

Creating a Healthier Community with Stickiness

—
Healthy Bedford by
Design

Bedford, MA
May 2013



Enjoying a walk on the
Narrow Gauge Rail Trail . . .

Common challenges to “healthy design:”

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



Sauntering on a Bedford sidewalk.



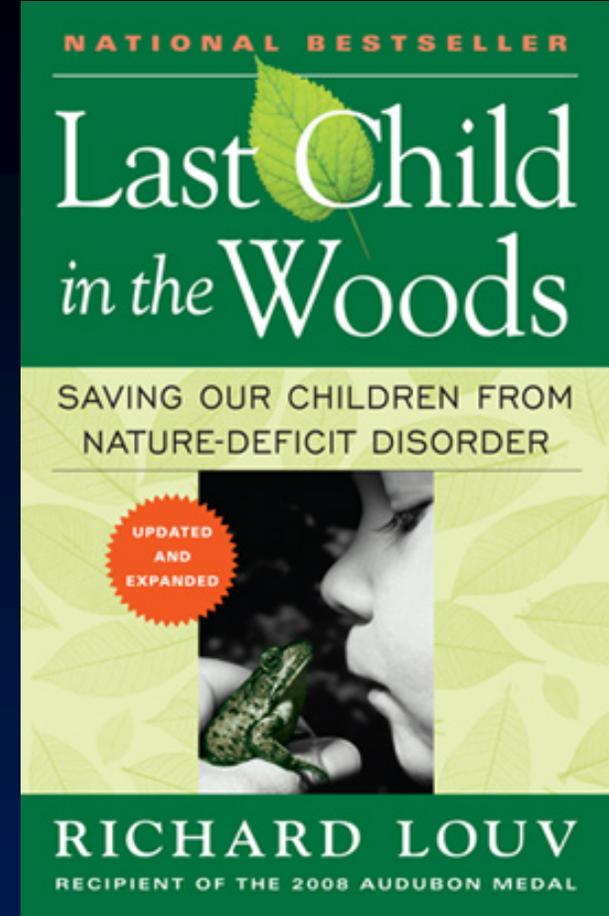
Youthful recollections





30-Nov-2009

Not just my idea . . .



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

By Alexman

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 cognitive problems over the track.



Gould
Gould
Gould
Gould
Gould

— 3, 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 Sport.

Currently working on a masters 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

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 from a piece of playground equipment has had the appalling knock-on effect of almost eliminating child's play

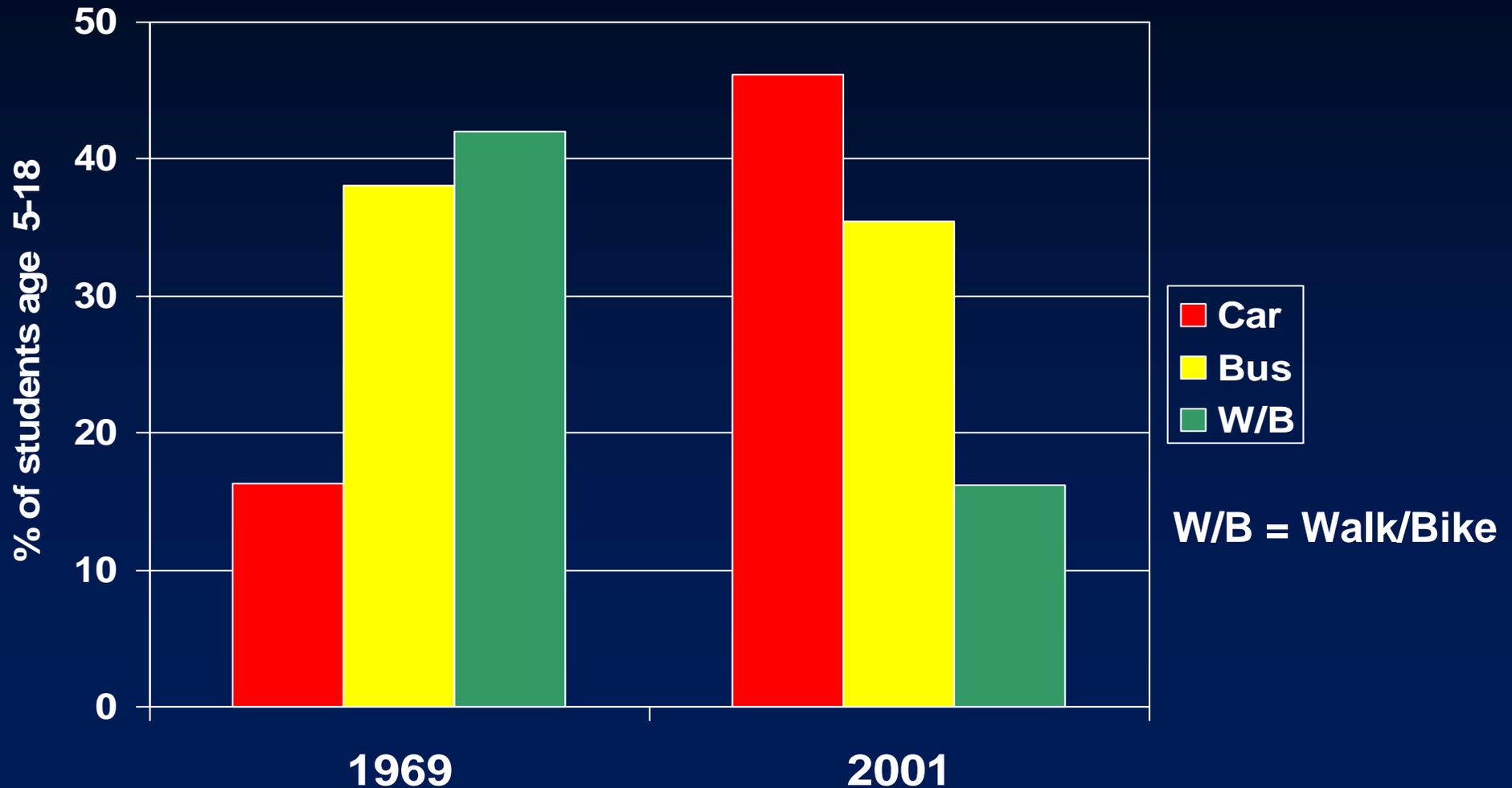
Gould said home-improvement TV shows emphasising aesthetically pleasing courtyards had encouraged people to ditch traditional backyards. "Kids need backyards — they need to dig dirt and pull up plants and see the roots. They need to find worms and beetles and make tracks and build cubbies and pull them down again," she said. A mother of four, Gould traced

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 opportunities" such as reaching

The Australian, 14-Oct-2009

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.

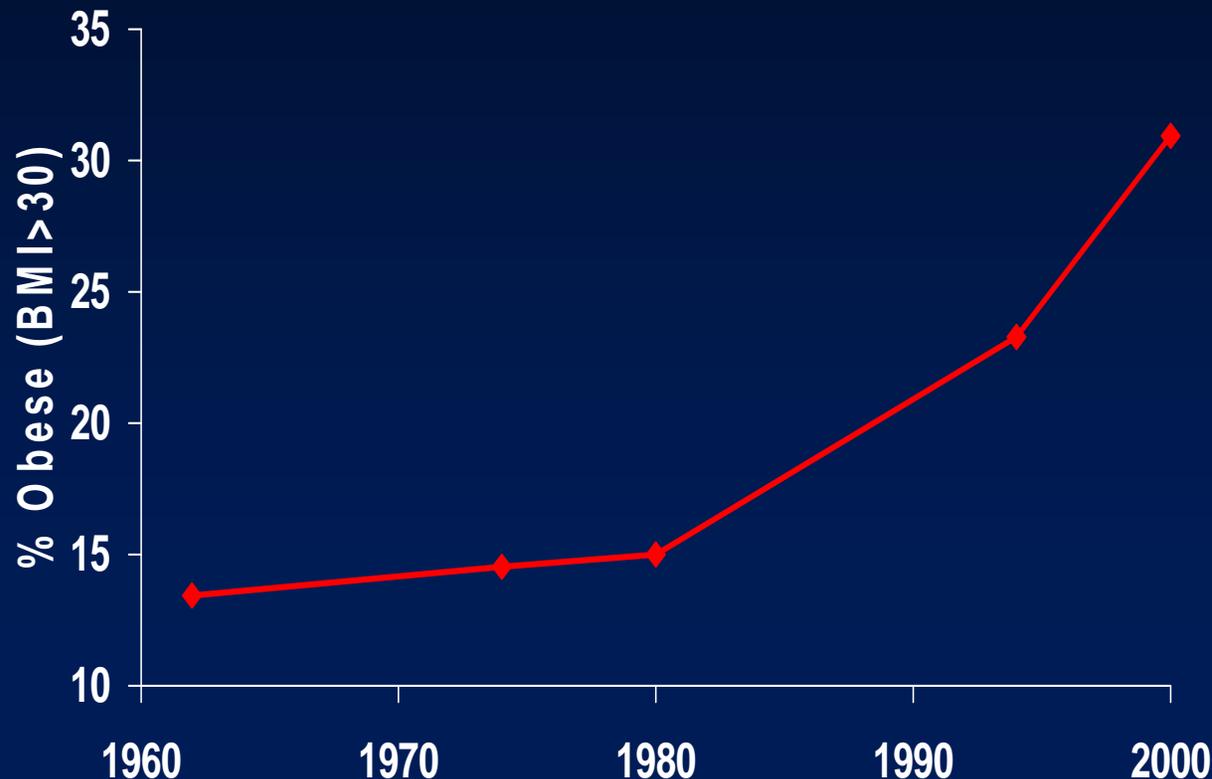
National Health Examination & Nutrition Surveys (NHANES).

