Healthy Built Environments

Where do we go from here?

Wheels and Heels Summit

A LOOK AT COMMUNITIES THROUGH A NEW LENS

By Dan Burden, Director of Innovation and Inspiration
Walkable and Livable Communities Institute

Newark, Delaware **March, 2014**

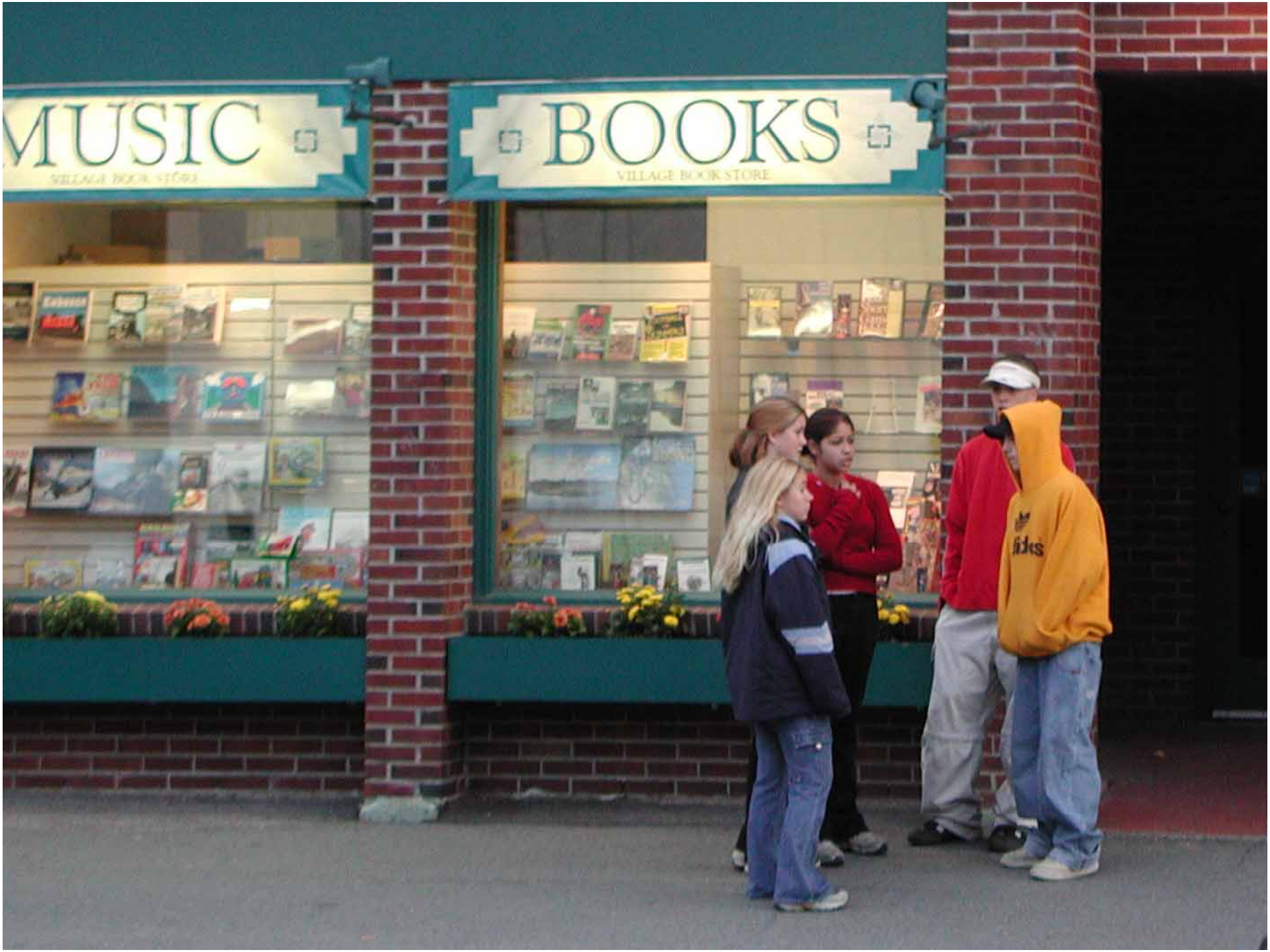
Who is served by this landscape?


Thomas
STOP
570


38693M9

What is “Place?”

