

The Built Environment & Physical Activity Connection

-

Is it real . . . ?

Hidalgo County, TX

Aug. 2015



It's too hard, it costs too much,
and *nobody walks here anyway!*
(Weslaco, TX)

Thought quiz Part I:

- If you could ask (learn) only one thing about a person and from that had to predict his/her level of physical activity, what would you ask?



Let's discuss this:

- 1. The approach we've been using, and . . .**
- 2. . . . the stickiness problem.**
- 3. Social ecology for walking & bicycling.**
- 4. Elements of more active environments.**
- 5. Three (of many) approaches . . .**
 - Network improvements**
 - Encouraging nearby destinations**
 - Community engagement**

An approach to contemporary PA promotion.

**Launch
Walking Initiative**



**Increased walking
by participants**



**Replicate initiative
on large scale (\$)**



**Population level
increase in PA**



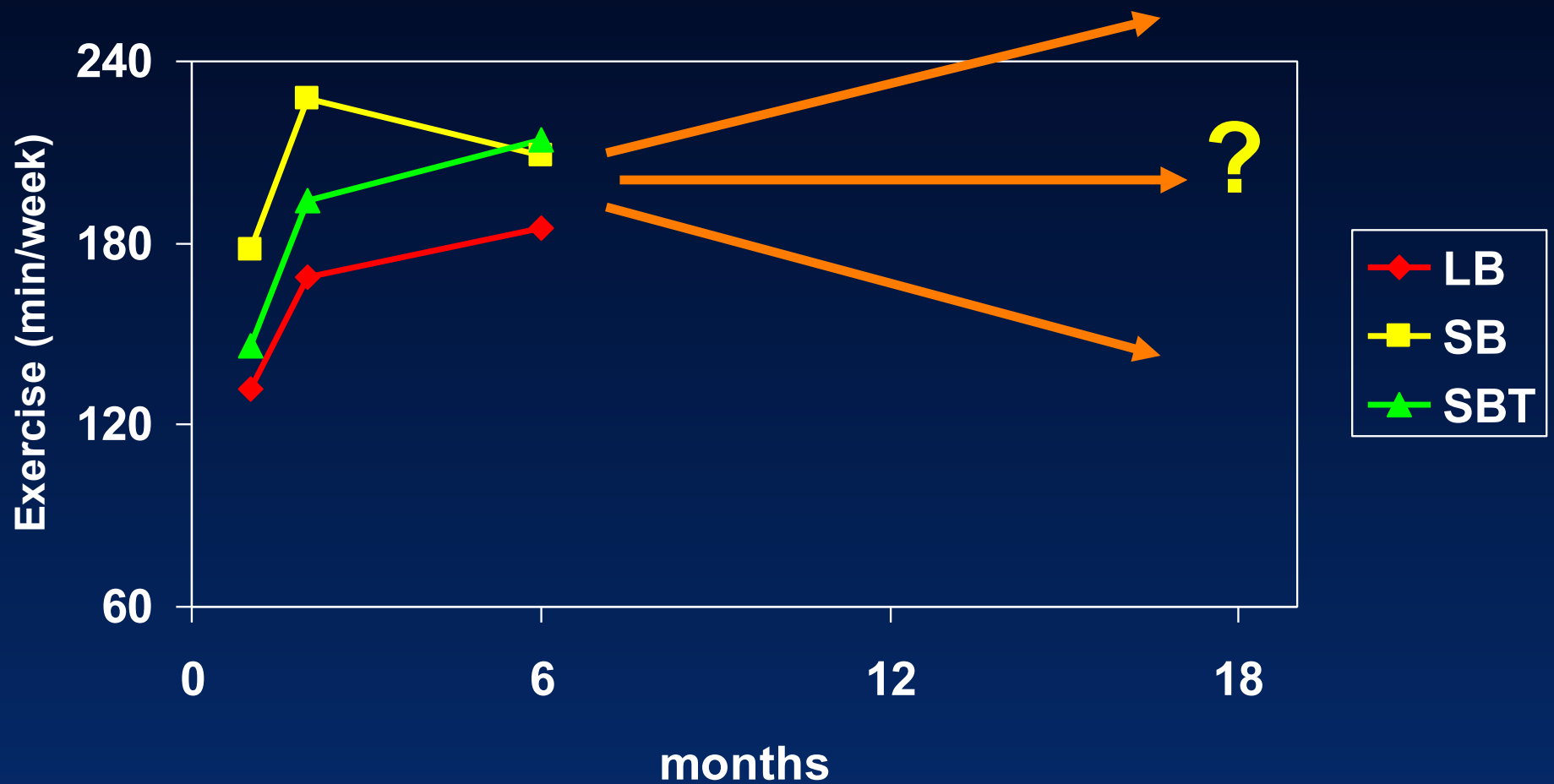
**Population health
outcomes**



Exercise Participation

Effect of Short Bouts, Home Treadmills

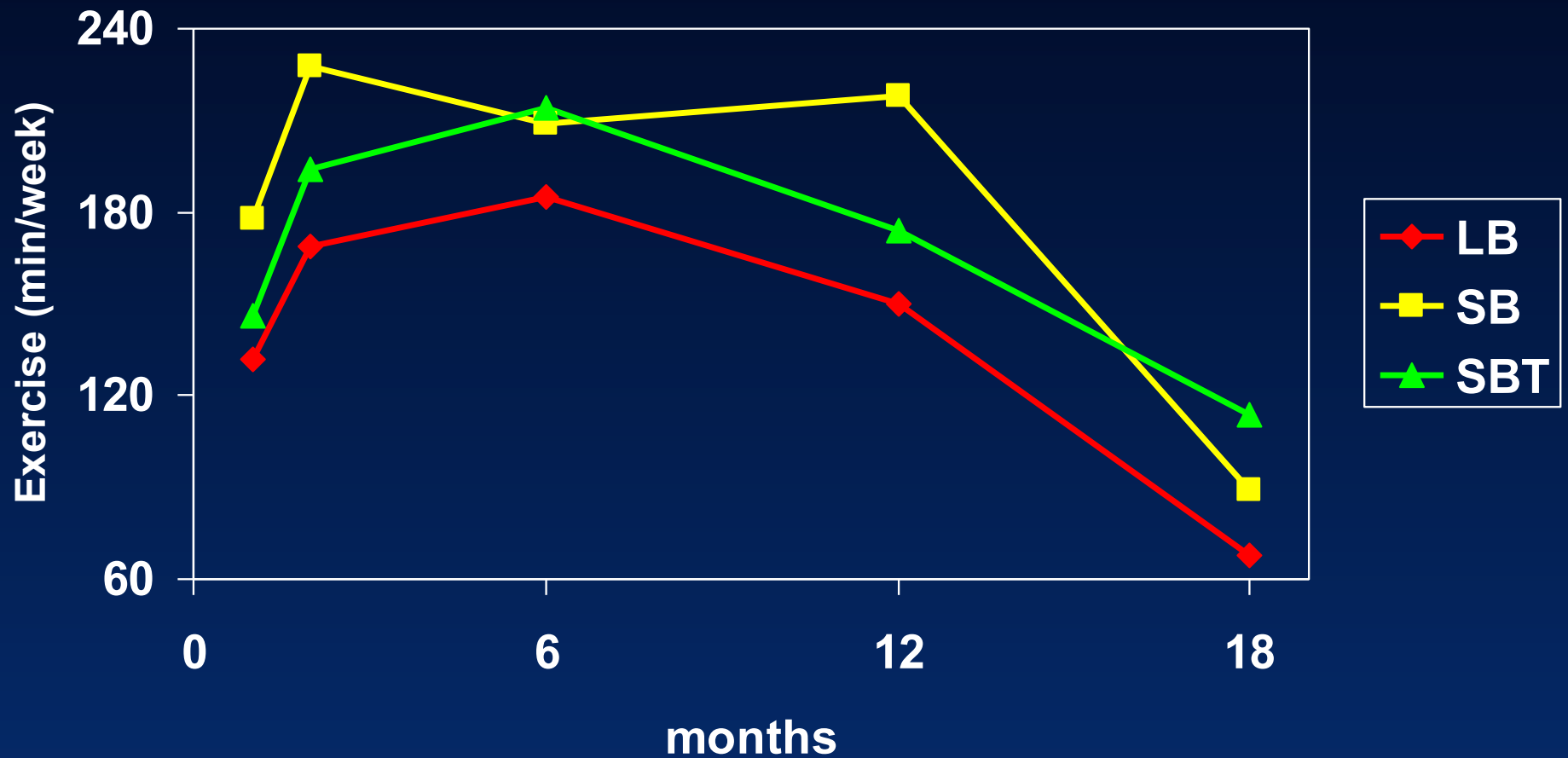
(Jakicic et.al., *J. Amer. Med. Assoc.*, 282, 16)



