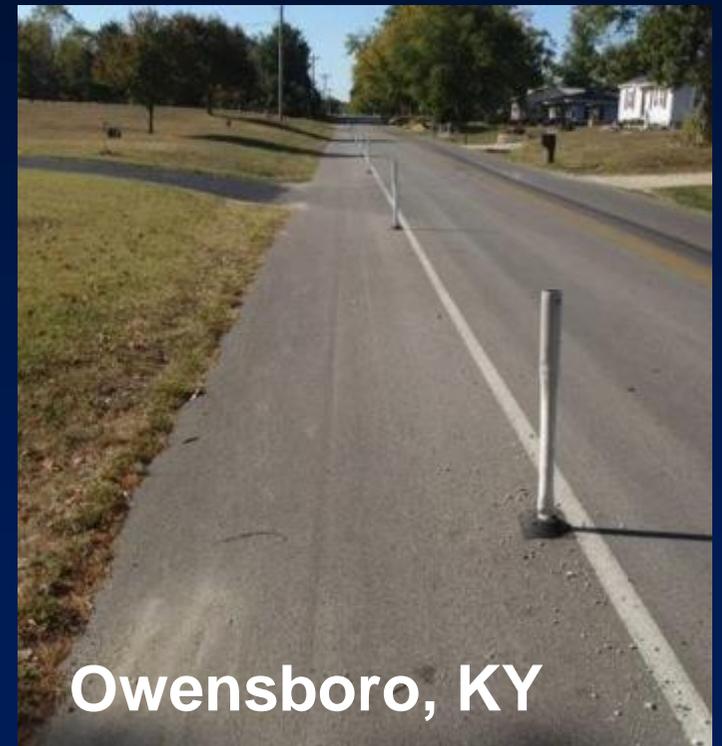
Curb stops & planters

# Shoulders . . .



## Benefits of shoulders:

- Safety
- Capacity
- Maintenance





2016

Billings MT



“Food Park” McAllen TX



Festival area - Salt Lake City UT



BetterBlock.org

[www.markfenton.com](http://www.markfenton.com)

# GARDEN PLAZA RECIPE



## DESIGN

- Identify space for plaza & obtain permission from property owner
- Measure dimensions of space. Note solar orientation, shade, topography, water & electrical
- Design space - include opportunity for seating, art and vendors

## MATERIALS

- (120) Straw Bales (36"x18"x14"h)
- (10) 10x20' Vinyl Billboards
- (2) 180"x48" Burlap
- (1) Box Landscape fabric staples
- (6 Yards) Mulch



<b>mark layout</b>	2 people	Use string line and spray chalk to mark planned layout
<b>place bales</b>	4-12 people	Place bales along markings
<b>fill</b>	4-12 people	Move mulch into garden areas
<b>wrap bales</b>	4-8 people	Cut vinyl into 5' x 20' strips. Tuck vinyl around bales to keep them dry. Place burlap over vinyl. Secure burlap in place with landscape staples.
<b>plant s</b>	4-12 people	Place plants in mulch.

Approximate Price: **\$1200** not including labor, mulch and vinyl donated, plants loaned. Straw bales can be rented from some feedstores. Some vendors will also include drop off and pickup. Vinyl can be obtained from sign shops like Clear Channel Communications for little or no fee. Mulch can usually be donated from local tree companies. Plants can be loaned from local nurseries. Straw bales usually cost around \$4 to \$8 a bale, not including delivery.

# BetterBlock.org

[www.markfenton.com](http://www.markfenton.com)

# SLOW YOUR STREET

A HOW-TO GUIDE FOR POP-UP TRAFFIC CALMING

*Trailnet, St. Louis MO*



[trailnet.org/work/transportation-planning/plan4health/](https://trailnet.org/work/transportation-planning/plan4health/)

[www.markfenton.com](http://www.markfenton.com)



**Penitas TX – chalk  
& cone crosswalk!**

[www.markfenton.com](http://www.markfenton.com)