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

America's looming chronic disease apocalypse . . .

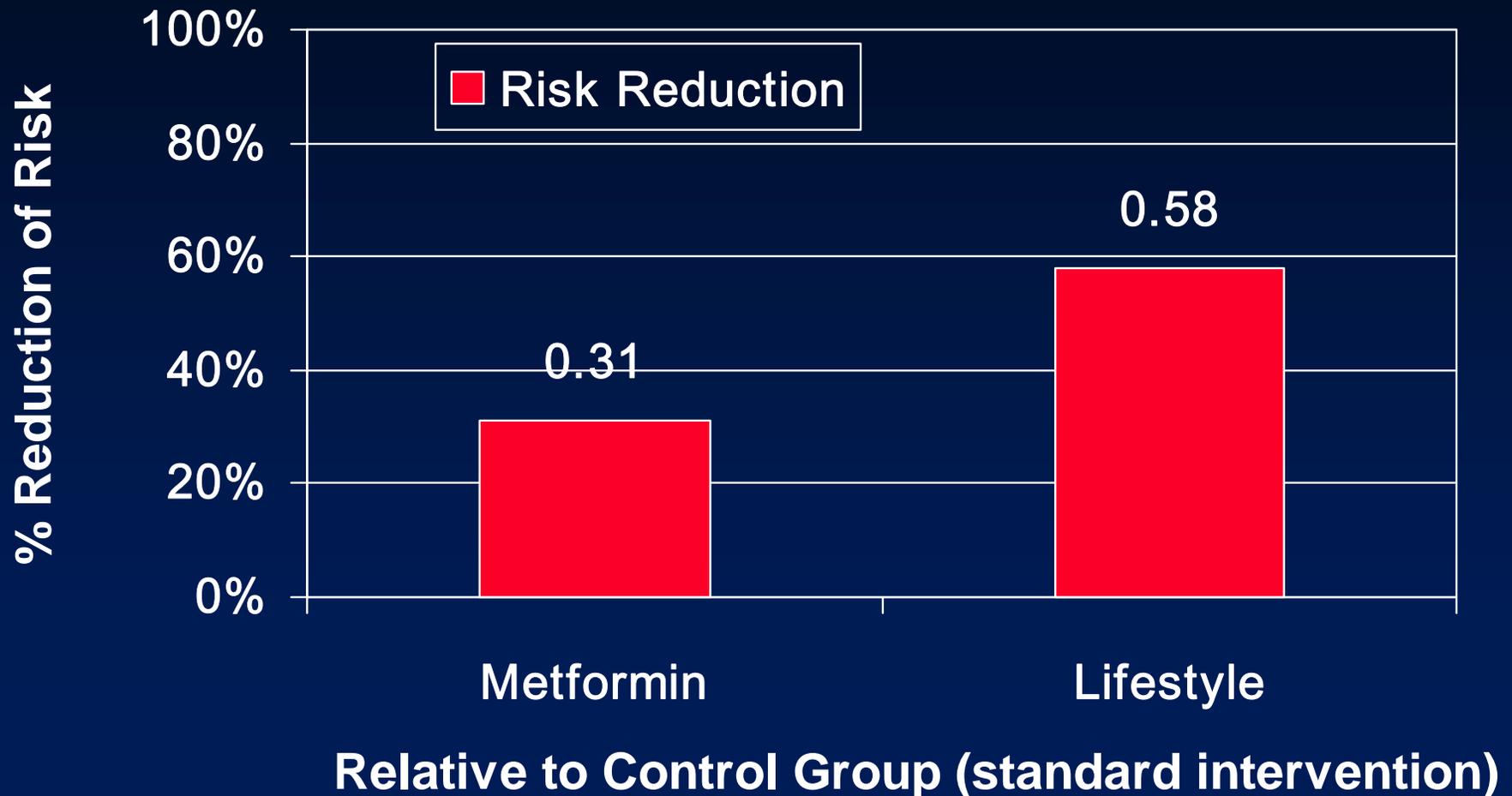
US "Obesity Epidemic"

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



Diabetes Risk Reduction

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



Step one:

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.

The bad news in just three numbers:

30 minutes of daily physical activity recommended (**60** mins. 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

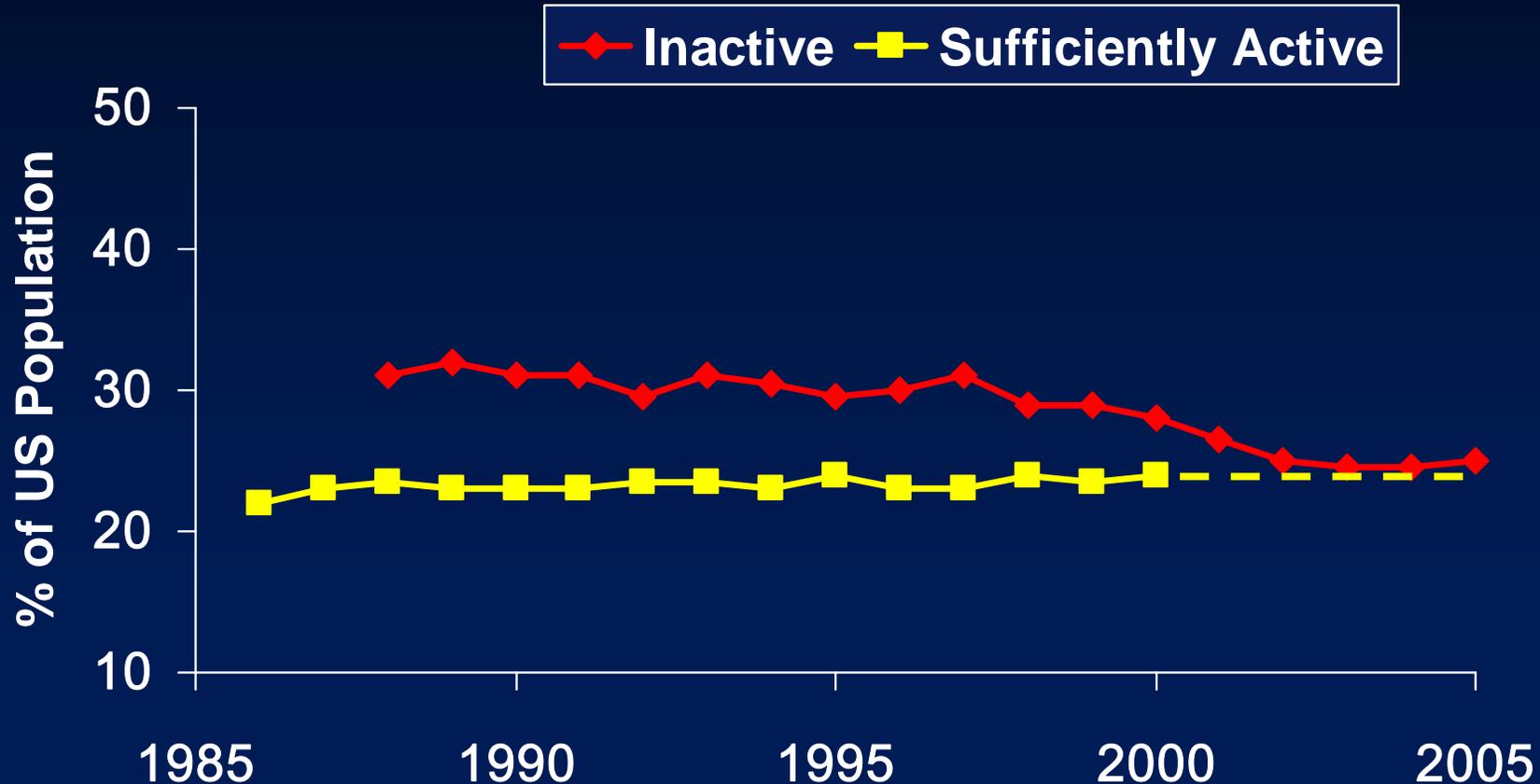
- **150 min/week** of moderate **physical activity**; more is better.
- Any activity is better than none.
- Can be **broken up**.
- **300 min/week** for children.
- Reduced risk for CVD, diabetes, osteoporosis, obesity, dementia in old age, clinical depression, a growing list of cancers . . .