Exercise Participation

Effect of Short Bouts, Home Treadmills

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Quiz part II

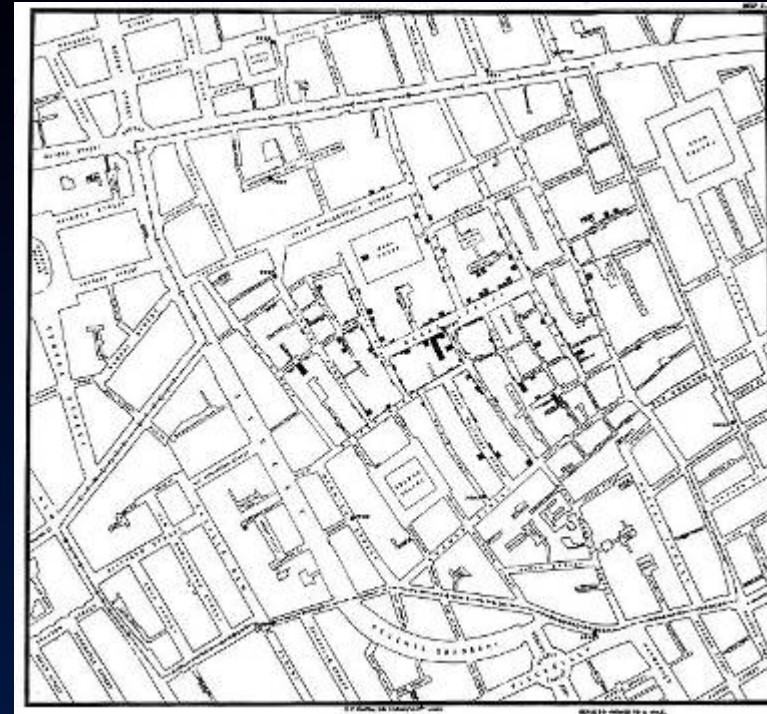
Public Health 101

Who is Dr. John Snow?

London 1854 cholera outbreak.

- Mapped location of cholera deaths. >
- Removed pump handle from suspected contaminated water source.
- True *primary* prevention.

MMWR 54(34); 783; Sep. 2004



Socio-ecological opportunity?

- **Haiti's cholera epidemic**
Just a treatment focus?
- **Priority: Sanitation, education, water quality.**



- **Contemporary prevention** –
Education; ordinance & design requirements; water quality, storm water, sanitary sewer inspection & enforcement procedures.

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

Socio-ecological successes?

Tobacco use



Seatbelts, child safety restraints



Vaccines



Recycling



Quiz III:

What makes the built environment 'stickier' for physical activity?

4 elements for stickiness Grapevine TX

1. Destinations within walk, bike, & transit distance.
2. Sidewalks, trails, bike lanes, safe crossings.
3. Functional designs & for bikes, peds, & transit.
4. Safe & accessible for all ages, incomes, abilities.



www.thecommunityguide.org

CDC Guide to Community Preventive Services

www.markfenton.com

Or in planner language:

- Mix of land uses.
- Network of bike, pedestrian, & transit facilities.
- Functional site design & details.
- Safety & universal access.



New community center,
San Carlos



Canal trail to school . . .

1. Land use.

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



Schools nearby.



E.g. shopping, post office, library, . . .

Compact neighborhoods & shared open space.



Housing above, retail below.



www.markfenton.com

1a. Healthy nutrition choices



Groceries, healthy corner stores, farmers markets . . .



Drive-throughs?

Penitas community garden



2. Network. More activity with:



- Presence of sidewalks, bike lanes.
- Access to trail, park, pathway.
- Grid, shorter blocks.
- Better, more frequent *transit*.



Transit riders are physically active.

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

Just during the walk 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 due to transit trips.