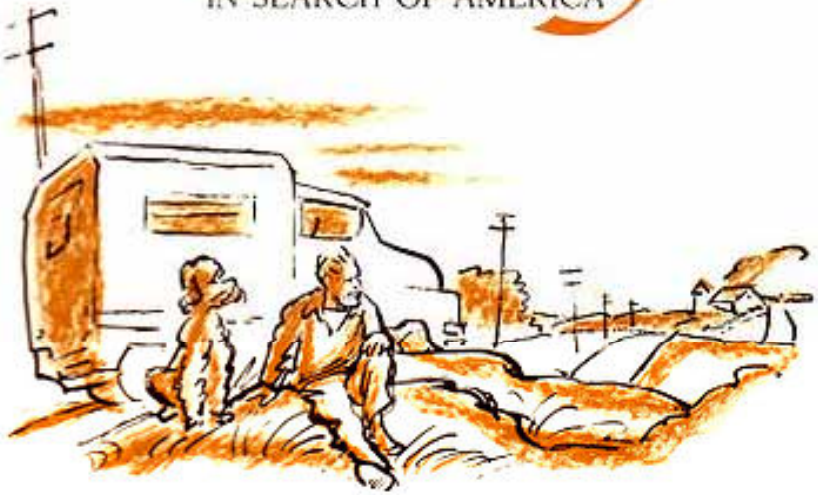

Littleton,
New Hampshire


MUSIC
BOOKS
VILLAGE BOOK STORE

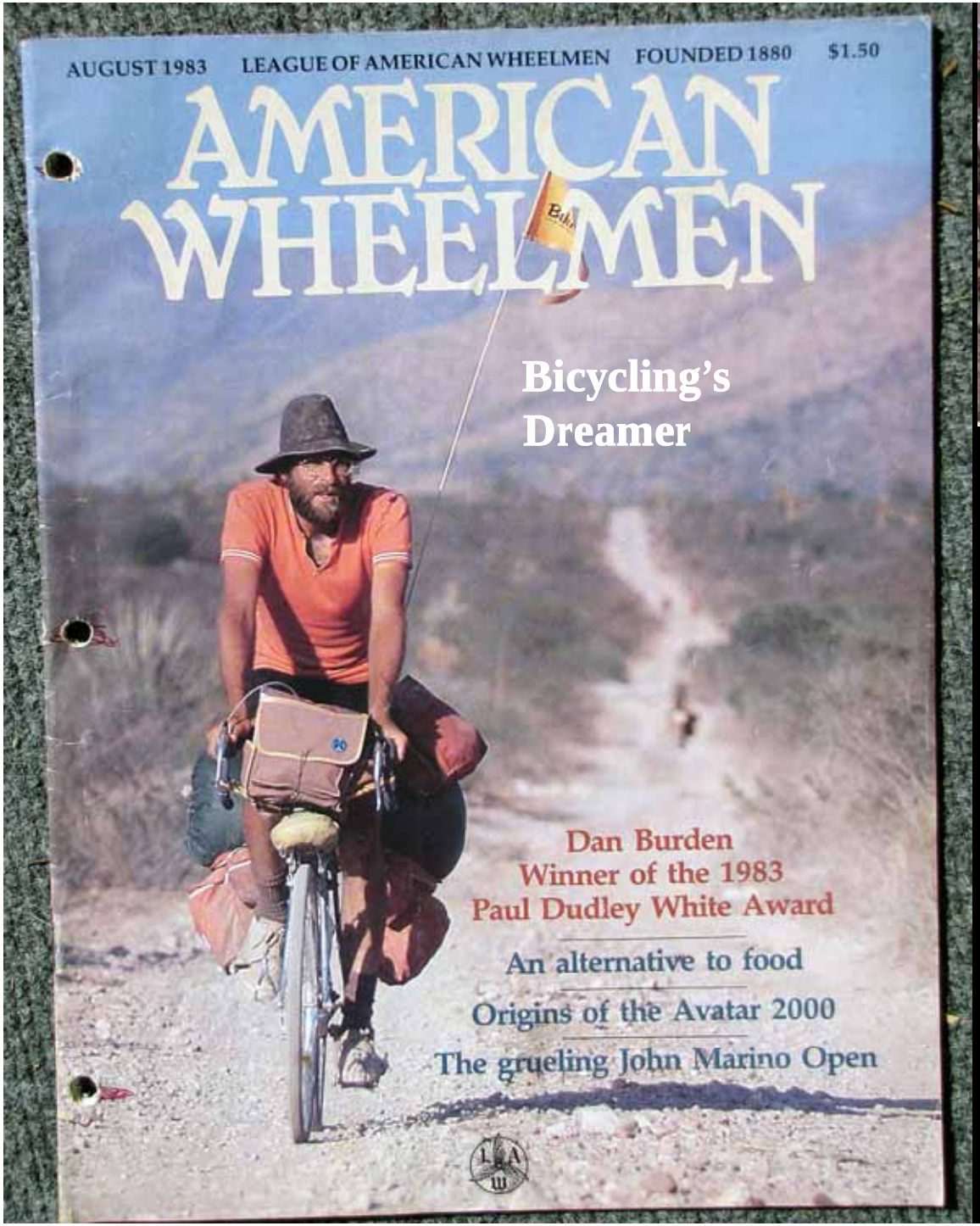
STEINBECK

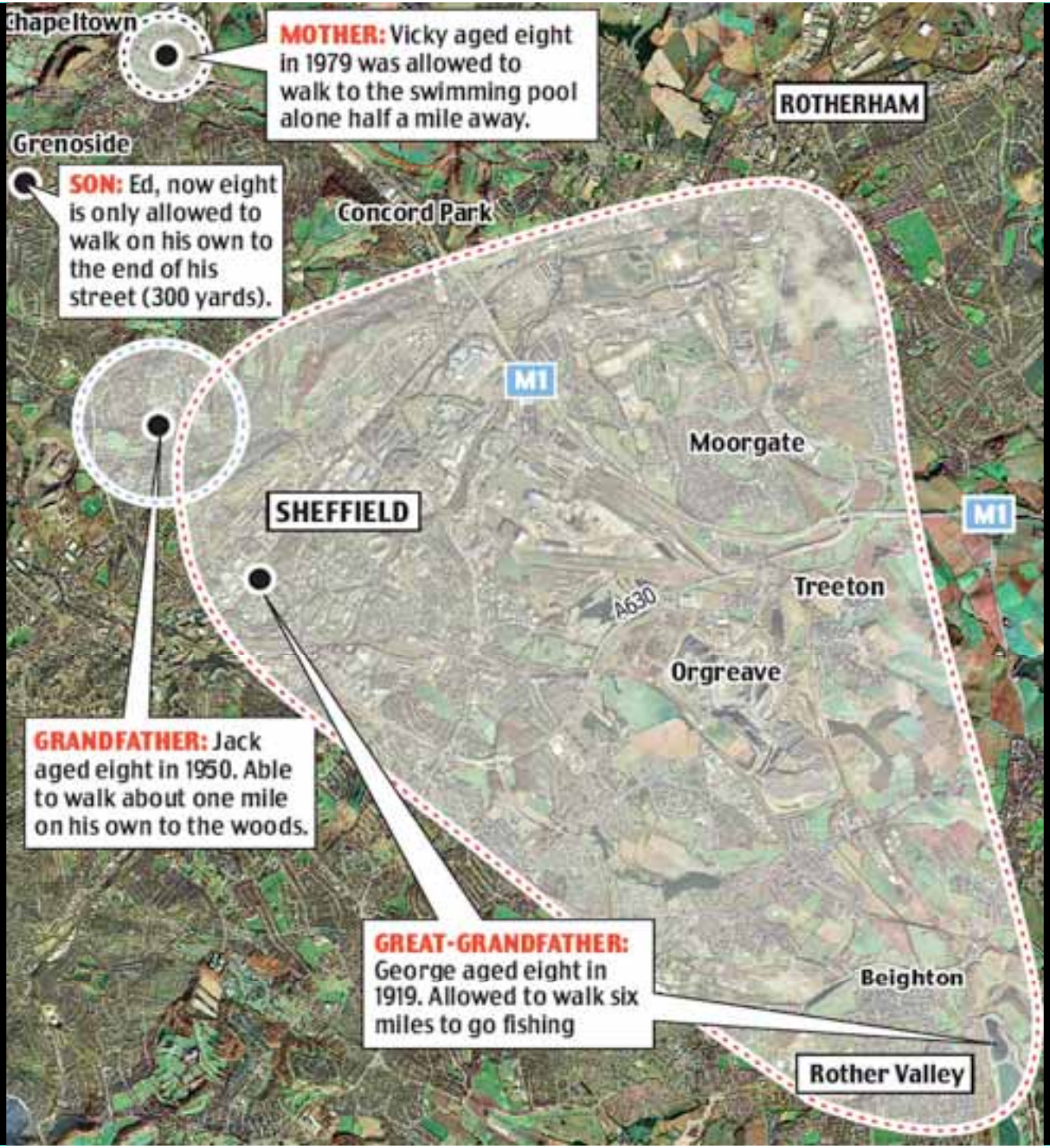
Travels with Charley

IN SEARCH OF AMERICA




…we often forget about the people


AUGUST 1983 LEAGUE OF AMERICAN WHEELMEN FOUNDED 1880 $1.50
AMERICAN WHEELMEN
Bicycling's Dreamer
Dan Burden
Winner of the 1983
Paul Dudley White Award
An alternative to food
Origins of the Avatar 2000
The grueling John Marino Open


Chapeltown
MOTHER: Vicky aged eight in 1979 was allowed to walk to the swimming pool alone half a mile away.
ROTHERHAM
Grenoside
SON: Ed, now eight is only allowed to walk on his own to the end of his street (300 yards).
Concord Park
M1
Moorgate
SHEFFIELD
M1
Treeton
A630
Orgreave
GRANDFATHER: Jack aged eight in 1950. Able to walk about one mile on his own to the woods.
GREAT-GRANDFATHER: George aged eight in 1919. Allowed to walk six miles to go fishing
Beighton
Rother Valley

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.

