

Creating a Healthy Community by Design

-

North Carolina
MPO Conference

Winston-Salem, NC
May 2013



Exercising, or just
getting around
Greenville, NC?

“If we really want to reform health care in the US, we need to stop people from getting sick in the first place.”

Dr. Regina Benjamin, US Surgeon Gen'l

Answers to some common questions:

- 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 the **prescription** for healthy design (& how do we **get there**)?



What would it take to make this “normal?”

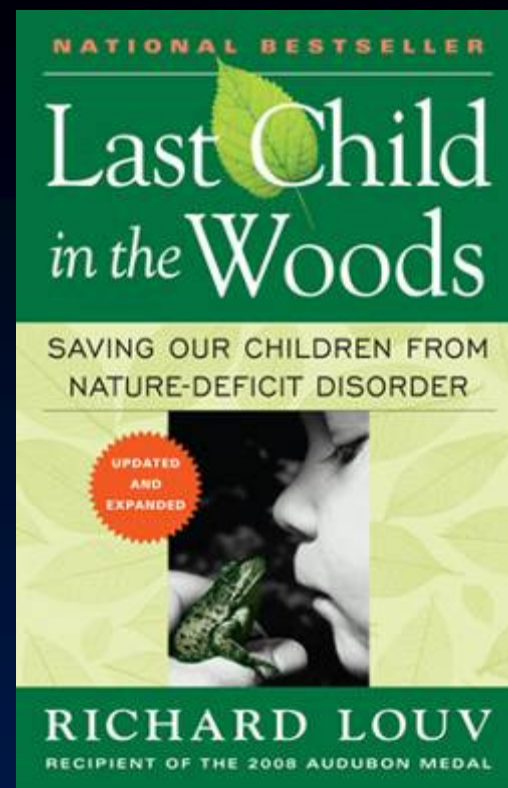
Youthful recollections





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 branded 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 took aim against children as young as five being pushed into team sports rather than encouraged to play naturally.



Gould

Gould said some 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 "crazy" due to "lack of movement experiences" such as reaching, climbing, hopping and spinning.

— 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.

"I believe that children are over-organised and they don't have enough opportunity just for the 'unspoiled' of public playgrounds as factors reducing children'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 name 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 and led to this devastating impact on our public spaces.

"Children prefer a log and a ditch to play structures," speaking after her address.

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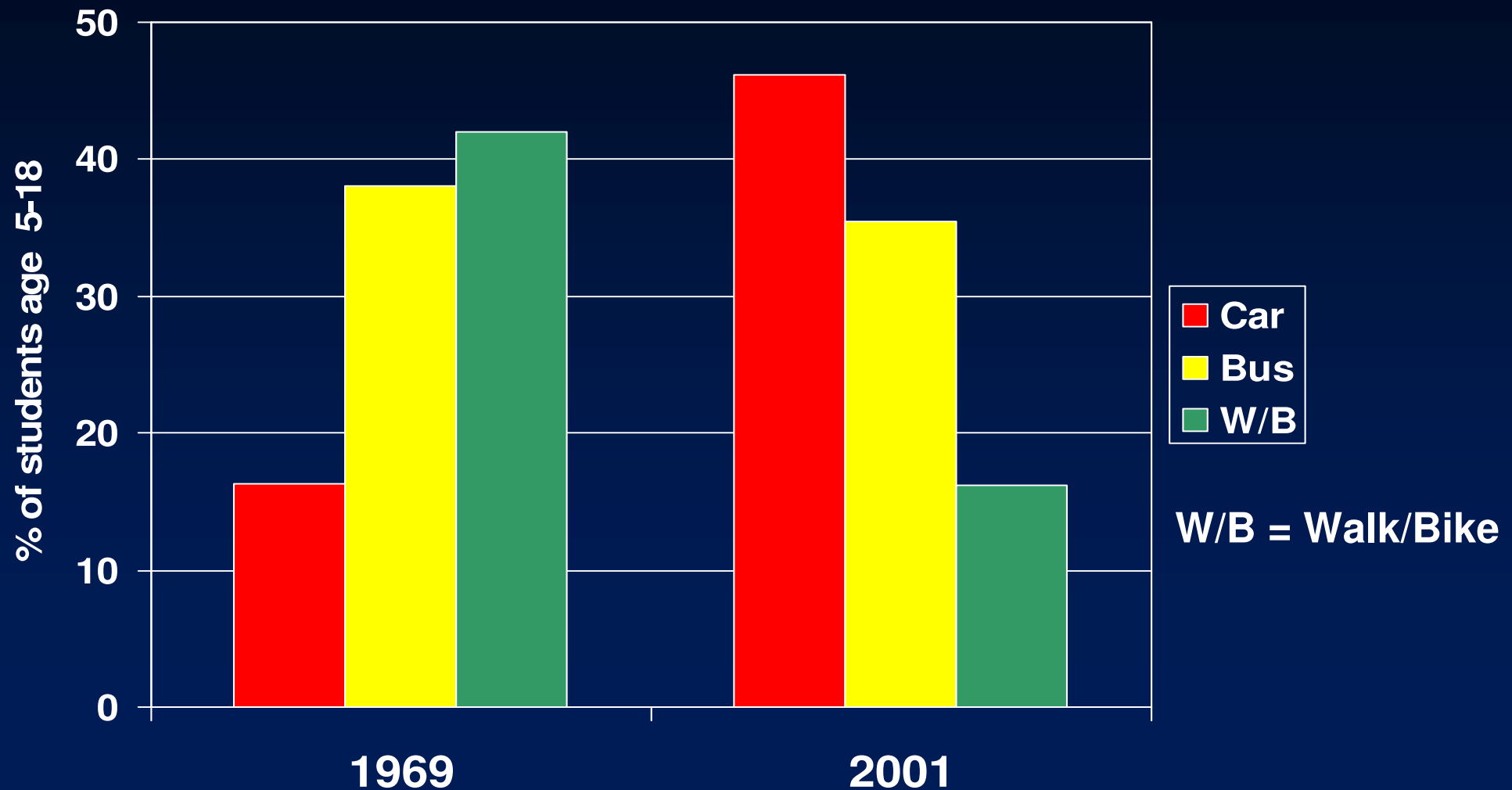