# Weslaco HS

## Student safety initiative





Weslaco HS



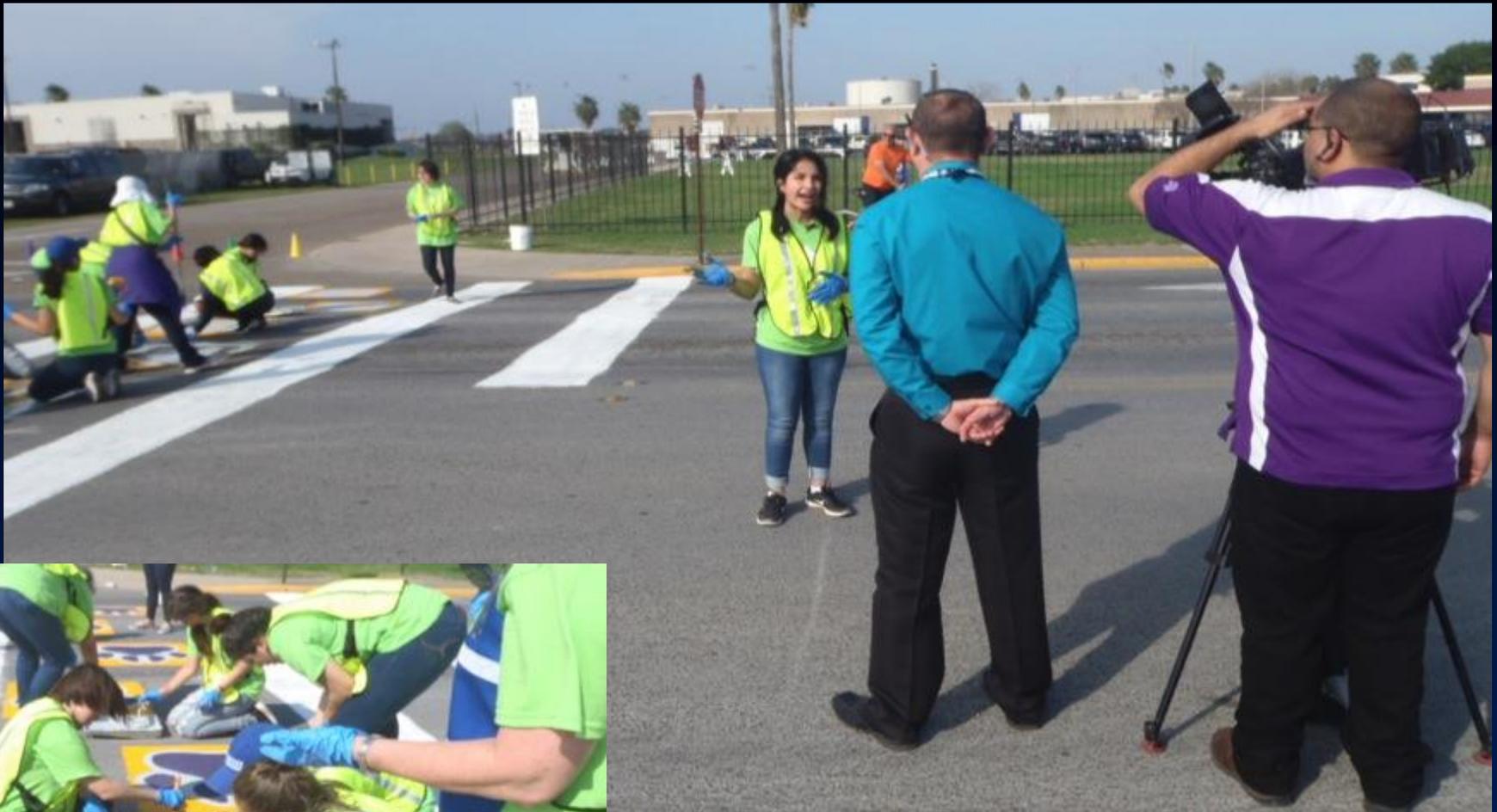
S. Texas College

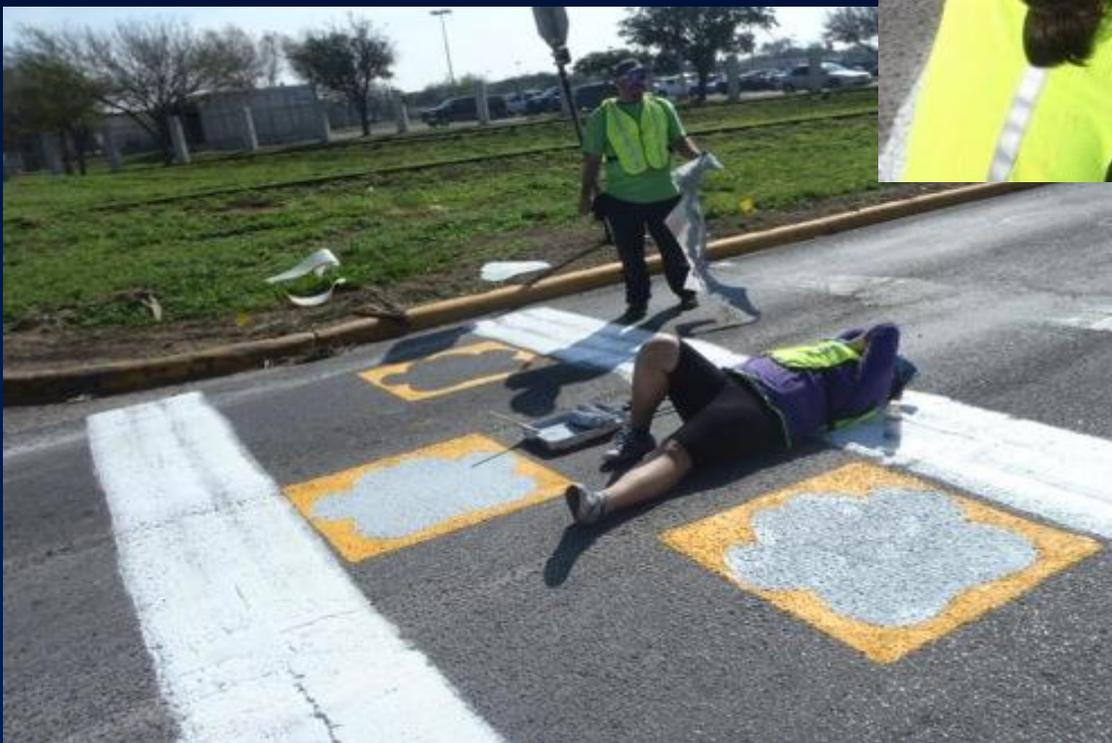










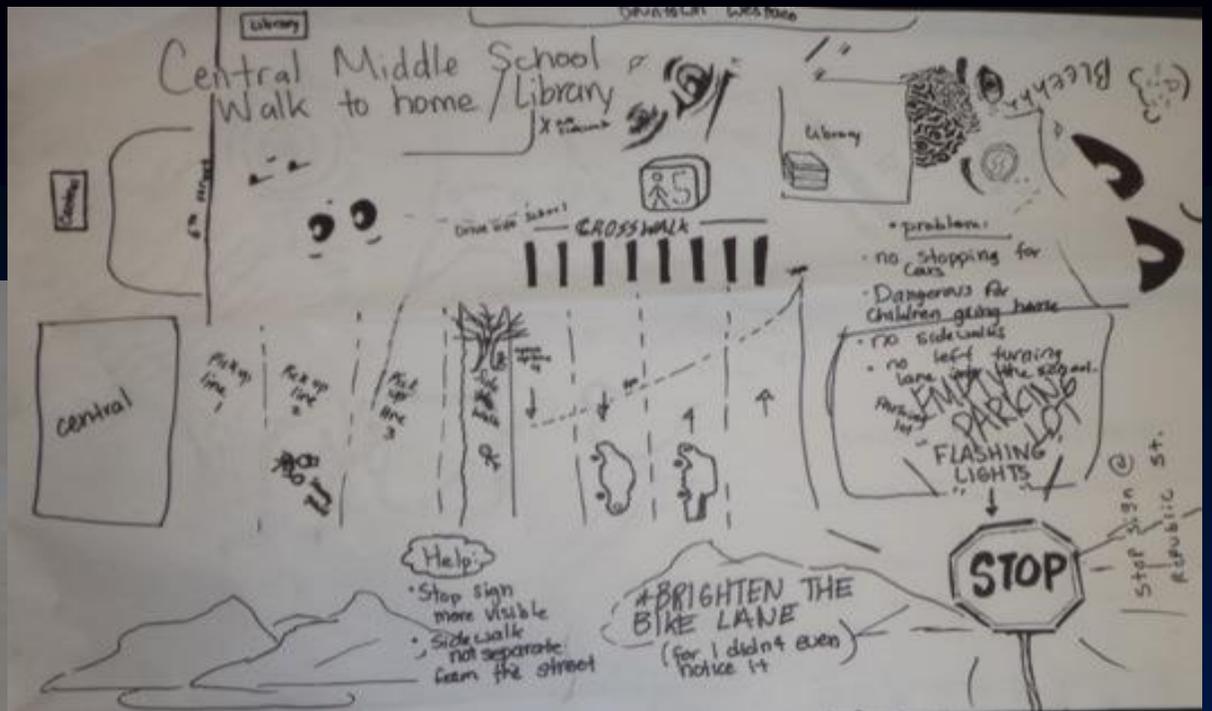
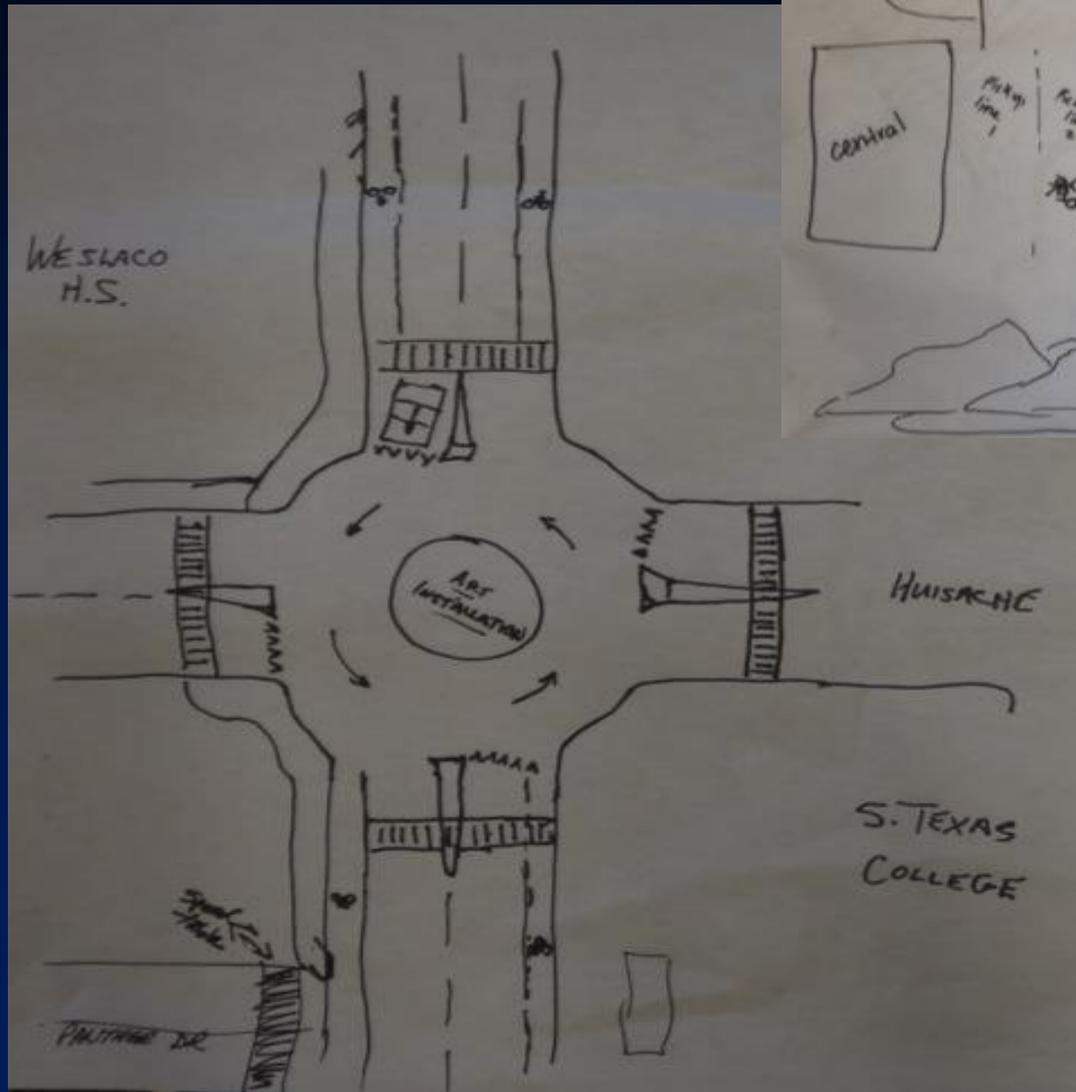


*It was hard work!*



# Walk audit to the Nature Center following painting.





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





# **Kauai successes:** True stealth team at high levels of community leadership.



# Kauai: Using state of the art designs.



# Kauai: Trail for transportation -



**Diagonal parking increases on-street capacity, but . . .**



*Des Moines, IA*



**Reverse angle:**

- Less severe & costly collisions.
- Safer for bikes.
- Pedestrians out of the road.

# Kauai: Reverse diagonal parking!





# Tonight's dinner work . . .

- **Pick one goal:** Decide on one specific policy and/or environmental goal you will pursue as a team on your island, with a target date.
- **Share tomorrow morning three things:**
  - **Lead.** Agency, organization, individual who will lead this effort, and the focus of their work.
  - **Partners.** A list of real partners needed to meet this goal, and how they will be engaged.
  - **Action steps.** Several *specific* first steps you'll take to make the goal a reality!

# Not a real “actionable” goal . . .

- **Goal:** Improve the island’s sidewalk network.
- **Action:** Repair sidewalks; build missing sections.



## More like a plan . . .

**Goal:** Improve the island's sidewalk network.

- **Lead & team:** Public works; with schools, AARP, business association, travel & tourism, NPS.
- **Outcomes, dates, resources (how):**
  - **Inventory;** by Jan 2018; students, retirees, to create sidewalk network maps w/ DPW support.
  - **Policy statement;** by fall 2017; elected officials to dictate policy of sidewalk repair/construction during all utility & road work.
  - **Demonstration;** by July 2018; DPW & NPS to install at least three low cost (paint, curbing, flexible delineators) walkways to demonstrate effectiveness.