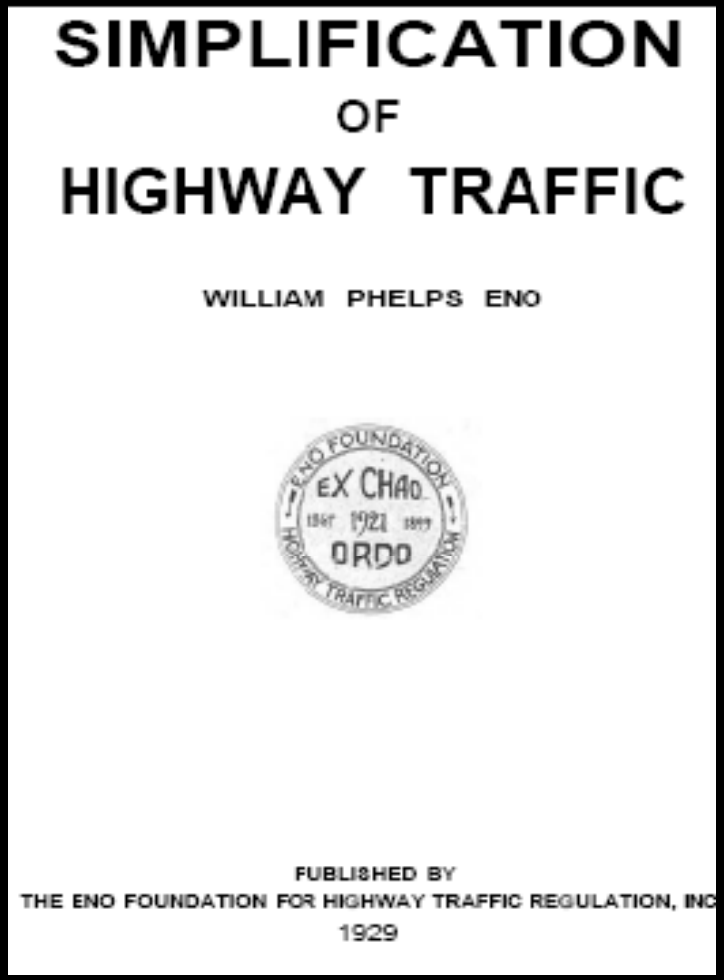
Forest Hills Elementary School

- Travel Routes Survey -

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 rauning 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 gets hurt. I also see people walking there dogs but their friendly. I see cat that are nice. I sometimes pet the dogs & Cats. I always see beautyful flowers, dandi lions, birds, and the wind always feel cool.



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.

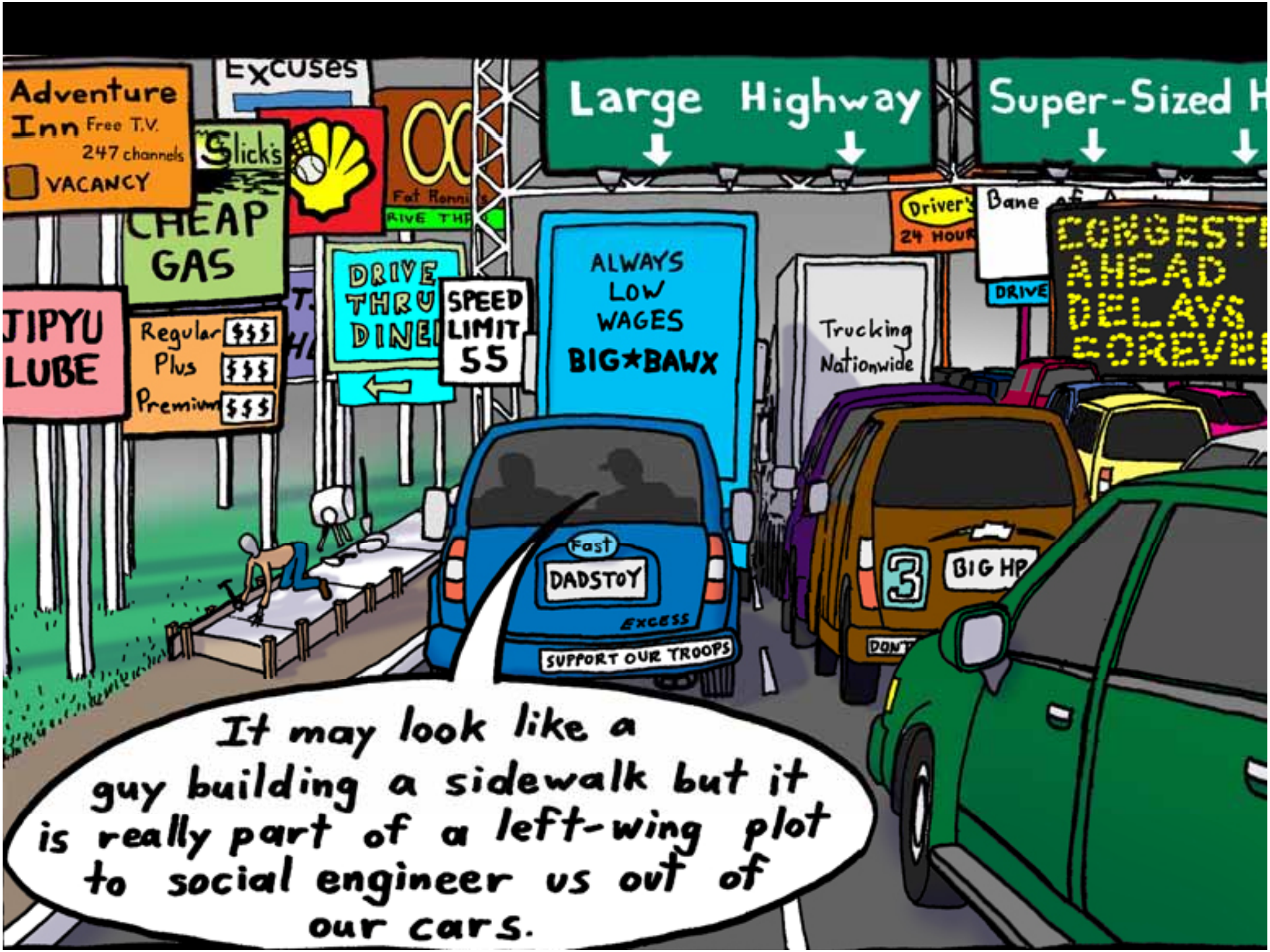
There should be a sidewalk or reasonably well made foot-path on one side at least of every highway. There should of course be two sidewalks or foot-paths on important highways.

