The Better Built
Environment
Now that we are here ...
What can we do?
Is this the landscape we want to leave our children?
Complete Streets
HAVING LESS OF THIS...

REQUIRES MORE OF THIS...
TWO WOLVES

One evening an old Cherokee told his grandson about a battle that goes on inside people. He said, "My son, the battle is between two wolves inside us all.

"One is Evil - It is anger, envy, jealousy, sorrow, regret, greed, arrogance, self-pity, guilt, resentment, inferiority, lies, false pride, superiority, and ego.

"The other is Good - It is joy, peace, love, hope, serenity, humility, kindness, benevolence, empathy, generosity, truth, compassion and faith."

The grandson thought about it for a minute and then asked his grandfather: "Which wolf wins?"

The old Cherokee simply replied, "The one you feed."
Now as a man is like this or like that, according as he acts and according as he behaves, so will he be; a man of good acts will become good, a man of bad acts, bad; he becomes pure by pure deeds, bad by bad deeds;

And here they say that a person consists of desires, and as is his desire, so is his will; and as is his will, so is his deed; and whatever deed he does, that he will reap.

— Brihadaranyaka Upanishad, 7th Century BC
Capacity of Streets
We should “discourage through traffic”

1938 - FHA Technical Bulletin No. 7
Planning Profitable Neighborhoods
A connected network of streets (right side of drawing) with sidewalks cuts walking distances between housing, shopping, work and school.

(Source: A. Duany/E. Plater-Zyberk)
Last two, Mrs. Public. Please I.D. who's responsible for your city's land use decline & traffic problems.
“Automobiles are often conveniently tagged as the villains responsible for the ills of cities and the disappointments and futilities of city planning. But the destructive effects of automobiles are much less a cause than a symptom of our incompetence at city building.

The simple needs of automobiles are more easily understood and satisfied than the complex needs of cities, and a growing number of planners and designers have come to believe that if they can only solve the problems of traffic, they will thereby have solved the major problems of cities.

Cities have much more intricate economic and social concerns than automobile traffic. How can you know what to try with traffic until you know how the city itself works, and what else it needs to do with its streets?  You can't.”

*Jane Jacobs, Death and Life of Great American Cities*, 1961
Narrow streets
Short blocks
Tight corner radii
Great plazas
Beautiful buildings
Limited parking

Built by Pirates

Old Town, Key West, Florida
Designed by college graduates

NEW TOWN, KEY WEST, FLORIDA
West Lafayette, Indiana  (Home of Purdue University)
How Do We Make Active Transportation the Natural Choice Again?
Your patient isn’t the only one who has become fat
Point 1:
It’s not just an obesity epidemic. It’s an epidemic of physical inactivity.
CAUTION
CHILDREN AT PLAY
Childhood is a holistic process, different for each individual child. Many children do not learn effectively exclusively within a classroom. They need alternative, hands-on learning environments to match their varied learning styles.
Like newborn animals, children are genetically predisposed to move, to explore the space around them, and to discover its contents. All streets and parks offer physical activity and free-range learning.

The richer the street and park environment, the richer the learning will be.
Childhood needs

1. To develop fully, children need a broad range to roam.

2. U.S. children today have a range one/ninth of their parents.

3. Einstein roamed the streets of Munich at the age of four, exploring on his own.

4. Our most important neural pathways are developed before the age of nine.
Childhood needs

1. Social greeting by elders
2. Adult watchfulness
3. Traffic awareness
4. Defensible space
Childhood needs

1. Hanging out, telling stories
2. Mobility, places to go, things to do
3. Freedom to explore
4. Buzzing the “hive”
5. Checking out the gene pool
   (Looking for compatible genetic material)
Childhood needs

1. Explore natural areas, open, wild
2. See animals in their place
3. Learn size, scale, changes in habitat and physical space
4. Have adventures, take risks
Well designed streets and public spaces offer children a sense of belonging as an antidote to social violence.

If children participate in the design and cleanliness of spaces in their neighborhood, they will value and respect them more fully.
The City of Lake Oswego is doing a study involving travel routes to your school. We would greatly appreciate your help since this involves how you travel to school.

Please write a short paragraph below describing what your trip to school each morning feels like to you.

My trip to school each morning feels cold, quiet, and nice but when I sing when I am walking I feel happy. I even sing when it’s raining but if someone comes by I stop singing when it rains my shoes get wet & muddy. I also have to walk 8 blocks to school so my feet get hurt. I also see people walking there dogs but their friendly. I see cats that are nice. I sometimes pet the dogs & cats. I always see beautiful flowers, bumble bees, birds, and the wind always feel cool.
A walkability plan must set a stage for all other modes of transportation to work, including transit. If people cannot walk then transit remains ineffective.