# Implementation Funds

- Will be modest
- Ideal for trial and demonstration projects
- Depend on specific & substantive plans that can lead to permanent improvements.





# WAI, Day #2: 8:30 am-3:30 pm

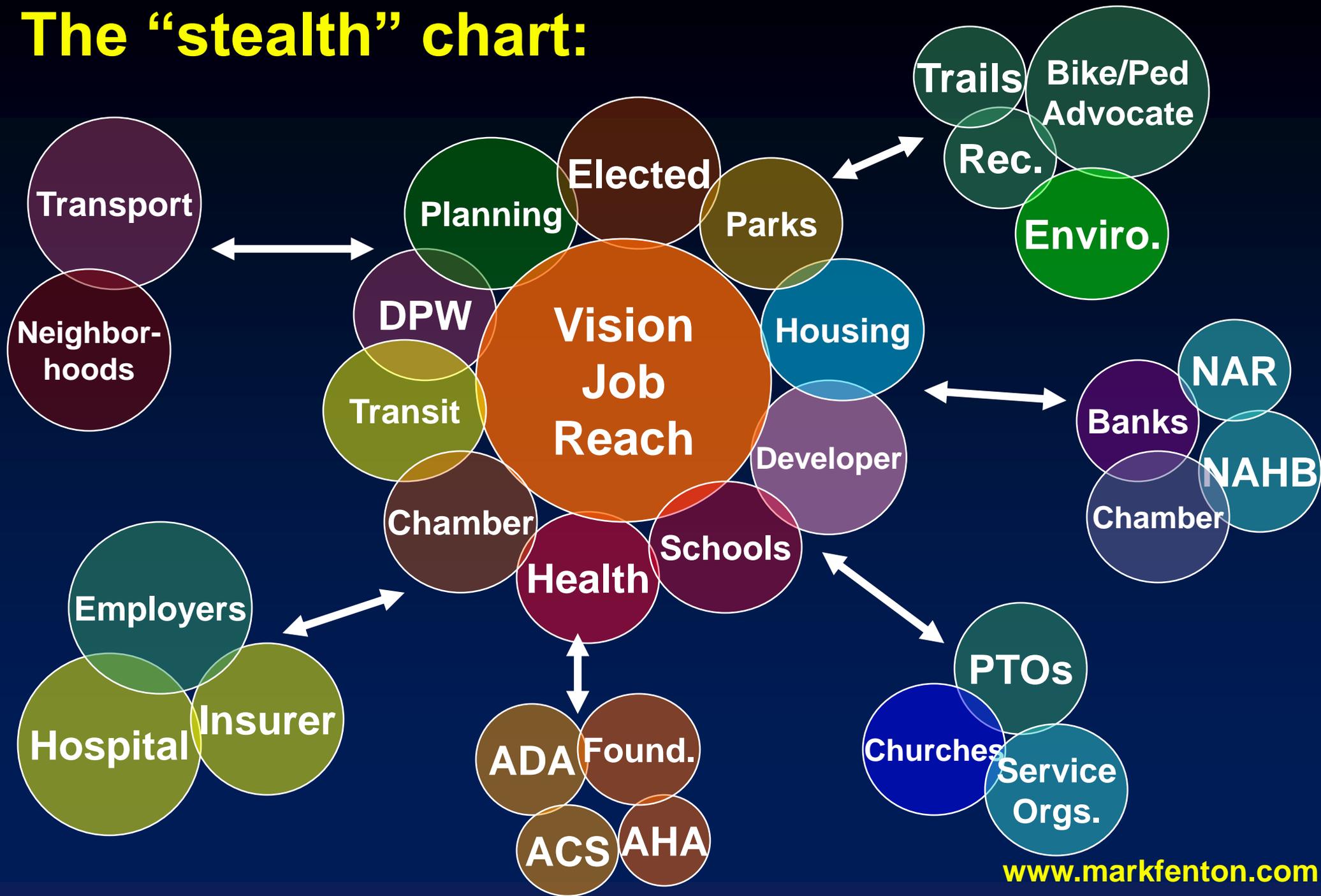
- **Discuss action idea #1**
- **Presentation – putting ideas into action**
- **Team work**
- **Territory-wide goals & opportunity discussion.**
- **Team presentations & discussion of Action Plans**



- **Stealth model & action teams.**
- **Selling the economics.**
- **Policy approaches:**
  - **Safe Routes to School**
  - **Planning & zoning**
  - **Complete Streets**
  - **Multi-Modal Transportation Analysis**