If it weren't for the damn pedestrian there would be no traffic problem in Los Angeles…

… circa 1972, Traffic Engineer

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

… circa 1995, San Diego Traffic Engineer

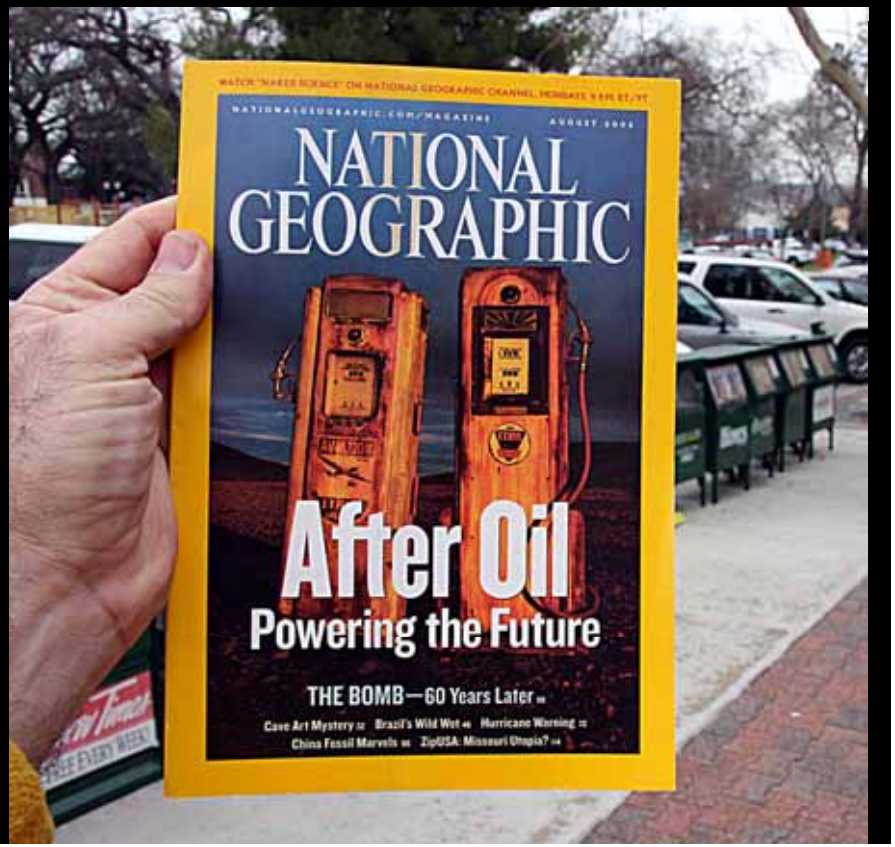

Adventure Inn Free T.V. 247 channels VACANCY
Excuses
Slick's
CHEAP GAS
Regular $$$
Plus $$$
Premium $$$
JIPYU LUBE
DRIVE THRU DINE
SPEED LIMIT 55
Large Highway
Super-Sized H
ALWAYS LOW WAGES BIG★BAWX
Trucking Nationwide
Driver's
24 HOUR
DRIVE
CONGESTI
AHEAD
DELAYS
FOREVE
Fast
DADSTOY
EXCESS
SUPPORT OUR TROOPS
3
BIG HP
It may look like a guy building a sidewalk but it is really part of a left-wing plot to social engineer us out of our cars.

Suburbanization—and the sprawling growth it propelled—made sense for a time. But that was then; the economy is different now. A new geography is required.

down the prices of these items. You get one of today's greatest bargains

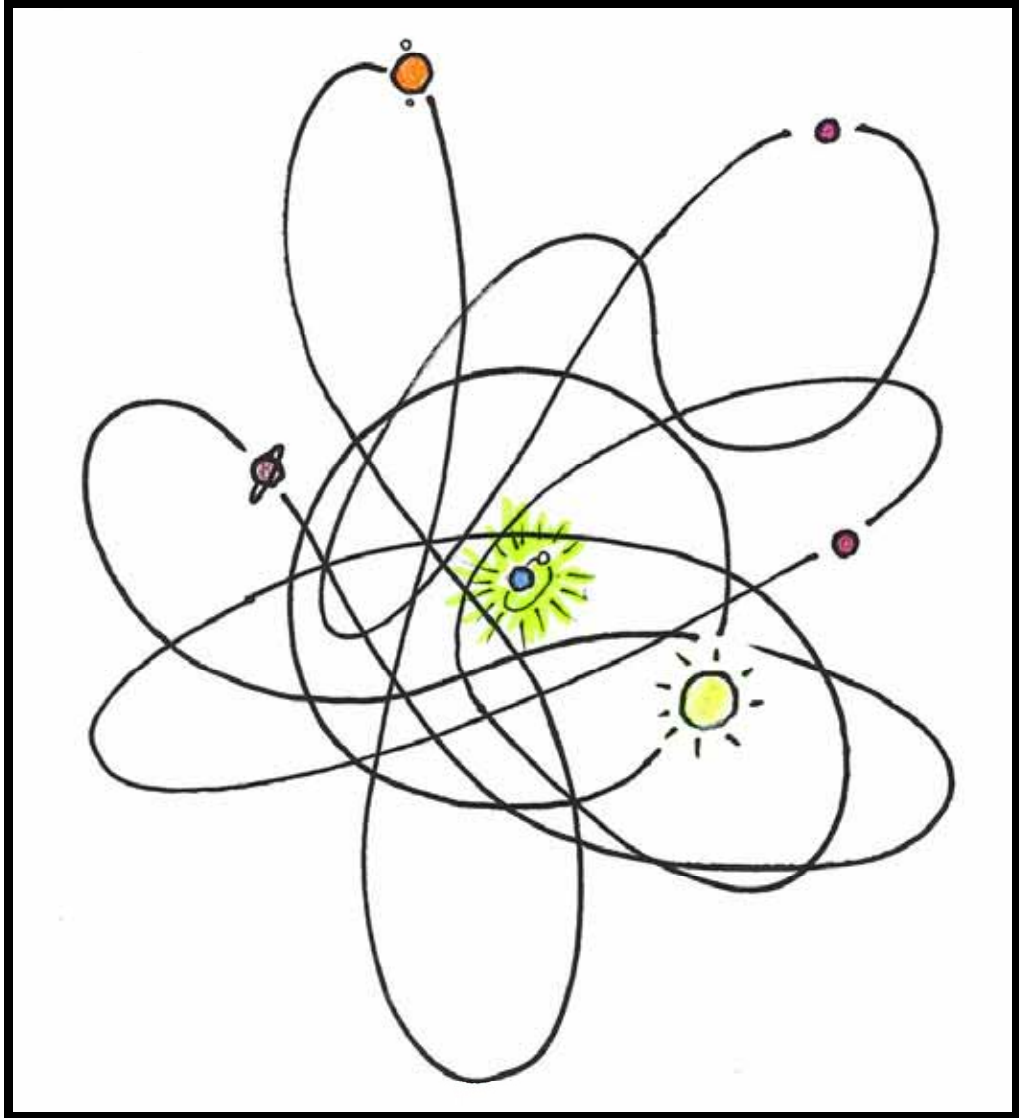
ETHYL CORPORATION New York 17, N. Y.

