

Healthy Communities by Design: Building *Health* in Every Sense of the Word.

-

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If people walk for errands, perhaps
there is still a chance . . .

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My comments:

- Some perspective
- My rant: The real epidemic.
- Public health in 3 numbers.
- The stickiness problem.
- Five-element prescription for communities.
- Seven steps for intervention.
- Why it really matters (and why I'm such a fanatic about it . . .)



Cycling to school in winter!



**What ever
happened to
“free range”
children?**

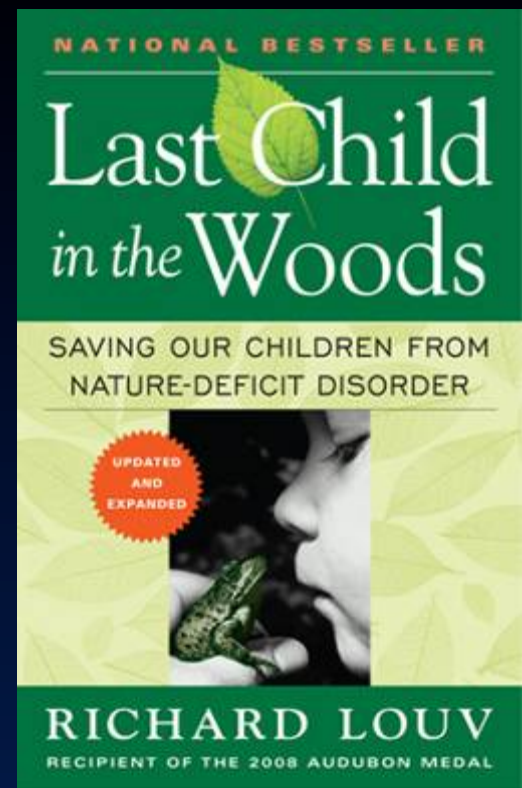


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30-Nov-2009

Not just my concern . . .



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

agement annual conference in Adelaide.

"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.

counted the term "nature deficit disorder" — it's not actually a true disorder, but we are going to start to see problems in children like concentration, hand stability to regulate their emotions."

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 "unspooling" 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.

Have your say at theaustralian.com.au

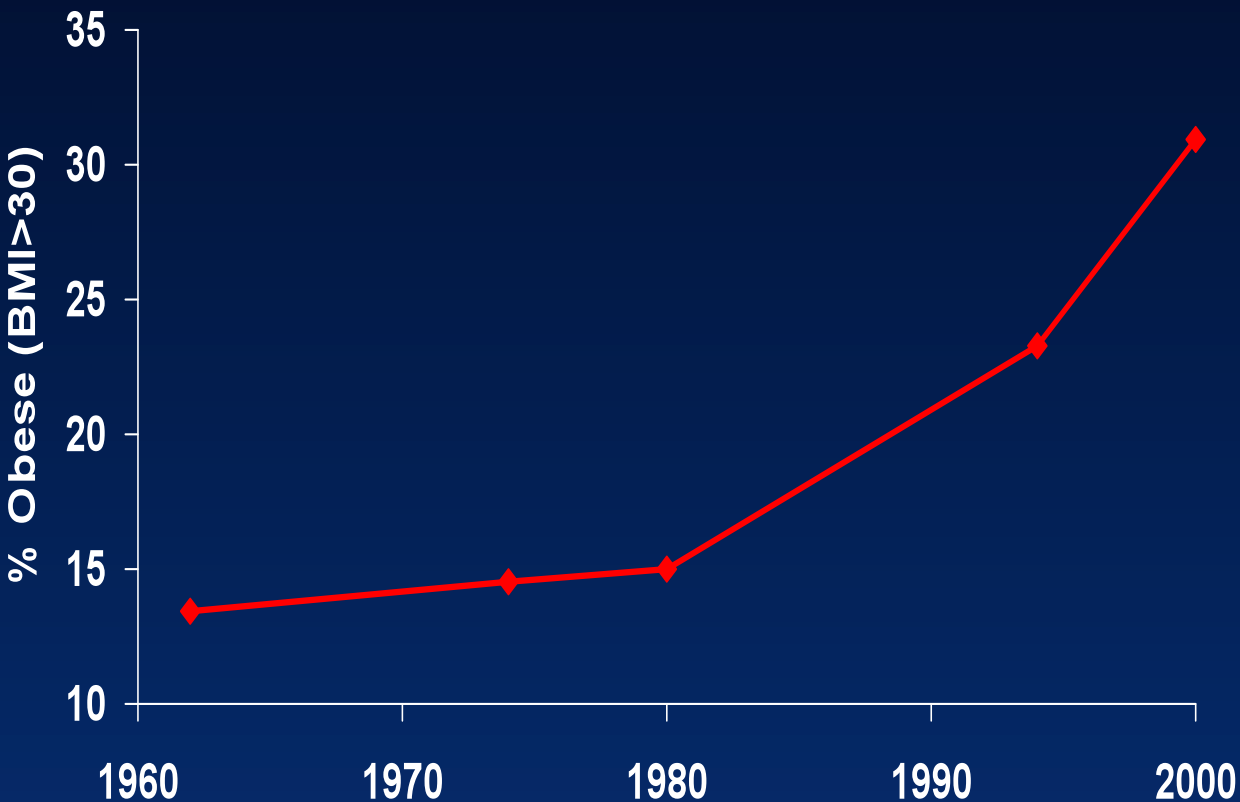
The Australian, 14-Oct-2009

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America's looming chronic disease apocalypse . . .

US "Obesity Epidemic"

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



Diabetes Prevention Program

(DPP; *New.Eng.J.Med.*, Feb. 7, 2002)

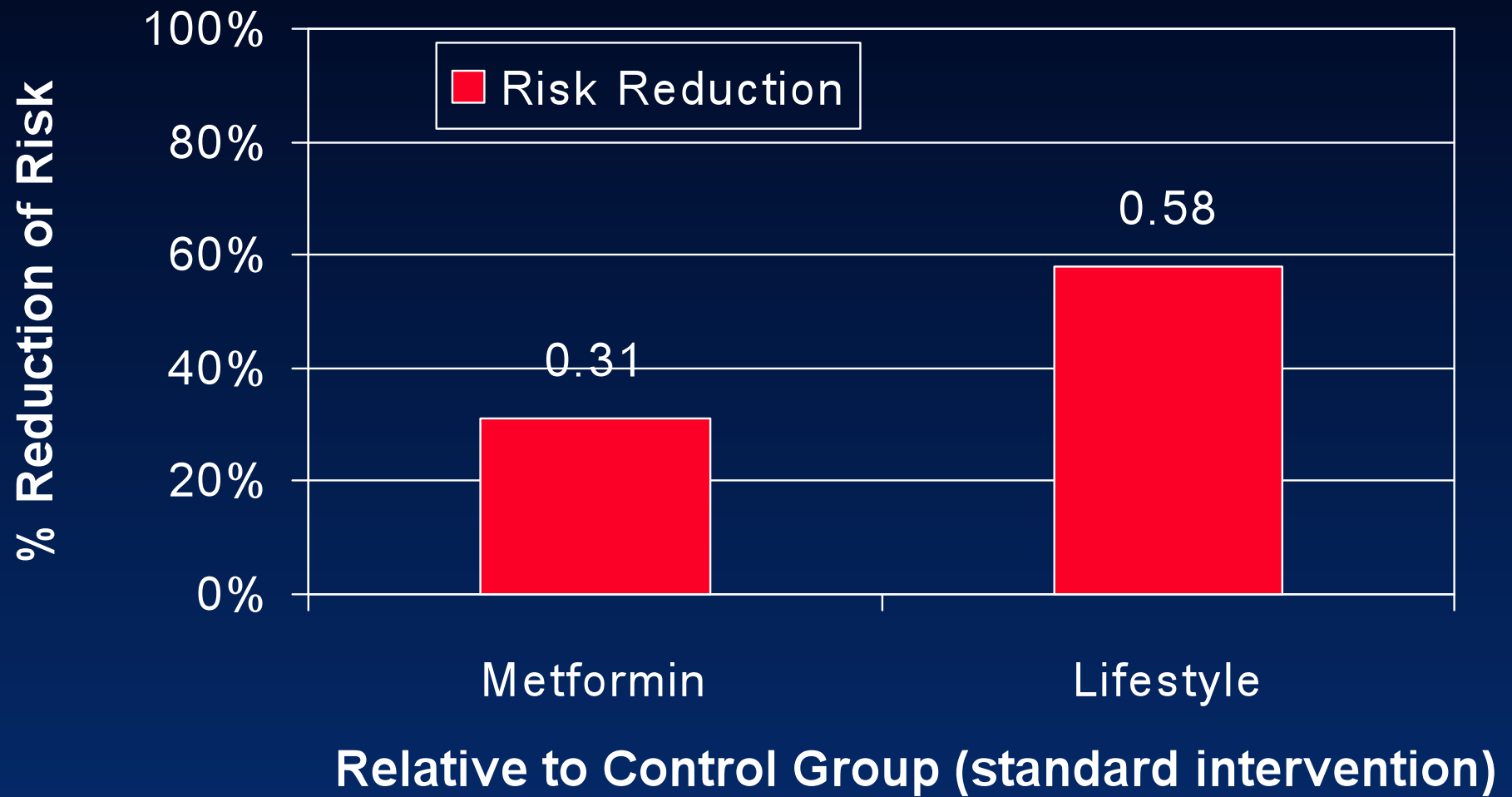
Compared three treatments for nationwide cohort (3,000+) at risk for developing diabetes (elevated fasting glucose).