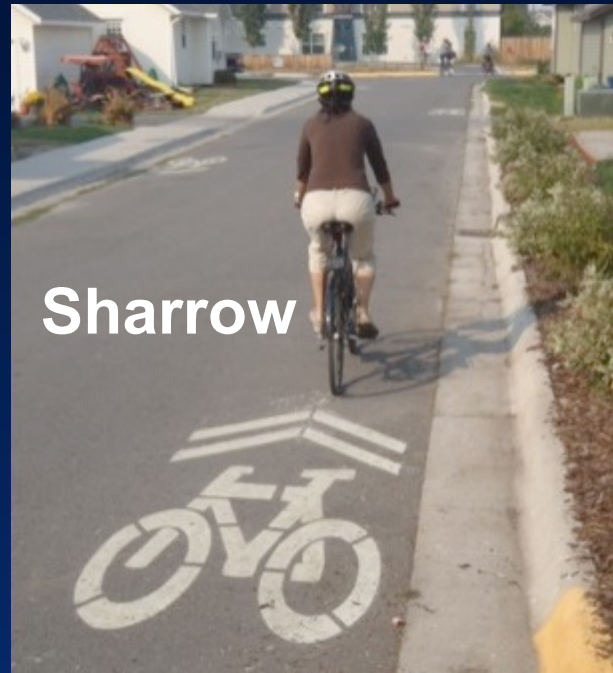
Bicycle network options:



Phoenix, AZ



Protected bike lane



Sharrow

3. Site design:



McAllen

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

3. Site design:



Weslco

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

Site design.



- Buildings near the sidewalk, parking on street or behind.
- Access & comfort, trees, benches, lighting, awnings, human scale design.
- Details: bike parking, open space, plantings, materials.



4. Safety & access :

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



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

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



York, PA

Reverse angle:

- Less severe & costly collisions.
- Pedestrians off road.
- Safer for bikes.
- Slows traffic.

How to get to the 4 elements of healthy design?



Mix of destinations



Ped, bike, & transit network

Safety & access



Site design

www.activelivingresearch.org

www.markfenton.com

Three systematic strategies:

- 1. Build the network:** Complete Streets for all users & transportation trails to connect destinations.
- 2. Keep stuff close:** Enlightened planning & zoning for more compact, healthier land use patterns.
- 3. Get residents on board:** Community engagement, from leadership to citizen support.

1. Build & maintain Complete Streets.



- Pedestrians, cyclists, transit riders, & drivers of all ages & abilities considered whenever a road is touched.
- Only few, limited, explicitly defined exceptions.

www.completestreets.org

www.markfenton.com

E.g. Implement Demonstration, Pilot Projects

Effective, . . .
but generally
inexpensive,
simple, &
reversible.

americawalks.org

Every Body **WALK!**

everybodywalk.org

Getting Started EveryBody Walk Practice Briefs

Summary

Many communities aspire to make themselves more walkable and livable, embracing the idea that it can improve health, the environment, even the economy. But often public officials feel they lack the technical knowledge or the finances to actually make desired improvements, such as building sidewalks or features to slow traffic. In some cases there are specific concerns about whether a measure will work or lead to unintended consequences. For example, bumping out or extending the sidewalks at an intersection—called a curb extension—certainly makes pedestrians more visible and shortens the crossing distance. But will it also impede traffic or be a problem for snow plowing?

This brief describes a number of pilot or gateway projects that are ideal “starter” activities because they do three things.

- They demonstrate that even modest changes can make the environment more safe and inviting for walking.
- They show that many measures are not technically complex, and good technical support is readily available when needed (see 'Additional Resources).
- Many measures can be undertaken for very modest cost, and are even reversible, so that they can be tested and adjusted without a huge investment.

The Goal

Building miles of sidewalks or non-motorized trail or installing measures to slow traffic in neighborhoods and downtowns can seem a daunting proposition, especially to smaller communities or those lacking large public works budgets. Yet there is low hanging fruit – starter projects that help communities test the ideas of walkability, while learning how to work through the process and engage partners.

The good news is that we have a very good idea of what it takes to make a community more walkable. Research has examined cities, towns, and neighborhoods where people tend to walk more, and it appears four key elements characterize more walkable settings:



The best sidewalks and crosswalks work for pedestrian of all ages & abilities.

Companion pieces . . .

- Getting the community on board.
- Resources.

Walk audits, inventory, events & short-term trials, Complete Streets resolution.

Every Body WALK!
everybodywalk.org

Getting Started
Getting The Community on Board

Some members of your community will immediately embrace the idea of creating a more walkable environment. But others may have never given it a thought, and won't even know what it really means, let alone why it's a good thing or how to get there. Here are four things a community can do to build understanding, interest, and support for walkability initiatives.


Host Some Walk Audits

A walk audit is simply a facilitated walk of an area designed to get folks thinking about and experiencing how the environment works for all users, not just cars, and discussing how to make it better.