Have your say at theaustralian.com.au

The Australian, 14-Oct-2009

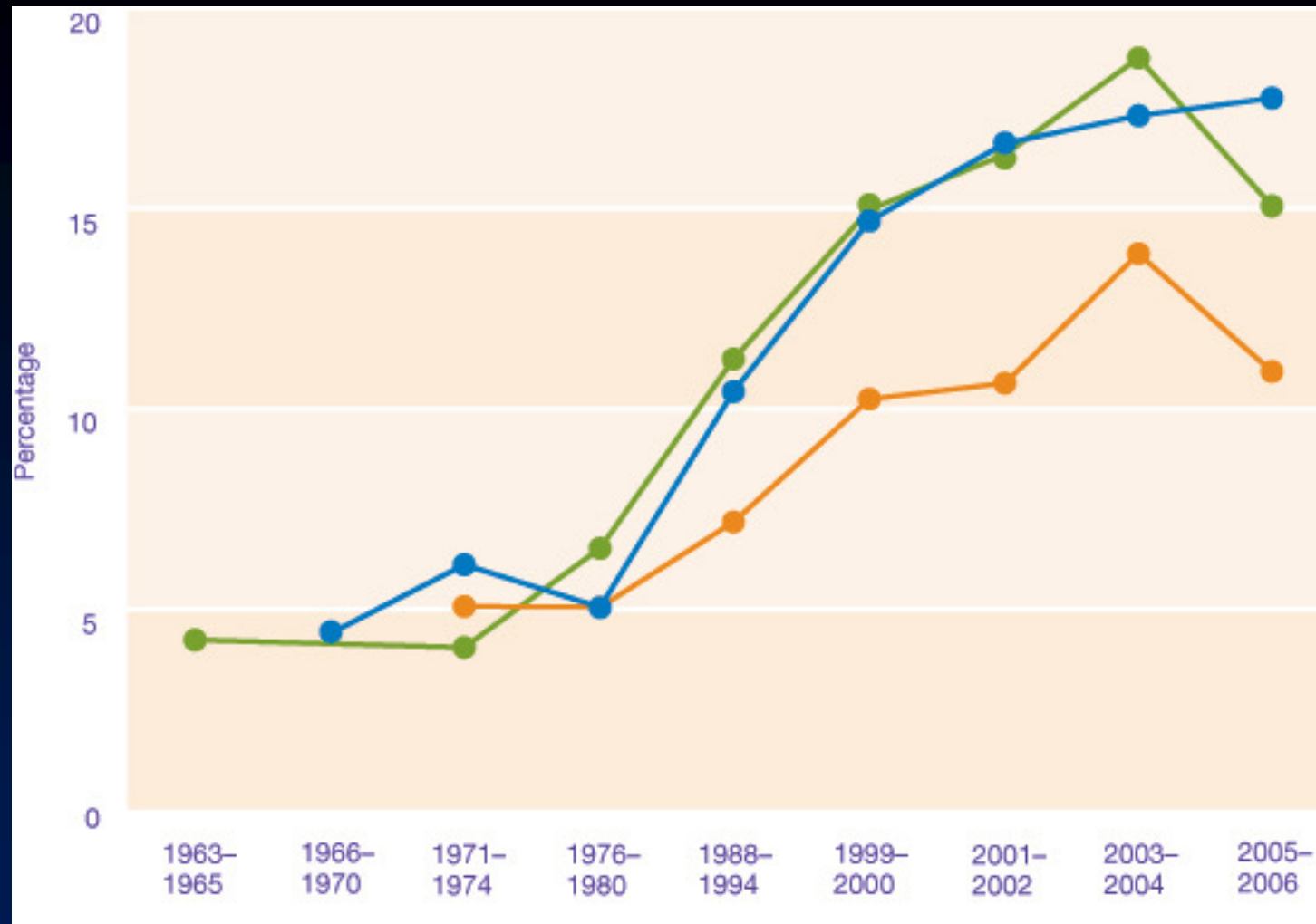
Changes in Walking & Cycling to School, 1969 to 2001

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



Centers for Disease Control and Prevention. National Center for Health Statistics. *National Health Examination Surveys II (ages 6–11) and III (ages 12–17), and National Health and Nutrition Examination Surveys I, II and III, and 1999–2006.*

America's looming chronic disease apocalypse . . .

US "Obesity Epidemic"

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

The bad news in just three numbers:

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

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

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

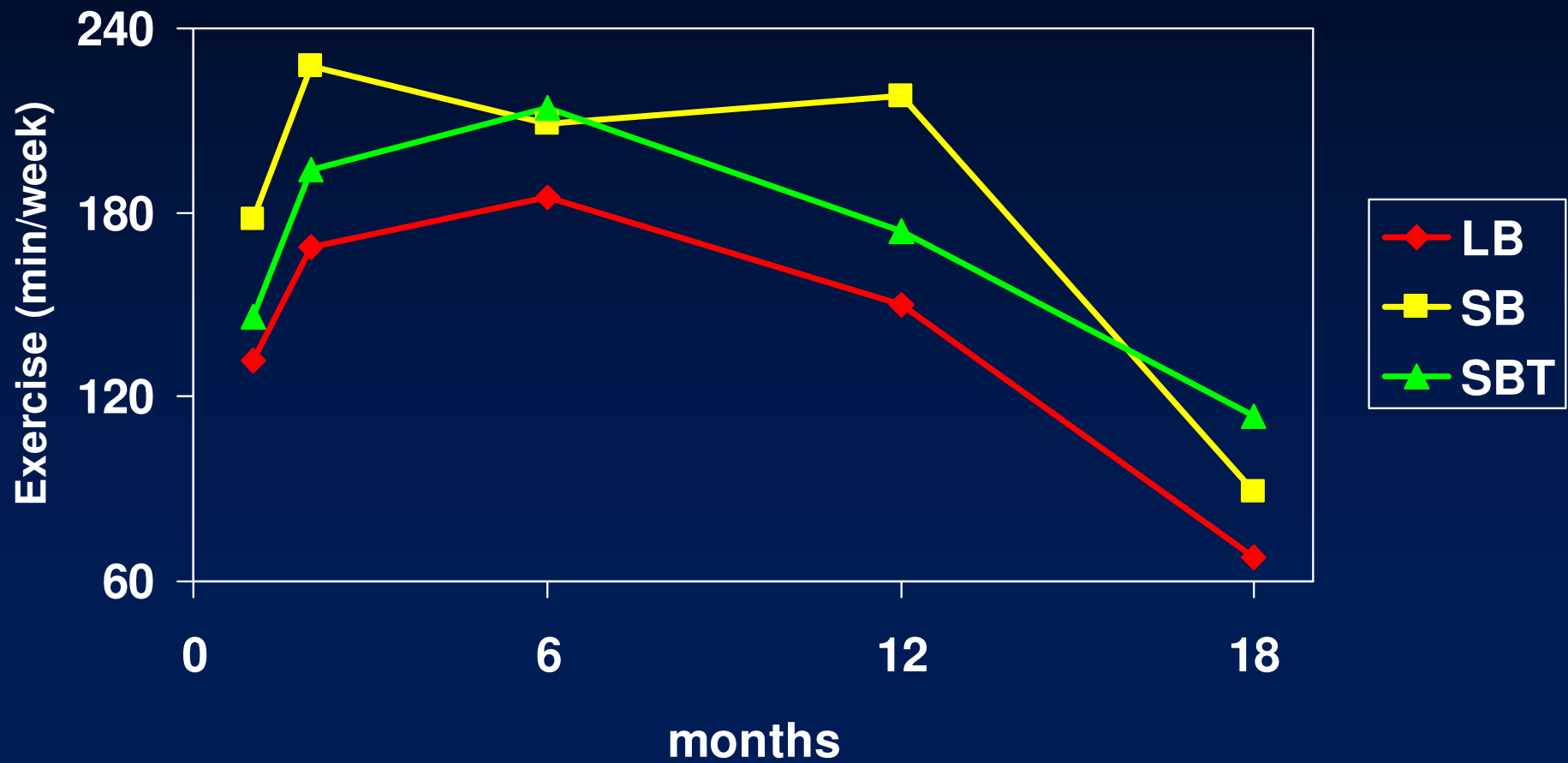
But in the end . . .

