

Building Community Health with Sticky Design

—

Vermont Healthy
Communities Action
Institute

Montpelier, VT
July 2014



Is this a 'sticky' setting?

The common questions:

- Isn't health a result of **personal decisions & habits**?
- If we build it, **will they come?** (Humans are just lazy . . .)
- Shouldn't the **free market** dictate how we build our cities & towns?
- So, what is the **prescription** for healthy design (& how do we **get there**)?



Get a dog . . . ?

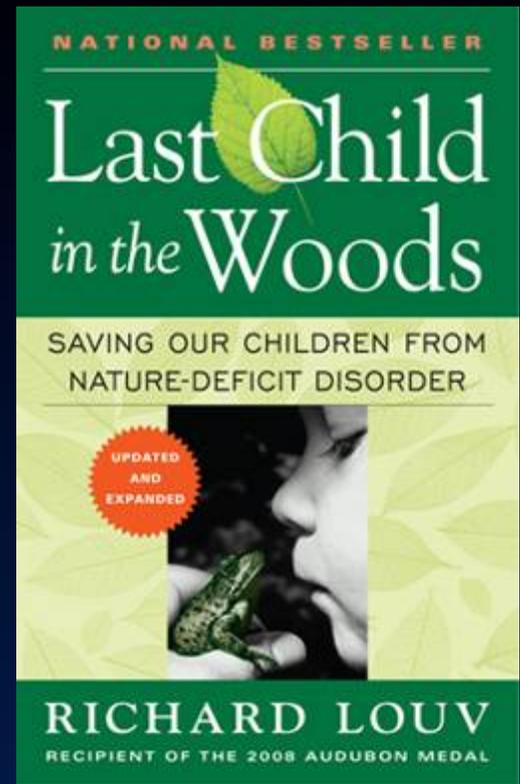
Youthful recollections





30-Nov-2009

Not just my idea . . .



Kids held back with 'over-organised' play, says Shane Gould

Pia Akerman
 OLYMPIC golden girl Shane Gould has blasted children's sports programs as "over-organised" and holding back the natural development of physical skills, contributing to physical and social problems down the track.
 The swimmer, who won five individual medals at the 1972 Munich Olympics, yesterday spoke out against children as young as five being pushed into team sports, rather than encourag-



Gould

ing outdoor play. "I believe that children are over-organised and they don't have enough opportunity just for

— 5, 6, 7, 8 — that is really too young for kids to be involved in organised sport, even though it is modified," she said at the Australian Institute of Public Management annual conference in Adelaide.

Currently working on a master's degree in social geography at the University of Tasmania, Gould will publish her thoughts on children's physical activity in the December issue of the *Child* publication in state capitals. She blames the loss of traditional Australian backyards and the "impeding" of public play grounds as factors reducing child-

ren's ability to play naturally. "Public liability seems to be the main focus for the design of our children's playgrounds and all of us need to take some responsibility for this," Gould writes. "The race to blame someone for a child's fall loses a piece of playground equipment has had the appalling knock-on effect of almost criminalising child's play and led to this devastating impact on our public spaces. "Children prefer a log and a ditch to play structures." Speaking after her address,

Gould said home-improvement TV shows emphasising aesthetically pleasing courtyards had encouraged people to ditch traditional backyards. "Kids need backyards — they need to dig dirt and pull up plants and see the roots. They need to find worms and beetles and make tracks and build cubbies and pull them down again," she said. A mother of four, Gould raised her children on a property at Margaret River in Western Australia, where outdoor activity was an important part of everyday life. In her article, Gould argues the

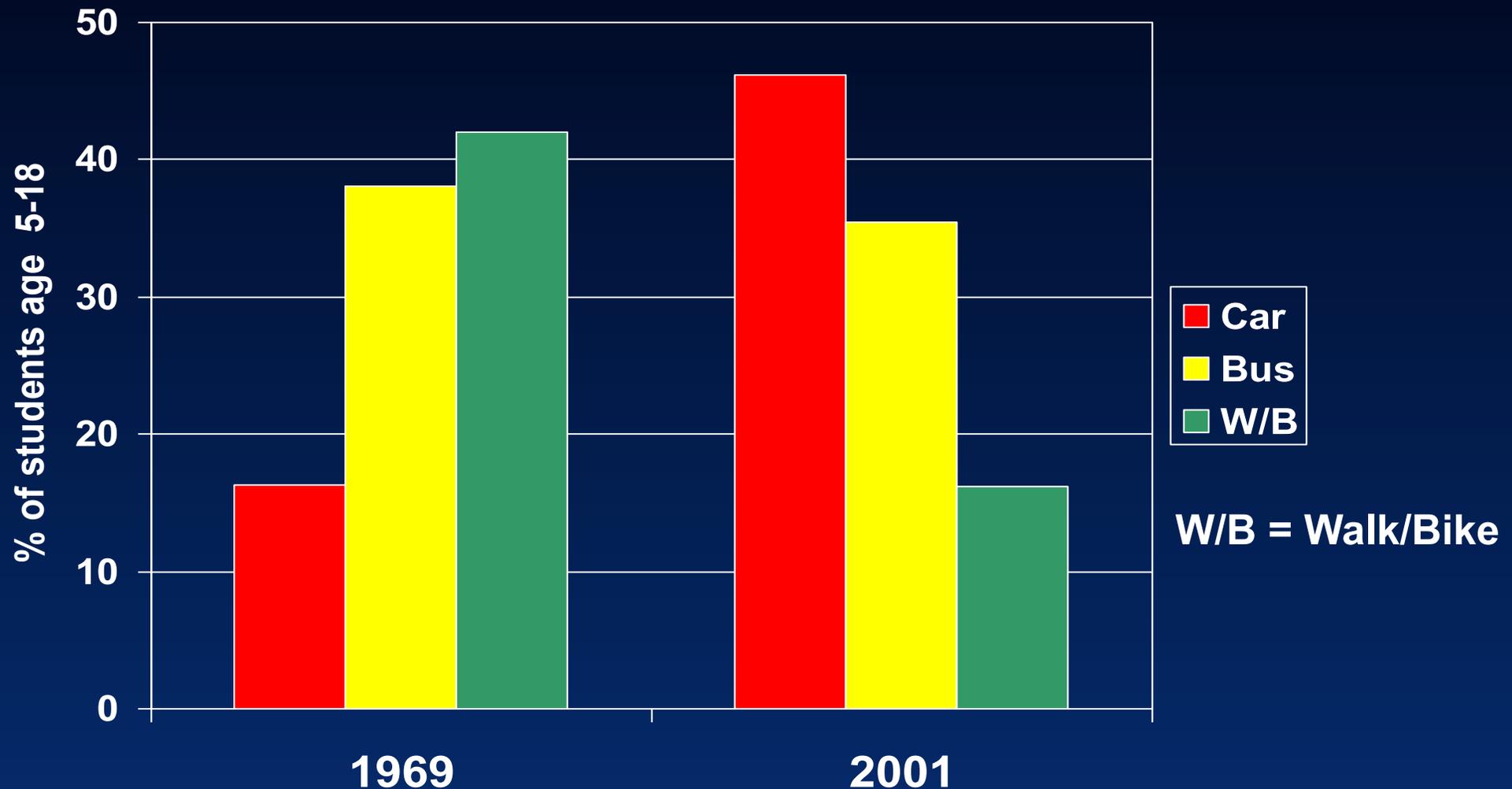
Howard government's focus on after-school sports to address childhood obesity was "well-meaning" but failed to attract most children who often had a "can't do" attitude to sports. "Children, particularly under-eight, do not in my opinion, need to be involved in organised sports," she writes. Gould said children today were clumsy due to "lack of movement experiences" such as reaching, climbing, hopping and spinning.

The Australian, 14-Oct-2009

Have your say at theaustralian.com.au

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

- 2–5 Years of Age
- 6–11 Years of Age
- 12–19 Years of Age



CDC, National Center for Health Statistics. *National Health Examination Surveys (NHANES) II (ages 6–11) and III (ages 12–17), and NHANES I, II and III, and 1999–2006.*

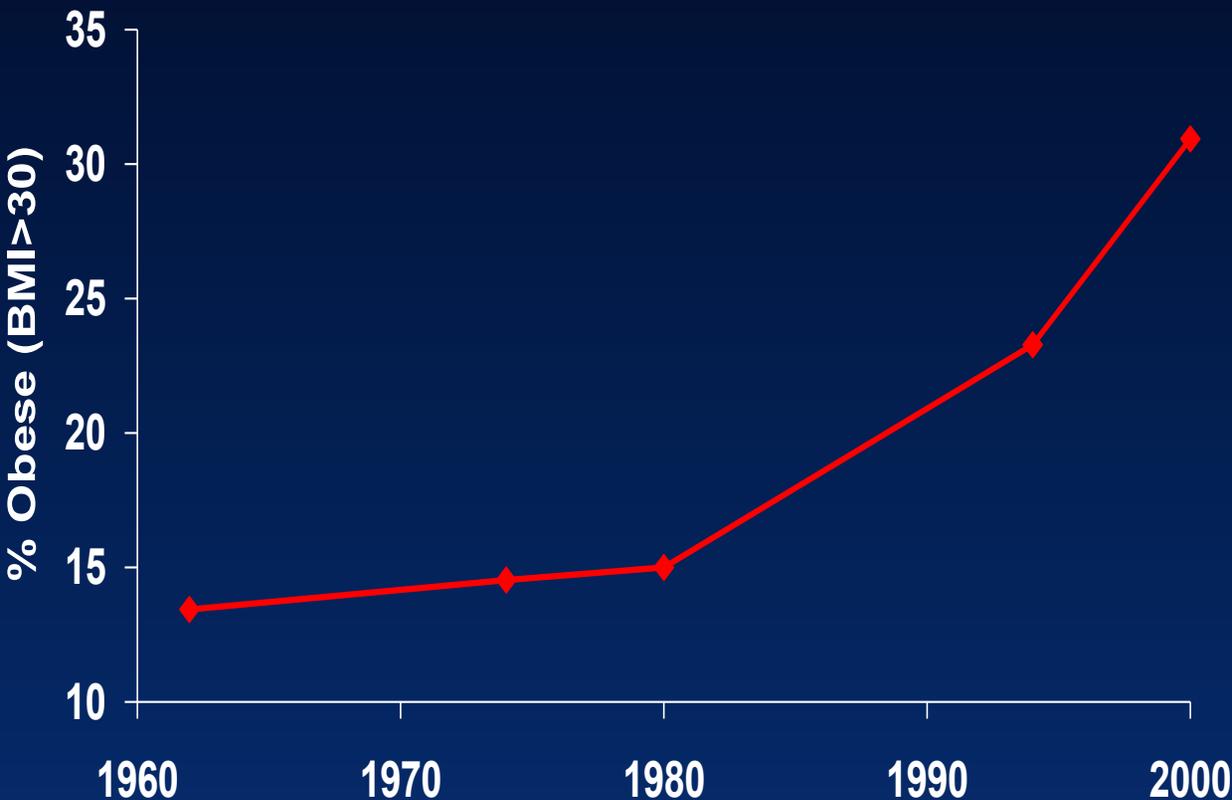
www.rwjf.org/files/publications/annual/2008/year-in-review/

www.markfenton.com

America's looming chronic disease apocalypse . . .