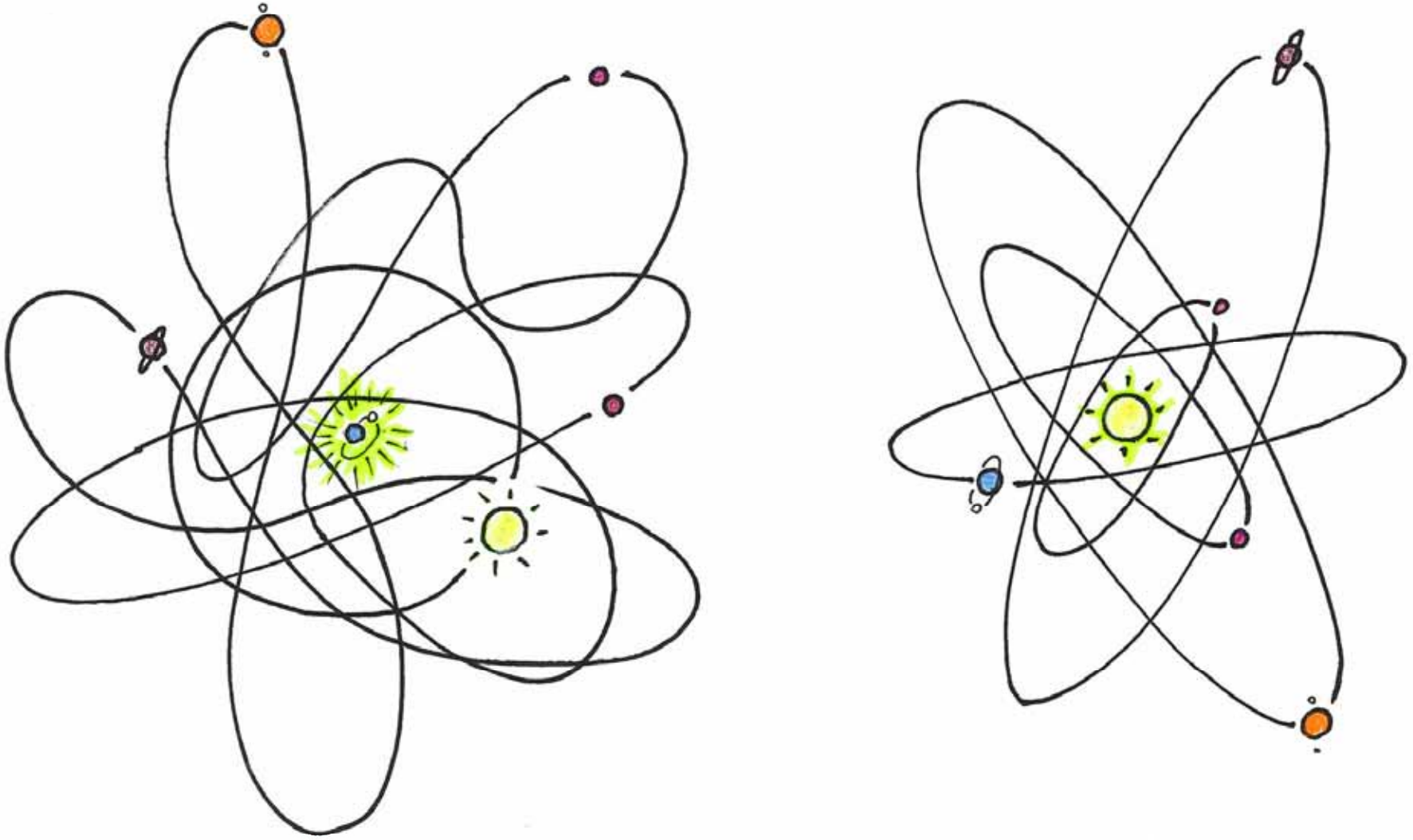
BY THE SEA: Seaside towns have a special lure for travelers. The picturesque sights, the tang in the air and the friendliness of the fishermen make a few days' visit seem like a full vacation.