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

Exercise Participation

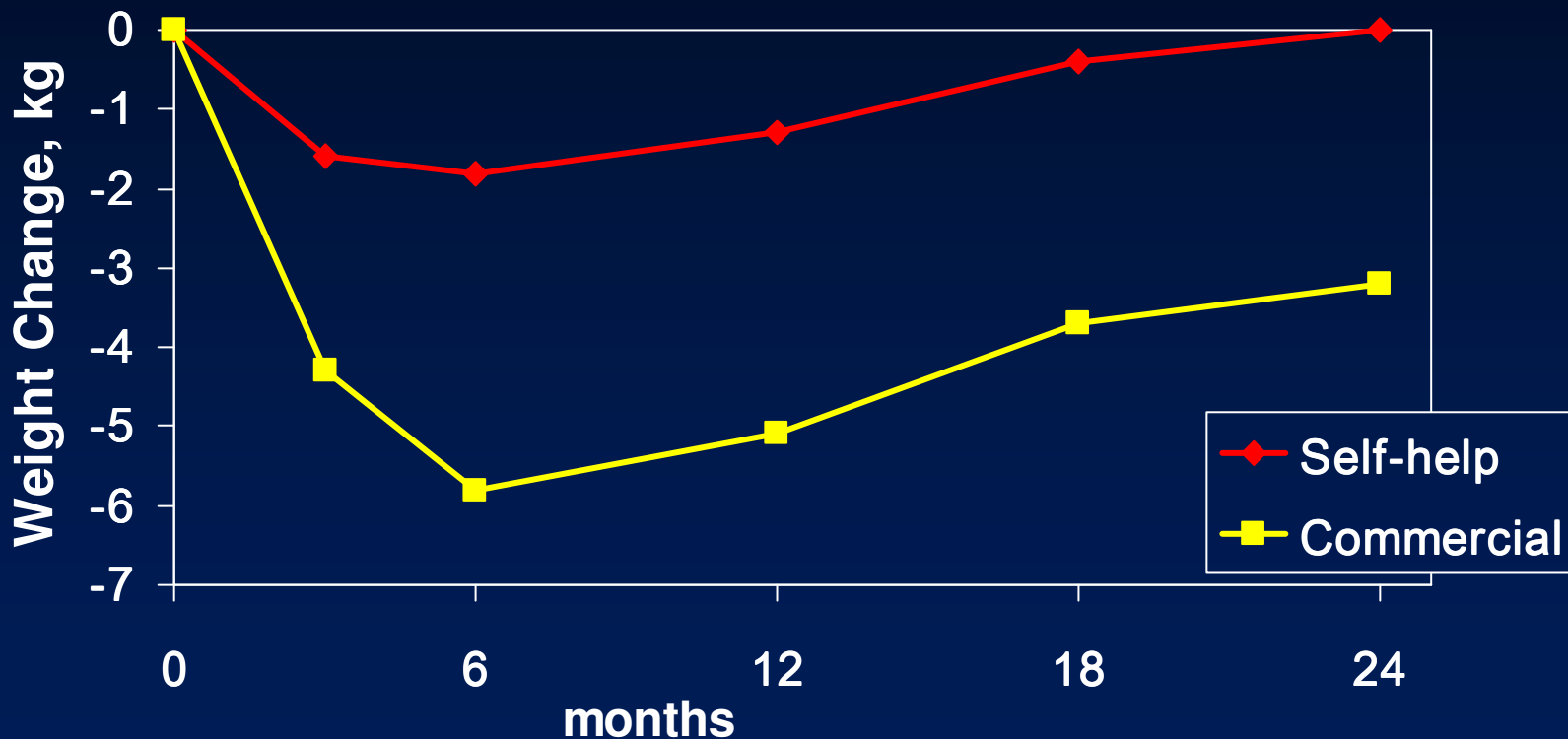
Effect of Short Bouts, Home Treadmills

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



Self-help vs. Commercial Weight Loss Programs

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



A realization:

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

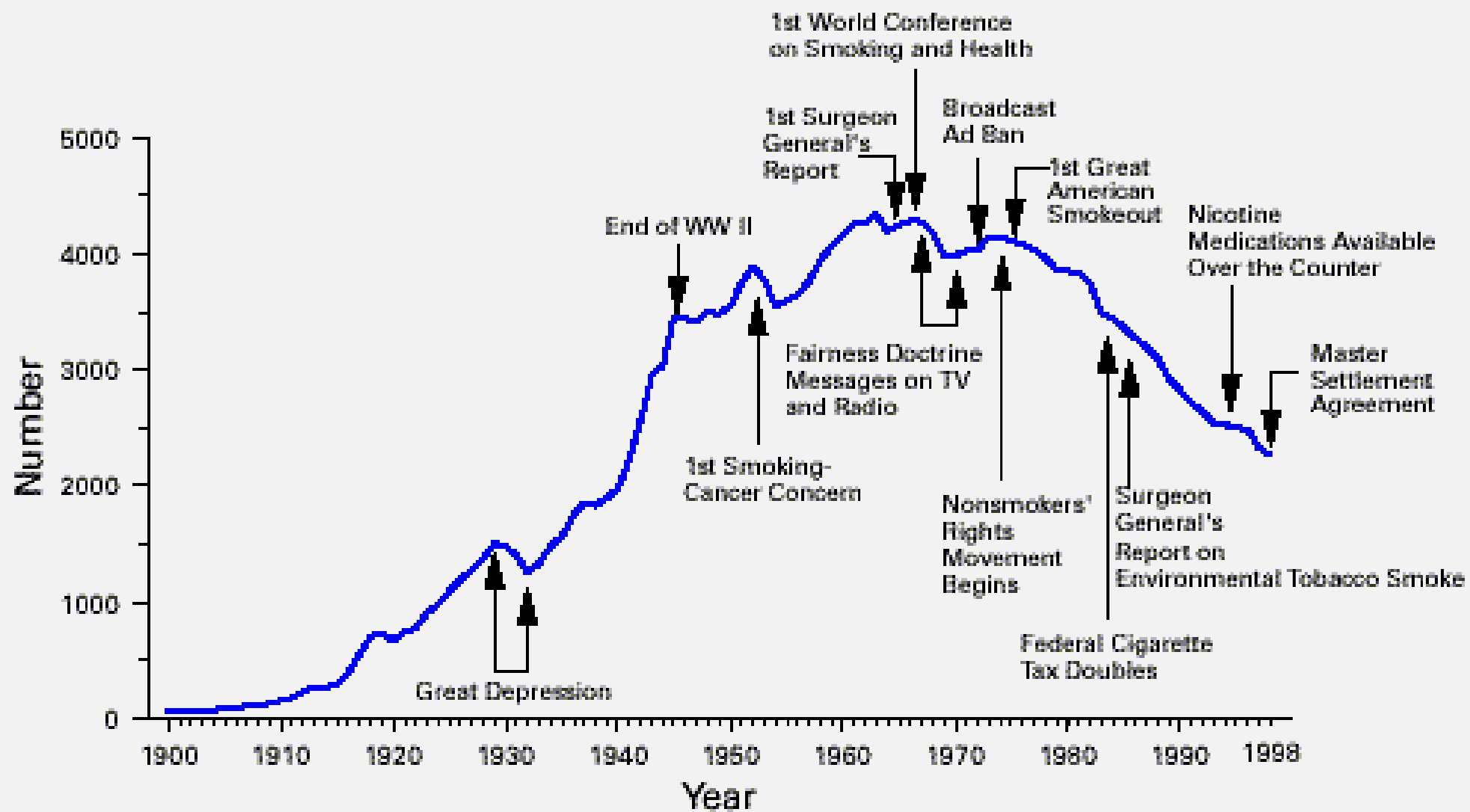
Community - networks, facilities

Public Policy - laws, ordinances,
permitting practices & procedures

Socio-ecological successes?

- **Tobacco** – Education, kids, taxes, 2nd hand smoke policies/bans.
- **Seat belts, child safety restraints** – Media, training, laws, enforcement.
- **Recycling** – Kids, facilities, fees.
- **Water borne illness** – 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 Dr. Ross Brownson, Washington Univ., St. Louis

www.markfenton.com



vs.



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



**< We need
communities
where people are
intrinsically more
active.**



Asheville, NC

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

Yes! Four elements:

1. Variety of destinations in walk, bike, & transit distance.
2. Connected facilities: transit, sidewalks, bike lanes, trails.
3. Designs are functional & inviting for pedestrians, bicyclists, & transit users.
4. Safe & accessible for all ages, incomes, abilities

E.g., www.thecommunityguide.org
Guide to Community Preventive Resources



Or in Planner-Speak:

1. Land use mix.
2. Network of bike, ped, & transit facilities.
3. Functional site design & details.
4. Safety & access.



Morganton downtown theater . . .



. . . & mixed use.

1. Land use.

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



Farmville



Farmville



E.g. post office, grocery, schools

Compact neighborhoods & shared open space.

Mixed use, multi-family.

Housing above, retail below.