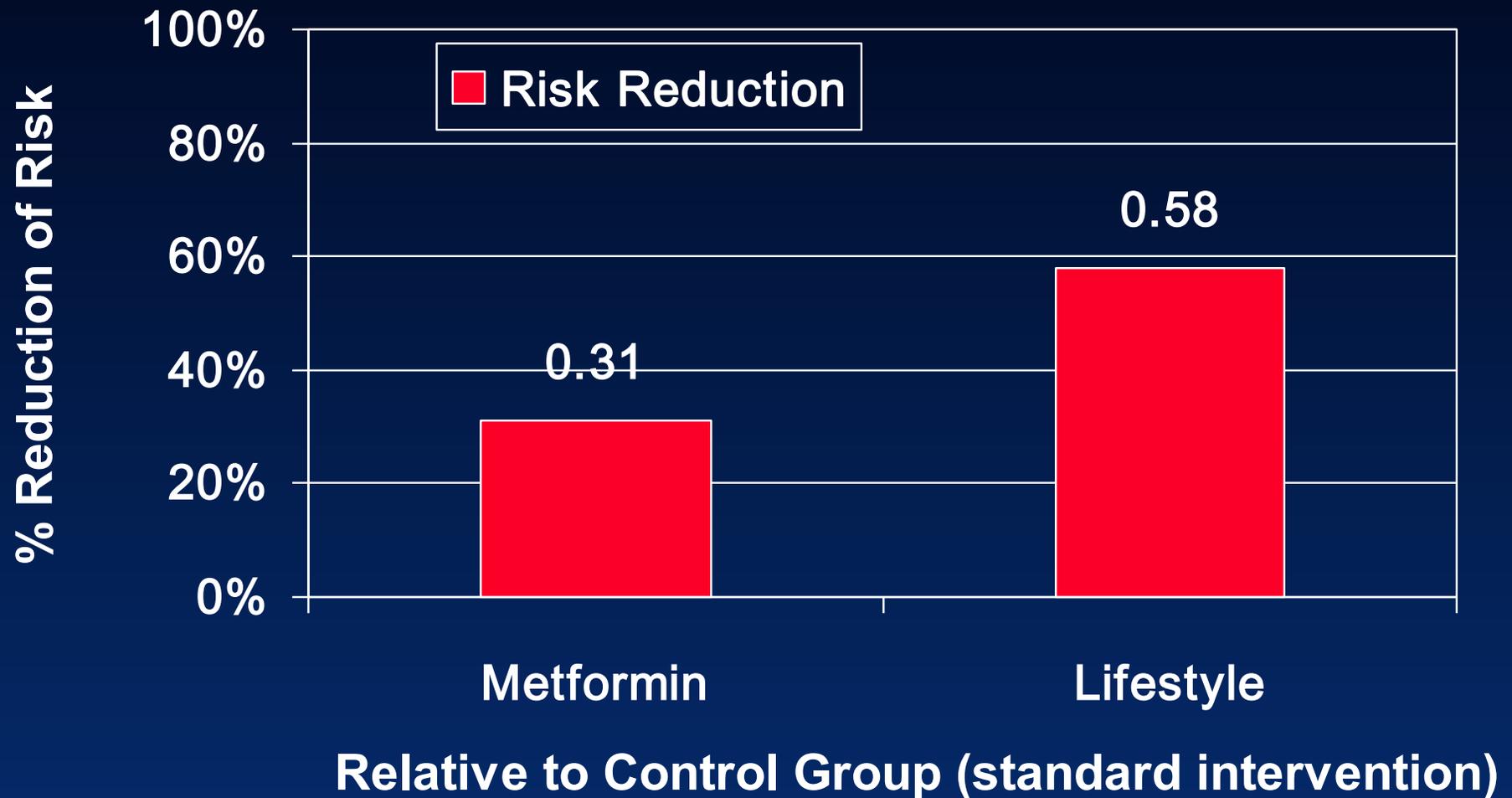
US "Obesity Epidemic"

Ogden et. al. (JAMA 288, 14; Oct. 2002)



Diabetes Risk Reduction

(Diabetes Prevention Program; *NEJM*, Feb. 2002)



The Rant:

Change our thinking. It's *not* just an obesity epidemic. It's twin epidemics of **physical inactivity** and **poor nutrition**.*

* Two of the three biggest drivers of skyrocketing healthcare costs.

But in the end . . .

**It's a matter of personal
choice, isn't it?**

The bad news in just three numbers:

30 minutes of daily physical activity recommended (**60** min. for youth).

< 20 % of American adults actually meet these recommendation (thru LTPA).

365,000 estimated annual deaths in America due to physical inactivity & poor nutrition. (2nd only to tobacco.)

Surgeon General's Report 1996 Physical Activity Guidelines 2008

www.health.gov/paguidelines

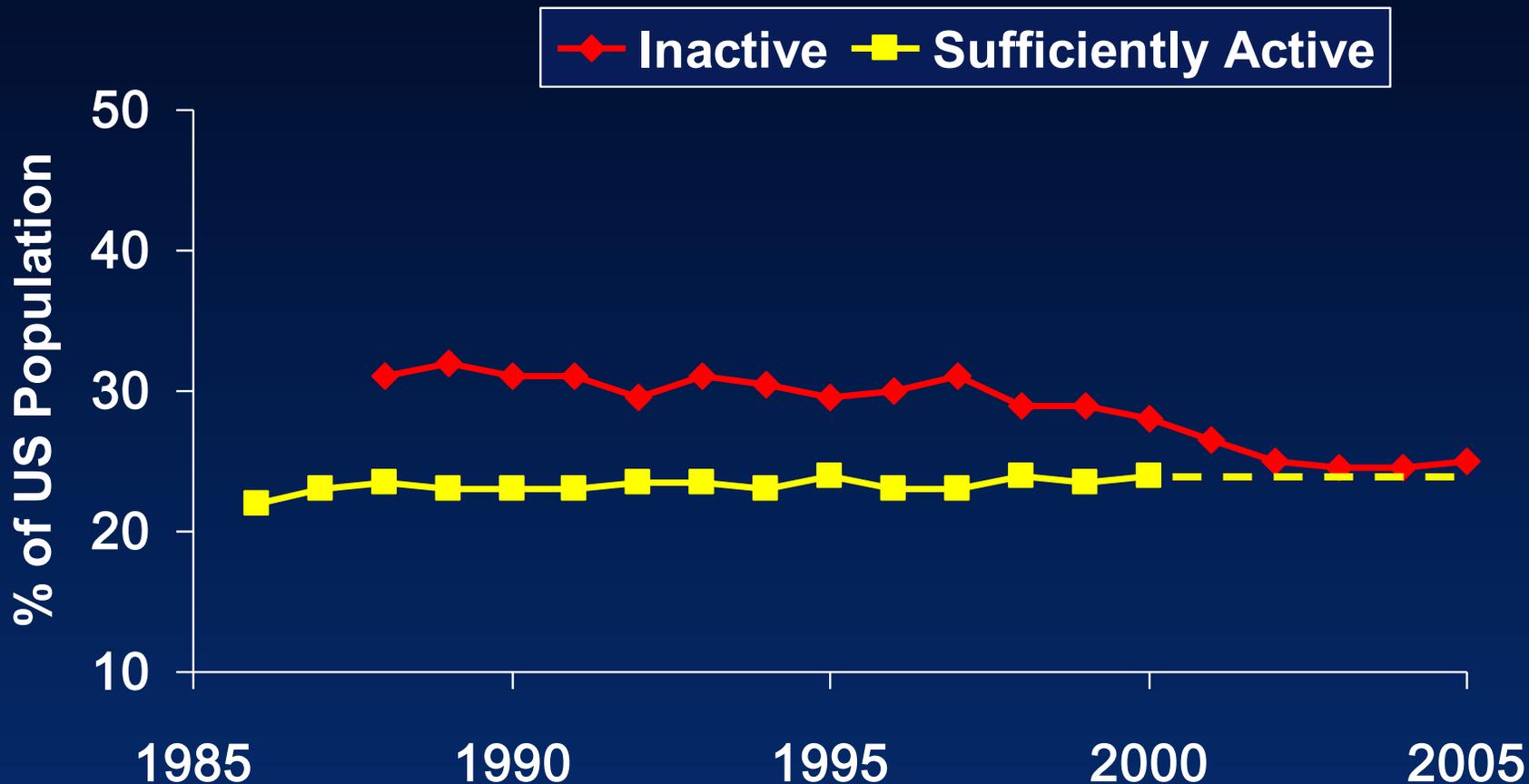
- **150 minutes/week** of moderate **physical activity**; more is better.
- Any activity is better than none.
- Can be **broken up**.
- **300 min/week** for children.
- Reduced risk for CVD, diabetes, osteoporosis, obesity, dementia in old age, clinical depression, a growing list of cancers . . .



This counts!

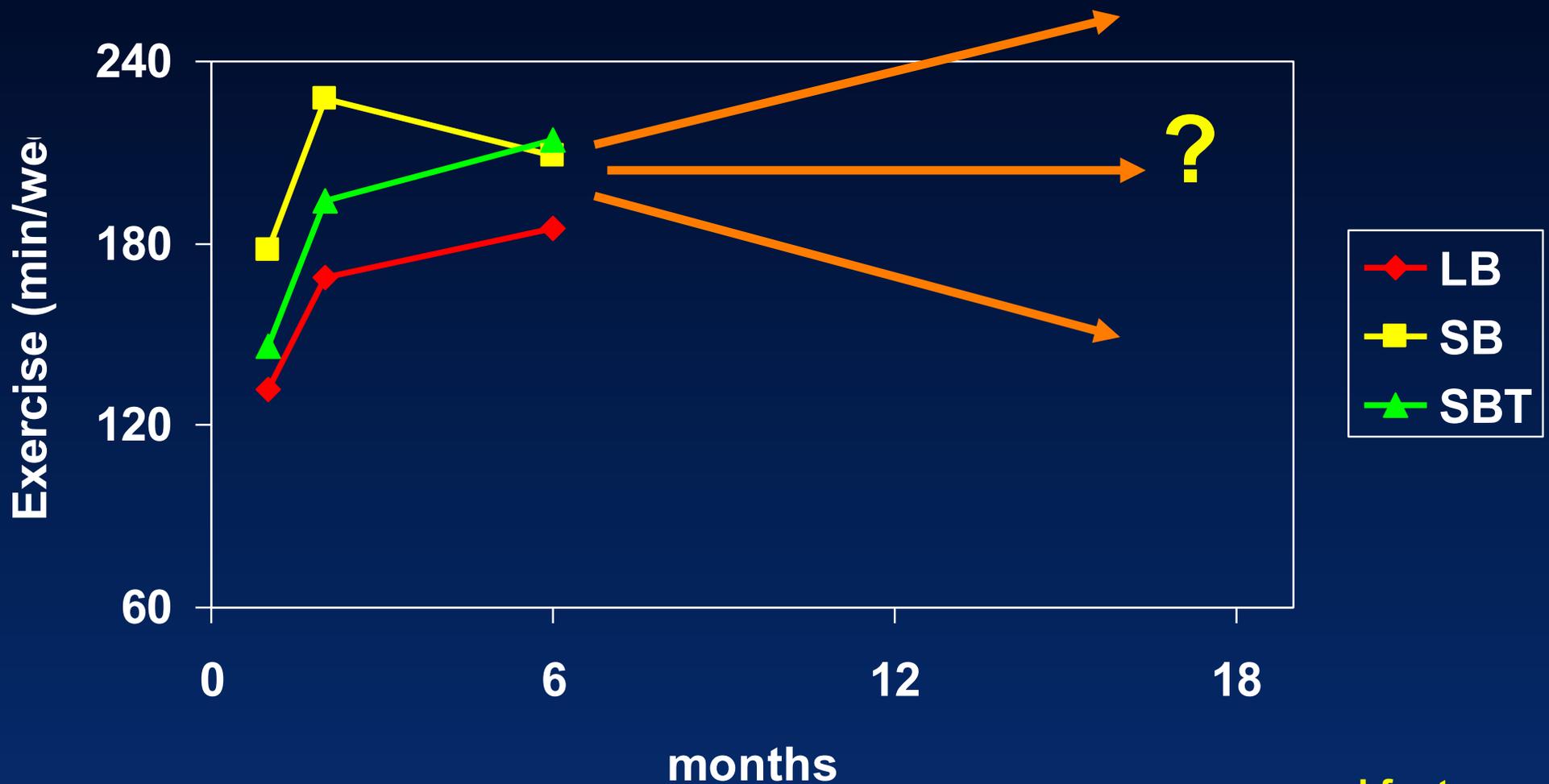
Leisure Time Physical Activity in the US

(MMWR: 50(09), 166-9; 54(39), 991-4)