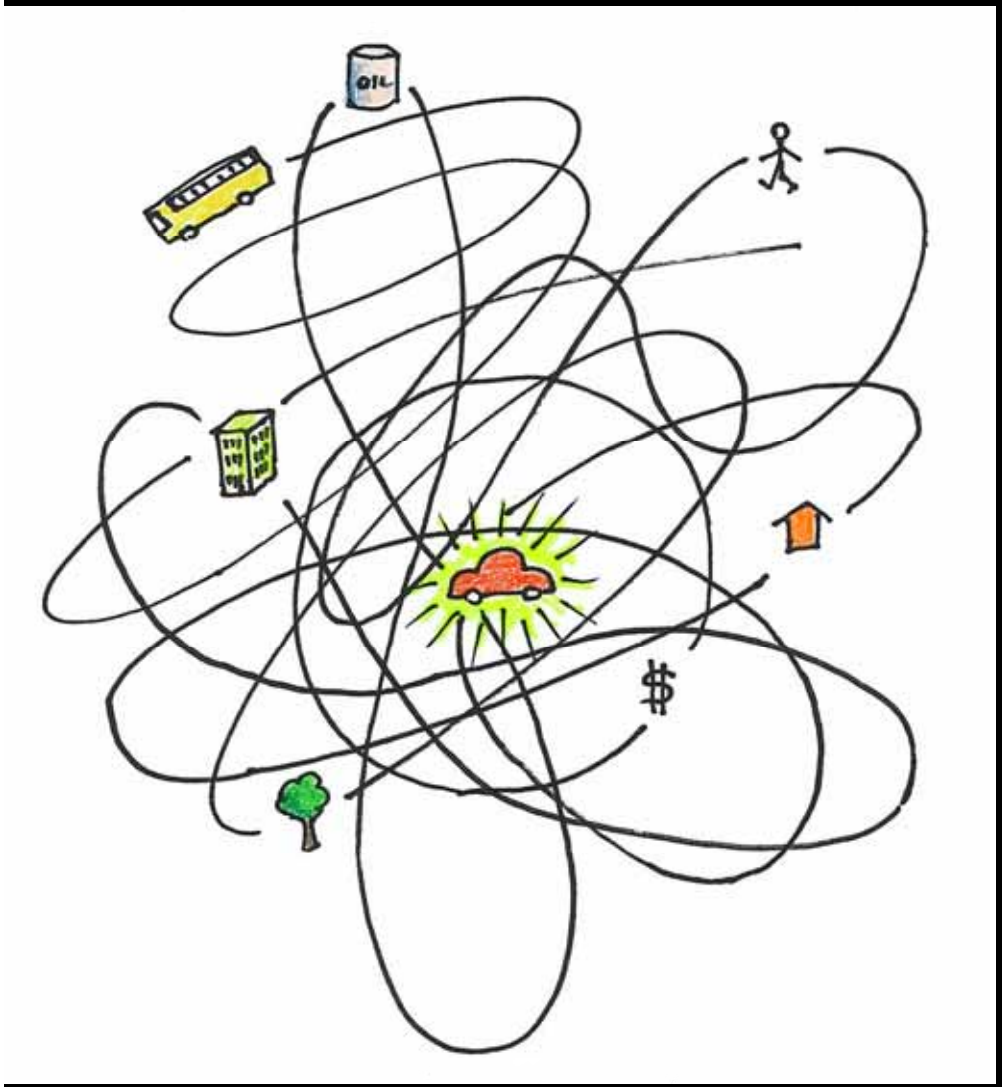


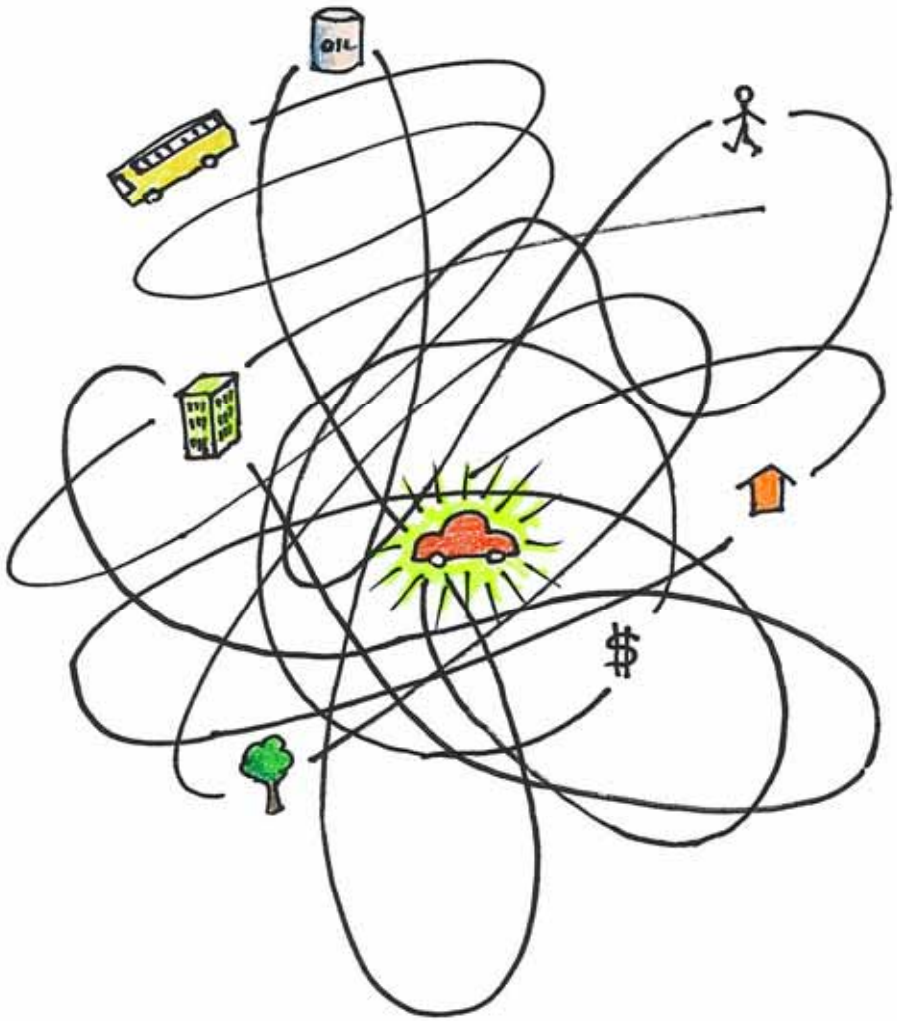
Last year car buyers ranked fuel economy 17th on their list of priorities, just below cup holders and the car's stereo system, according to a survey by CNW Research, a respected automotive market analysis firm.