Greenville



Farmville

2. Network continuity & connectivity:



Boone



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



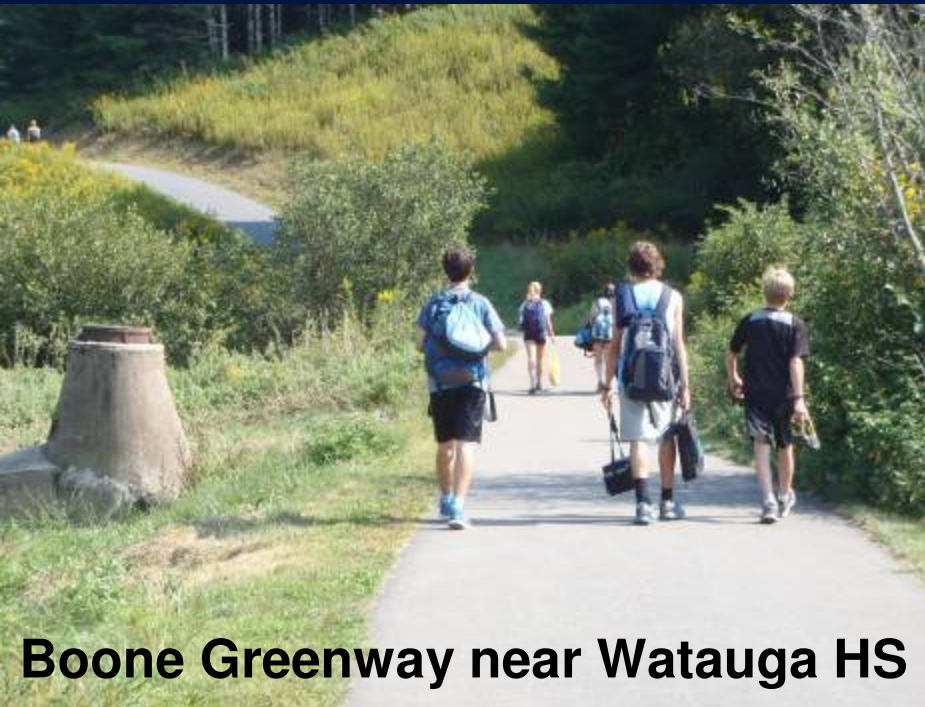
Asheville

Bicycle network options:

www.pedbikeinfo.org
www.bikewalk.org



Durham shoulder



Boone Greenway near Watauga HS



Greenville bike lane

Shared use arrow
(Shar-row) **v**



3. Site design:



Greenville

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

Site design? Research & practice suggest:



- 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 & staff must have support if they are expected to act!

(E.g. Shoupe: The High Cost of Free Parking.)

4. Safety.

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



Median islands



Roundabout, Greensboro



Curb extension

Lane re-alignments

- Often called road diets, being seen more often.

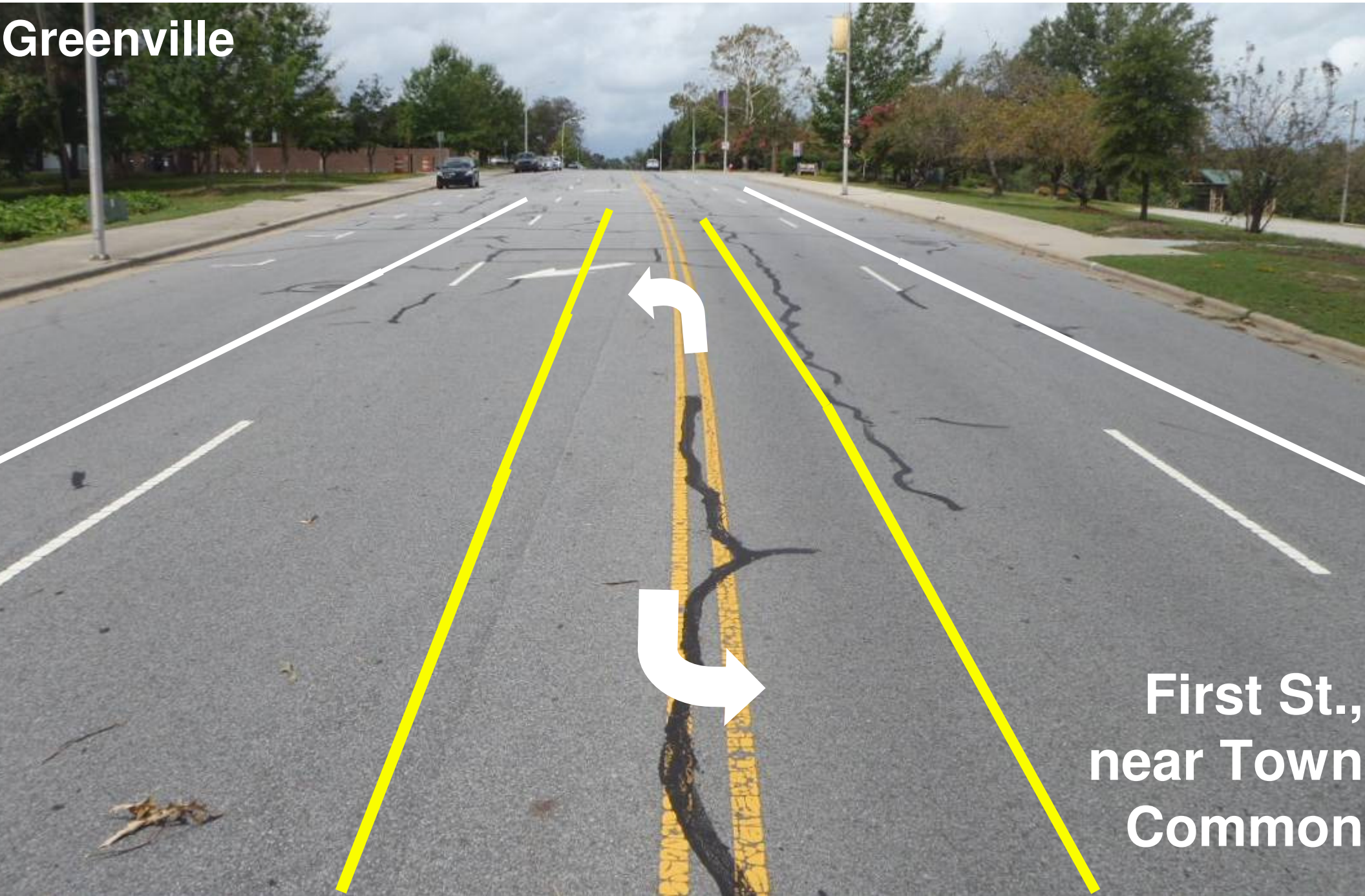


Urbana, IL; before & after.