1. Control: Standard exercise and nutrition counseling; placebo.
2. Standard plus drug treatment: Metformin
3. Intensive lifestyle change: Nutritional training, **150 min./week physical activity.**



Diabetes Risk Reduction

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



My 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 big factors driving skyrocketing healthcare costs, along w/ **tobacco**.

The bad news in just three numbers:

30 Minutes of average daily physical activity recommended for adults.

25 % of American adults who meet the S.G. 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 US Physical Activity Guidelines, 2008

www.health.gov/paguidelines

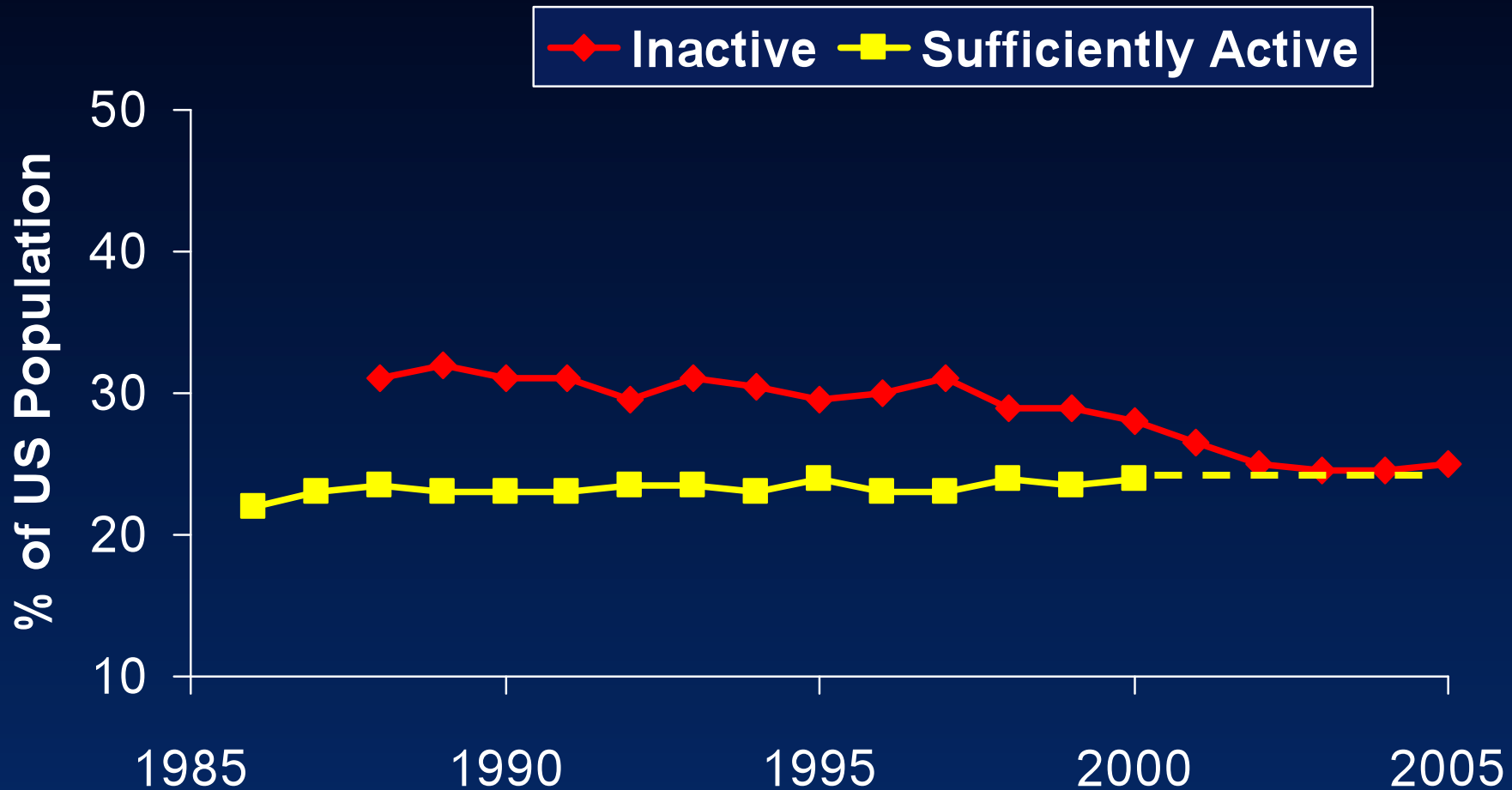
- Average **150 minutes** of moderate **physical activity** each week (e.g. 5 days x 30 minutes). More is even better.
- **Children:** at least **300 min/wk.**
- Can be **broken up.**
- Reduced risk for CVD, diabetes, obesity, osteoporosis, dementia in old age, clinical depression, a growing list of cancers.



Walking for exercise, or
just to get somewhere?

Leisure Time Physical Activity in the US

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



Almost unchanged in 20 years!