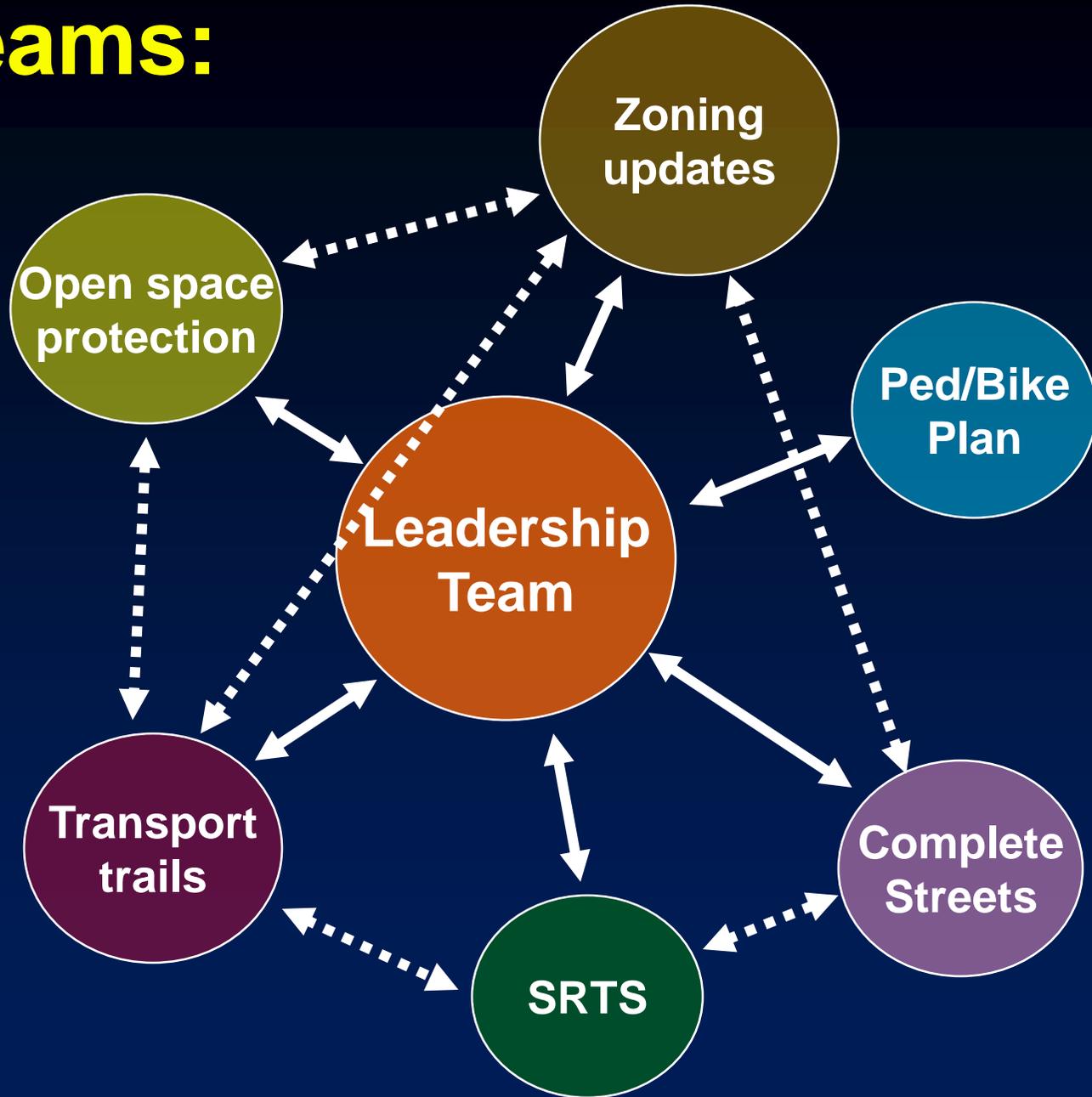


# The "stealth" chart:



# Create action teams:

- Small, strong, well-connected leadership team.
- Tight, focused action teams on specific topics.
- No monthly meetings, just functionally targeted work.





**The United States Virgin Islands 2015**  
**COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY**



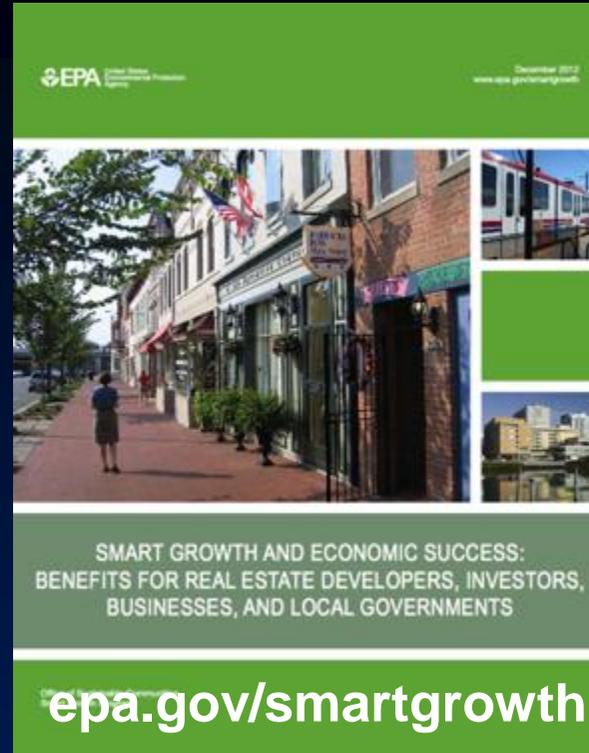
## Five priorities

- Economic competitiveness.
- Education & workforce development.
- Infrastructure, environment & quality of life.
- Health care.
- Government support systems.

# The economic pull of healthy designs:



**1. Market demand**



**2. Market performance**



**3. Developer interest**



**4. Quantifiable health benefits!**

# Walking the Walk: How Walkability Raises Housing Values in U.S. Cities



\*[www.ceosforcities.org/work/walkingthewalk](http://www.ceosforcities.org/work/walkingthewalk)  
[www.walkscore.com](http://www.walkscore.com)

REALTORS® & Smart Growth  
on common ground

WINTER 2017

# WALKABLE NEIGHBORHOODS

Market Demand for Walkability

Linear Urban Parks

Walking for Healthy Living

 NATIONAL ASSOCIATION OF REALTORS®

[realtor.org](http://realtor.org)