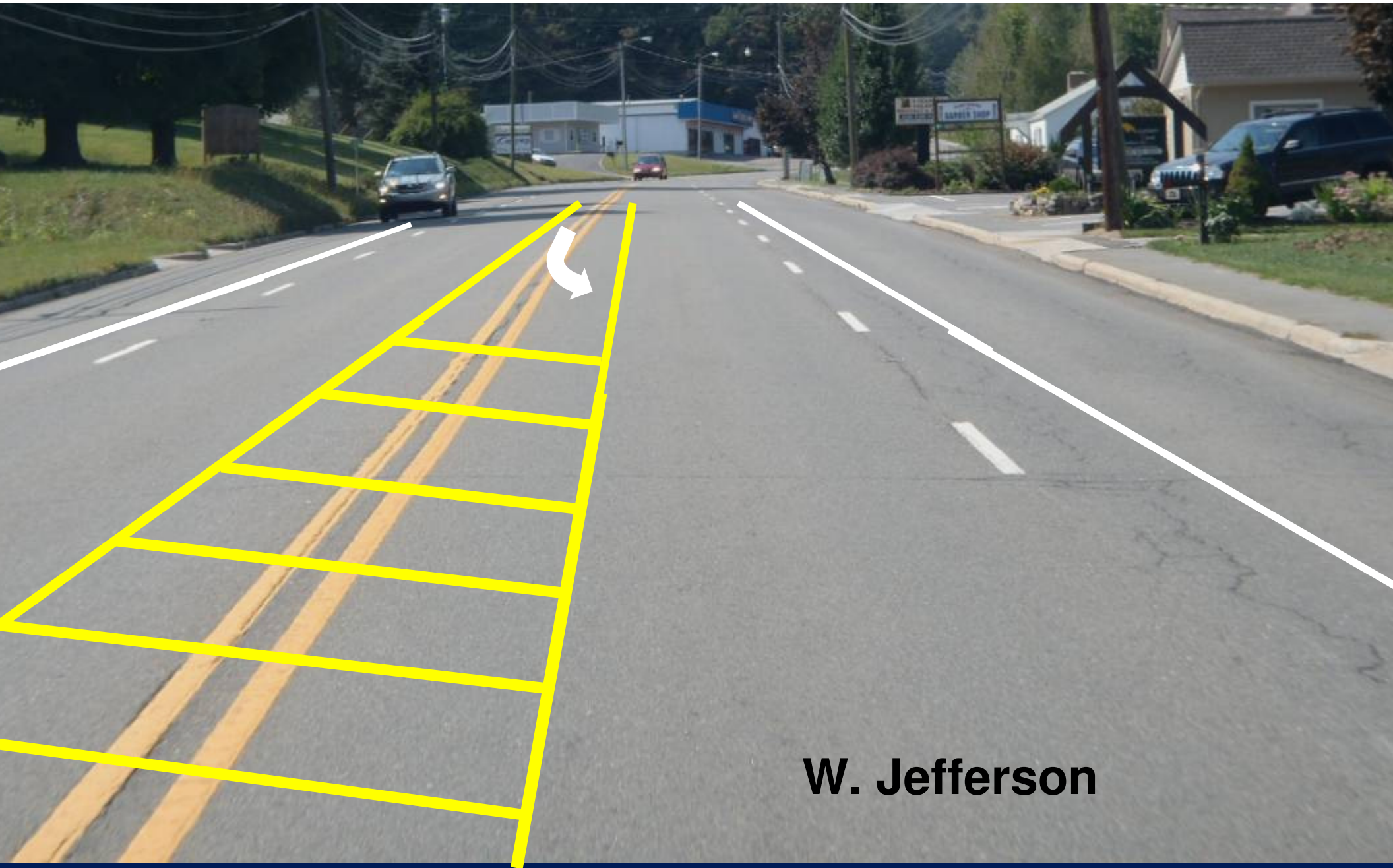


- Can reduce collisions & severity.
- Dramatically improves performance for pedestrians & cyclists.

Greenville

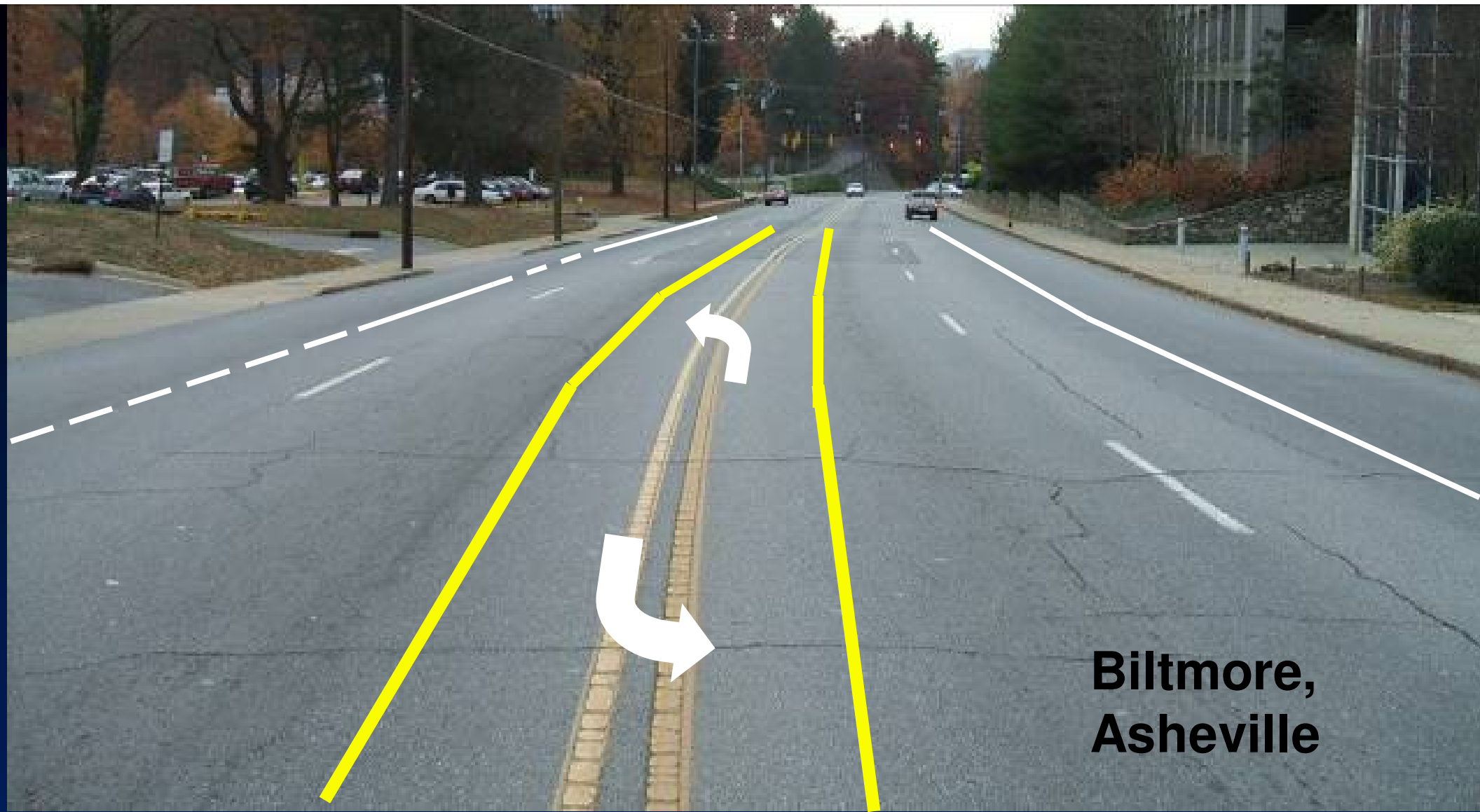


**First St.,
near Town
Common**



W. Jefferson

Sometimes it can be started w/ paint.



**Biltmore,
Asheville**

(Now being done on roads up to 30,000 ADT!)

5. Community design & food systems?

Community gardens (near schools, senior housing); farmers markets.



Regulate fast food, drive-thru locations.



Plan & zone to preserve farmland, focus development.



Urban gardening **policies** (backyard chickens, compost, bee-keeping).