This counts!

Leisure Time Physical Activity in the US

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

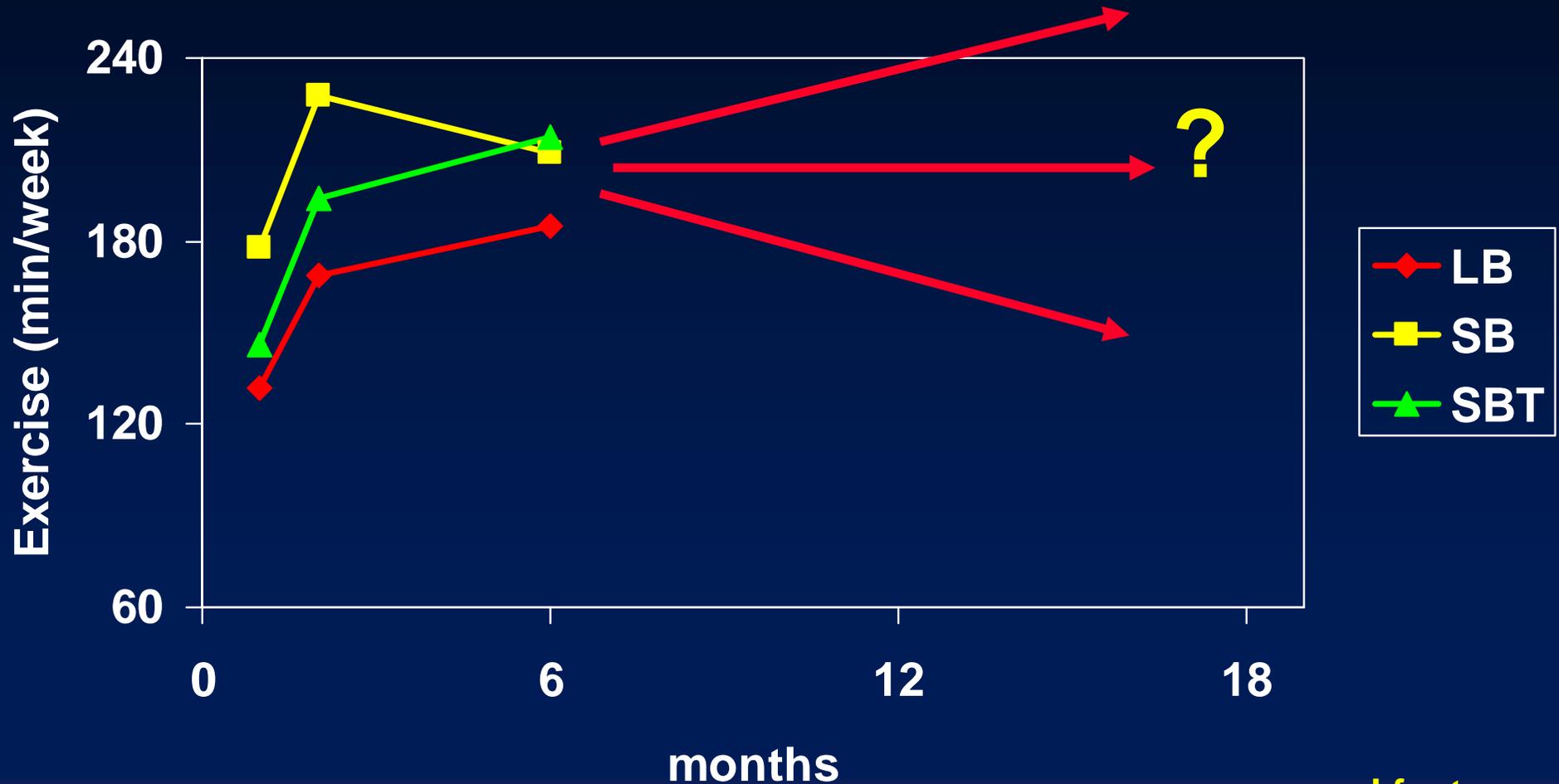


**Why is it so resistant
to change?**

**I believe in large part the
stickiness problem!**

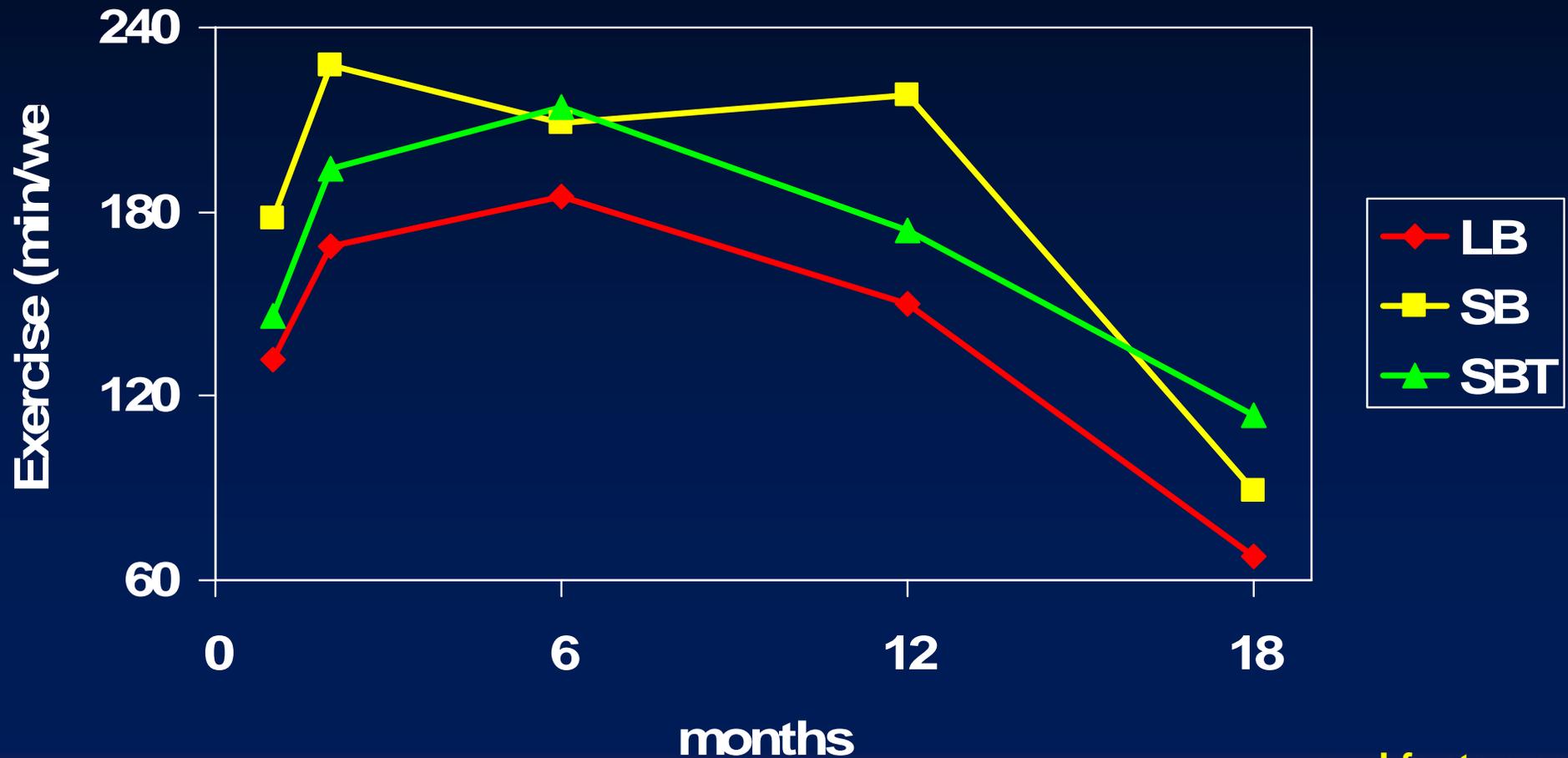
Exercise Participation

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



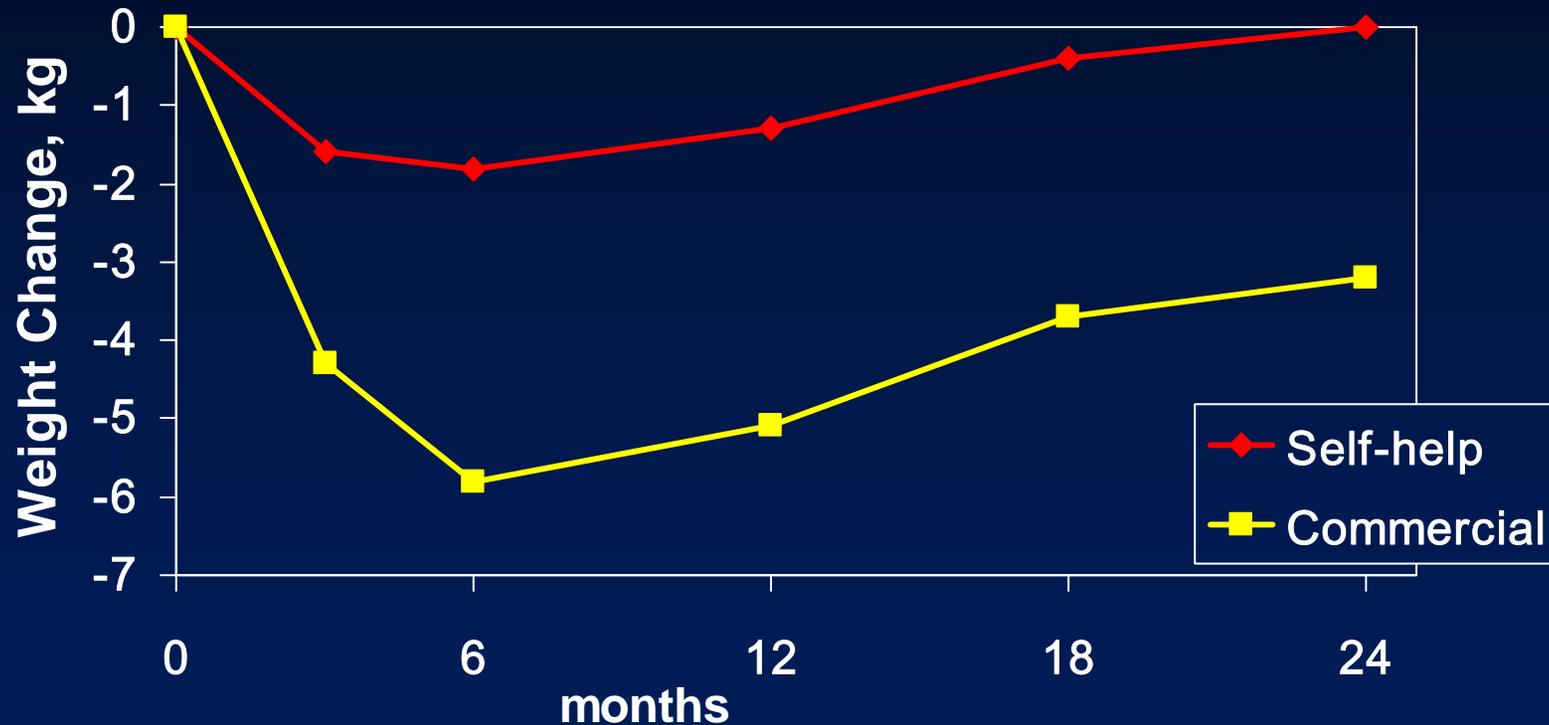
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Self-help vs. Commercial Weight Loss Programs

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



A realization:

**Simply telling people to
“exercise” is not enough. We
need to support increases in
routine, daily physical
activity for everyone.**

A realization:

**Simply getting people on
“diets” is not enough. We