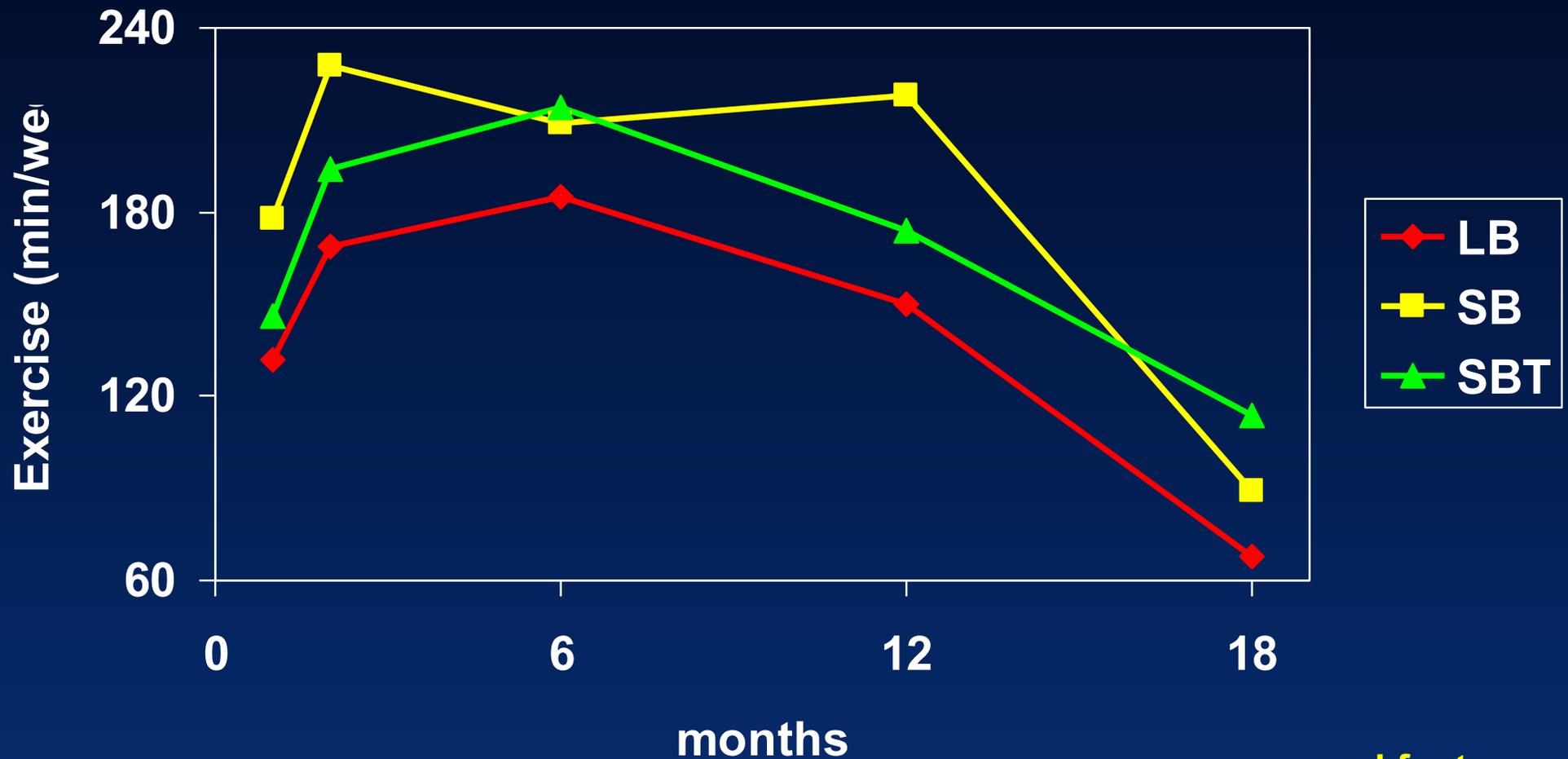
Exercise Participation

Effect of Short Bouts, Home Treadmills
(Jakicic et.al., *J. Amer. Med. Assoc.*, 282, 16)



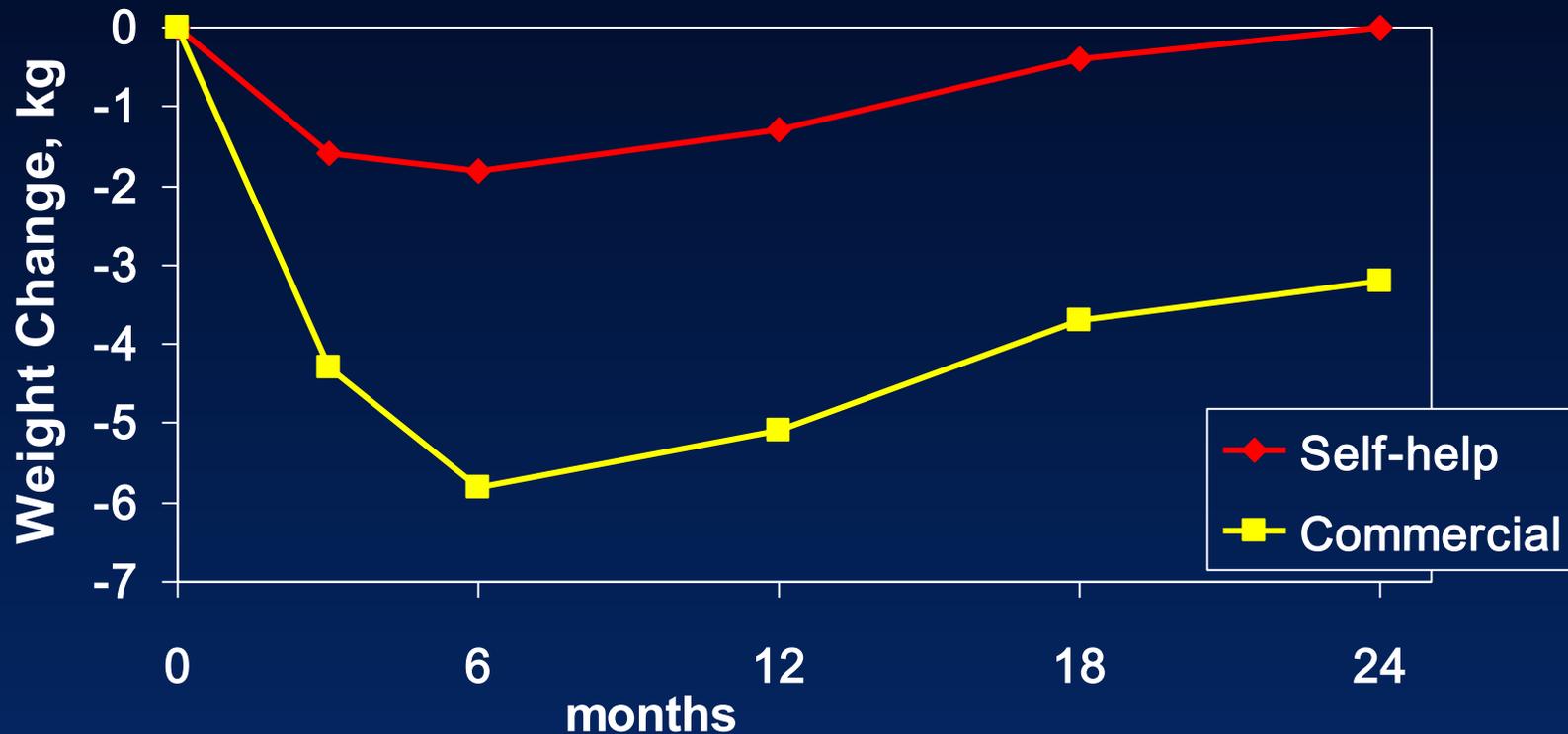
Exercise Participation

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Self-help vs. Commercial Weight Loss Programs

(Heshka et.al., *J. Amer. Med. Assoc.*, 289, 14; Apr. 2003)



A realization:

Simply telling people to “exercise” & “get on a diet” is not enough. We need to support increases in **routine, daily physical activity & healthy food systems** for everyone.

Social Ecology Model

Sallis & Owen,
Physical Activity & Behavioral Medicine.

Determinants
of behavior
change

Individual
motivation, skills

Interpersonal - family,
friends, colleagues

Institutional - school, work,
health care & service providers

Community - networks, facilities

Public Policy - laws, ordinances,
permitting practices & procedures

**Easier to
Implement**

Individual
motivation, skills

**Greater
Impact**

Interpersonal - family,
friends, colleagues

Institutional - school, work,
health care & service providers

Community - networks, facilities

Public Policy - laws, ordinances,
permitting practices & procedures

Socio-ecological successes?

Tobacco use



Seatbelts, child safety restraints



Water-borne disease

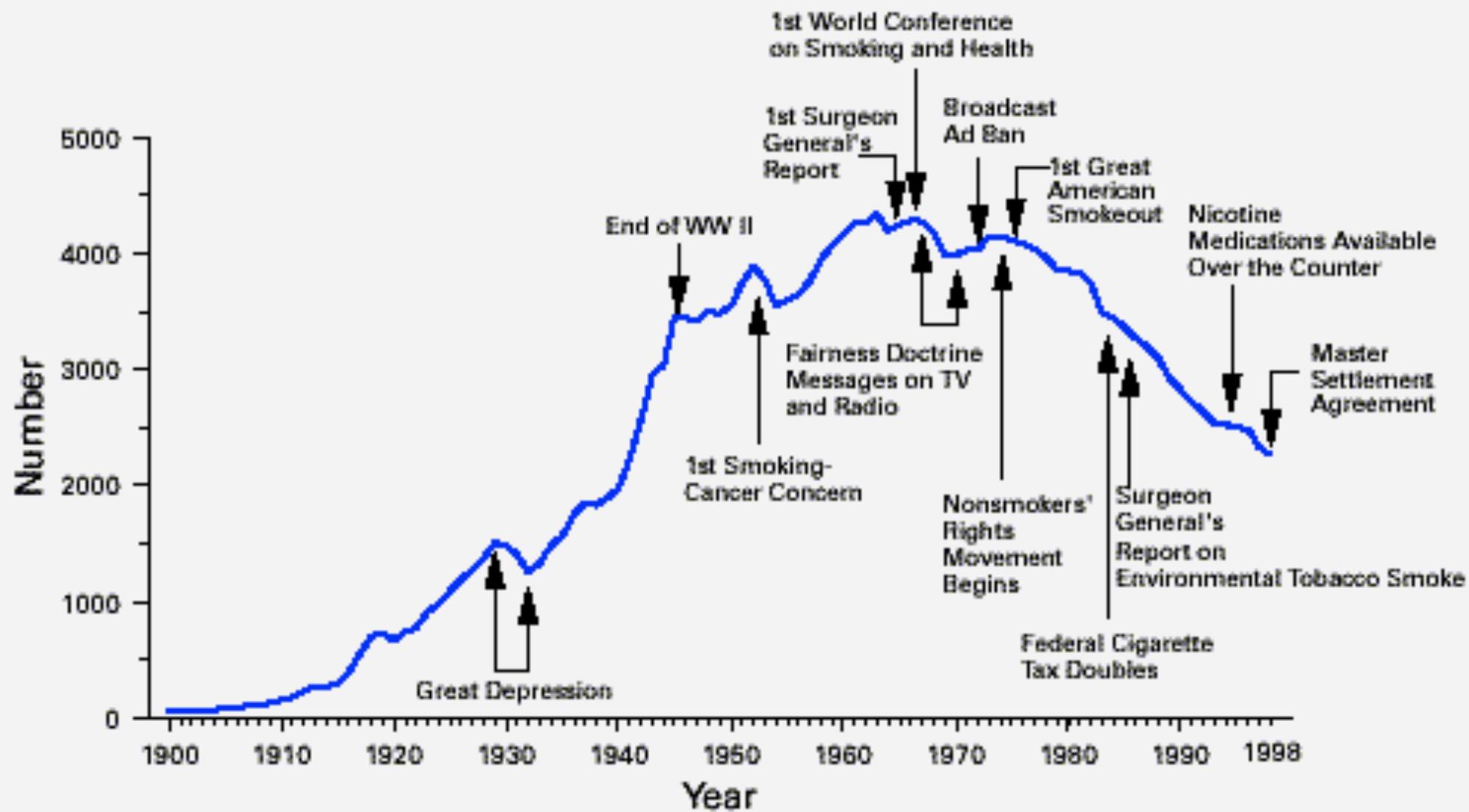
(Haiti)



Recycling



FIGURE 1. Annual adult per capita cigarette consumption and major smoking and health events — United States, 1900–1998



Sources: United States Department of Agriculture; 1986 Surgeon General's Report.

Thanks to Prof. Ross Brownson, Wash. Univ., St. Louis

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vs.



**Necessary and
important,
but not enough. >**



**< We must build
communities
where people are
intrinsically
more active.**

**If we build it, will
they come?**

YES! Four elements:

1. Variety of uses within walk, bike, & transit distance.
2. Connecting facilities: trails, sidewalks, bike lanes, transit.
3. Destinations are functional & inviting for pedestrians, bicyclists, & transit users.
4. Safe & accessible for all ages, incomes, abilities

www.thecommunityguide.org

CDC Guide to Community Preventive Services



www.markfenton.com

In planner language:

- Mix of land uses; varied destinations.
- Network of bicycle, pedestrian, & transit facilities.
- Functional site designs & details.
- Universal safety & access.



1. Land use.

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



E.g. post office,
grocery, schools



Compact neighborhoods
& shared open space.



Housing
above,
retail
below.



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2. Network of facilities:



- Presence of sidewalks, bike lanes, pathways.
- Shorter blocks, more intersections.
- Access to affordable, frequent transit.



Bicycle network options:



On-street



Sharrows
(shared
use arrow)



Mixed-use pathway



Bike lane

Comfortable setting for drivers and pedestrians?