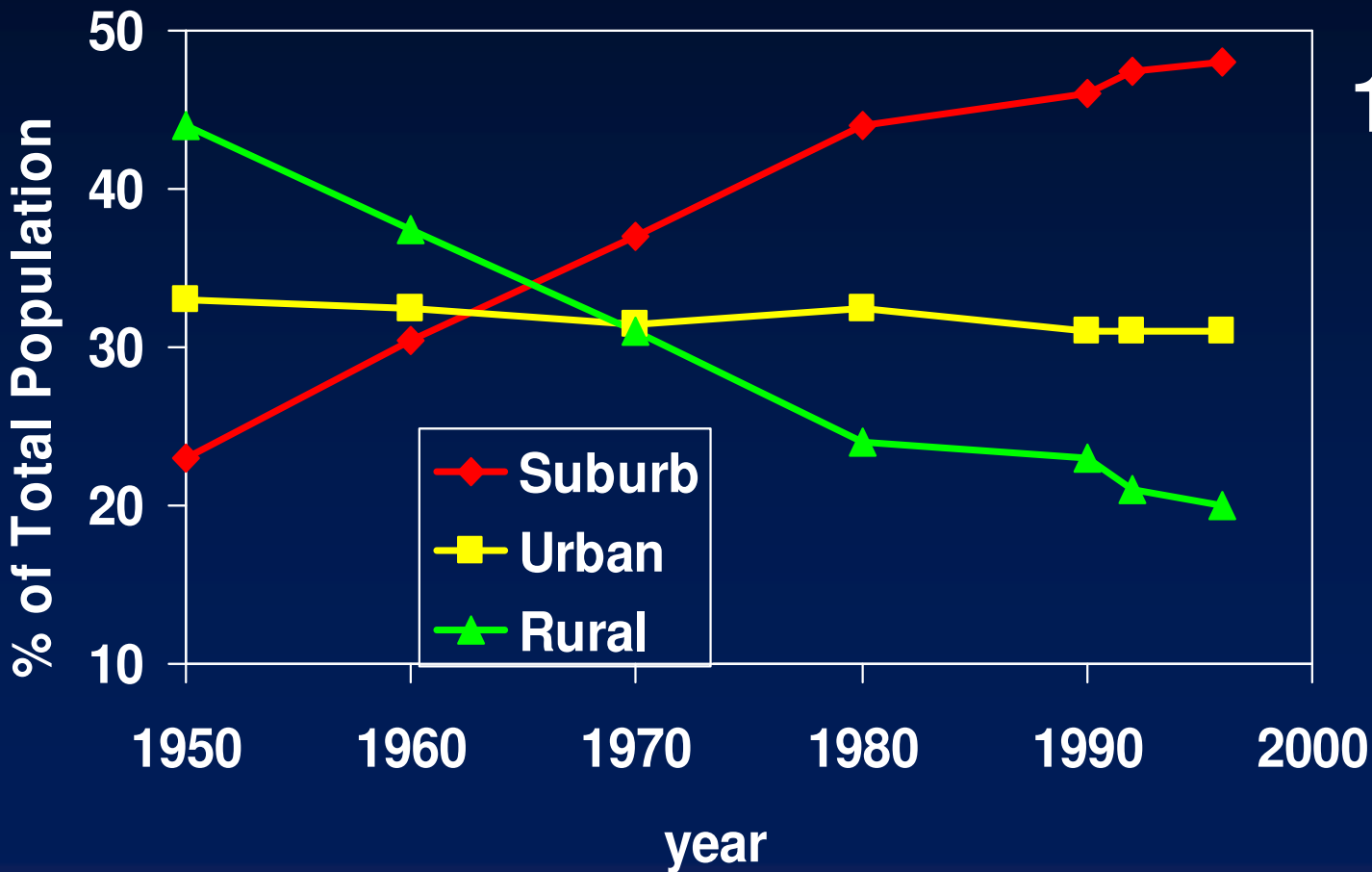


“But what about rural areas . . . ?”

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 you can
affect the shape of
development
before it's done!

“Rural” housing?



Or just more suburbia . . . ?



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

Internalize external costs.

Environment

- Reduced traffic; air, water, & noise pollution.
- Conserved open space, agricultural land.



Charlotte

Safety

- Kids, elderly mobility.
- Crime deterrent.

Education

- Health & safety.
- Transportation costs.
- Academic performance & students behavior.
- Schools as community centers; shared use!



Boone

Social

- Equitable transportation.
- More personal connections.

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!



Economics:

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

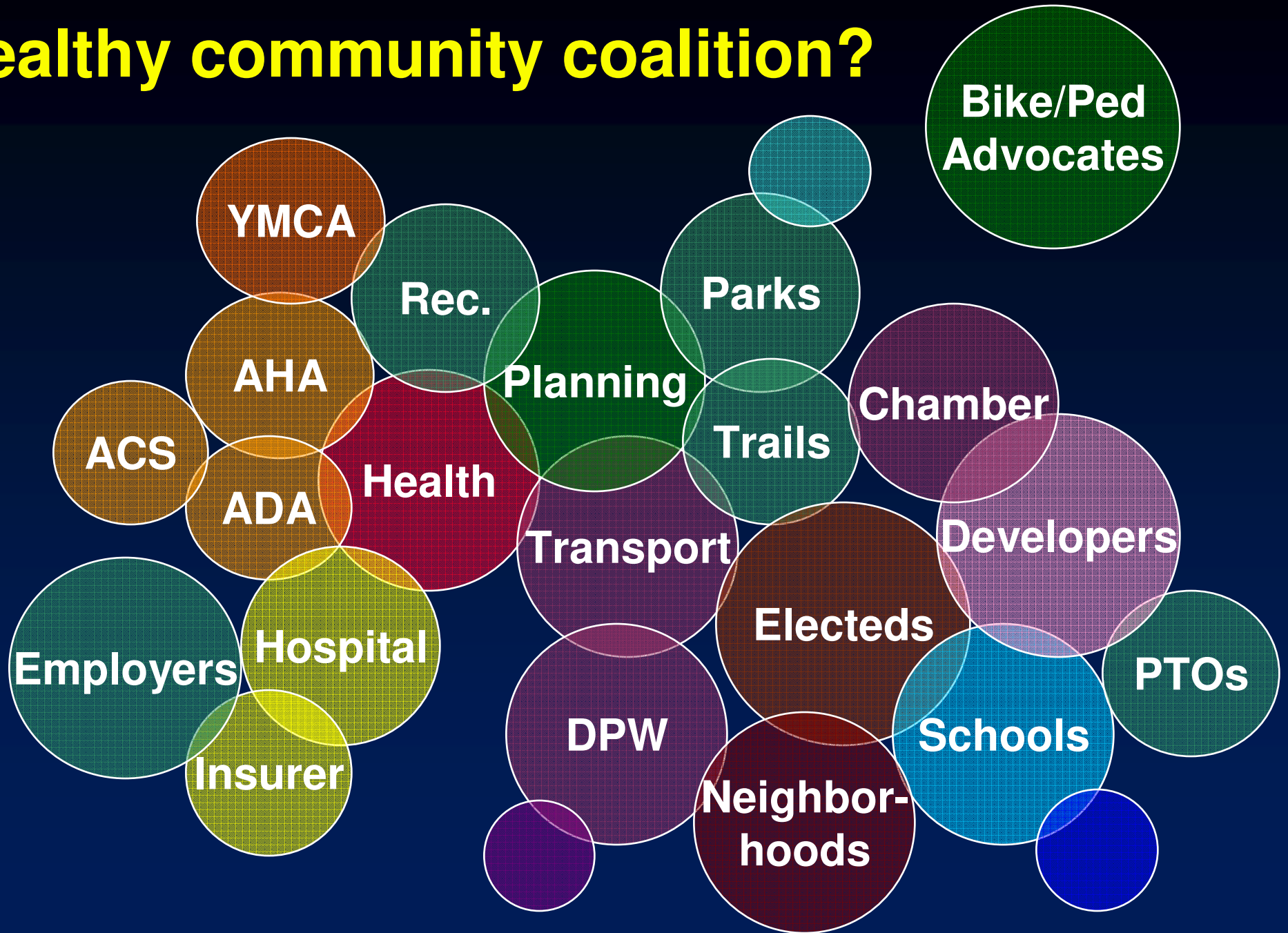


Or more simply:
Which generates more economic activity, a struggling mall or a thriving downtown?