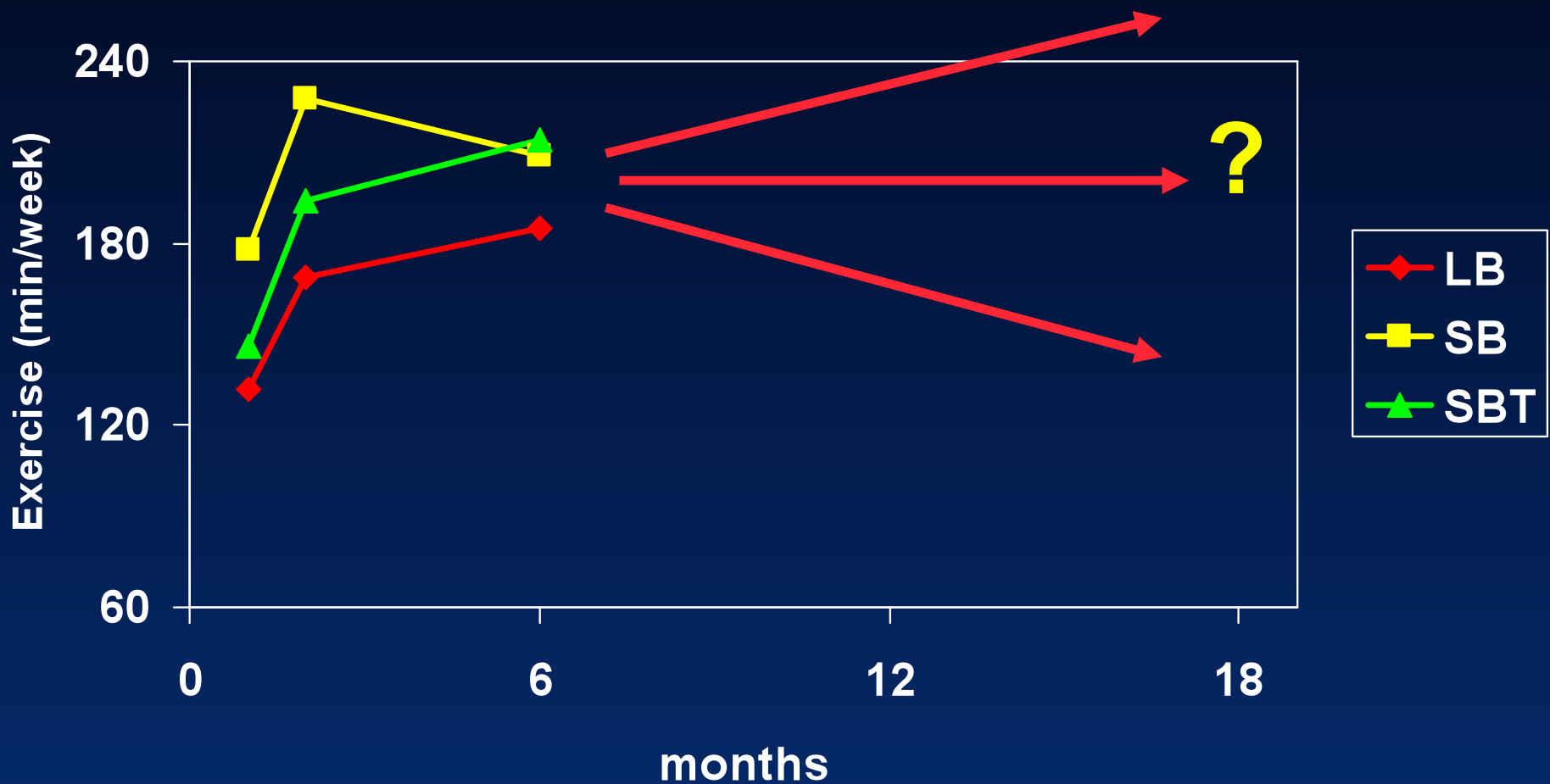
Why?

**I believe it's the stickiness
problem.**

Exercise Participation

Effect of Short Bouts, Home Treadmills

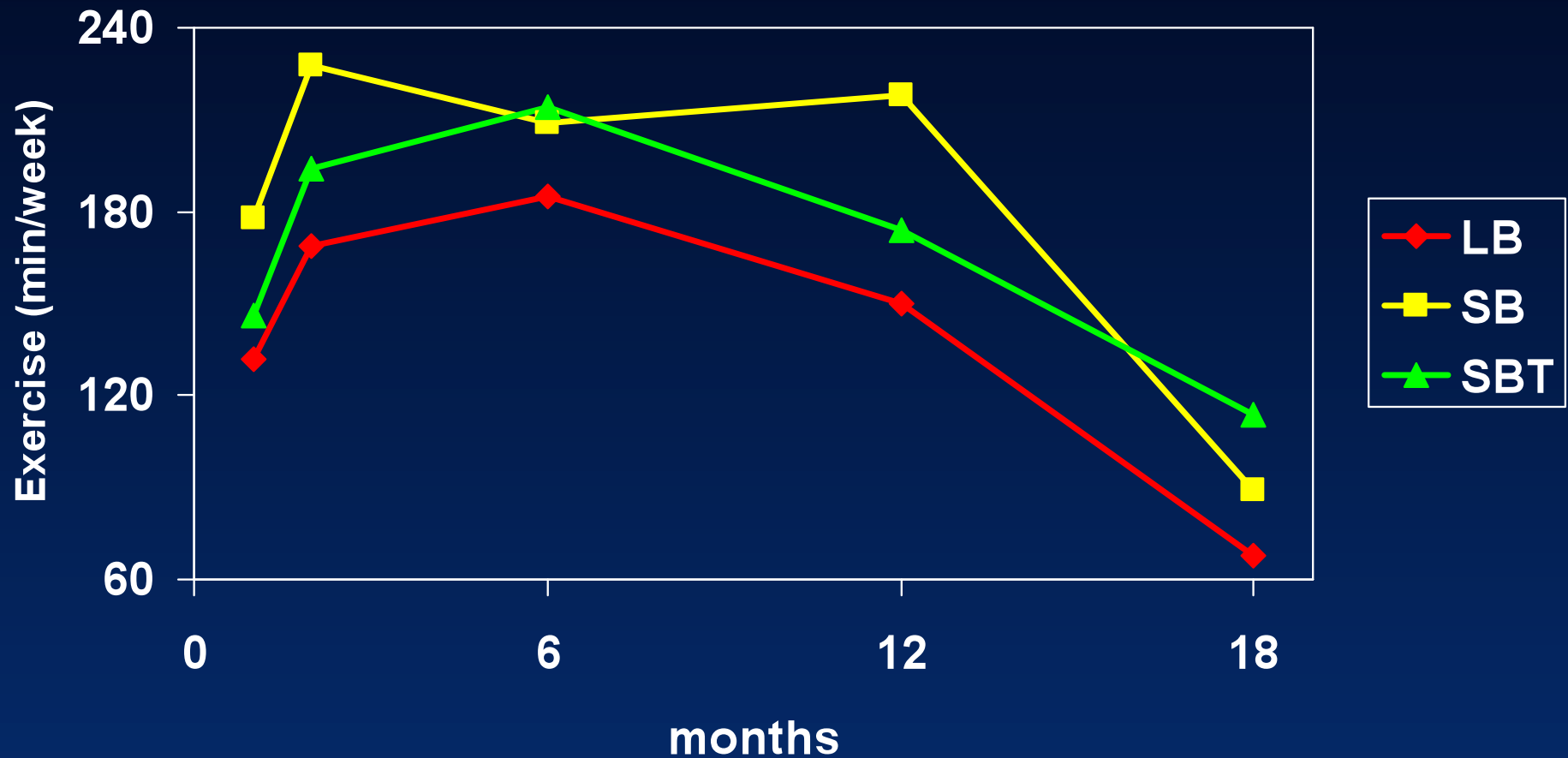
(Jakicic et.al., *JAMA* 282, 16)