need to help provide **healthy
food that is affordable,
accessible, & appealing** 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

Interpersonal - family,
friends, colleagues

Institutional - school, work,
health care & service providers

Community - networks, facilities

Public Policy - laws, ordinances,
permitting practices & procedures

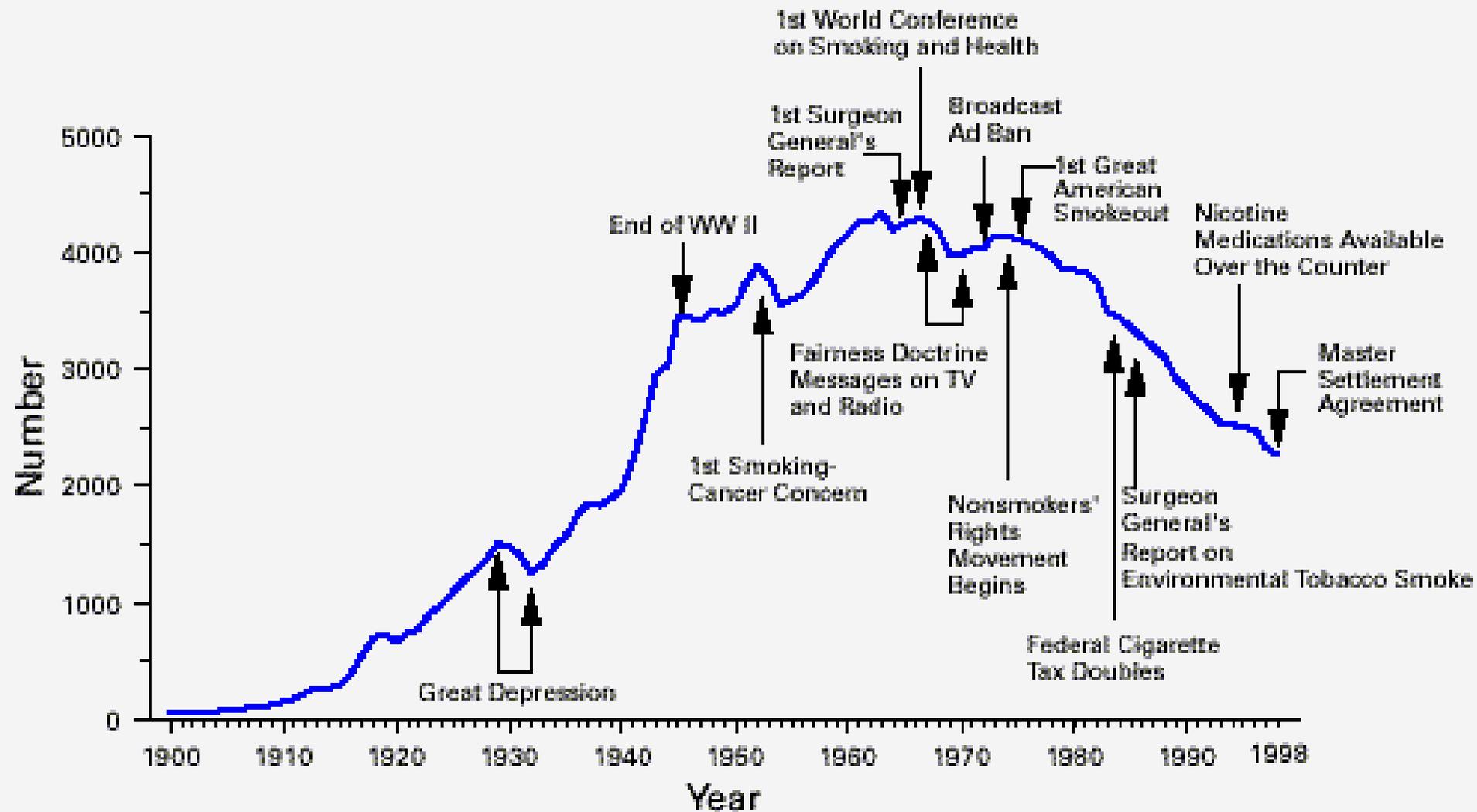
**Greater
Impact**



Socio-ecological successes?

- **Tobacco** – Education, kids, taxes, 2nd hand smoke policies/bans.
- **Seat belts, child safety restraints** – Media, training, laws, enforcement.
- **Recycling** – Kids, facilities, fees.
- **Water & sewer** – Education, ordinance & design requirements, inspection/enforcement procedures.