# Nat'l Assoc. of Homebuilders

SMART BUILDING STARTS HERE

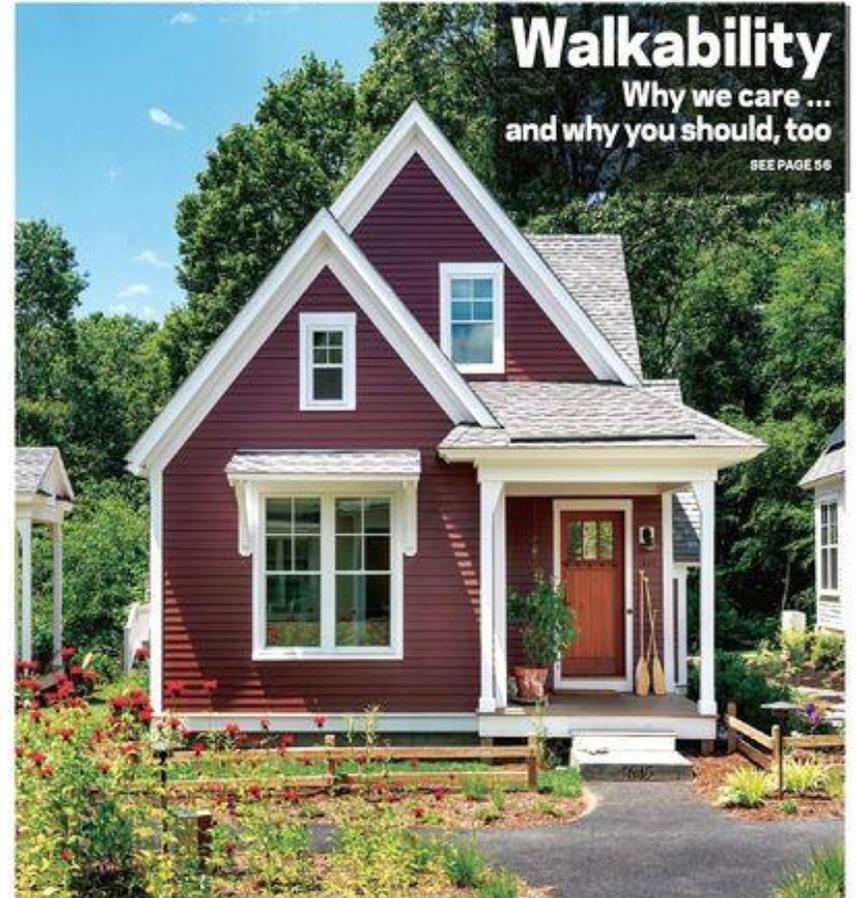
THE MAGAZINE OF THE NATIONAL ASSOCIATION OF HOME BUILDERS

# Builder

## Walkability

Why we care ...  
and why you should, too

SEE PAGE 56



h.w

MARCH 2014 • WWW.BUILDERONLINE.COM

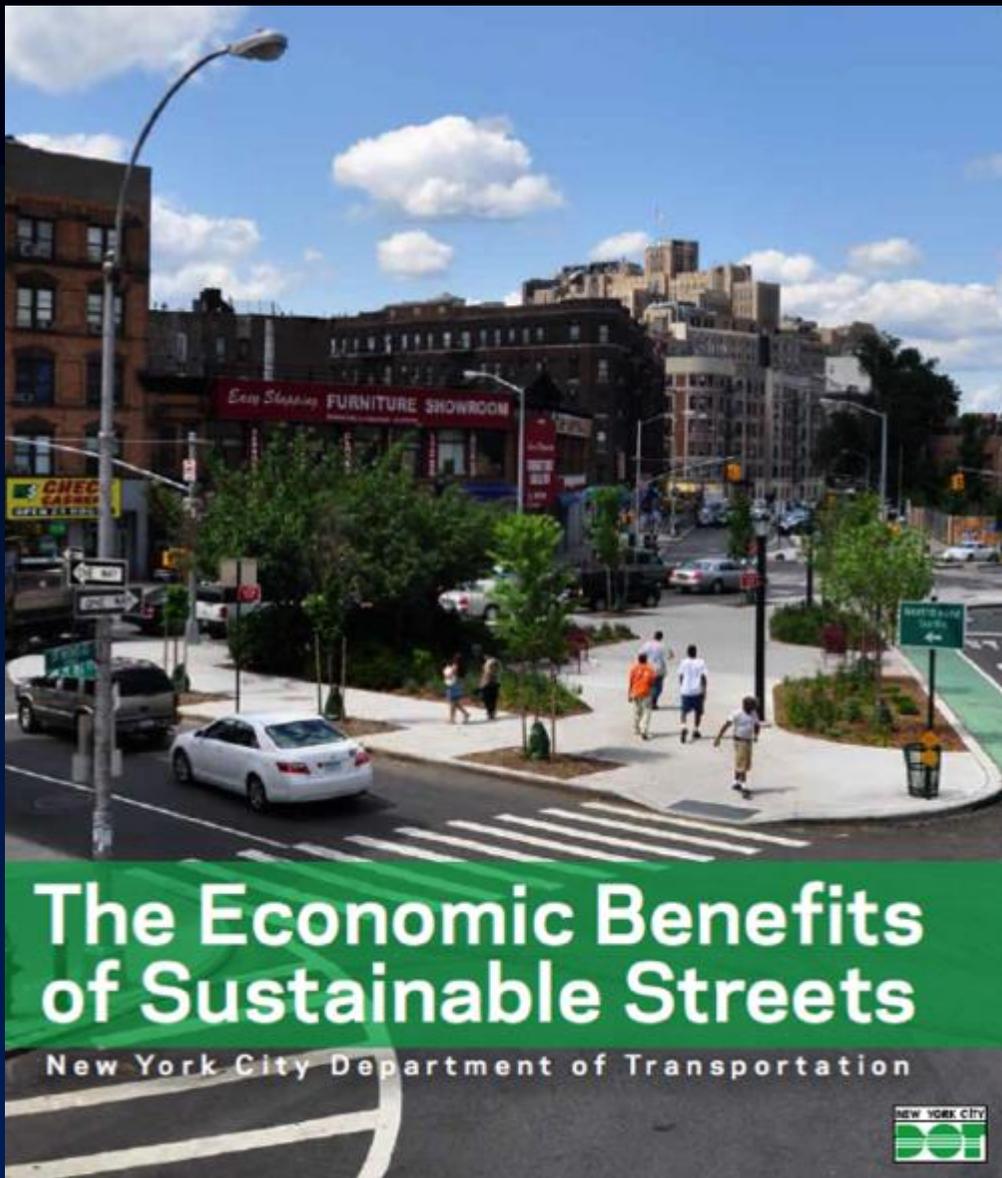
[www.markfenton.com](http://www.markfenton.com)

# PROTECTED BIKE LANES MEAN BUSINESS



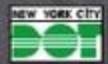
How 21st Century  
Transportation  
Networks Help  
New Urban  
Economies Boom

A report from PeopleForBikes and  
Alliance for Biking & Walking



# The Economic Benefits of Sustainable Streets

New York City Department of Transportation



[BikeWalkAlliance.org](http://BikeWalkAlliance.org)

[nyc.gov/html/dot/downloads](http://nyc.gov/html/dot/downloads)

[www.markfenton.com](http://www.markfenton.com)



E.g. Winter Park FL



**Affordable component**



[www.markfenton.com](http://www.markfenton.com)

# Private sector: Developers, lenders, realtors, builders.



Erie Canal Towpath Trail

**LINCOLN: Highland Falls!** Two attractive 2 bed 2 bath units in converted mill along bike path! **Call [redacted]** with carport! From \$219,900. Carole, RE/MAX Town & Country, 334-1180.