Exercise Participation

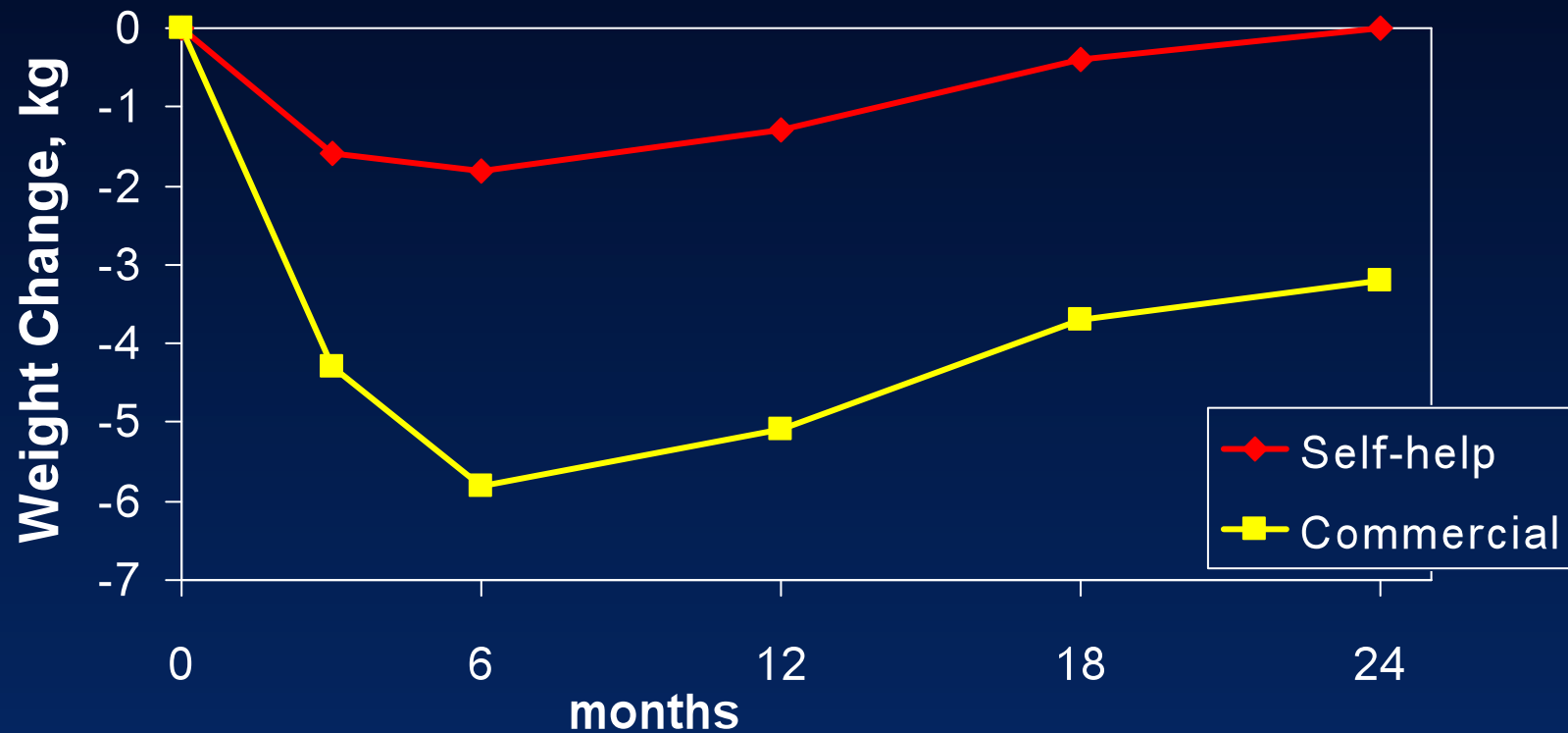
Effect of Short Bouts, Home Treadmills

(Jakicic et.al., *JAMA* 282, 16)

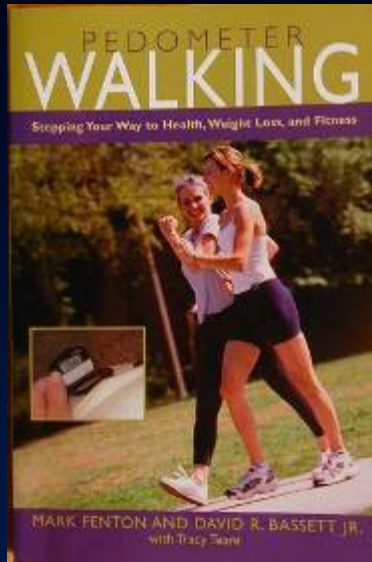


Self-help vs. Commercial Weight Loss Programs

(Heshka et.al., JAMA 289, 14; April 9, 2003)



Pedometer-based “lifestyle” activity promotion:

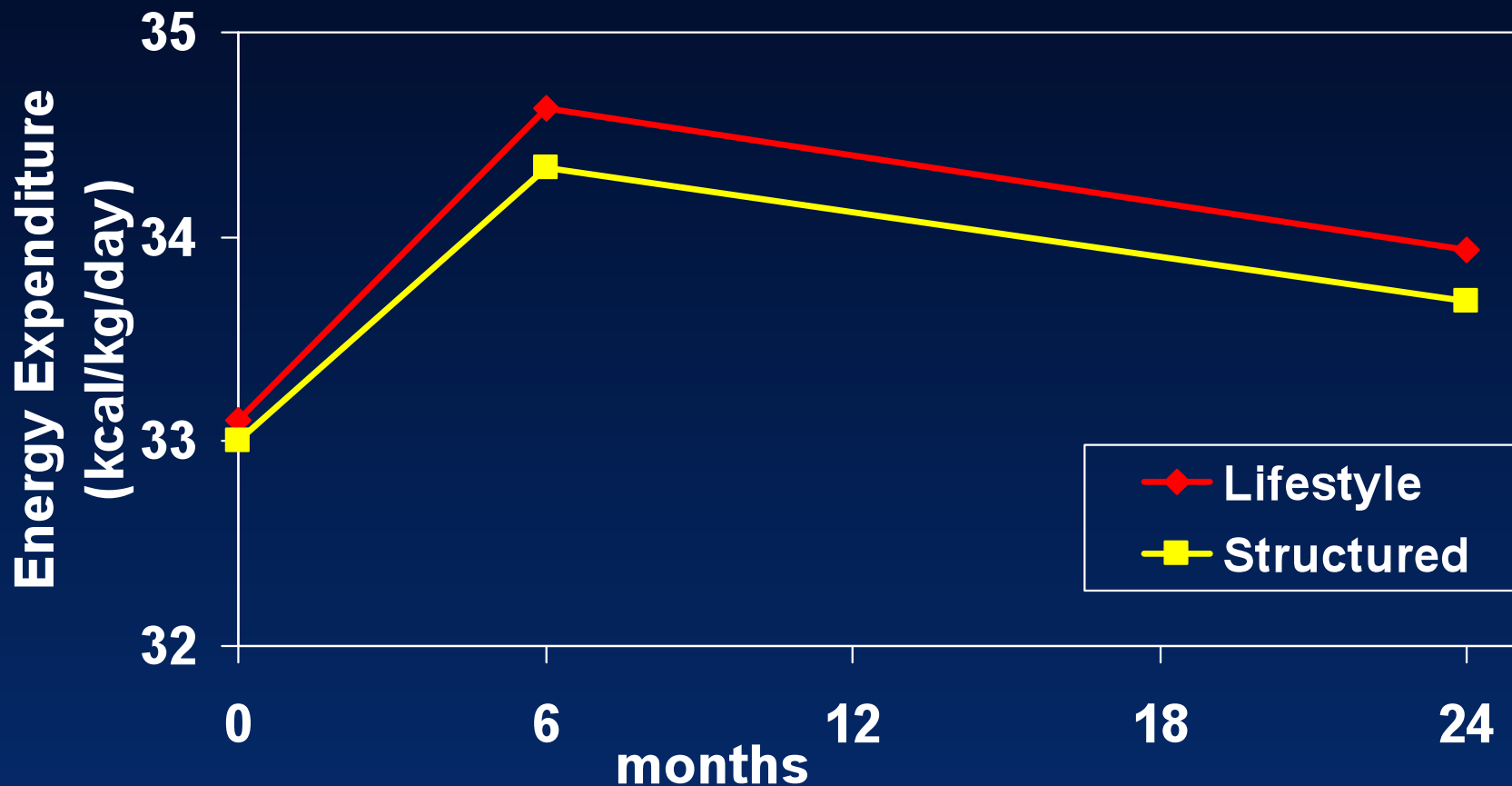


- Measure steps all day.
- Determine your average daily steps.
- Increase by only 10%-20% a week.
- Keep gradually increasing . . .