One goal of a walk audit can be to identify locations for some of the pilot improvements described in this brief.

For more, go to:
www.markfenton.com/resources/TipsLeadingWalkAuditFenton.pdf

For a video on leading walk audits:
www.youtube.com/watch?v=I-XnWtz90c



Elements of Successful Walk Audits

- Walk a route where there is or could be pedestrian demand – say, from a neighborhood to a school or park; in a retail district; near senior housing.
- Recruit facilitators with expertise in planning and design, transportation, or public health; it's best to have a team with different backgrounds leading the walk jointly.
- Invite public officials, city staff, local residents, people of all ages and physical abilities to take part.
- During the walk, have people score the "walkability" on a 1 to 10 scale in their minds, and stop occasionally to discuss their scores and what would make it better. No blaming, just open, honest discussion.
- Follow the walk with a planning session over maps of the area so people can note their recommended improvements ("repair sidewalk," "paint crosswalk") while fresh in their minds.

Evidence, facility design, cost estimating, way-finding.

Every Body WALK!
everybodywalk.org

Getting Started
Additional Resources

Want to learn more about how to design curb extensions or make crosswalks more visible and safer? Curious to see some examples of bicycle lane treatments? Here are some resources that should answer many of your questions.

Where's the Evidence? www.activelivingresearch.org
A great compilation of the leading evidence regarding what comprises more walkable, bicycle- and transit-friendly communities and their benefits is maintained at the Active Living Research center of UC San Diego. They also have great research summaries and archived webinars.

Pedestrian and Bicycle Facility Design www.pedbikeinfo.org
The Pedestrian and Bicycle Information Center at www.pedbikeinfo.org/planning/facilities.cfm University of North Carolina has everything from detailed summaries of a range pedestrian (and bicycle) treatments, to data on walking and cycling participation, programs, and safety, funding, data collection, and a wonderful library of photos you can use to help others imagine a more walkable community.

Roadway Design Improvements nacto.org/usdg/
The National Association of City Transportation Officials (NACTO) has developed an Urban Roadway Design Guide that summarizes tested and proven designs that optimize performance and safety for pedestrians, transit, bicycles, and drivers. It discusses and wonderfully illustrates everything from lane widths, signs, and traffic calming to crosswalks, intersection design, and parklets.

Bicycle Facility Designs nacto.org/cities-for-cycling/design-guide/
NACTO created a specific Urban Bikeway Design Guide summarizing and illustrating a range of designs for bicycle facilities, from shared-use arrows to protected bicycle lanes and separated pathways.

Make Your Own Way-Finding Signs walkyourcity.org
For ideas and help in creating your own way-finding signs, check out the "Walk Your City" movement.

How Much Will It Cost? activelivingresearch.org/costs-pedestrian-and-bicyclist-infrastructure-improvements
The cost for most of these treatments depends on the specific local conditions and economy, materials used, and challenges unique to the site. However an outstanding webinar and compilation of typical price ranges, useful for comparison and very rough budgeting, can be found here.



E.g paint missing lines.