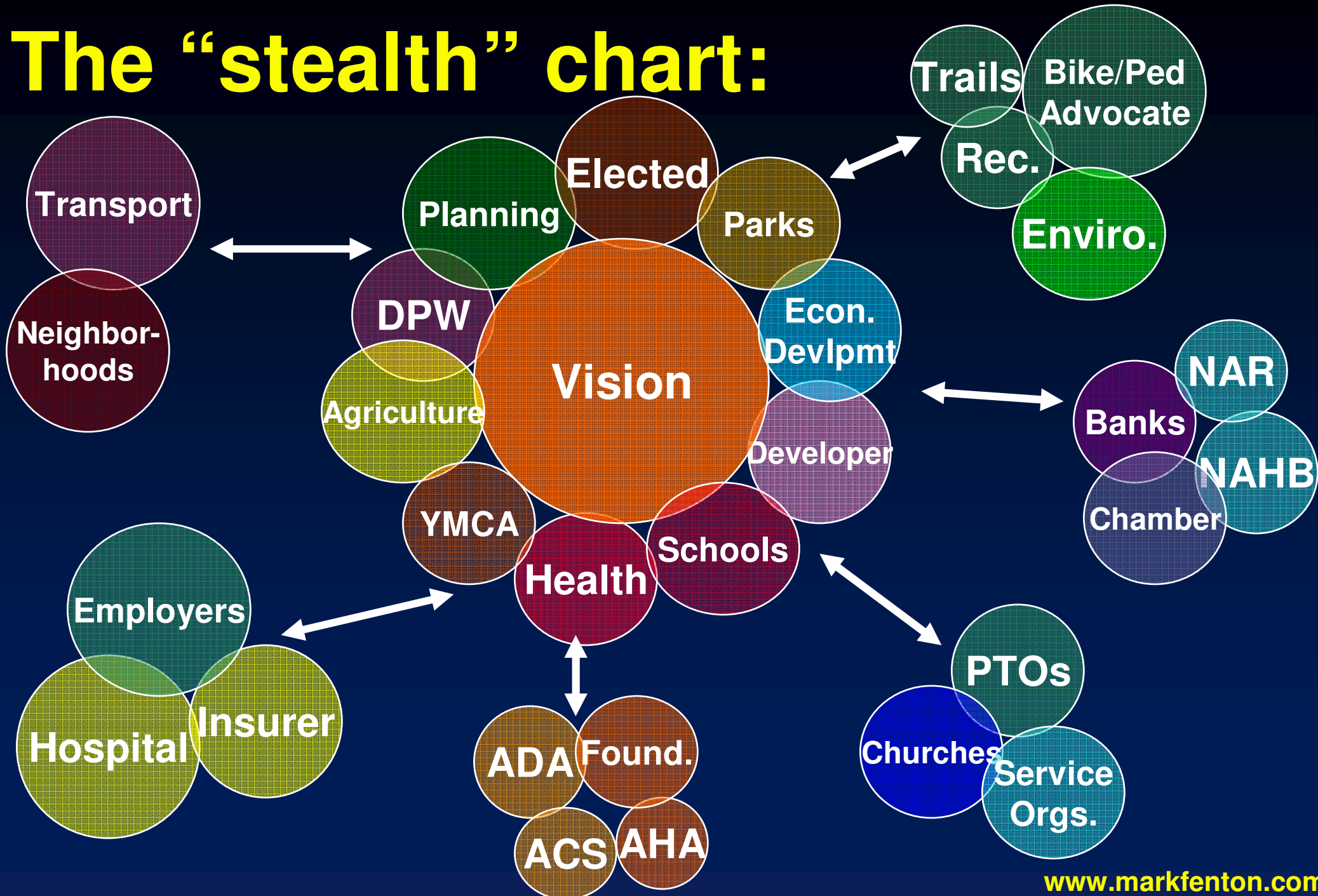
How to get there?



Healthy community coalition?



The "stealth" chart:



To be on a “stealth” leadership team people must:



- Fully embrace the **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.

E.g. Boone worked for bike lanes on this major roadway project (Rt. 421) entering town:

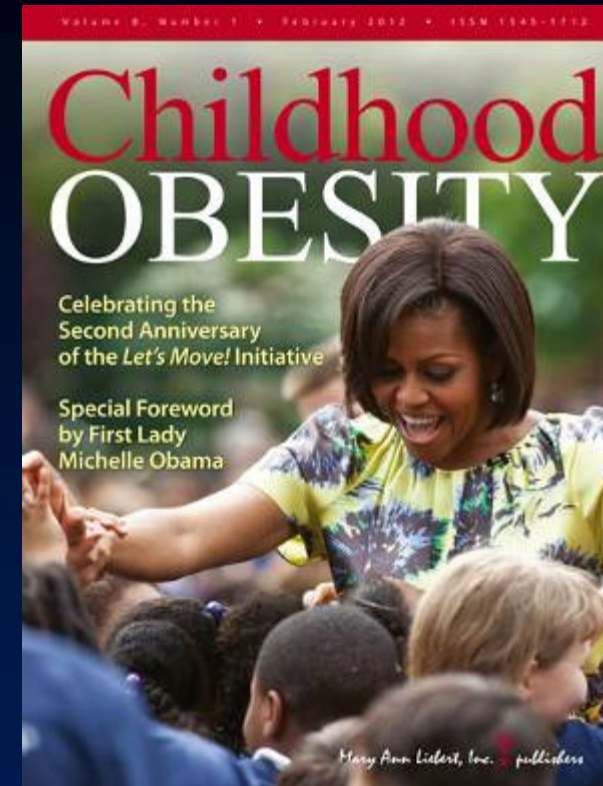
- Lots of students.
- No bicycle facility; very challenging setting.



- Town government.
- DPW, planning.
- Appalachian State Univ.
- NC Dept. of Transport.

A Playbook for Active Communities

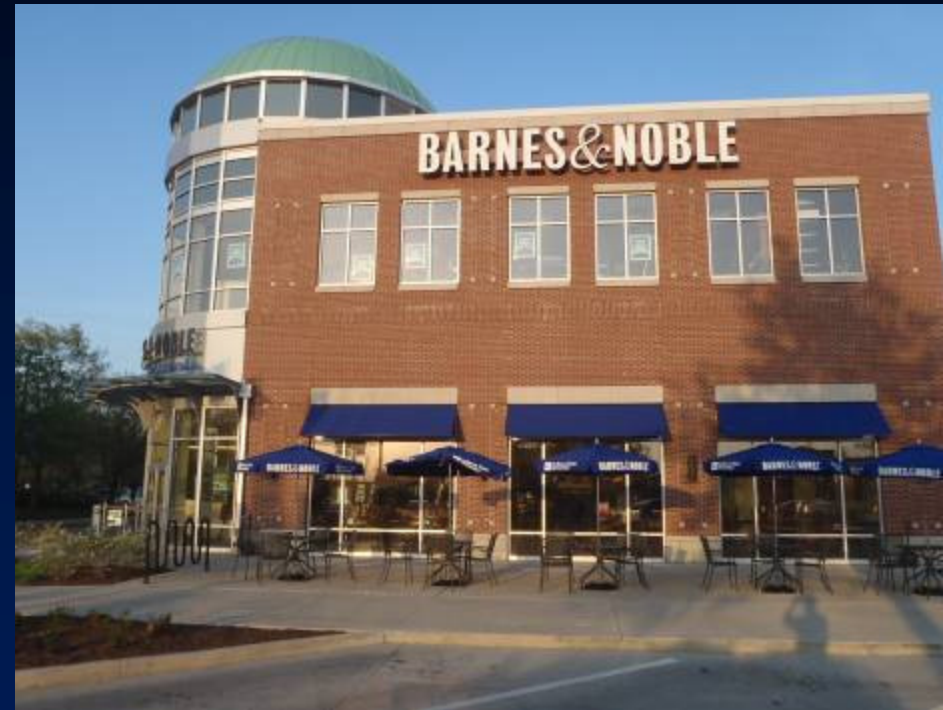
- **Healthy Planning & Zoning**: Mixed-use, neighborhood retail, protect agriculture & open space.
- **Complete Streets**. Design guidelines, routine practice.
- **Transportation trail networks**. Focused on destinations.
- **Transit & Bicycle** implementation, policies (TDM) - carrots & sticks.
- **Healthy schools**: Safe Routes; shared use agreements.



Fenton, *Childhood Obesity*, 8(1); Feb 2012.