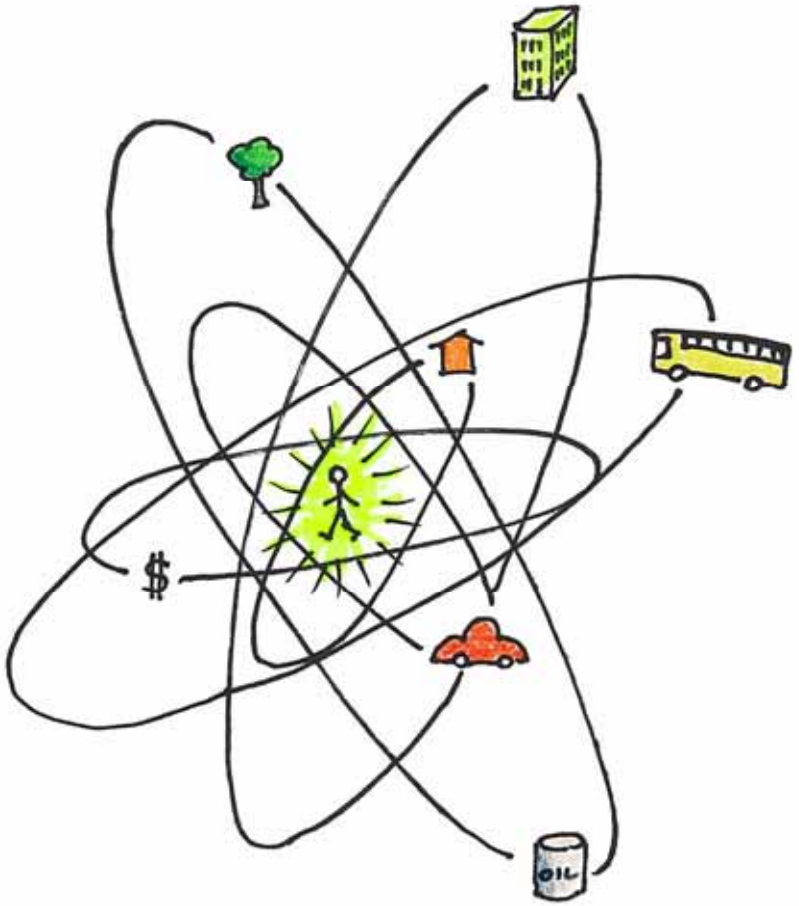
Newsweek, April 08






OIL
$


OIL

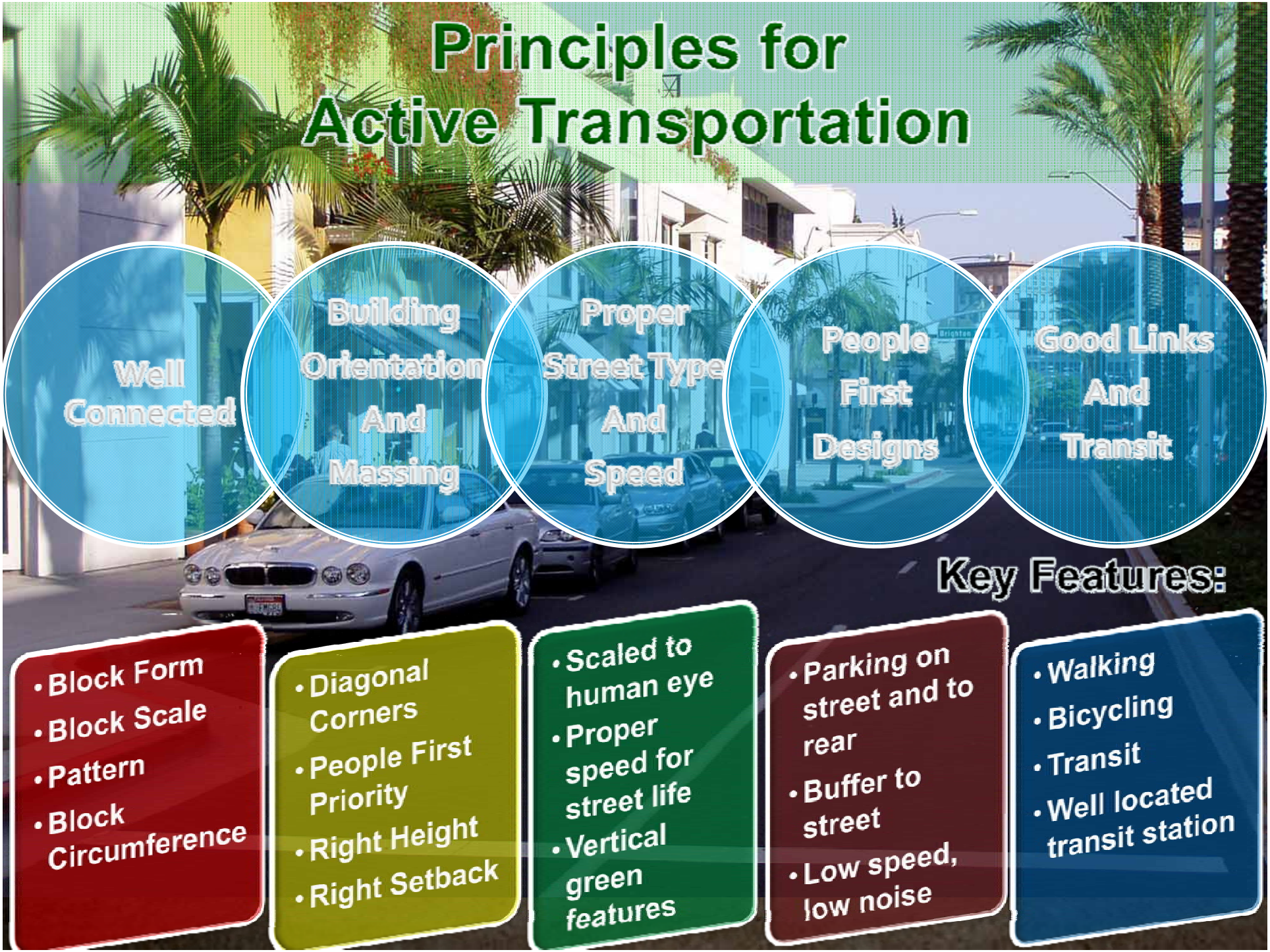

OIL

Which form focus of investment shown in the two panels to the right brings about the greatest good for a society?

Places for people, or places for cars?

If you plan cities for cars and traffic, you get cars and traffic.

If you plan for people and places, you get people and places.


Principles for
Active Transportation
Well Connected
Building Orientation And Massing
Proper Street Type And Speed
People First Designs
Good Links And Transit
Key Features:
• Block Form
• Block Scale
• Pattern
• Block Circumference
• Diagonal Corners
• People First Priority
• Right Height
• Right Setback
• Scaled to human eye
• Proper speed for street life
• Vertical green features
• Parking on street and to rear
• Buffer to street
• Low speed, low noise
• Walking
• Bicycling
• Transit
• Well located transit station

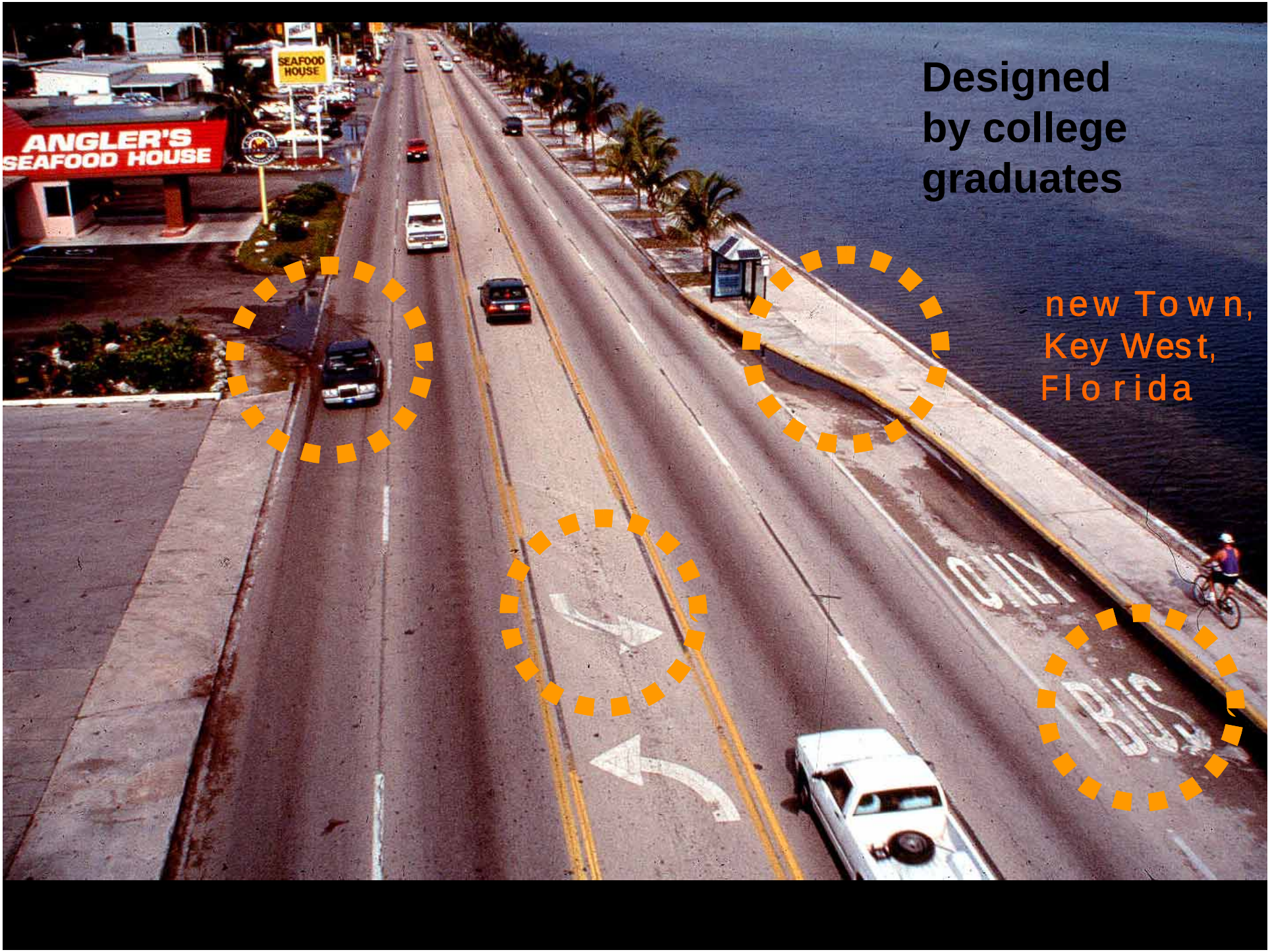

espresso
drinks
JUICE HUT
QUICK CUTS

By age 65, How much money would you have saved if you lived your entire life car free?

The numbers I calculate are in excess of 4 million dollars, using compounded interest at the 50-year average for investment portfolios of 7.6% and the AAA figure of $8,000/yr for cost.