“What is the first thing an infant wants to do and the last thing an older person wants to give up?”

Walking is the exercise that does not need a gym. It is the prescription without medicine, the weight control without diet, and the cosmetic that can’t be found in a chemist. It is the tranquilizer without a pill, the therapy without a psychoanalyst, and the holiday that does not cost a penny.

What’s more, it does not pollute, consumes few natural resources and is highly efficient. Walking is convenient, it needs no special equipment, is self-regulating and inherently safe.
Inhabitants of walkable neighborhoods healthier

The Canadian Press
April 7, 2009

Vancouver -- Researchers at the University of British Columbia say two new studies confirm people are healthier if they live in neighborhoods where it's easy to walk to work, school and play.

The studies show residents are less likely to be overweight, obese or have high blood pressure if all their needs are within walking distance.

Experts said yesterday that the findings build on previous research showing that adults who walk at least 30 minutes a day, five days a week enjoy significant health benefits.

Researchers said the walking doesn't have to be continuous exercise - it can include short walks for daily activities, such as trips to buy groceries, go to school, or visit friends.
Depressive Disorders

19 million American adults

• Leading cause of disability in the USA

• Treatment:
  • Medication
  • Social Contact, including therapy
  • And.....
Social Exchange
As we age our need for association will continue to grow
As we age access to gentle, friendly exercise will be vital
I shopped for a house, but I forgot to shop for a community to live in

...Cheryl from a suburban Edmonton, Alberta, Canada Neighborhood

Florida has the lowest rate of volunteerism in the nation.

What is that all about?
City Making
Ten Steps To Walkability

Compact, lively town center

Low speed streets, distributed volumes

Fine grained streets, many trails, transit links

Neighborhood schools and parks, within one quarter mile or one eighth mile

Public places with inviting features: benches, restrooms, shade, water and art

Convenient, safe and efficient crossings

Many people of all ages and abilities walking many hours

Celebrated public space and public life, parades, markets, festivals, awards

Land use and transportation partnerships

Affordable, inspiring, well maintained streets and homes.
Not Walkable

High Car Dependency
Serious Congestion

Walkable

Low Car Dependency
Moderate Congestion
Building Our Town

Widen the Sidewalks

"Building a sidewalk isn't enough to inspire people to use it. In commercial areas, they should be 10 feet wide with another few feet of landscaping to buffer pedestrians from the roadway and make them feel safely separated from traffic."

Protect Bicyclists

"I like pedestrian islands, say cyclists feel safer and are more visible to drivers in the road. Five-foot-wide bike lanes tell drivers that cyclists have a legitimate place on the road, while adding a visual cue for motorists to slow down."

Reduce the Number of Lanes

"Sometimes, it's not possible to widen the roadways to accommodate improvements such as medians and bike lanes. In that case, I recommend what I call the "mix" diet. Say there are two lanes of traffic in each direction. I propose slimming the roadway to three lanes, one in each direction, with a tumor lane in the center. The extra space from the third lane can then be converted into pathways for pedestrians and cyclists."

Go Narrow

"When drivers are confused by narrower lanes, traffic slows down and motorists become more alert. Every foot removed from a lane causes drivers to reduce their speed. Most states require 11-12 foot-wide lanes, but Robert Noland, of London's Imperial College, analyzed 15 years' worth of U.S. data and found that 8- to 10-foot-wide lanes may lead to fewer accidents. The secret is building lanes wide enough for all users but maintaining them at a narrower width."

Separate Traffic With Medians

"Medians invite foot traffic. Pedestrians have to cross only one or two lanes before reaching a median, which is much more appealing than having to run across five lanes of two-way traffic."

Replace Traffic Signals With Roundabouts

"Drivers in cities that have roundabouts get home quicker, even though they travel at a slower speed. Roundabouts make force drivers to proceed at 15 to 25 miles an hour as they approach their turns, but roundabouts move 30 percent more vehicles on traffic signals do. This is because a driver tries to read a traffic signal and turns across an intersection, other drivers are forced to wait. Roundabouts are also much safer than intersections."

Plant Trees

"When trees line streets, they create a sense of security and separation from the roadway that attracts pedestrians and gives drivers a reference point for their speed. Urban trees also increase property values by up to 20 percent. Buy and maintain three trees for $1,000 in a $400,000 home and eventually they'll return $60,000 in value. Trees also reduce the temperature of streets."

Paint Fog Lines

"Visual tricks can make lanes seem narrower. Most fog lines, the shoulder's painted boundary, are four inches wide. On University Place's busiest streets, we made them eight inches. Drivers feel more enclosed by the aid lines and travel slower."