But how far back?

www.markfenton.com

3. Site Design:



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



3. Site Design:



Montpelier



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

Site design? Research & practice suggest:



Brattleboro

- 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 lines.
- Mixed-use, multi-story; residential density bonus!
- Expedite permits.



Neenah WI



Appleton WI

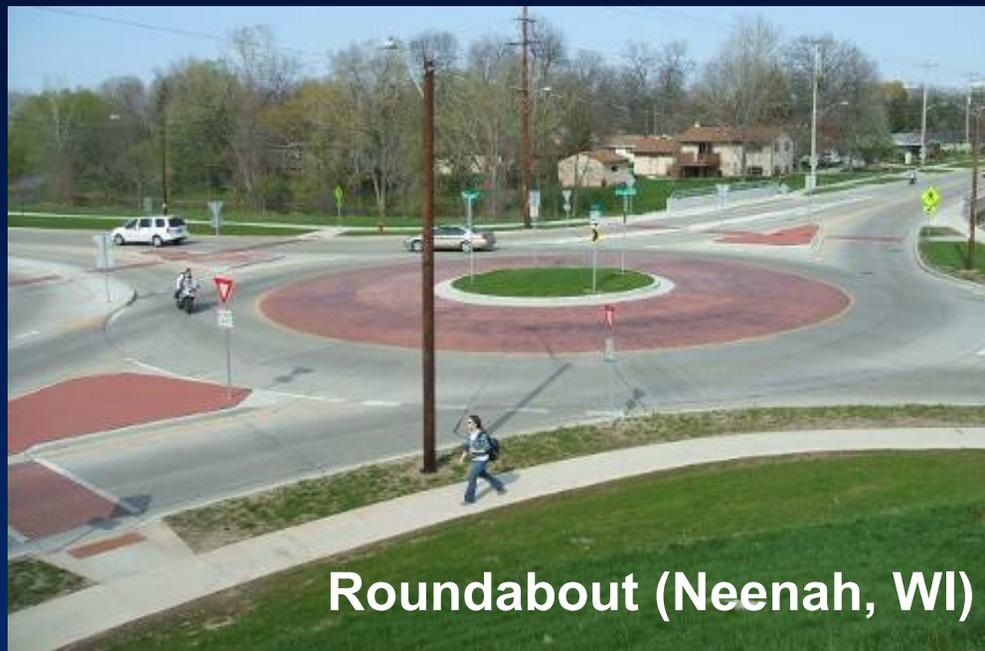
Elected, appointed officials & staff must be supported if expected to act courageously!

4. Safety & access.

- Engineering can markedly improve safety.
- Increasing pedestrian and bike trips *decreases* overall accident & fatality rates.



Median islands



Roundabout (Neenah, WI)



Curb extensions

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

www.markfenton.com

Lane re-alignments

- Often called road diets, being seen more often.



Urbana, IL; before & after.



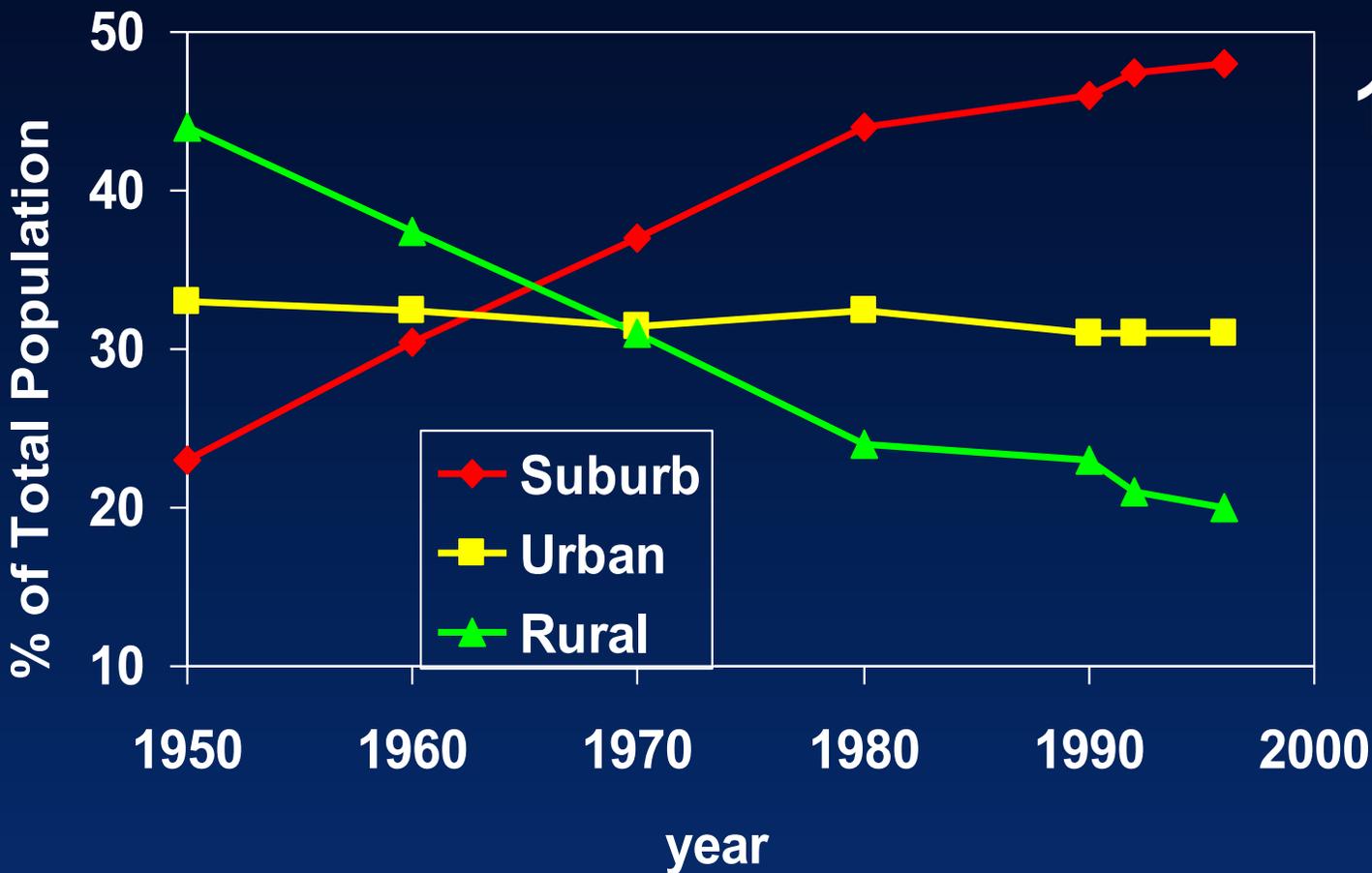
- Can reduce collisions & severity.
- Dramatically improves performance for pedestrians & cyclists.

“But what about rural areas . . . ?”

Suburbanization of America

US population shift, 1950-1996

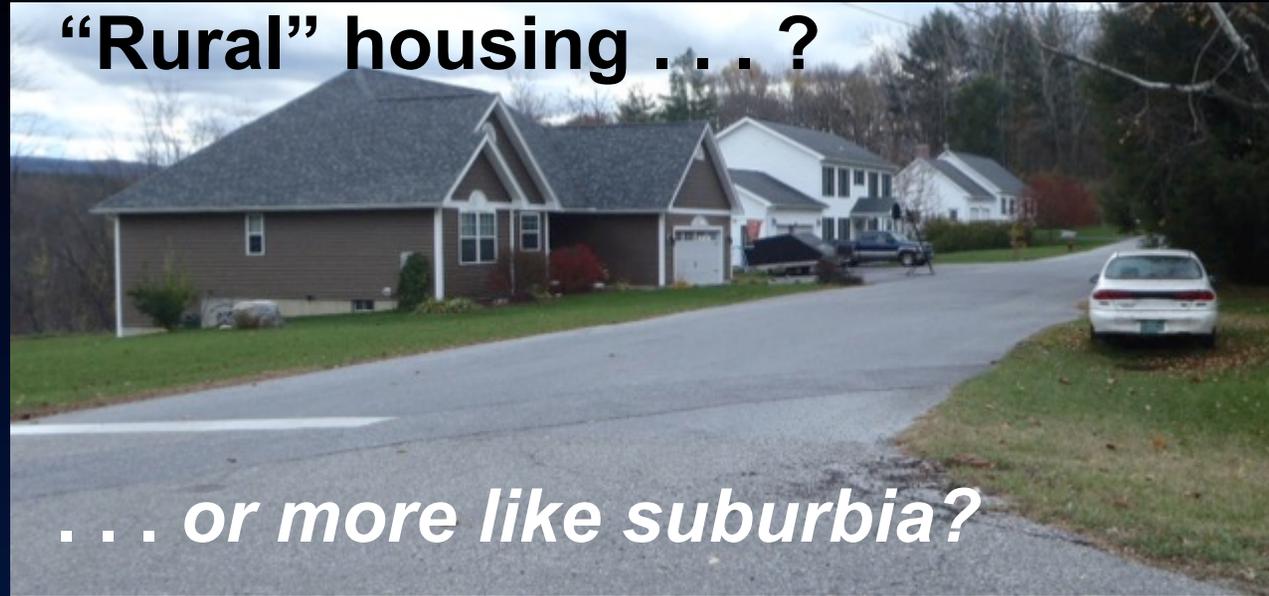
(after *Bowling Alone*, R. Putnam, 2000)



1. Suburbia is steadily consuming the landscape . . .

2. Rural areas are where we can affect the shape of development ***before it's done!***

“Rural” housing . . . ?



. . . or more like suburbia?



5. Community design & food systems?

- Community gardens (near schools, parks, senior housing)
- Zoning for urban farming; chickens, bees, composting . . .



- Regulate fast food, drive-through locations.



- Farmer's markets
- Green grocers.
- Neighborhood stores.



Five Elements of Healthy Community Design:



Mix of destinations



Ped, bike, & transit network



Site design



Safety & access



Healthy affordable food

www.activelivingresearch.org

www.markfenton.com

**Shouldn't the free market
dictate how we build our
cities & towns?**

**Economics. *Walking the Walk:*
How Walkability Raises Housing Values
in U.S. Cities. (CEOs for Cities report)***



walkscore = 12



walkscore = 100

Higher score = ↑ \$4,000-\$34,000 home value

***www.ceosforcities.org/work/walkingthewalk
www.walkscore.com**

www.markfenton.com

On Common Ground

Nat'l Assoc. of Realtors pub.; Summer 2010

www.realtor.org

The Next Generation of Home Buyers:

- **Taste for in-town living.**
- **Appetite for public transportation.**
- **Strong green streak.**
- **Plus, Americans are driving less overall!**



Smart Growth & Economic Success

www.epa.gov/smartgrowth/economic_success.htm

Dec. 2012



December 2012
www.epa.gov/smartgrowth



SMART GROWTH AND ECONOMIC SUCCESS:
BENEFITS FOR REAL ESTATE DEVELOPERS, INVESTORS,
BUSINESSES, AND LOCAL GOVERNMENTS

Office of Sustainable Communities
Smart Growth Program

Benefits to developers,
realtors, investors,
local governments.

- Less infrastructure in compact development.
- Walkability premium on real estate sales.
- Flexibility & choice.

www.markfenton.com

Smart Growth & Economic Success

www.epa.gov/smartgrowth/economic_success.htm

Nov. 2013



November 2013
www.epa.gov/smartgrowth

Beneficial to . . .

- Creative economy, productivity, innovation.
- Competitive for hiring & retaining employees.
- Strong retail sales, offers customers transport choices.

A collage of four images illustrating smart growth: a modern glass skyscraper, a historic brick building, a street with a tram, and a busy street with cars and pedestrians.