Key to Success: Keep a record!

Energy Expenditure Lifestyle vs. Structured Activity

(Dunn et.al., *JAMA* 281, 4)



Social Ecology Model

Determinants of behavior change

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

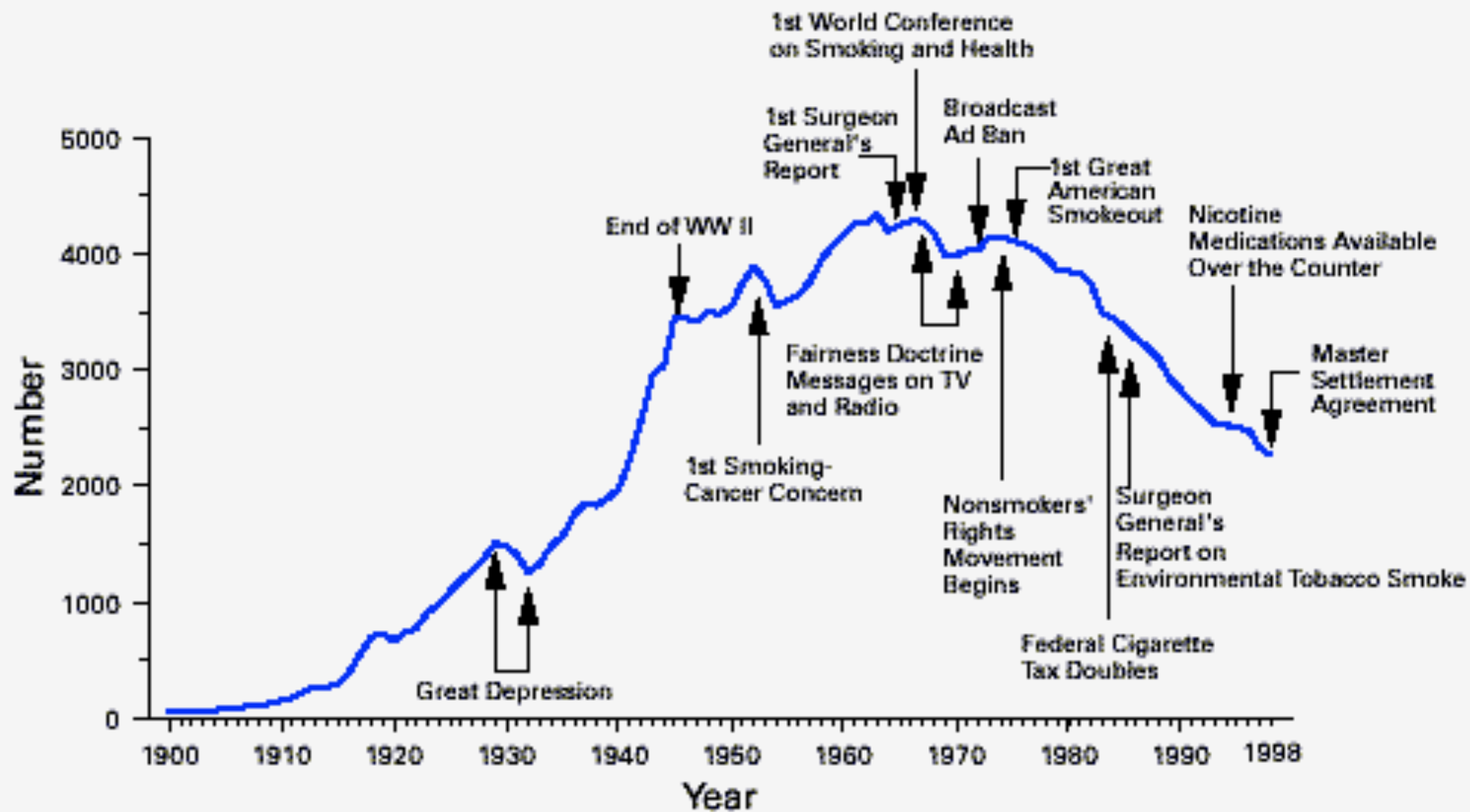
- Individual (readiness, efficacy)
- Interpersonal (family, friends)
- Institutional (school, work, healthcare, civic)
- Community (facilities, networks, local government)
- Public Policy (transport, land use, safety)



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.



VS.



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**Fine for some,
but clearly
not enough . . .**



**. . . we need
communities
where people are
intrinsically
active.**

**What kind of research tells
us what type of community
design is healthiest?**

Convenience of Destinations and Walking for Older Women

King et.al., *AJHP* 18(1) Sep. 2003.



* Park or trail was one of the most frequently cited destinations.



Proximal destinations matter

5 elements of a healthier community:

1. Compact, varied village centers & neighborhoods.
2. Good connections for walking, bicycling, (& transit).
3. Inviting designs & destinations.
4. Safety & access for all.
5. Healthy food is affordable & accessible; unhealthy is not.



www.thecommunityguide.org

CDC Guide to Community Preventive Services

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1. Compact & varied neighborhoods.



Compact neighborhoods
& shared open space.



E.g. stores,
post office,
library, . . .



Schools, services
near housing.



Traditional
mixed use.
Housing above
retail below.



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2. Network continuity & connectivity:



- Quality, clear sidewalks in villages & neighborhoods.
- Connected streets, not cul-de-sacs. Bicycle lanes, wide shoulders on rural roads.
- Access to trail, park, greenway, *transit*.



3. Site design:



Which setting is more appealing for travel on foot and by bike?

Site design? Research & practice suggest:



- Pedestrian, bicycle access; buildings near the sidewalk, parking on street or behind.
- Trees, benches, awnings, windows, lighting, scale.
- Details: bike parking, open space, plantings, materials.



Appleton WI



Neenah WI



Incentives:

- Decrease, share parking (bike racks).
- Build-to lines.
- Mixed-use, multi-story, w/ residential density bonus.
- Expedite permits.

Portland OR



4. Safe & accessible.



Median islands

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



Roundabouts



Curb extensions

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

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5. Healthy food is affordable & accessible.

Community gardens (near schools, parks, senior housing); CSAs, urban agriculture.



Regulate fast food, drive-thru locations.