Plant Trees

"When trees line streets, they create a sense of security and separation from the roadway that attracts pedestrians and gives drivers a reference point for their speed. Urban trees also increase property values by up to 20 percent. Buy and maintain three trees for $1,000 in a $400,000 home and eventually they'll return $60,000 in value. Trees also reduce the temperature of streets."

Paint Fog Lines

"Visual tricks can make lanes seem narrower. Most fog lines, the shoulder's painted boundary, are four inches wide. On University Place's busiest streets, we made them eight inches. Drivers feel more enclosed by the aid lines and travel slower."

Plant Trees

"When trees line streets, they create a sense of security and separation from the roadway that attracts pedestrians and gives drivers a reference point for their speed. Urban trees also increase property values by up to 20 percent. Buy and maintain three trees for $1,000 in a $400,000 home and eventually they'll return $60,000 in value. Trees also reduce the temperature of streets."

Paint Fog Lines

"Visual tricks can make lanes seem narrower. Most fog lines, the shoulder's painted boundary, are four inches wide. On University Place's busiest streets, we made them eight inches. Drivers feel more enclosed by the aid lines and travel slower."

Plant Trees

"When trees line streets, they create a sense of security and separation from the roadway that attracts pedestrians and gives drivers a reference point for their speed. Urban trees also increase property values by up to 20 percent. Buy and maintain three trees for $1,000 in a $400,000 home and eventually they'll return $60,000 in value. Trees also reduce the temperature of streets."

Paint Fog Lines

"Visual tricks can make lanes seem narrower. Most fog lines, the shoulder's painted boundary, are four inches wide. On University Place's busiest streets, we made them eight inches. Drivers feel more enclosed by the aid lines and travel slower."

Plant Trees

"When trees line streets, they create a sense of security and separation from the roadway that attracts pedestrians and gives drivers a reference point for their speed. Urban trees also increase property values by up to 20 percent. Buy and maintain three trees for $1,000 in a $400,000 home and eventually they'll return $60,000 in value. Trees also reduce the temperature of streets."

Paint Fog Lines

"Visual tricks can make lanes seem narrower. Most fog lines, the shoulder's painted boundary, are four inches wide. On University Place's busiest streets, we made them eight inches. Drivers feel more enclosed by the aid lines and travel slower."

Plant Trees

"When trees line streets, they create a sense of security and separation from the roadway that attracts pedestrians and gives drivers a reference point for their speed. Urban trees also increase property values by up to 20 percent. Buy and maintain three trees for $1,000 in a $400,000 home and eventually they'll return $60,000 in value. Trees also reduce the temperature of streets."

Paint Fog Lines

"Visual tricks can make lanes seem narrower. Most fog lines, the shoulder's painted boundary, are four inches wide. On University Place's busiest streets, we made them eight inches. Drivers feel more enclosed by the aid lines and travel slower."

Plant Trees

"When trees line streets, they create a sense of security and separation from the roadway that attracts pedestrians and gives drivers a reference point for their speed. Urban trees also increase property values by up to 20 percent. Buy and maintain three trees for $1,000 in a $400,000 home and eventually they'll return $60,000 in value. Trees also reduce the temperature of streets."

Paint Fog Lines

"Visual tricks can make lanes seem narrower. Most fog lines, the shoulder's painted boundary, are four inches wide. On University Place's busiest streets, we made them eight inches. Drivers feel more enclosed by the aid lines and travel slower."

Plant Trees

"When trees line streets, they create a sense of security and separation from the roadway that attracts pedestrians and gives drivers a reference point for their speed. Urban trees also increase property values by up to 20 percent. Buy and maintain three trees for $1,000 in a $400,000 home and eventually they'll return $60,000 in value. Trees also reduce the temperature of streets."

Paint Fog Lines

"Visual tricks can make lanes seem narrower. Most fog lines, the shoulder's painted boundary, are four inches wide. On University Place's busiest streets, we made them eight inches. Drivers feel more enclosed by the aid lines and travel slower."
Can’t Be “Improved” Further
Connectivity
size
neighborhoods for a 5-minute walk
Make blocks a walkable size:
block perimeters of 1,500’ to 2,000’
create a connected network of streets
Design for a mix of land uses:

Centers include denser housing, a square, civic uses, and neighborhood-oriented retail.
What are the problems here?

- Lack of Security
- Lack of people
- Lack of investment
- Lack of diversity
- Auto dependence
- No place to buy a popsicle
- Lack of diversity
- Lack of activity
Seaside, Florida

Townhouses frame the square while open space provides an outdoor environment for nearby residents.

The intensity of uses should gravitate away from the neighborhood center.

The largest lots of the TND can be at the edge.