SMART GROWTH AND ECONOMIC SUCCESS:
THE BUSINESS CASE

Office of Sustainable Communities
Smart Growth Program

www.markfenton.com

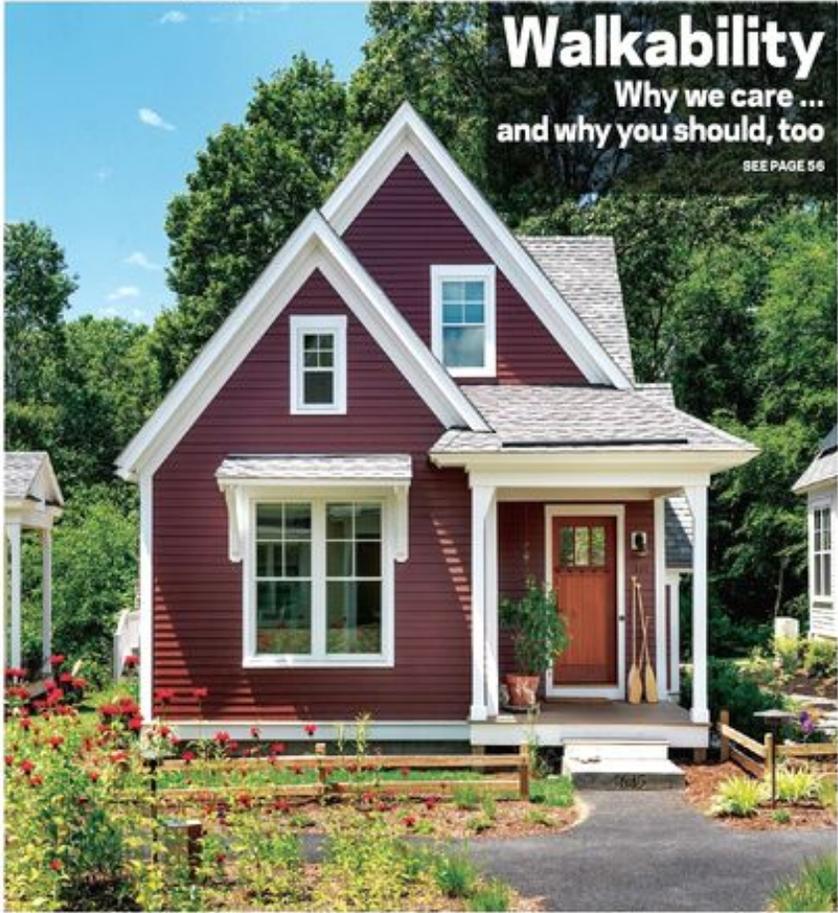
SMART BUILDING STARTS HERE

THE MAGAZINE
OF THE NATIONAL ASSOCIATION
OF HOME BUILDERS

Builder

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

SEE PAGE 56



MARCH 2014 WWW.BUILDERONLINE.COM

Walkability. Why we care & why you should too!

Nat'l Assoc. of Home
Builders, Mar. 2014

- Consumer desire
- Flexibility in design
- Lower development costs . . .

What's happening?

- 1st & 2nd generation malls & big boxes are struggling.
- Employers seek livable communities, for employee health, satisfaction, retention.



More simply:
Which generates more tax revenue per square foot, a dying mall or thriving downtown?



So how to get there?

Walk audits



Implementation

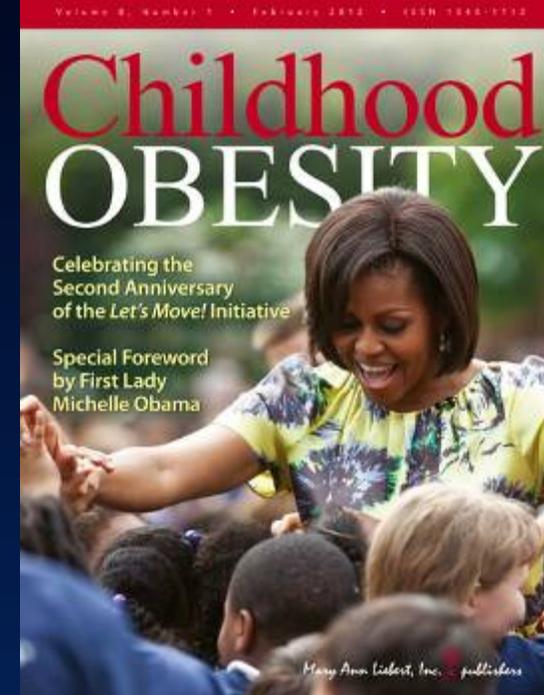


Work sessions

Act up: Support five national movements changing the physical activity landscape.

(Fenton, Community Design & Policies for Free Range Children, *Childhood Obesity* 8(1), Feb 2012)

1. Healthy planning & zoning.
2. Complete Streets.
3. Transportation trail networks.
4. Transit- & bicycle-friendly policies.
5. Comprehensive Safe Routes to School.



Build a compact, focused, interdisciplinary leadership team targeting healthy design:

- Education, schools
- Planning & Zoning
- Engineering, DPW
- Parks, Recreation
- Public Health & Safety
- Historical preservation
- Social justice & equity
- Chamber of Commerce
- Developers, Lenders, Realtors
- Neighborhood Assoc., Church & Service Groups
- Environment, Conservation

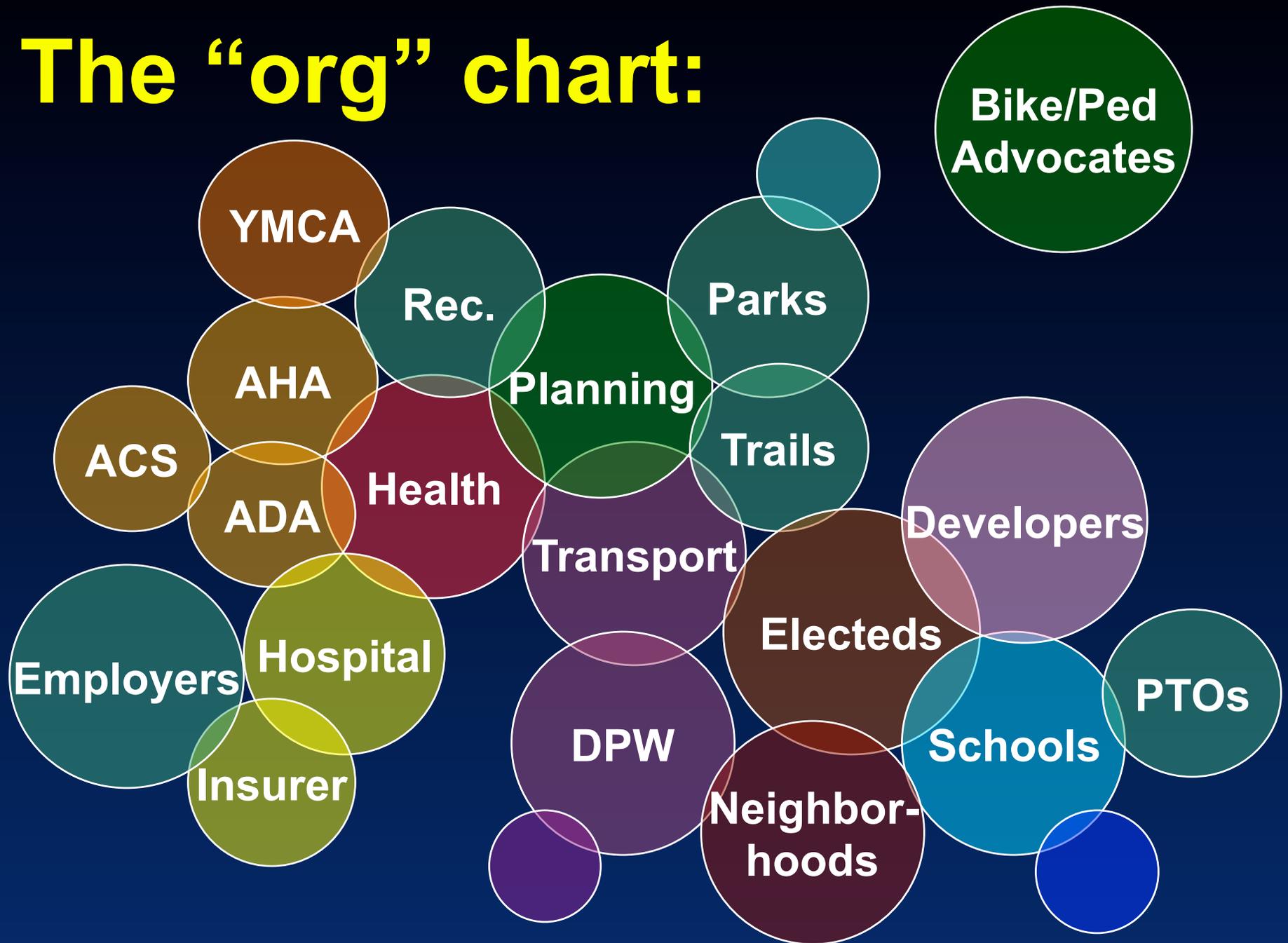


Policy information:

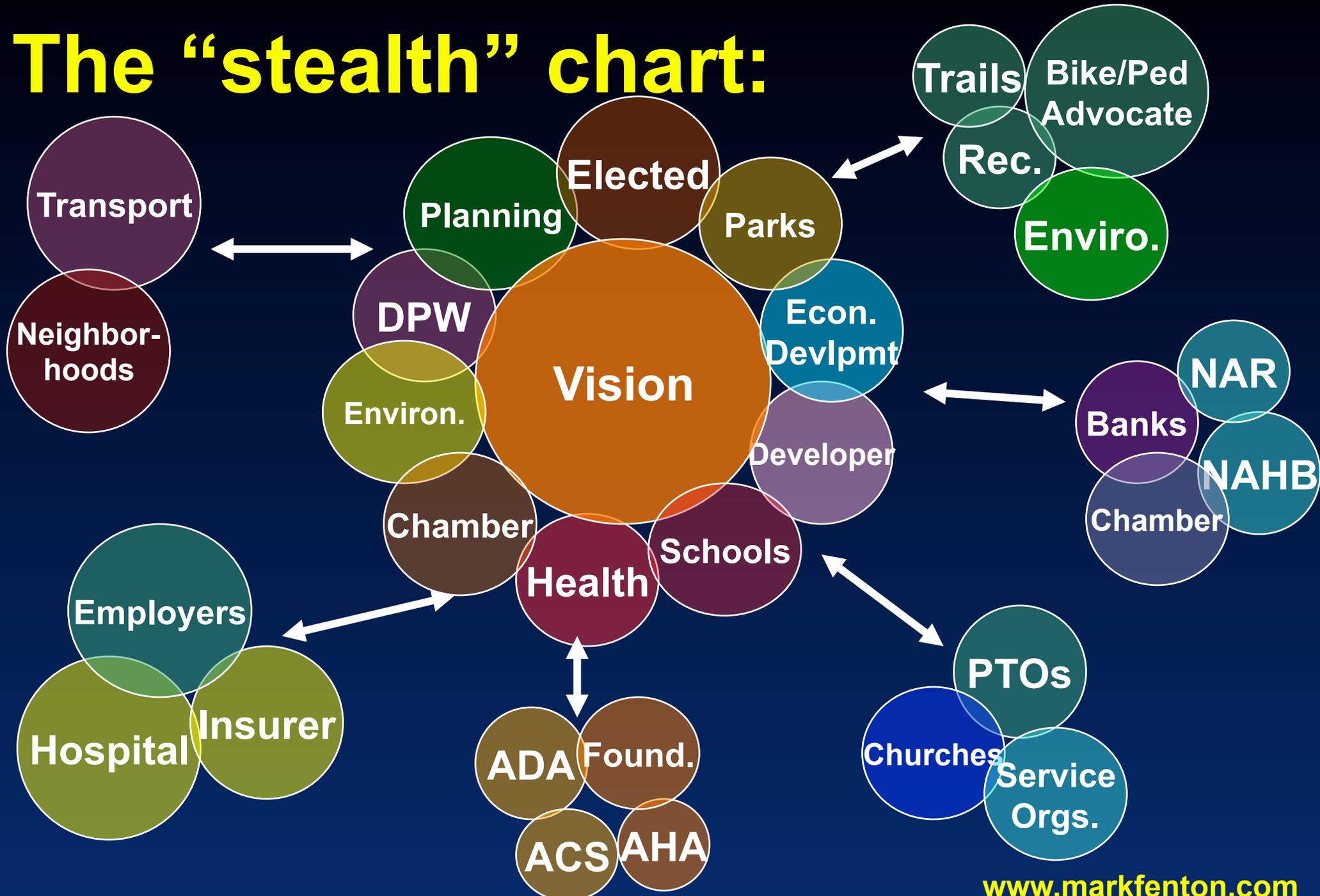
www.lgc.org

www.vtppi.org

The “org” chart:



The "stealth" chart:



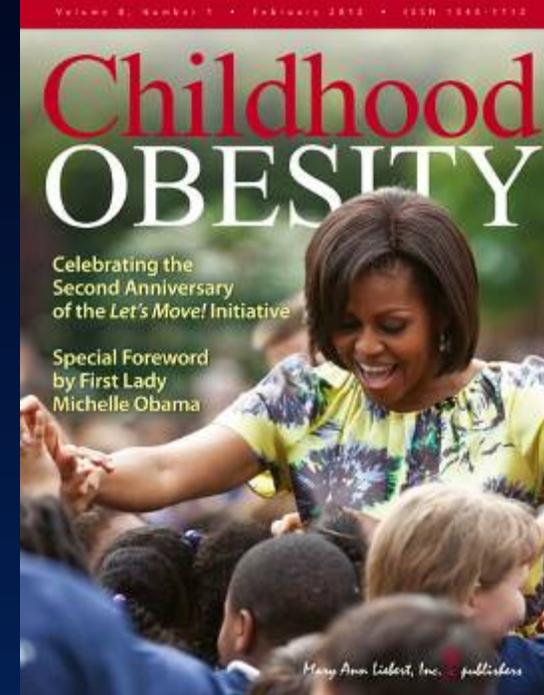
To be on the stealth leadership team people must:

- Embrace the **vision** of active, healthy community design.
- Able to spend time on this as part of **job responsibilities**; not just volunteers.
- Have **community influence** and are able to **reach** critical partners.