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

www.markfenton.com



vs.



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



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

If we build it will they come?

**(Does the built environment
really matter?)**

YES! Four elements . . .

1. Variety of uses within walk, bike, & transit distance.
2. Network: sidewalks, trails, bike lanes, transit.
3. Site designs 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

1. Land use.

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

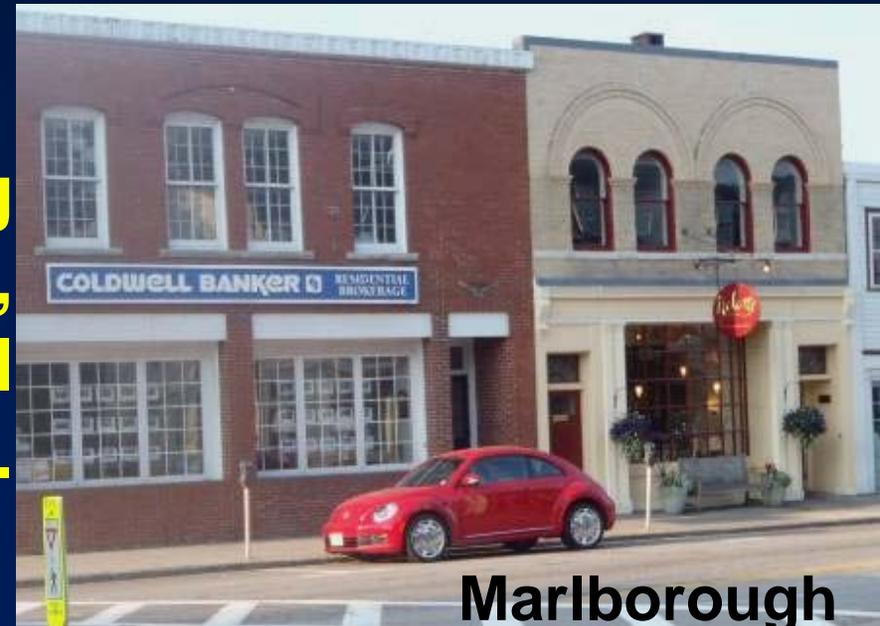


E.g. post office, grocery, schools

Compact neighborhoods
& shared open space.



Housing
above,
retail
below.



Marlborough
www.markfenton.com

2. Network is more complete with:



- Presence of sidewalks, bike lanes, pathways.
- Shorter blocks, cul-de-sac connectors, more intersections.
- Access to quality, affordable *transit*. >



Transit riders are physically active.

Besser, Dannenberg, *Amer. J. Prev. Med.*, 29 (4), Nov. 2005.

Just during the daily walk/bike to transit:

- Half of transit riders walk at least 19 mins.
- 29% get at least 30 mins. of activity.
- Minorities, poor (income <\$15k/yr.), denser urban dwellers more likely to get 30+ mins./day.



Bicycle network options:



Shar-row
(shared
use arrow)



Bicycle
lanes

3. Site Design:



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

Site design? Research & practice suggest:



Lexington

- 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.
- Expedite permits.



Neenah, WI

Appleton, WI



Elected & appointed officials must be supported if expected to act with vision & courage!

4. Safety & access.

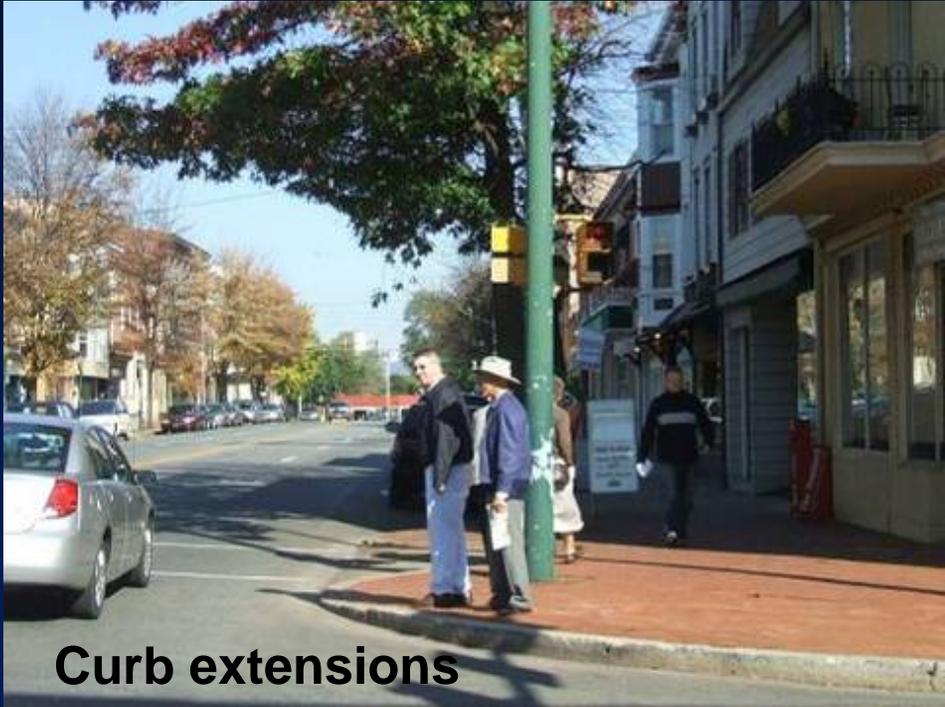
- Engineering can markedly improve safety.
- Increasing pedestrian and bike trips *decreases* overall accident & fatality rates.



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.

5. Community design & food systems?

- Community gardens (schools, parks, senior housing).
- Urban agriculture (compost, chickens, bee-keeping, etc.).

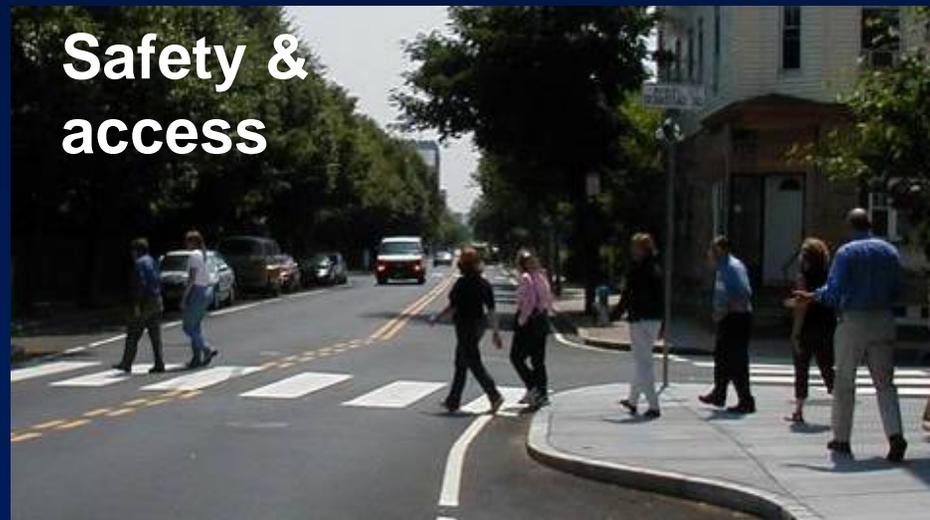
Farmer's markets (w/ EBT),
healthy corner stores.



Regulate fast food, drive-through locations.



Five Elements of Healthy Community Design:



www.activelivingresearch.org

www.markfenton.com

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

Econ 101: Internalize external costs.

Environmental:

- Reduced traffic; air, water, & noise pollution.



Safety:

- Kids, elderly mobility.
- Crime deterrent.



Social:

- Equitable transportation.
- More personal connections.

Education, schools:

- Health & safety.
- Behavior & performance!
- Transportation costs.
- Teacher morale.
- Community engagement.