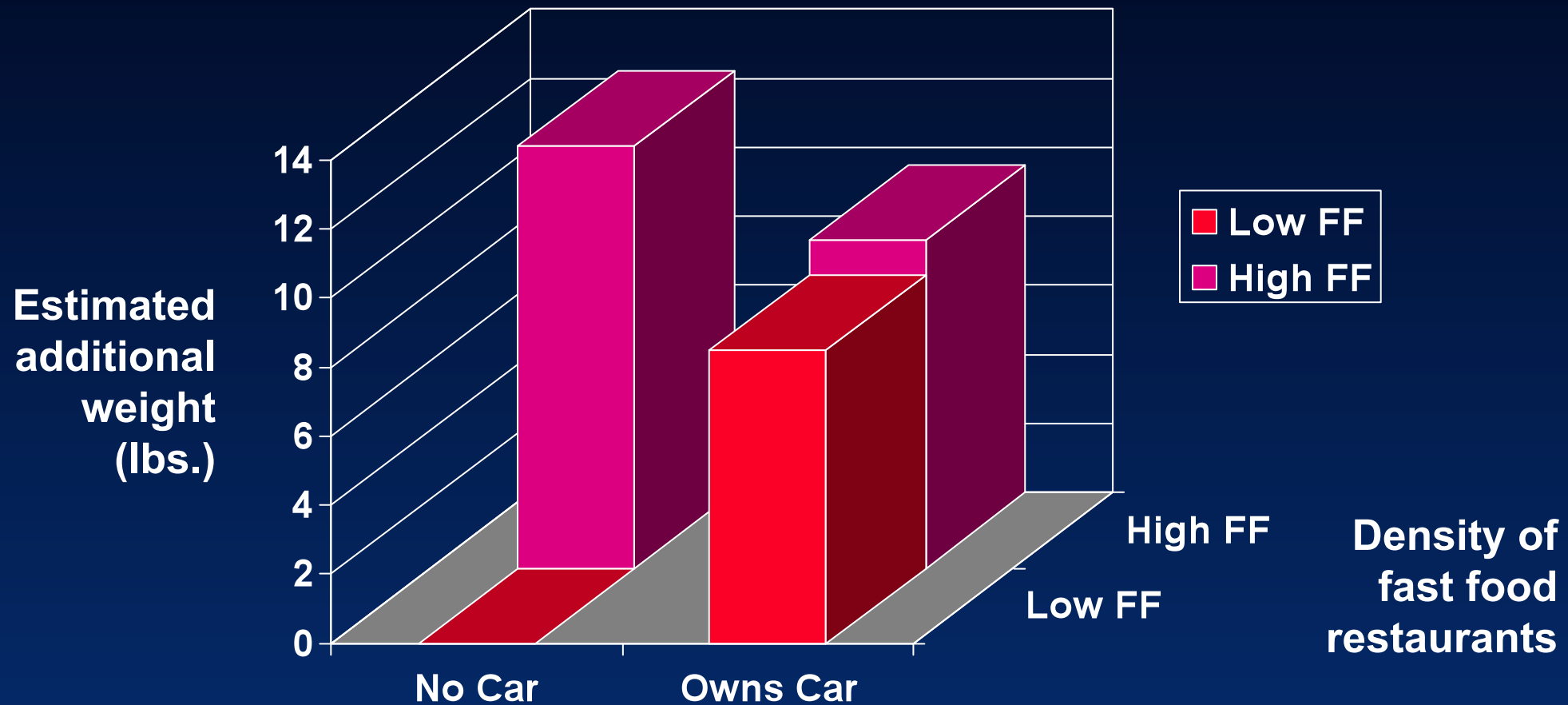


Farmer's markets.



BMI, Fast Food Outlets & Car Ownership

Inagami S, et.al., *BMI, Neighborhood Fast Food and Restaurant Concentration and Car Ownership*, Journal of Urban Health, 86 (5) Sep. '09.



Recap - Five Elements of Healthy Community Design:

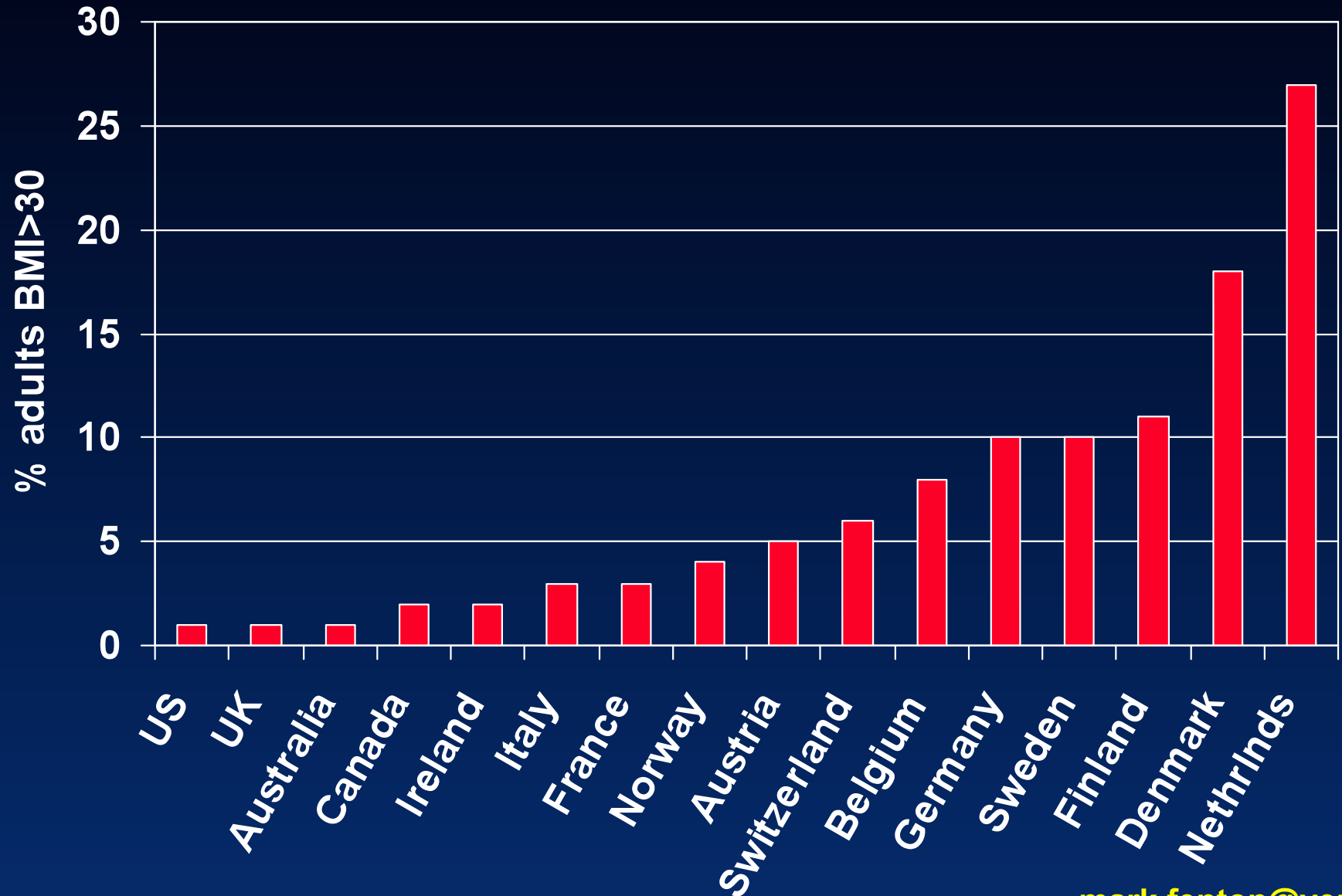
- **Mix of destinations** in close proximity (think village centers, not strip malls & boxes).
- Complete, connected **network of facilities** for pedestrians, bicyclists, & transit.
- Sites & destinations **designed to reward** active travelers & healthy eating.
- **Safe & accessible** for users of all ages, incomes, & abilities.
- **Healthy food** is accessible, affordable & to all.