In these cases where a TND is bordered by a principal street higher intensity uses such as medium density housing can be used in creating the edge.

Civic buildings should be terminate street or open space vistas.

Based on the 1928 drawings by James Perry.
Roswell, Georgia
3,260 miles of roads
Roswell, Georgia
3,260 miles of roads
760 miles connect
Only 22% of roads are doing the heavy lifting
Land Use Pattern Affects Travel

Higher Density can reduce Vehicle Trips

Significant reduction in VMT as we go from 3-4 units/acre to over 20 units/acre

Source: John Holtzclaw, PhD, Sierra Club
8-10 du/a net

11-12 du/a net
Many of our suburban and country highways are being improved for motorists. Most of them are now unfitted for all other users. It is no longer safe to walk, ride or bicycle on roadways, especially at night when it is extremely perilous. The entire width of some highways is taken up by the roadway and on others what is not needed for roadway is left ungraded or so rough that it is useless for pedestrians, equestrians or cyclists.

No highway should be permitted to be without due provision for pedestrians and where practical for equestrians or bicyclists.

There should be a sidewalk or reasonably well made foot-path on one side at least of every highway. There should of course be two sidewalks or foot-paths on important highways.
Our cars matter … But
The Reality ...
Quality Of Life

In building facilities to accommodate cars…

…we often forget about the people
If it weren’t for the damn pedestrian there would be no traffic problem in Los Angeles...

... circa 1972, Los Angeles Traffic Engineer

Compact villages and a strong civilian presence is the only solution to our traffic problems...

... circa 1995, San Diego Traffic Engineer
What got us into this mess? Many things -- No one is innocent

Bankers bundled and traded 500 shopping centers at a time, designed, not for “place” but to fit their definition of profitability.

Bankers bundled 5,000 homes at a time, all at set price points requiring 3 bedrooms and 2 baths. This was at a time when the average American family shrunk to 2.1.

As consumers we drove up house sizes to 2200 square feet

The highway guys built the roads to nowhere.
Last year car buyers ranked fuel economy 17th on their list of priorities, just below cup holders and the car's stereo system, according to a survey by CNW Research, a respected automotive market analysis firm.

Newsweek, April 08
Where would you rather walk?  Where would you rather bike?  Which is the safest place to bike?
Where would you rather drive?  Where would you rather live?  Which is the safest place to drive?
Chico, CA
Nord Avenue
Chico, CA
Nord Avenue
Organized
Planned
Structured
Efficient Movement
VISION
"Unlike previous papers, Noland's is not a localized study or one reflecting unusual roadway types. It is specific to collectors, and it applies to all roads of this category throughout the US.

Noland states bluntly,

'as more arterial and collector lane widths are increased up to 12 ft or more, traffic fatalities and injuries increase....'

These results are quite stunning as it is general practice to 'improve' the safety of roads by increasing lane widths.‘

Evidence that showed narrowing traffic lanes reduce motorist speeds. The journal Accident Analysis and Prevention (http://www.sciencedirect.com/science/journal/00014575) has this article 'In-Press.'
You Know When You Have Left Claremont, California
Proposed section alternatives on Foothill Blvd – N side:

- Bike lane and wider sidewalk
- Bike lane & wider sidewalk with parking bays
- Bike lane & wider sidewalk with textured parking bays
Crossings
Gateways
One of five typical sections used in University Place, WA. to hold speeds to 30 mph. Trees in medians and planter strips did much of the work.
Roundabouts
Can handle 25,000 vehicles per day
Washington’s First Roundabout was placed at a school
America’s First School Roundabout
Designing Walkable Urban Thoroughfares:
A Context Sensitive Approach

Institute of Transportation Engineers
Street Design Manual

- Holistic Use of Streets
- Complete Streets
- Green Streets
- Increased Land Values
- New Maintenance Funds
- Streets Pay Their Way Through Increased Land Value
Where There’s Opposition There Needs To Be Courage
Draw it, and see if it works
Without a Vision there is no dream

Without a plan there is no hope

Without a team there is no achievement
Fig. 1. A framework for creating a healthy, active city

**Settings**
- Schools
- Workplaces
- Health care
- Leisure-time and sport settings
- Neighbourhoods

**Healthy, active city**
- Opportunities for physical activity and active living for all

**Built environment**
- Transport, land use, urban design, green spaces

**Social environment**
- Equity, income, social support, social cohesion, culture

**Local government**
- Elected officials, urban planners, sport and recreation, health, transport, education, law enforcement, tourism

**Partners**
- Residents, civil society, voluntary sector, private sector

**Community participation**

**Interventions**
- Long term
  - Policies
  - Programmes
  - Plans
  - Infrastructure strategies
  - Communication
- Short term