Act up: Support five national movements changing the physical activity landscape.

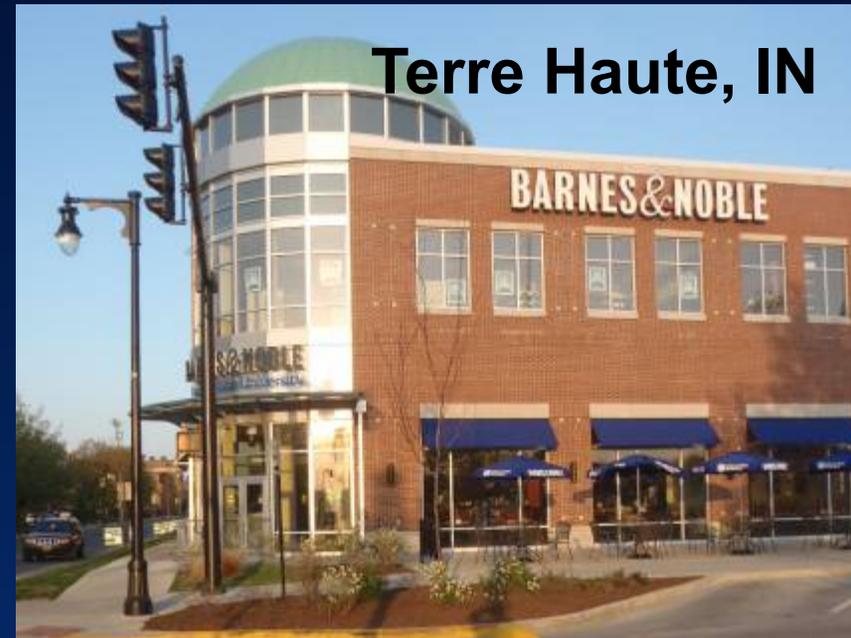
(Fenton, Community Design & Policies for Free Range Children, *Childhood Obesity* 8(1), Feb 2012)



1. Healthy planning & zoning.
2. Complete Streets.
3. Transportation trail networks.
4. Transit- & bicycle-friendly policies.
5. Comprehensive Safe Routes to School.

1. Engage selectmen & planning boards; E.g. update & implement comprehensive plan.

- “Plan development to maintain town’s historic settlement pattern of a well-defined urban growth center surrounded by rural countryside.”



Terre Haute, IN

www.activelivingbydesign.org

www.markfenton.com

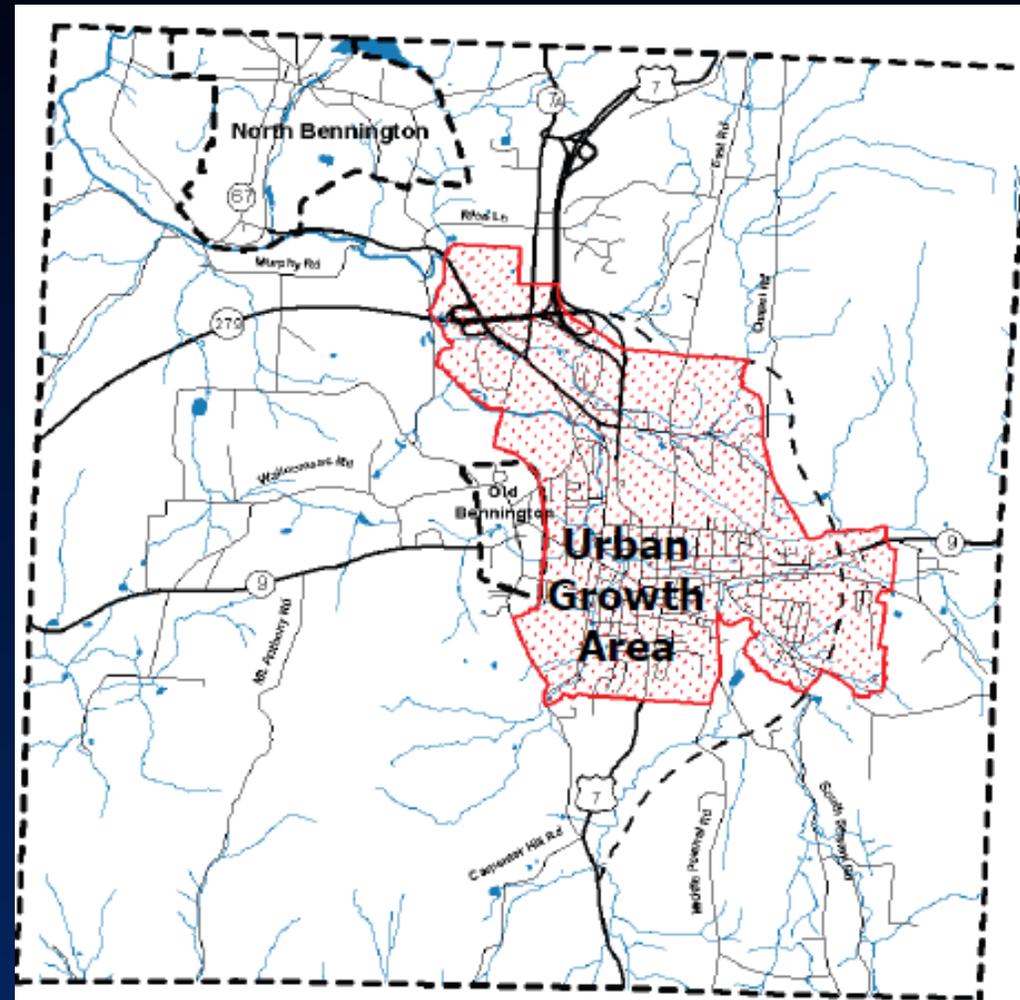
Bennington Town Plan



Adopted: October 11, 2010

Prepared by the
Bennington Planning Commission

Approved by the Planning Commission: August 4, 2010





Create walkable clusters.

2. Implement Complete Streets

- **Complete Streets:** All users (pedestrians, cyclists, transit riders, & drivers) of all ages & abilities considered in every road project (new, repair, maintenance).
- **Start w/ paint!**



Benmont Road: “No one walks there, anyway . . .”



Complete Streets

a guide for Vermont communities

**State policy is great,
but not enough;
every community
must embrace &
implement Complete
Streets!**

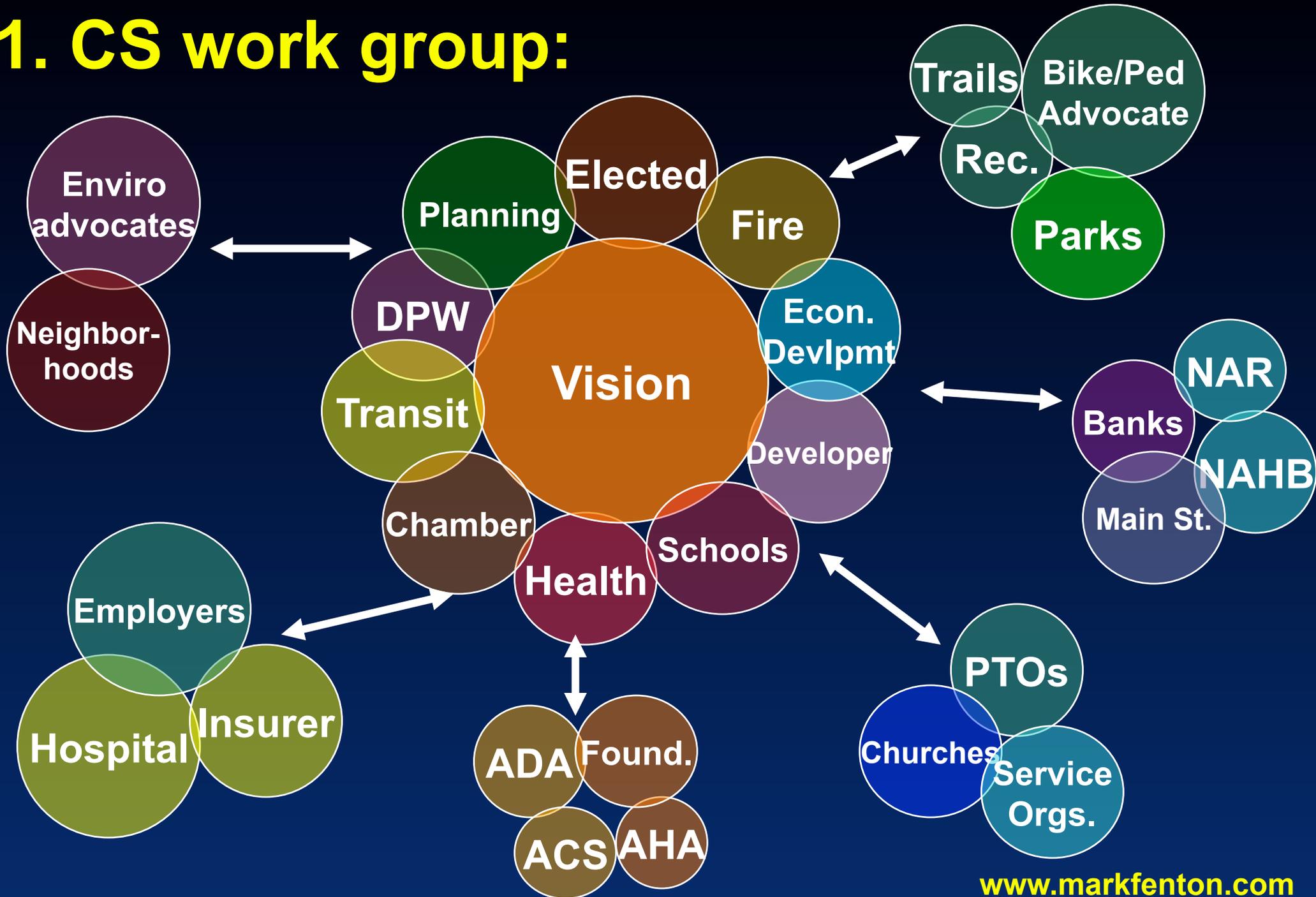


First step ideas . . .

1. Convene work group; *interdisciplinary*.
2. Lead walk audits.
3. Take a CS inventory.
4. Move or add lines during painting.
5. Paint some high visibility crosswalks.
6. Reverse diagonal parking.
7. Pave the shoulder on a rural road.
8. Paint sharrows or a bike lane; signage.
9. Add curb extensions; e.g. paint, curbing material, planters.
10. Build a parklet.
11. Bike parking stall.
12. Install a roundabout.
13. Add median islands.
14. Do a road diet!



1. CS work group:



2. Lead walk audits on candidate Complete Streets in the community.



3. Create an inventory of street “completeness.”

Inventory to include (y/n?) existence of sidewalk, shoulder, bike lane, vehicle lane widths . . .