**LINCOLN: Historic Highland Falls.** Three spacious units! 2 bed, 2 bath each, all with open floor plans, applianced kitchens lots of windows, near bike path, \$250's-\$305. **Call [redacted]**

**LINCOLN: Highland Falls** Condo, 2 bed, 2 bath, master/walkin closet, bath, near bike path, \$270s. **Call [redacted]**

**LINCOLN: Highland Falls: Brick mill.** Custom Contemporary Condo. Large 1st floor-corner, 2 bed, 2 tiled baths, bright open floor plan, high ceilings/large windows, central air, bike path/river. \$235,000. **Call [redacted]**

**LINCOLN: Highland Falls! Two** pretty 2 bed units, fully applianced, air, french doors, one with brick/beam/carport! Mill complex on bikepath! From \$229,900. **Call [redacted]** RE/MAX Town & Country, 334-1180.

**LINCOLN: Open House**

**LINCOLN: Highland Falls.** Beautiful, spacious 2 bed, 2 bath oversized windows, high ceilings, bike path/Blackstone, 1440 sq. ft. \$237,500. **Call [redacted]** 451-0680.

**LINCOLN: Highland Falls. 2 bed** 2 bath, bright attractive exposed brick, oversized windows, high ceilings, close to bike path-/shopping, 1700 sq. ft. \$260,000. **McNully Real Estate Group, 333-9520.**

**LINCOLN: HIGHLAND**

The Woods  
ON CANAL PATH  
EXCLUSIVE HOME SITES  
MASCOT BUILDERS



Blackstone Bike Path

# 1. Safe Routes to School quiz: What are principals concerned about?

- Academic performance, standardized test scores.
- Budgets & containing costs.
- Student security & safety.
- Student behavior & order.
- Staff quality, morale, performance.
- Lots more . . .



# Comprehensive Approach to Safe Routes to School

[www.saferoutesinfo.org](http://www.saferoutesinfo.org)

Five components :

- Education
- Enforcement
- Engineering
- Encouragement
- Evaluation

**Key: Full administrative support & engagement**



# Encouragement programs should reach all kids, not just those who can walk to school.



**PTO Dads Club built stairs to complete a ½ mile walking loop around school.**

**Used for “Morning Miles” (full class) and recess walking.**



*Scituate, MA*

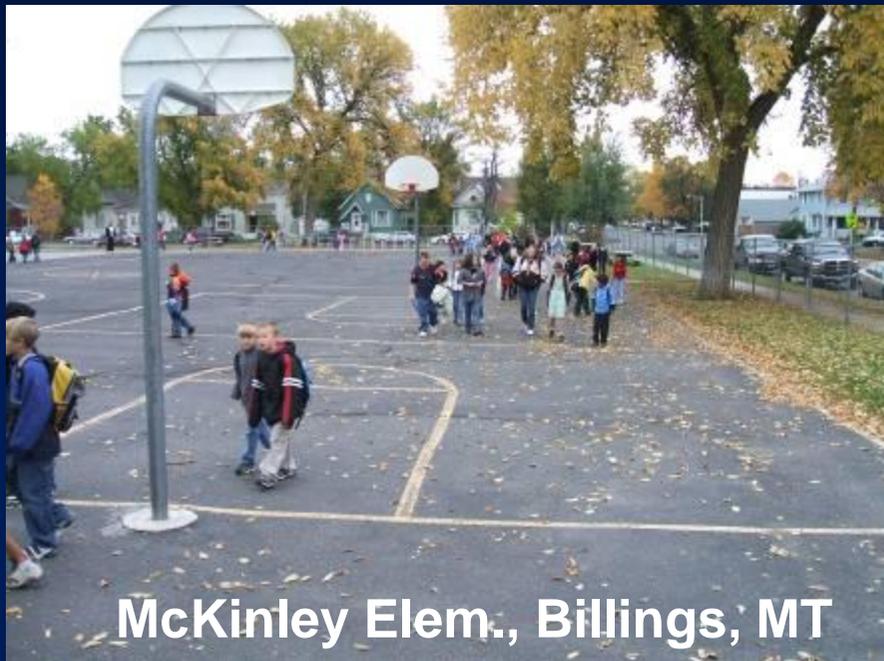
# Pre-school walking?



Carrie Busey Elem., Champaign, IL



Dyersburg, TN



McKinley Elem., Billings, MT



# Shared use policies for school facilities.



## Community access?

- Gyms, weight rooms.
- Playgrounds, fields.
- Community gardens. ^
- Classrooms (adult classes, community meetings).



# Plan Healthy & Active School programs with collaborative community workshops:



4. Planning  
5. Public works

1. Principal  
2. Parents (PTO)  
3. Police



# Nutrition usually arises during planning workshops.



## Target policy change:

- Recess before lunch.
- Menu update; may require training, equipment.
- Vending machine policies.
- Healthy prizes & snacks.
- Fund-raising (e.g. sell fruit, services; not candy, popcorn).
- Concessions; start w/ healthy options at favorable prices.
- Community garden, as part of curriculum; eat, sell, donate.

# A comment on each E:

- **Evaluation.** Start here!
- **Education.** Not just the kids; parents too.
- **Enforcement.** Not just cops, everyone speaking up.
- **Engineering.** Remember the less expensive stuff.
- **Encouragement.** Mold to the school: walking busses, remote drop, in school, etc.
- **Key:** Sustained change!



# 2. Planning, zoning, subdivision regulations:

More like this!



Change parking reqs. ! Even national



Less like this . . .