www.activelivingresearch.org

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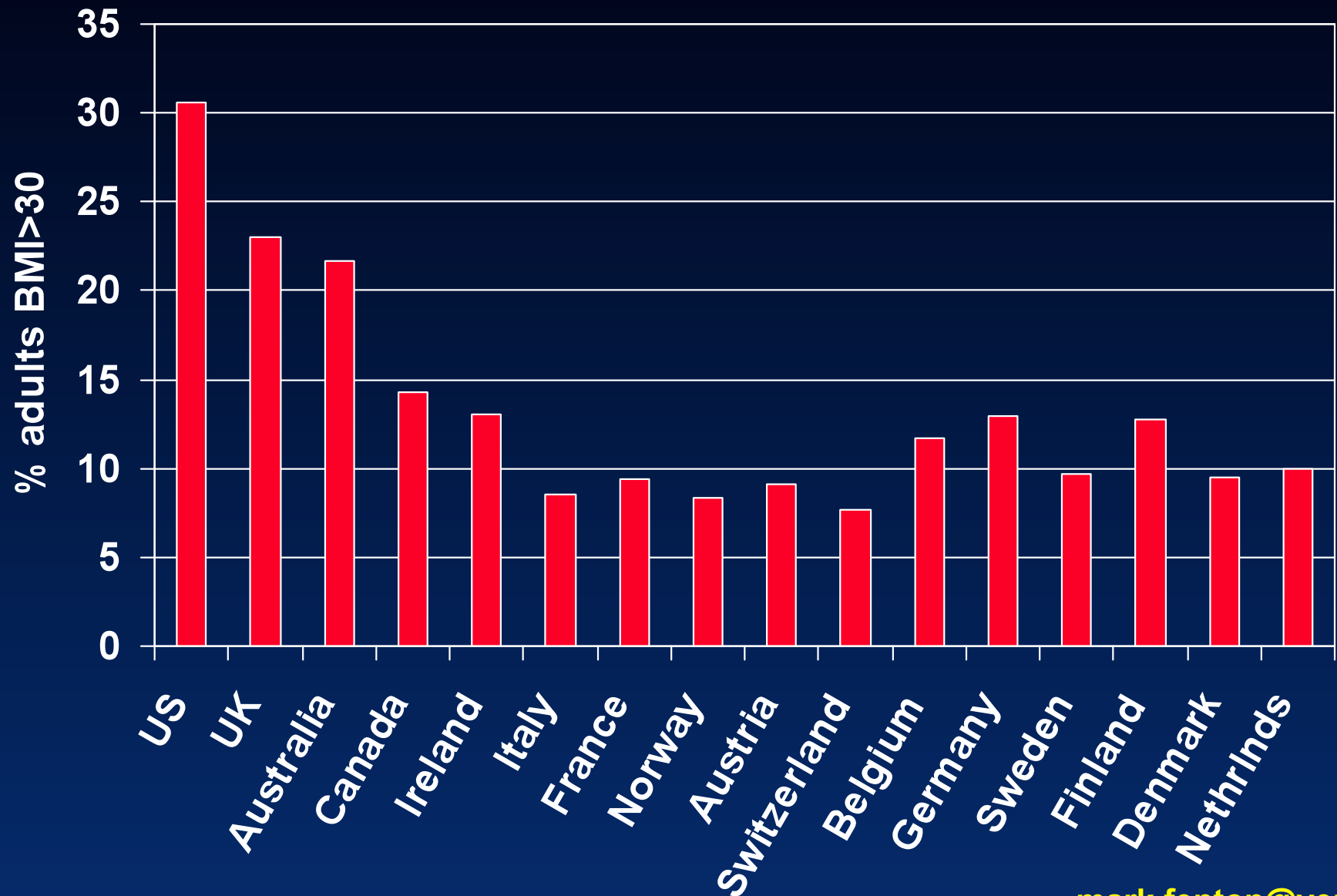
% of Total Trips Taken by Bicycle.

Pucher J, *Transport Reviews*, 2008 (various sources).



Obesity Rates, Developed Countries

Organization for Economic Cooperation & Development; www.oecd.org



All of the benefits of “healthy” design:

Environmental

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



Safety

- Kids, elderly mobility.
- Crime deterrent.



Social

- Equitable transportation.
- More personal connections.

Education

- Save \$ on transportation.
- More active students = better behavior, academics.
- Neighborhood schools encourage parent involvement; better for *shared use* facilities.

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

CEOs for Cities report*

- Based on 94,000 transactions in 15 markets.
- Compared sale prices & WalkScores (1-100 based on number of nearby destinations . . .)
- Higher WalkScore correlated to higher home values.
- Denser cities saw greater affect than less dense.

**Average to above average walkscore =
\$4,000 to \$34,000 increase in home value**

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

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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!**



Erie Canal Towpath trail Spencerport, NY



**Developers
clearly see the
buyer appeal &
value.**

The conundrum:

- Many communities & regions embraced the “big box” approach to retail growth.
- But many 1st & 2nd generation strip malls & boxes are under-performing . . .



Or more simply: Which contributes more to economy, struggling malls or thriving downtowns? Where do employers want to locate to lower healthcare costs & increase employee retention?

**So, how do
communities
get there?**



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Use the power of all three P's (not just *programs*, as we've done so far):

- **Programs:** Educate & encourage behavior change; build awareness, skills, & plans.
- **Projects:** Create inviting settings & an environment for healthier behavior.
- **Policies:** Rewrite the rules so healthy designs are the norm, changes stick, & people are rewarded for making the active, healthy choice!

Seven systematic strategies:

1. Complete Streets.
2. Enlightened zoning & subdivision rules.
3. Safe Routes to School.
4. Transportation trails, parks & rec.
5. Transit- & bicycle-friendly policies (TDM).
6. Healthy community nutrition.
7. Healthy school nutrition.

1. Build & maintain Complete Streets.



- All users (pedestrians, cyclists, transit riders, & drivers) of all ages & abilities considered whenever a road is touched.
- Limited, explicitly defined exceptions only.
- Roadway design = posted speed (not just 85th %ile)
- Go beyond typical hierarchy. Can be as simple as including a shoulder on rural roads.

www.completestreets.org

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Lane re-alignments

- Often called road diets, being seen more often.

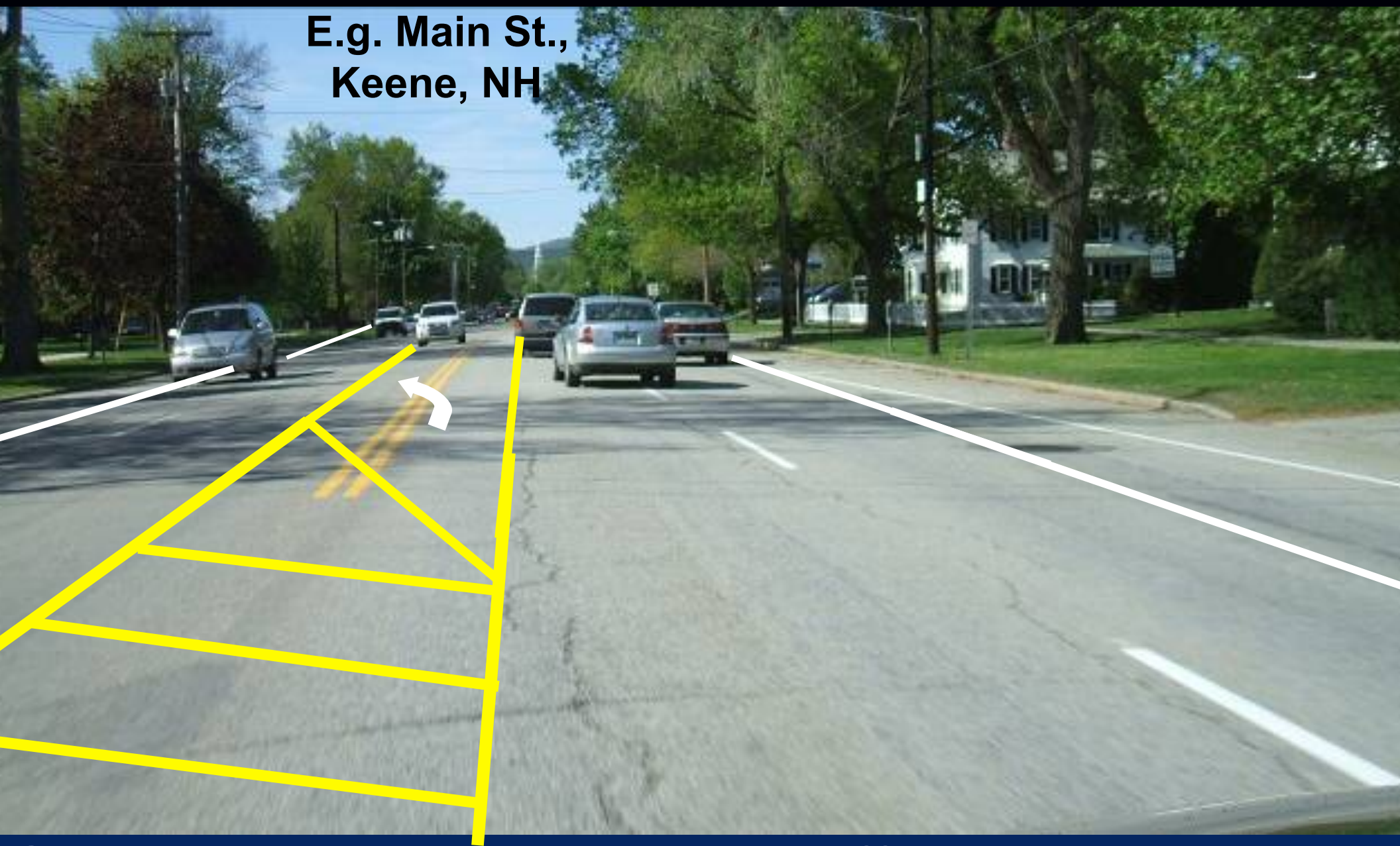


Urbana, IL; before & after.