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



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

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

On Common Ground

**Nat'l Assoc. of Realtors pub.;
Summer 2010, www.realtor.org**

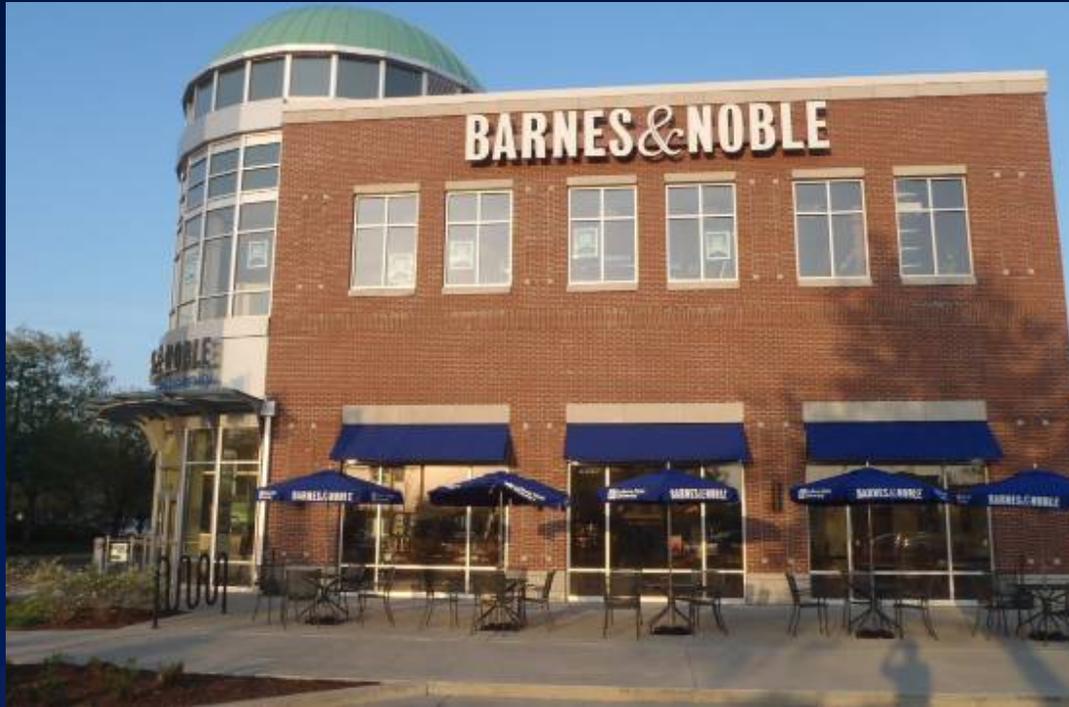
The Next Generation of Home Buyers:

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



What's happening?

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



Or more simply:
Which generates more economic activity, a marginal mall or thriving centers?

The Triple Bottom Line . . .



Prosperity



Planet



People

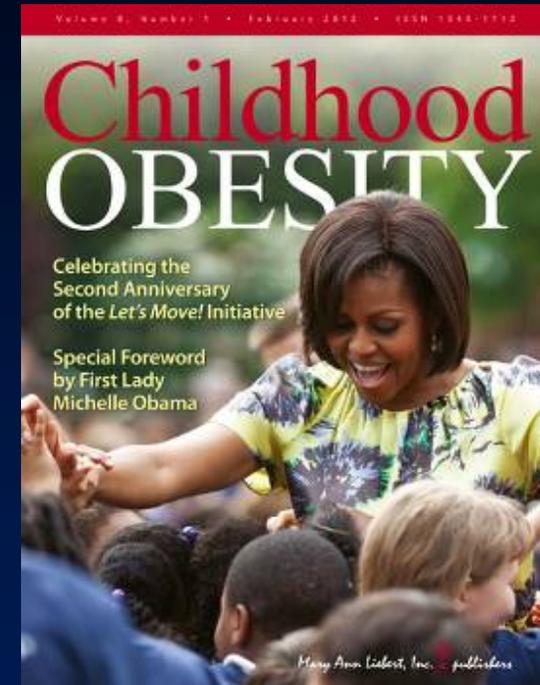
So how to get there?



Policies: Support six national movements changing the “health” 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.
6. Healthy, affordable, accessible food.



1st: 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

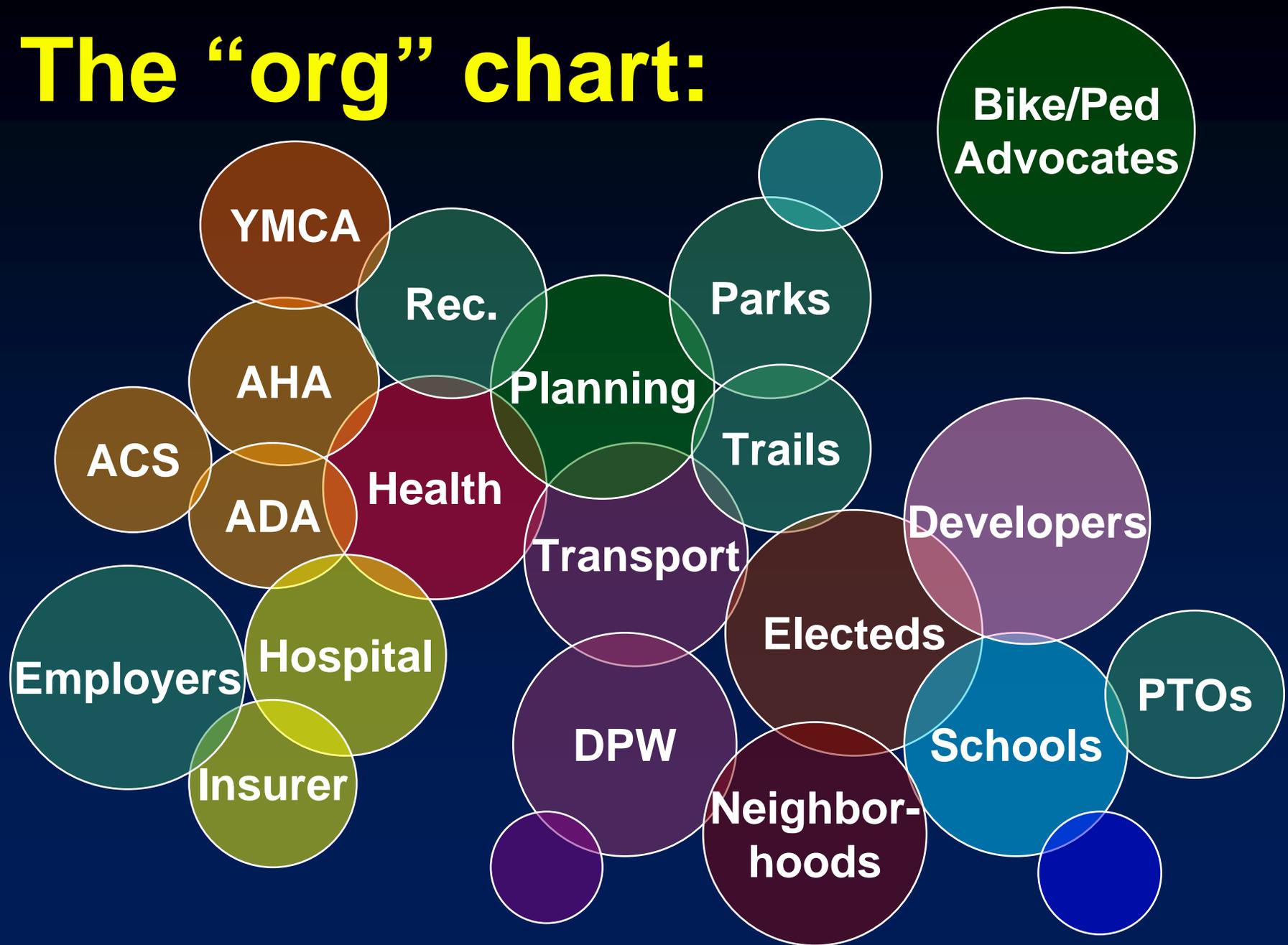


Policy information:

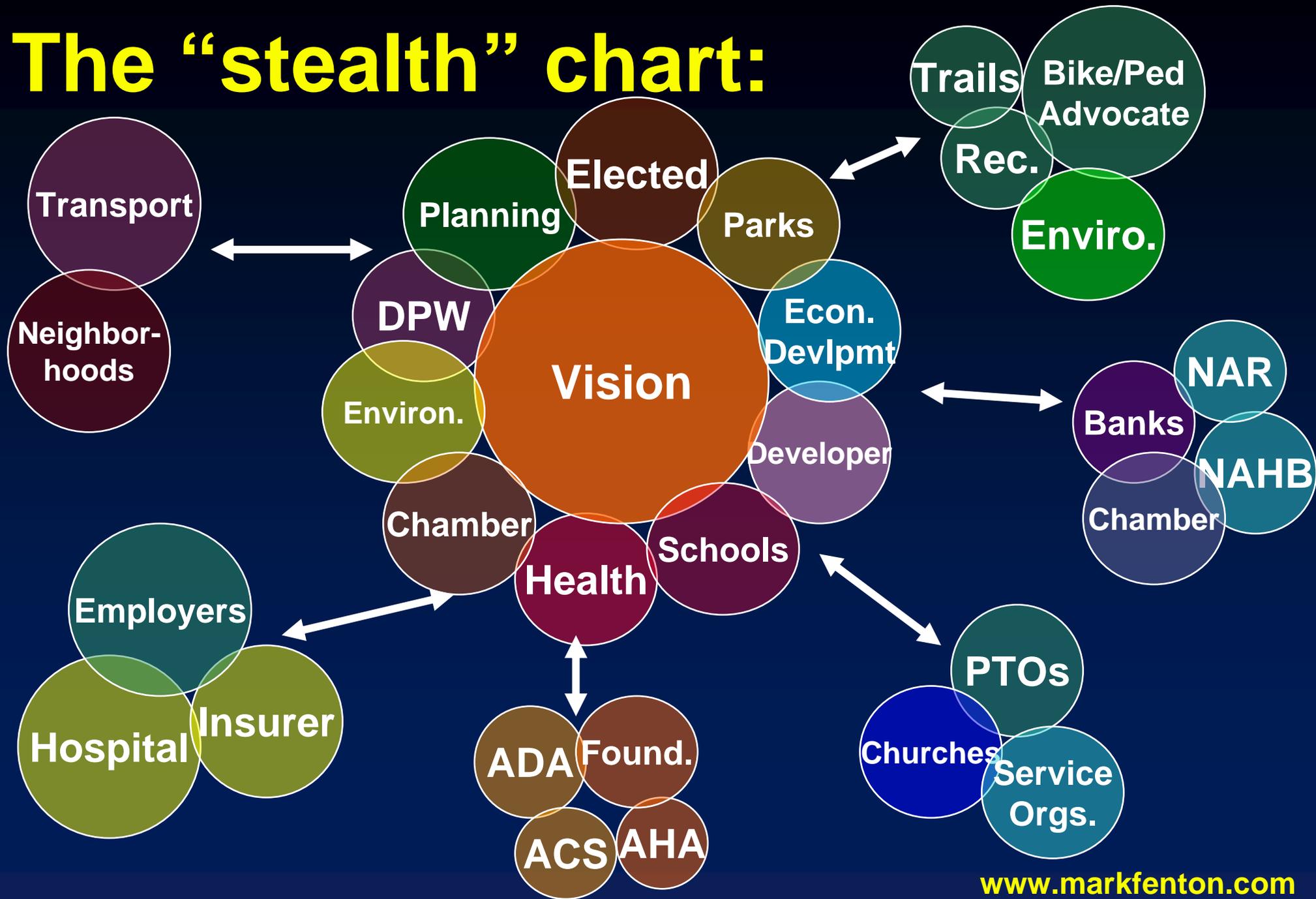
www.lgc.org

www.vtppi.org

The “org” chart:



The "stealth" chart:



To be on the stealth leadership team people must:

- Fully embrace **vision** of active, healthy community design.
- Be able to spend time on this as part of **job responsibilities**; not just volunteers.
- Have **community influence** and be able to **reach** critical partners.



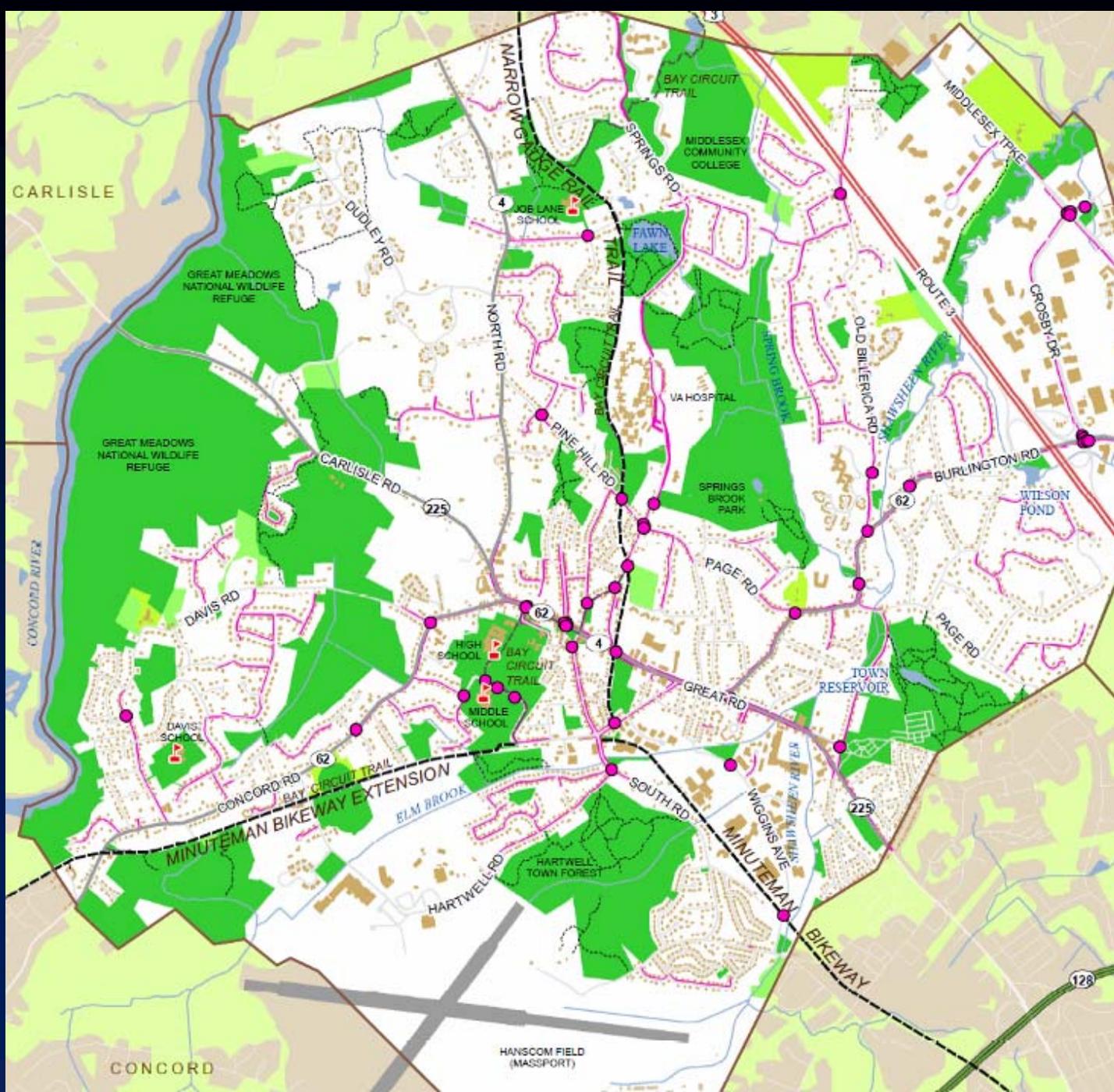
1. Update the Comprehensive Plan . . .

- Focus on pedestrian-, bike-, transit-oriented development.
- Restore mixed-use village centers.



Minute Man Trail & Narrow Gauge Trail crossing is a natural center – Bedford Depot!





Reflect the Comprehensive Plan in Zoning Ordinance, subdivision guidelines, & routine practice.





Reading, MA

www.markfenton.com

Step 1: Require *multi-modal transportation* analysis (not just *traffic*) for all development.



Mitigation = transit, bike, & pedestrian facilities, possibly systemic rather than on site.

Concord Rd.



Link to Davis Elementary



2. Build Complete Streets into ordinance:

- All users (**pedestrians, cyclists, transit riders, & drivers**) of all ages & abilities considered in every road project (new, repair, maintenance).
- Only limited, specific exceptions.



Target phases of CS implementation:

- i. **Step 1:** Pass a policy resolution or executive order (*whereas . . . be it resolved . . .*)
- ii. Adopt detailed roadway design standards or *guidelines*.
- iii. Execute more **demonstration projects**.
- iv. Include CS principles in absolutely every project (including routine paving, painting, & maintenance work, etc.).