1. Land Use: Are you a Change Agent or Process Server?

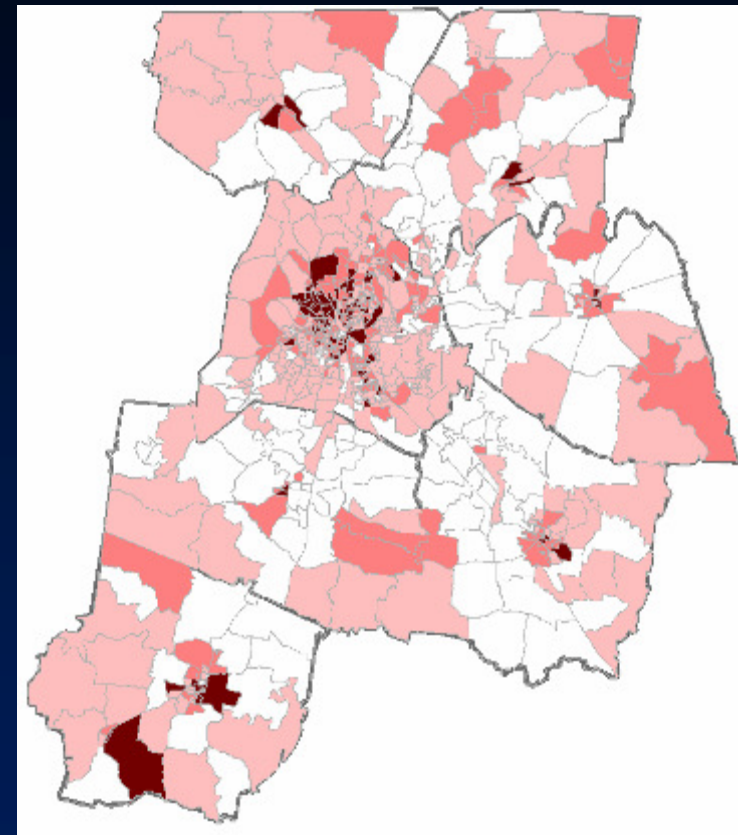
- Create mixed use, protect agricultural land, focus development.
- Provide TA, plans & model codes.
- Make the economic & health arguments!



Terre Haute, IN. ^

2. Nashville Area MPO Complete Streets implementation

- Public input in 2035 LRTP process showed strong interest ped/bike/transit.
- 60% of project scoring rewards air quality, physical activity, health, safety of all modes, & underserved areas.



MPO identified Health High Impact Areas. ^

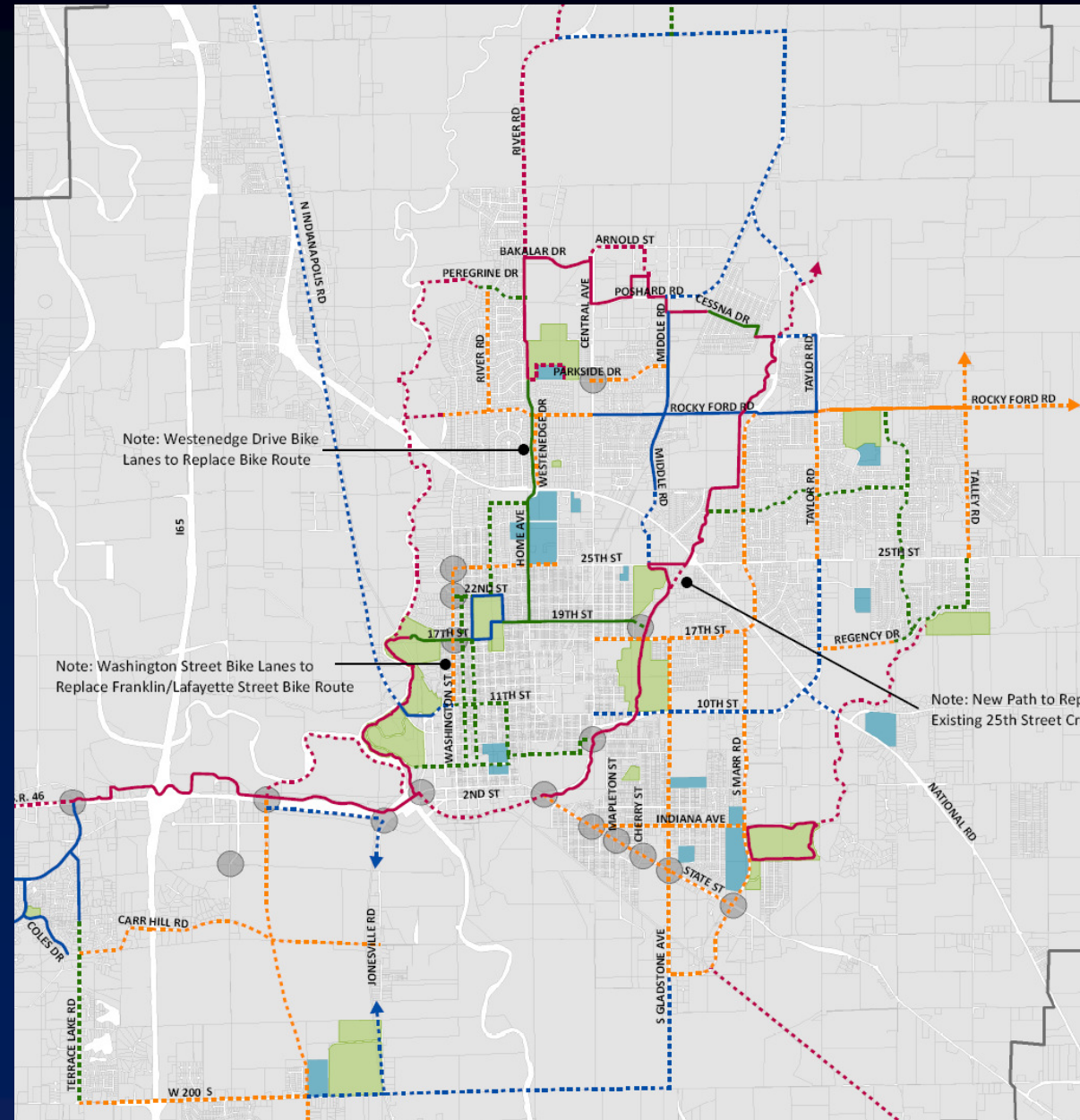
3. Develop a comprehensive network of *transportation* trails.

- **Connect** to other parts of the system: bike lanes, sidewalks, transit.
- Focus on **destinations** (schools, shopping, parks, housing, etc.)
- Build into the **fabric of the community**; promote for **transportation**.



E.g. Columbus, IN Bicycle & Pedestrian Plan

Voted into community Comprehensive Plan.



Columbus, Indiana Bicycle & Pedestrian Plan



An Element of the
City of Columbus
Comprehensive Plan

Adopted: Month DD, YYYY

4. Metropolitan Area Planning Council, Boston area MPO

- Regional transit authority proposed fare increases & service reductions.
- MAPC did detailed Health Impact Analysis (HIA) of the two proposed scenarios.
- Used HEAT for costs of reduced physically active commuting.



www.mapc.org/resources/health-impact-assessment

www.markfenton.com

E.g., Health Economic Assessment Tools; H.E.A.T. for Bicycling and Walking (WHO)

Estimate/meas.
ped/bike trips

Avg. trip length

H.E.A.T.

Statistical \$
value of life-
years saved.

Other defaults adjustable:

- average days walked
- % of round trips
- % new trips . . .

On-line tool: www.heatwalkingcycling.org

MBTA 2012 fare, service proposal

HIA by Metro Area Planning Comm.

Annual Costs (\$ millions)	Scen. 1	Scen. 2
Additional time in traffic	\$137.5	\$186.0
Additional fuel burned	\$22.7	\$31.8
Additional crashes (car, ped, bike)	\$33.6	\$48.8
Added mortality & hospitalizations (air pollution > asthma, lung, heart disease)	\$1.5	\$2.1
Lives lost due to decreased physical activity (statistical \$ value of life years)	\$74.9	\$116.5
Cost of carbon emissions	\$1.9	\$1.7
Total annual costs:	\$272.1	\$386.9

5. Safe Routes to School



E.g. Columbia, MO

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

www.saferoutesinfo.com



Columbia, MO



***Evaluate today; map where kids come from, what mode, & why!**

www.markfenton.com

Why care about stickier communities for active living?

- The **inactivity** epidemic; **our kids may pay!**
- **~4,000** pedestrian, **~40,000** motor vehicle, **~400,000** sedentary-related deaths/year.
- **Carbon footprint**, air quality.
- Failing **transport infrastructure**; hour+ commute time/day, traffic congestion & costs.
- Dependence on **foreign oil**; **wars** in Mid-east.
- More eyes on the street, **less crime**.
- **Businesses** wishing to **locate in livable communities**; housing values.



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