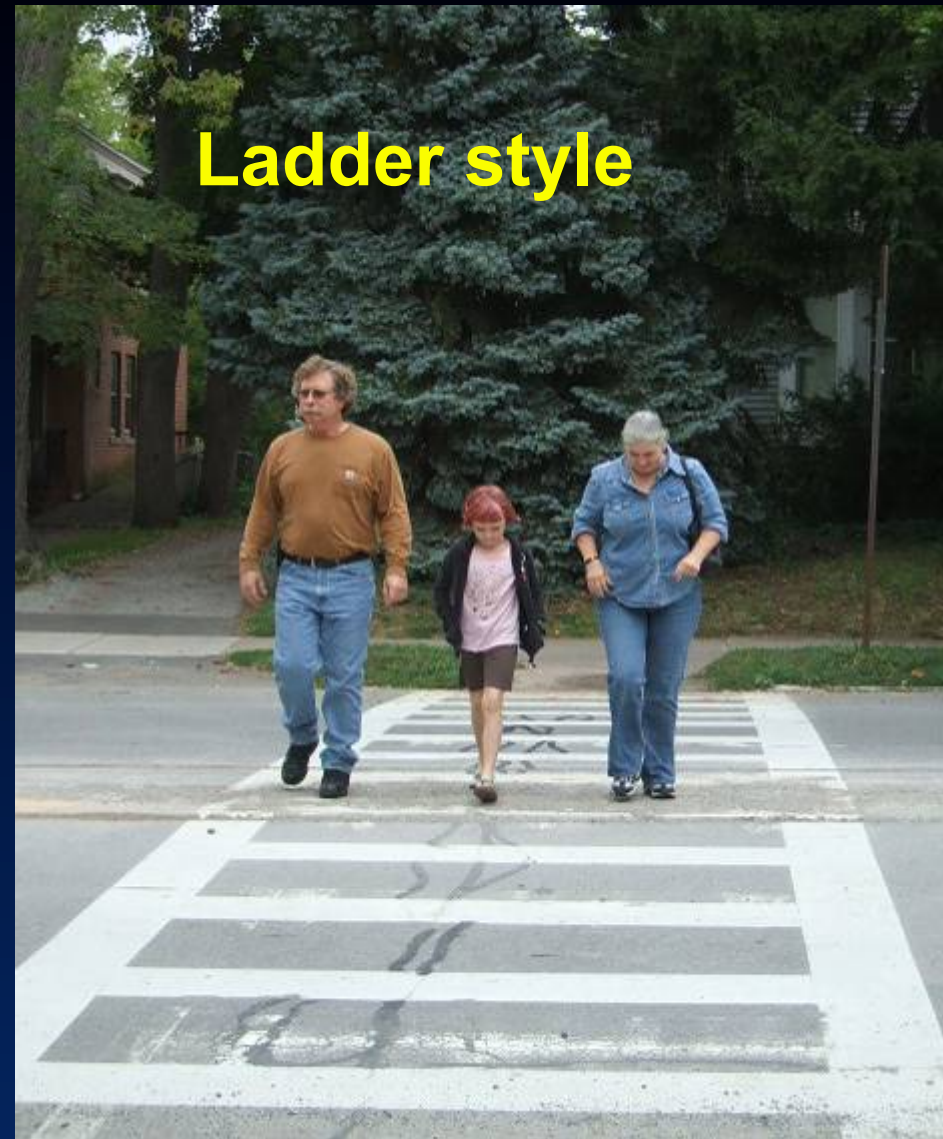


Or move them.

**Paint some
high visibility
crosswalks.**



Artistic



Ladder style

Add sharrows or a bicycle lane . . .



Sharrow

Wayfinding. Fun & informative



Street furnishings

- Benches
- Bike parking
- Public art



Anaconda, MT

Building

Travel

Furnishings

Curb

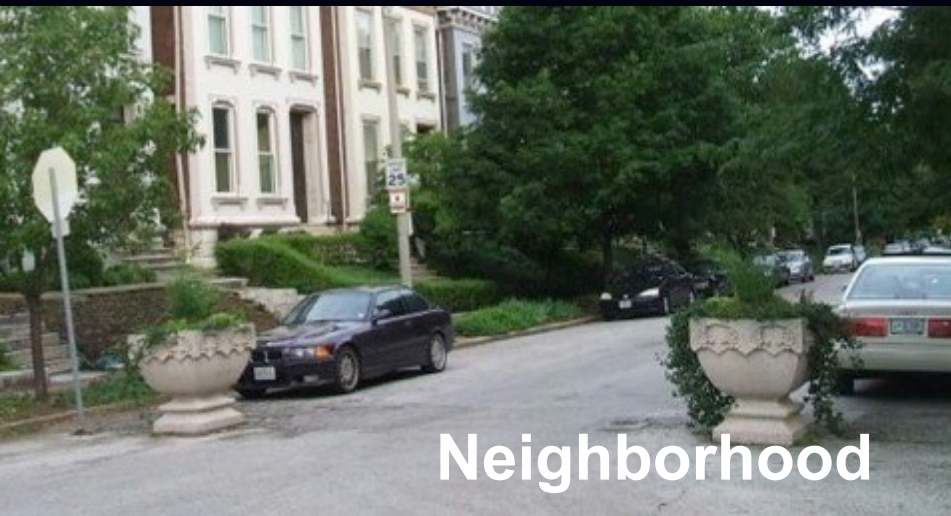
McAllen



Weslaco



Curb extensions for safer crossings, slower traffic.



Neighborhood



School crossing



Main Street



Park City



Montpelier

Parklets to enliven & calm streets.

Bicycle parking; use the curb extensions!



**Pave
shoulders
on rural
roads; make
the case for
auto safety!**



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

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