**More of this?**



**Not just this.**





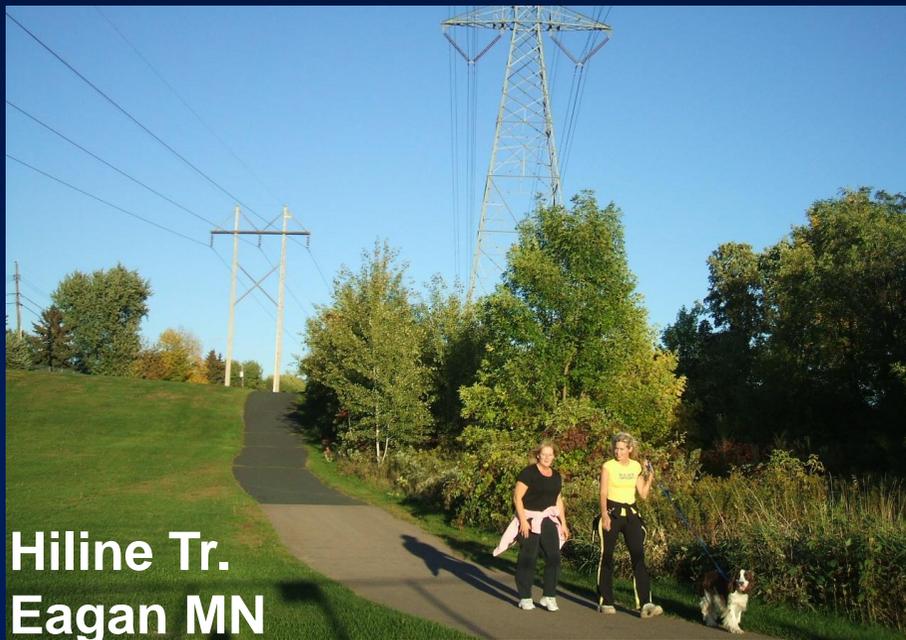
## **U.S. Virgin Islands Transportation Petroleum Reduction Plan**

Caley Johnson

- **Expand transit & ride sharing**
- **Sidewalks & pathways on roads**
- **Trails on utility corridors**

**Table 7. Sidewalks and Paths Recommended in the Master Plan**

<b>Island</b>	<b>Location</b>
St. John	Sidewalk along Rt. 107 in Coral Bay and Johnson Bay
St. Thomas	Sidewalk along Hull Bay Road/Skyline Drive (Rt. 40)
St. Thomas	Near hospital and shopping center on Alton Adams Rd. (Rt. 38) and Centerline Rd. (Rt. 313) from Lovers Lane to Long Bay Rd.
St. Thomas	Sidewalk and bike path from Centerline Road/Wilma Blyden Road (Rt. 313) to Donoe Road (Rt. 39)
St. Thomas	Install sidewalks at Red Hook, Bovoni, Tutu intersection to Nadir, Nadir intersection to Red Hook, and Simith Bay to Tutu.
St. Croix	Bike path along Queen Mary Highway close to Rt. 75



# 3. Complete Streets for all four users!



[completestreets.org](http://completestreets.org)

[www.markfenton.com](http://www.markfenton.com)

Use pop-ups to lead to permanent improvements . . .



# Median islands.



# Curb extensions.

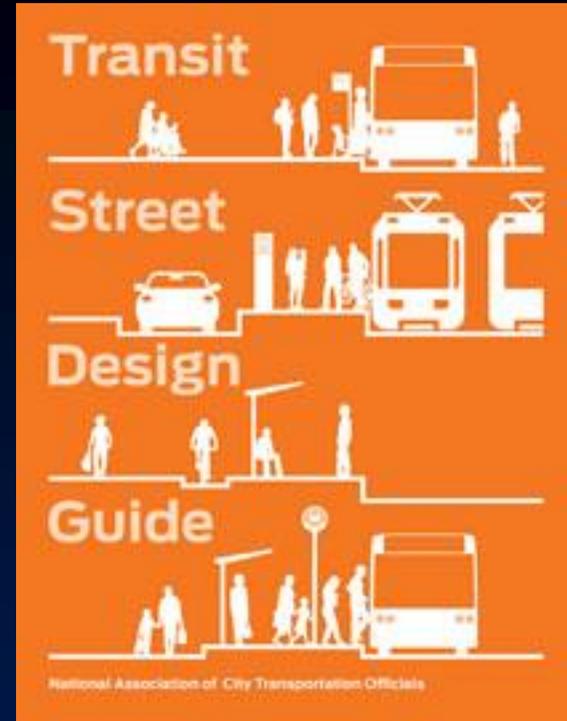
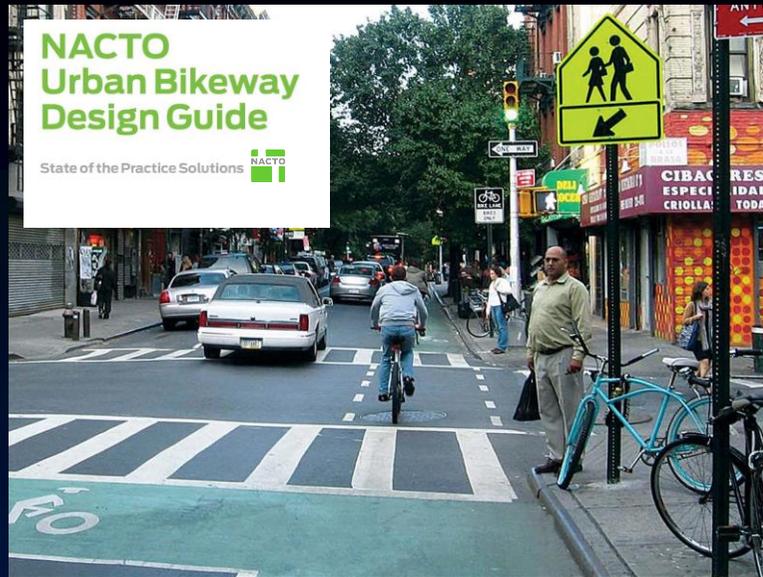


**NACTO** Urban Street Design Guide



**NACTO** Urban Bikeway Design Guide

State of the Practice Solutions



**National Association of City Transportation Officials** [nacto.org](http://nacto.org)



## 4. MMTA vs TIA

Require **multi-modal transportation analysis** (not just traffic impact) for all development.



**Typical:** Turn lanes, signal light, lots of parking.



- **Ped:** Building up front; Sidewalk links.
- **Bike:** Lanes, parking; employee bike share.
- **Transit:** Shelter, walkway, street crossing.



# The two questions that are NOT the real problem:

- **Technical.** How do we do it? What are best practices?
- **Financial.** How do we pay for it? Where's the money?

Paint & delineators



**“But I’d never ride or  
walk there . . .”**



**American River Trail  
Sacramento CA**



**Scituate MA**

**“You don’t have to . . .”**