Sidewalk



Guide line



Shared Use



Bike Lane



4. Paint missing lines.

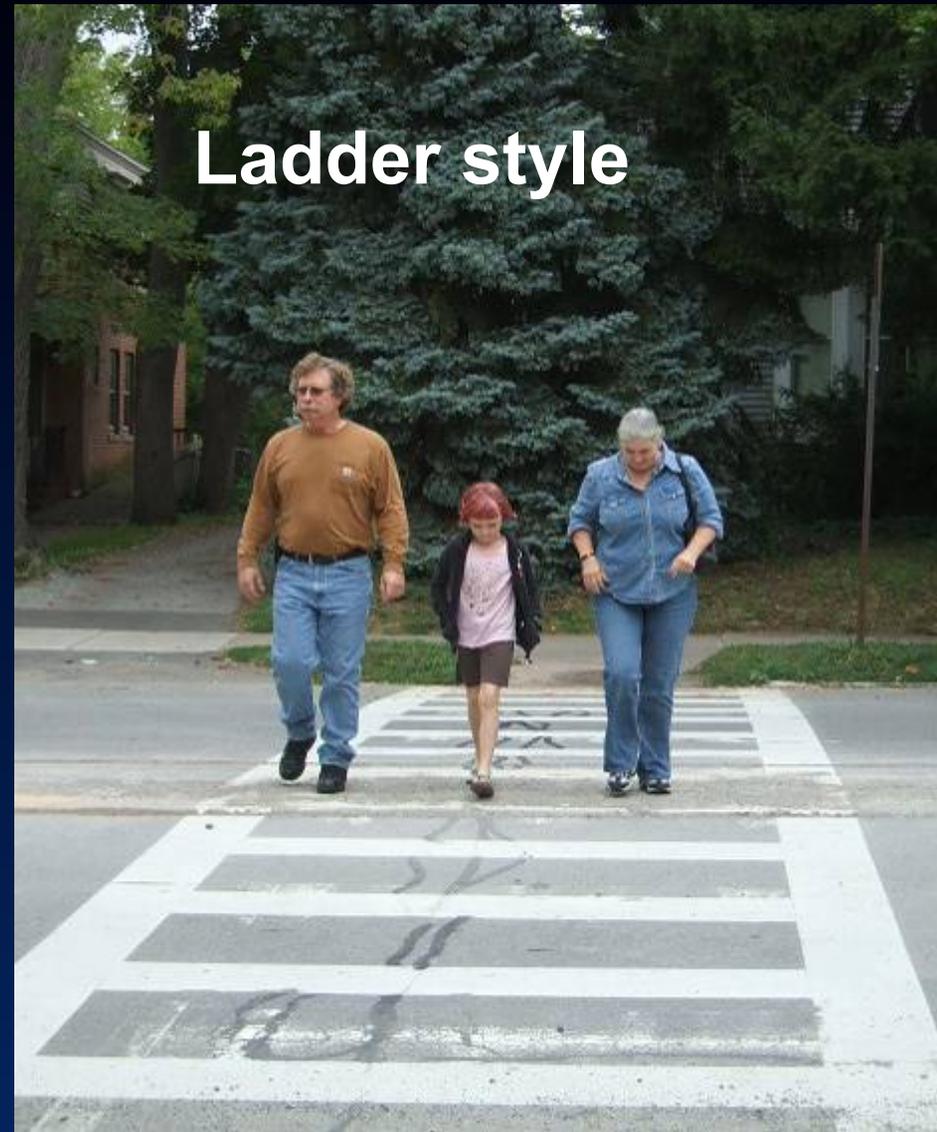


4. Or move them.

5. Paint some high visibility crosswalks.

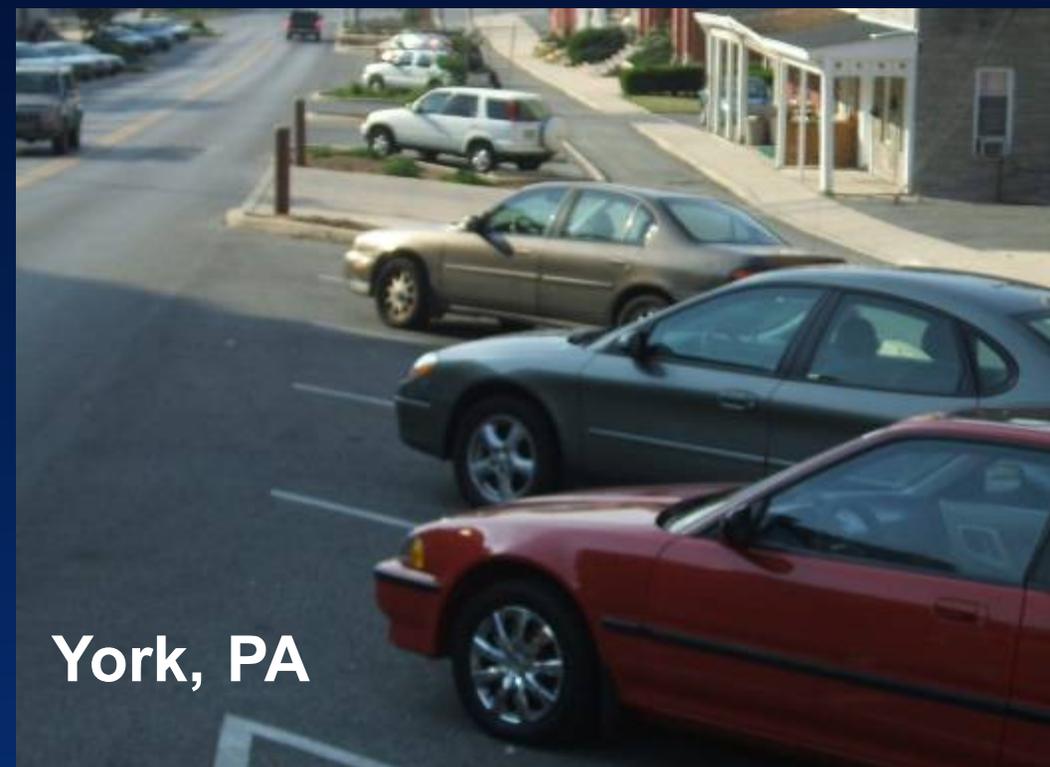


Boston



Ladder style

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



York, PA

Reverse angle:

- Less severe collisions.
- Pedestrians off road.
- Safer for bikes.

7. Pave shoulders on rural roads; part if not entire shoulder.



First priority: routes to schools, parks, housing, shopping centers.

Reasons for shoulders?

- **Safety:** Vehicle recovery zone; accommodate driver error; space for evasive maneuvers; clearance for avoiding crossing peds & bikes; space for disabled vehicles, . . .
- **Capacity:** Easier exiting from travel lanes to side streets; greater effective turning radius for trucks; space for mail delivery & bus stops, . . .
- **Maintenance:** Structural support to lane edge; storm water discharge is further from lane; space for maintenance operations & signs, snow storage, & painting of fog lines. (Michael

www.walkable.org/assets/downloads/ Ronkin)

22 Reasons for Paved Shoulders.pdf

www.markfenton.com

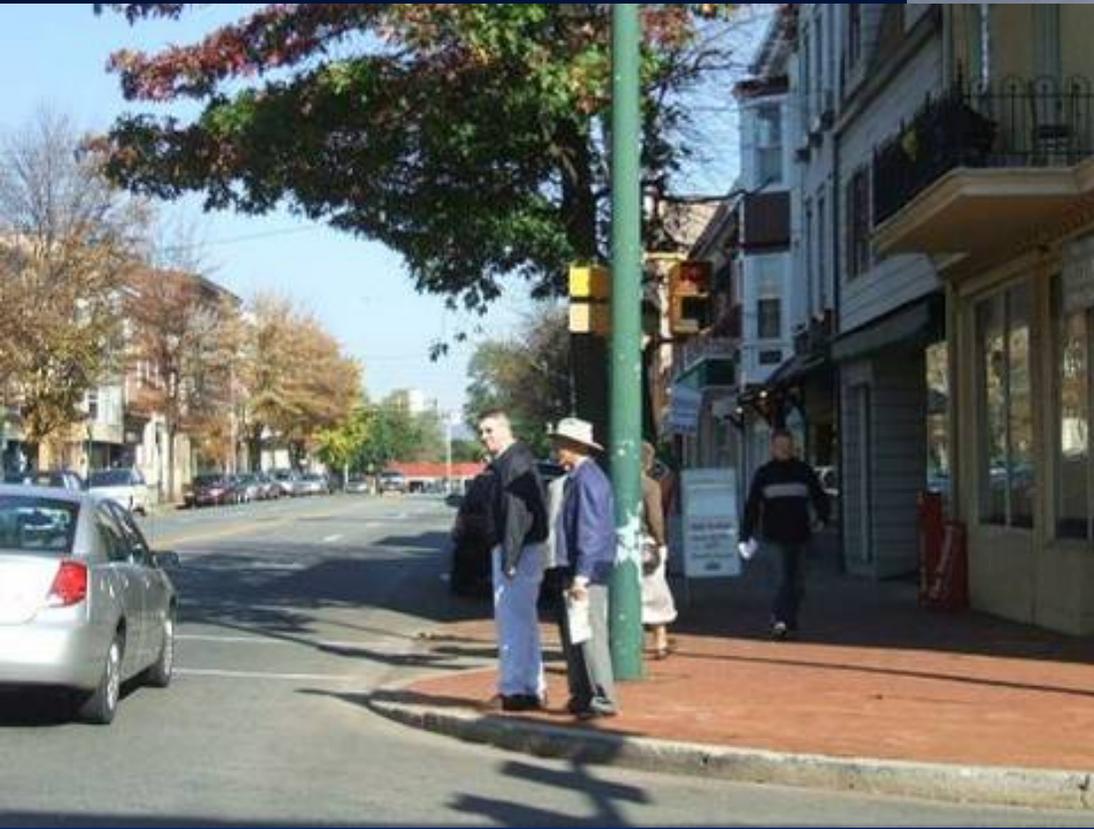
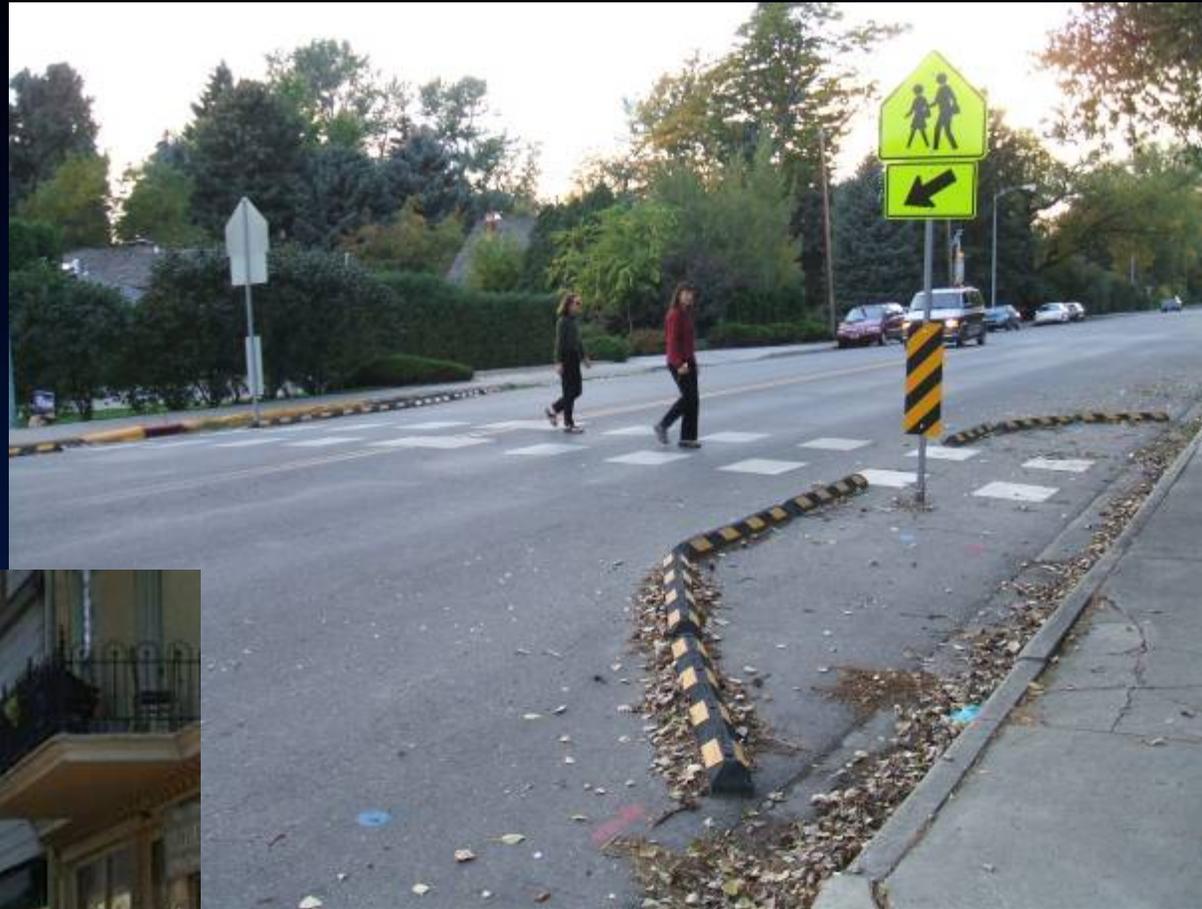
8. Add sharrows or a bicycle lane; also signs if appropriate.