3. Develop trails for transportation, not just recreation . . .

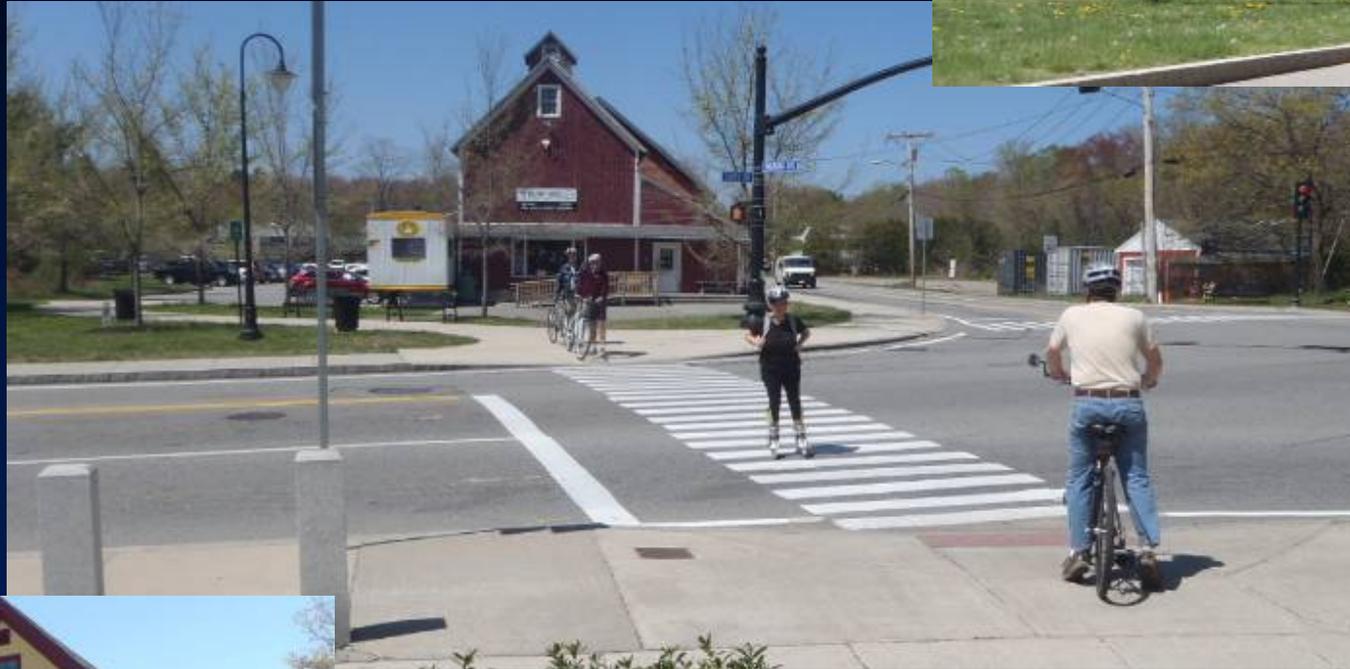
- **Connect** to the transport network (sidewalks, bike lanes, transit stops).
- Focus on **destinations** (schools, shopping, parks, senior housing)
- Weave into the **fabric of the community.**



Link to Job Lane School



Link to destinations



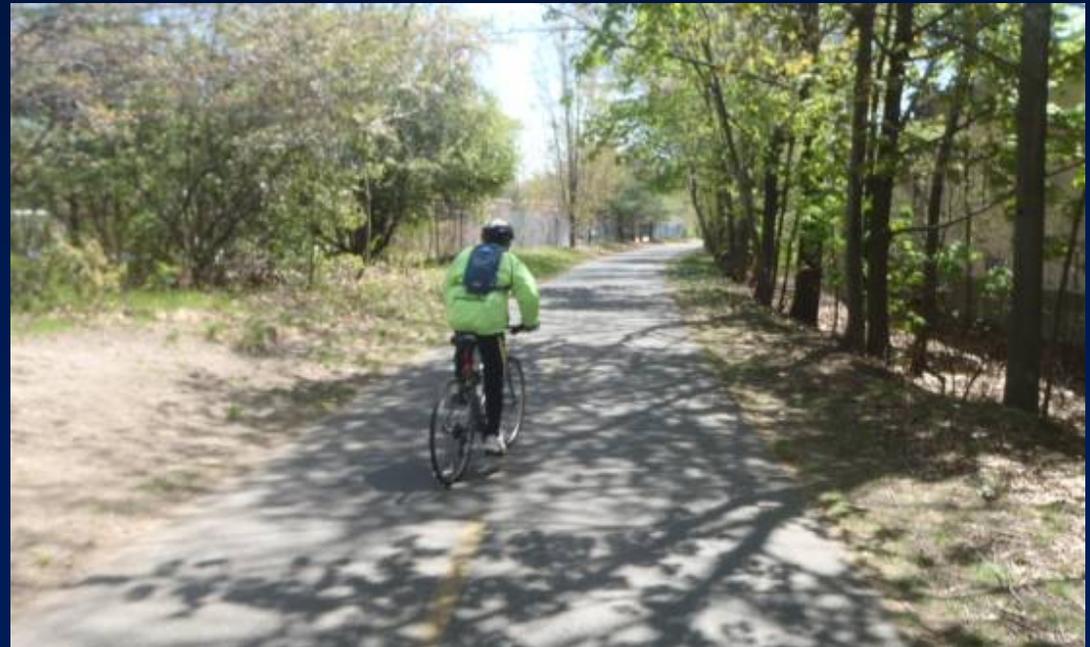
Elm Brook



- **Step 1:** Inventory goat trails (where people already walk/bike).
- **Improve,** formalize links.

4a. Focus on supporting transit in every form.

- Support college (& employee) IDs as **transit passes**, tie to wellness!
- Bike/pedestrian links to buses, commuter rail.



4b. Create a bicycle-friendly community.

- Bike racks downtown & at destinations: schools, library, parks, playgrounds.
- Bike corral at events.



Bike corral, valet parking



Austin, MN

4b. Create a bicycle-friendly community.

- Maps, way-finding signs.
- Education, skills. >
- Bike lanes & sharrows on wide streets.
- Bike sharing (simple).



Salem Spins

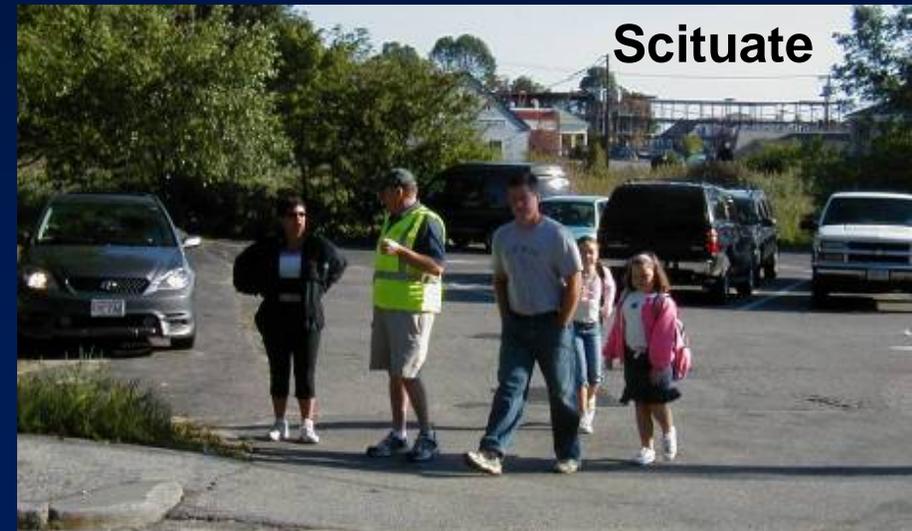


5. Comprehensive Safe Routes to School program.

- **Evaluate** where kids come from, by what travel mode.
- Community workshops . . .
- **Engineer** improved routes.
- **Educate & encourage** safe behavior (drivers & kids).
- **Enforce** proper speeds, procedures for all.

www.saferoutesinfo.org

www.commute.com/schools



E.g. Systematic approach.

- **Program.** Walking school buses, bicycle trains, safety education, events.
- **Project.** Construct remote drop-off in adjacent park.
- **Policy:** Move bus/car drop-off/pick-up to park; **5 min. car safety delay** to let ped, bike, bus riders clear.

www.saferoutesinfo.com



***Step 1:** Show-of-hands surveys in all schools.

www.markfenton.com

6. Healthy food access . . .

Program: Rotating or virtual farmers markets (serve the WIC program; take EBT cards?).



Policy: Limit or ban fast food, drive thru; *school vending.*



Policy: Identify food deserts; zoning, \$ incentives for bodegas/local markets with healthy offerings.



Step 1: Community gardens in parks, at schools.

- Map locations selling produce
- Target gap areas!



Core principals (my thought):

- It's not really about building sidewalks & bicycle lanes & planting gardens.
- It's about building the **capacity** and the **policies** to create these everywhere.
- It's never really about the *money*.
- It's about the long term **vision** and the **political** and **community will** to make it a reality.

VISION

LEADERSHIP

Why care about stickiness & active community design?

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



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