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

**E.g. Main St.,
Keene, NH**



Sometimes paint can make a difference.

E.g. Bike lanes with on-street parking



La Crescent, MN



The real phases of CS policy implementation.

- i.** Passage of a policy resolution or executive order.
- ii.** Adoption of DPW/engineering *policy*.
- iii.** Adoption of detailed roadway design standards or *guidelines*. (Pirate's code?)
- iv.** Engineering practice (staff, consultants) actually includes routine consideration of pedestrians, bicycles, & transit in absolutely every project (including routine maintenance).

E.g. Require multi-modal transportation, not just *traffic*, analyses for all new- and re-development.

- E.g. Require sidewalks w/in development & mitigation of impacts outside development **for all travel modes.**
- Now, during the lull, is the time to update ordinance & practice.



2. Zoning & subdivision regulations.

E.g. Subdivision regs define details: roadways, sidewalks, open space, connectivity.

“Rural” housing . . . ?



(or just more suburbia?)



Drive maximum investment into downtown & existing centers.

- Calm the traffic, make it inviting.
- Rotating loans for facades, etc.
- Direct development downtown or as close & connected as possible.
- Residential, residential, residential.



Franklin, MA





More guidelines to mimic a village-style grid.



Bluffton, SC

Alleys lead to 'big wheel' sidewalks.

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Putting Smart Growth to Work in Rural Communities



Putting Smart Growth to Work in Rural Communities

www.epa.gov/smartgrowth

- Support the rural landscape
 - Economic dev., land protection
- Help existing places, downtowns thrive
 - Infrastructure, transport
- Create great new places
 - Designate growth areas

3. Make comprehensive Safe Routes to School a *policy*.

- **Premise:** More students more safe physical activity, more of the time.
- **Where it's safe enough** more walking & cycling to school.
- **Where it's not, make it safer!**
- Activity for **all students**.
- **Benefits:** Health & safety; academic performance; transportation efficiency.



Safe Routes to School programs.

- **Education.** For students (bike/ped skills) & parents.
- **Enforce** proper & safe behavior, procedures.
- **Encourage** walking & cycling (students, staff, faculty, & parents).
- **Engineer** sidewalks, crossings, traffic calming.
- **Evaluate:** Show of hands surveys, observation.



Start by measuring what we want to change:

Schools reporting on youth BMI to parents, administrators?

Why not measure & report travel mode share at every elementary school in your town (region) with a required show-of-hands survey?

Mode	%
Driven	21.5
Bus	18.7
Taxi	1.4
Walk	48.3
Cycle	2.8
Scooter	0.7
Park & walk	6.1
Other	0.5

Results, Scottish 2008
Hands-Up Survey
www.activetravel.org.uk

Safe Routes to School approach.

- **Program.** Walking school busses, bicycle trains, safety & skills education, promotion.
- **Project.** Construct remote drop-off area across park.
- **Policy:** Pedestrians, bikes, remote pick-ups get 5 minute early release.

www.saferoutesinfo.com



***Begin evaluating today; figure out where kids come from, how, & why!**

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4. Create inter- & intra-town trail networks.



- Connect to the system: sidewalks, bike lanes, transit if available.
- Connect to destinations: Schools, libraries, stores, neighborhoods.
- Trails = social venues; fabric of the community, not an escape from it.

Key: Think of short links & trip generators for transportation, not just recreation trails.



Lessons from RWJF funded trail study

(Summarized in Mar. 2008 *Planning* magazine)

- Far more users in areas with **lots of connections**; streets, transit stops, other trails.
- Trail alignment has to go **close to destinations** (shops, restaurants, libraries, civic institutions).
- Design trail to be an **integral part of community life**, not an escape from it.

www.activelivingresearch.org



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Users -

Recreation only: 58%
Both rec & transport: 38%
Transport only: 4%

Trails aren't just recreation,
transport corridors; they're
"social venues."



Rapid Creek Trail,
Rapid City, SD



Madison WI

Ratio of men:women

Isolated areas – 6:1

Connected – 2:1

5. Launch transportation demand management policies.

- **Transit:** Student (employee?) IDs as transit pass.
- **Parking:** Maximums, not minimums; market pricing; require bike parking.
- **Bicycling:** Valet parking at events; bike-share program.
- **Worksite** facilities, incentives (\$, vacation days).

www.bikeleague.org



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- **Transit:** Bike racks on busses. Increase the frequency & coverage of system, access to stops, facilities, & increase *diversity* of users.

- **Bicycle Friendly Community** awards; work for bronze status, then improve.

www.bikeleague.org

- Buy-a-bike rack program.
- **Recycle-a-bicycle:** safety & maintenance training for teens; get a bike at the end!



6. Community healthy nutrition.

Rotating farmers markets (partner with churches, worksites, civic groups, neighborhoods?).



Community gardens (schools, parks).

Slayton comm. garden



Shorten the farm-to-table distance: connect farms with school & work site food service, restaurants, CSAs.



Guide, restructure vending, menus at work places.

Contract w/ local suppliers?



Limit density, location of fast food restaurants.



Menu labeling, healthy restaurant ID program.

7. Healthy school nutrition.

Target policy change:

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



Use community gardens to work on the full farm-to-table education!



Simple opportunity: “influence” ball field/sports vending and concessions.

The Golden Triangle of community development.

**Skilled
professional
corps**

**Private
sector**

**Enlightened
elected,
appointed
officials**

**Aware,
engaged
citizens**

Professionals (bureaucrats) keep the system running, need skills:

- **Public health:** Surveillance, educate, social marketing.
- **Planning:** Comprehensive planning, can guide development scope, scale, details.
- **Economic development:** Wooing development, often driving growth; revitalization.
- **Public works, engineering:** Build and maintain infrastructure, public realm; sets roadway standards!
- **School administrators:** Transportation, site decisions.
- **Transit:** Need 'active' travelers, natural partners.
- **Public safety:** Emergency responders (*conundrum*).
- **Parks & Recreation:** Trails, greenways, parks.

But elected, appointed officials & private sector may set the tone:

- **Council:** Budget control; final word on major development; policy makers.
- **Planning commission:** Permits development or recommends to City Council; writes comp. plan.
- **School board:** School siting, transport & food policies, educational priorities.
- **Developers, lenders:** Responsible for creation of the majority of the built environment.
- **Businesses:** Influence employees, but especially elected & appointed officials.

Core principals (my thought):

- It's not really about building sidewalks & community 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? We may be raising the first generation with statistically shorter life expectancies than their parents!

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



Five web sites to go to:

1. www.saferoutesinfo.org
2. www.completestreets.org
3. www.activelivingresearch.org
4. www.pedbikeinfo.org
5. www.cdc.gov/transportation
6. www.theBigOutside.com

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