Sharrows
(shared use
arrow)



**9. Add curb extensions . . .
paint, curbing, planters, . . .**



**Shorten crossings,
improve sight lines,
slow turning cars.**





**10. Build a parklet
(or a few of them).**

11. Install bicycle parking; stalls can be in curb extensions!



Salt Lake
City library

**12. Round-
about;
often to
replace 4-
way stop.**



Glens Falls, NY





“Phase 1” roundabout, Bluffton, SC

13. Install medians where no turns are possible on center lanes.



Missoula, MT



Include ped crossings where appropriate; ideally offset.

14. Lane re-alignments

- Often called road diets, 5 or 4 lanes down to 3.



Urbana, IL; before & after.



- Can reduce collisions & severity.
- Improves conditions for peds & cyclists.
- During routine paving?

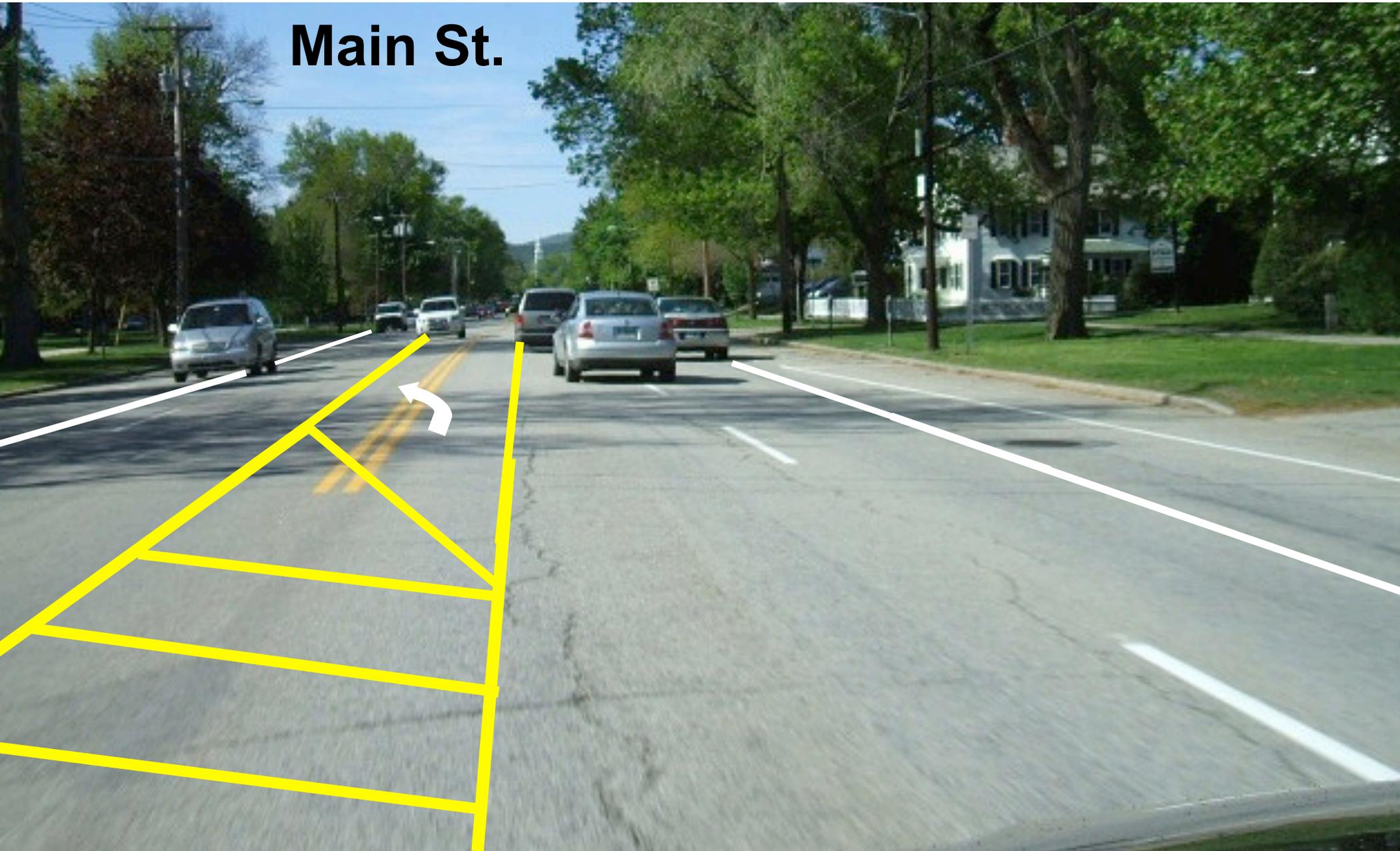
**Main St.
Keene, NH**



What's this guy's deal?

www.markfenton.com

Main St.



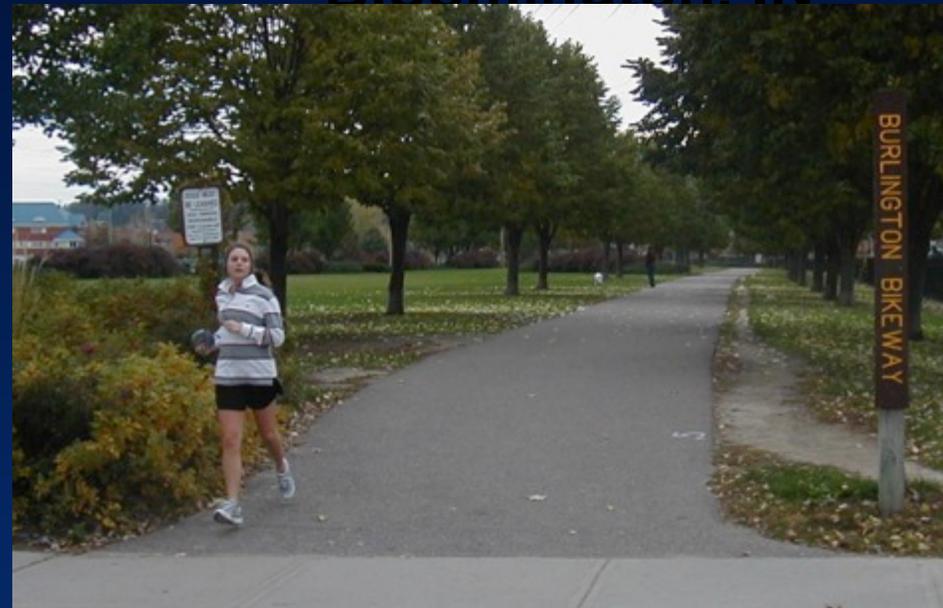
Begging for a road diet!!!

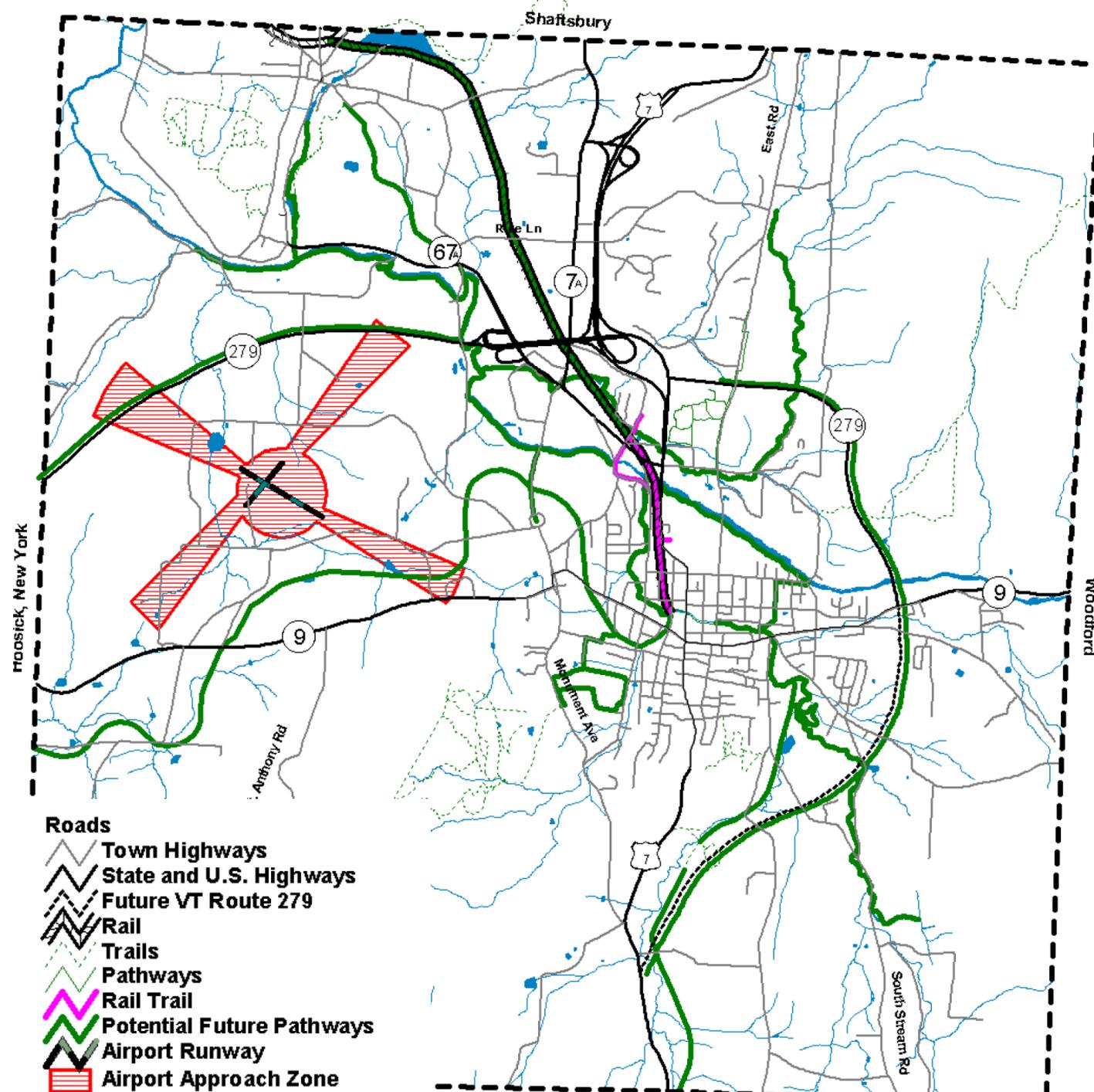
3. Create a comprehensive network of *transportation* trails.

- **Connect** to other parts of network (sidewalks, bike lanes, transit).
- Focus on **destinations** (schools, shopping, parks, senior housing)
- Balance the cries of the **NIMBY, BANANA, & CAVE** people.



Bloomington, IN





E.g. Huge potential for functional trails in Bennington & the region!

E.g. Bennington: find the “goat trails” (desire lines).





4. Work for a bicycle-friendly community.

- **Bike Friendly Community, Business, or Campus** rating (bronze to platinum).
- Community “buy a bike rack” program.
- Teach bicycle skills, safety, repair in your school. **v**

Grinnell, IA



Blue
Island, IL.



www.bikeleague.org

www.markfenton.com



**Classroom,
on-bike,
build &
maintain.**

**Blue Island, IL
bibc.us**



www.markfenton.com

Create transit-friendly policies & infrastructure.

- Student ID's to act as a transit pass (as part of student fees).
- Expand program to municipal employees, large employers . . .
- Bike racks on buses.
- Wild: Charge the true **cost of parking!**



5. Safe Routes to School – more than just an encouragement program!

- All 5 E's: **Engineer** bike lanes, racks, sidewalks; **educate & encourage** walk/bike groups; **enforce** proper speeds.
- Measure BMI? Must **evaluate** how kids get to school (walk, bike, bus, car) and why . . . !



www.saferoutesinfo.org

www.markfenton.com





Recommendations:

- Do this all the time, not just as an “event.”
- Improve the trail through the park.
- Plant a garden, trees along the way.
- **5 minute safety delay** on cars at dismissal.

www.saferoutespartnership.org

www.saferoutesinfo.org

www.markfenton.com

Step up: Be an active role model.



Leave the car behind at least one trip per week; walk, bike, or take transit instead. And take a child along.

Why care about stickiness & design?

- The **inactivity** epidemic; **our kids may pay!**
- **Quality of life**; safety & comfort; **social equity.**
- **~4,000** pedestrian, **~40,000** motor vehicle, **~400,000** sedentary-related deaths/year.
- **Greenhouse gasses**, average commute time/day, traffic congestion and costs.
- Dependence on **foreign oil**; **wars** in Middle-east.
- More eyes on the street, **less crime.**
- Shopping locally, healthier **housing values.**
- Higher employee retention, higher productivity, **lower health care costs.**