…. Mobility Researcher David Levinger


Narrow streets
Short blocks
Tight corner radii
Great plazas
Beautiful buildings
Limited parking
Built by Pirates
Old Town,
Key West,
Florida


ANGLER'S
SEAFOOD HOUSE
SEAFOOD
HOUSE
CITY BUS
Designed
by college
graduates
new Town,
Key West,
Florida

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

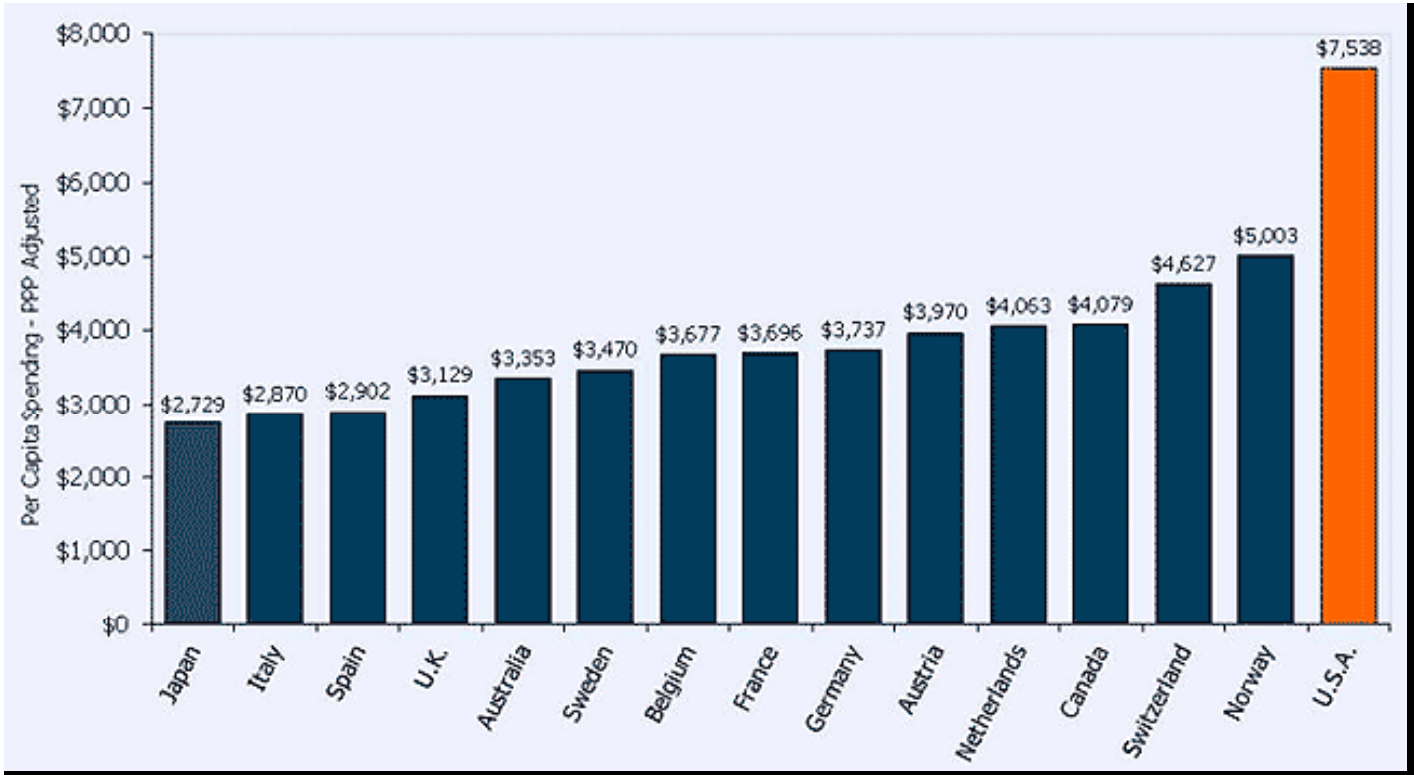
"What is the first thing an infant wants to do and the last thing an older person wants to give up?"

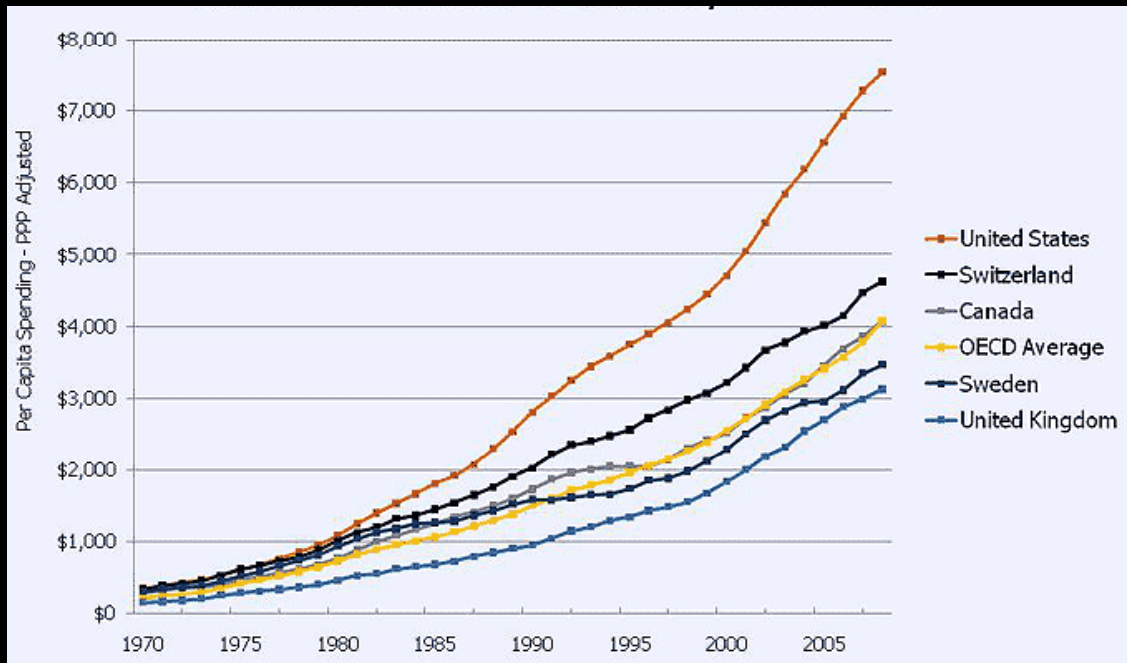
Walking is the exercise that does not need a gym. It is the prescription without medicine, the weight control without diet, and the cosmetic that can't be found in a chemist. It is the tranquilizer without a pill, the therapy without a psychoanalyst, and the holiday that does not cost a penny. What's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

."

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.


24 HOUR FITNESS


Per Capita Spending - PPP Adjusted
$8,000
$7,000
$6,000
$5,000
$4,000
$3,000
$2,000
$1,000
$0
$2,729
$2,870
$2,902
$3,129
$3,353
$3,470
$3,677
$3,696
$3,737
$3,970
$4,063
$4,079
$4,627
$5,003
$7,538
Japan
Italy
Spain
U.K.
Australia
Sweden
Belgium
France
Germany
Austria
Netherlands
Canada
Switzerland
Norway
U.S.A.


Per Capita Spending - PPP Adjusted
$8,000
$7,000
$6,000
$5,000
$4,000
$3,000
$2,000
$1,000
$0
1970
1975
1980
1985
1990
1995
2000
2005
United States
Switzerland
Canada
OECD Average
Sweden
United Kingdom

Why we cannot build our way out of traffic

Vehicle miles traveled (VMT) around the U.S. have increased by 70 percent over the last 20 years, compared with a two percent increase in new highway construction. The U.S. General Accounting Office predicts that road congestion in the U.S. will triple in 15 years even if capacity is increased by 20 percent.

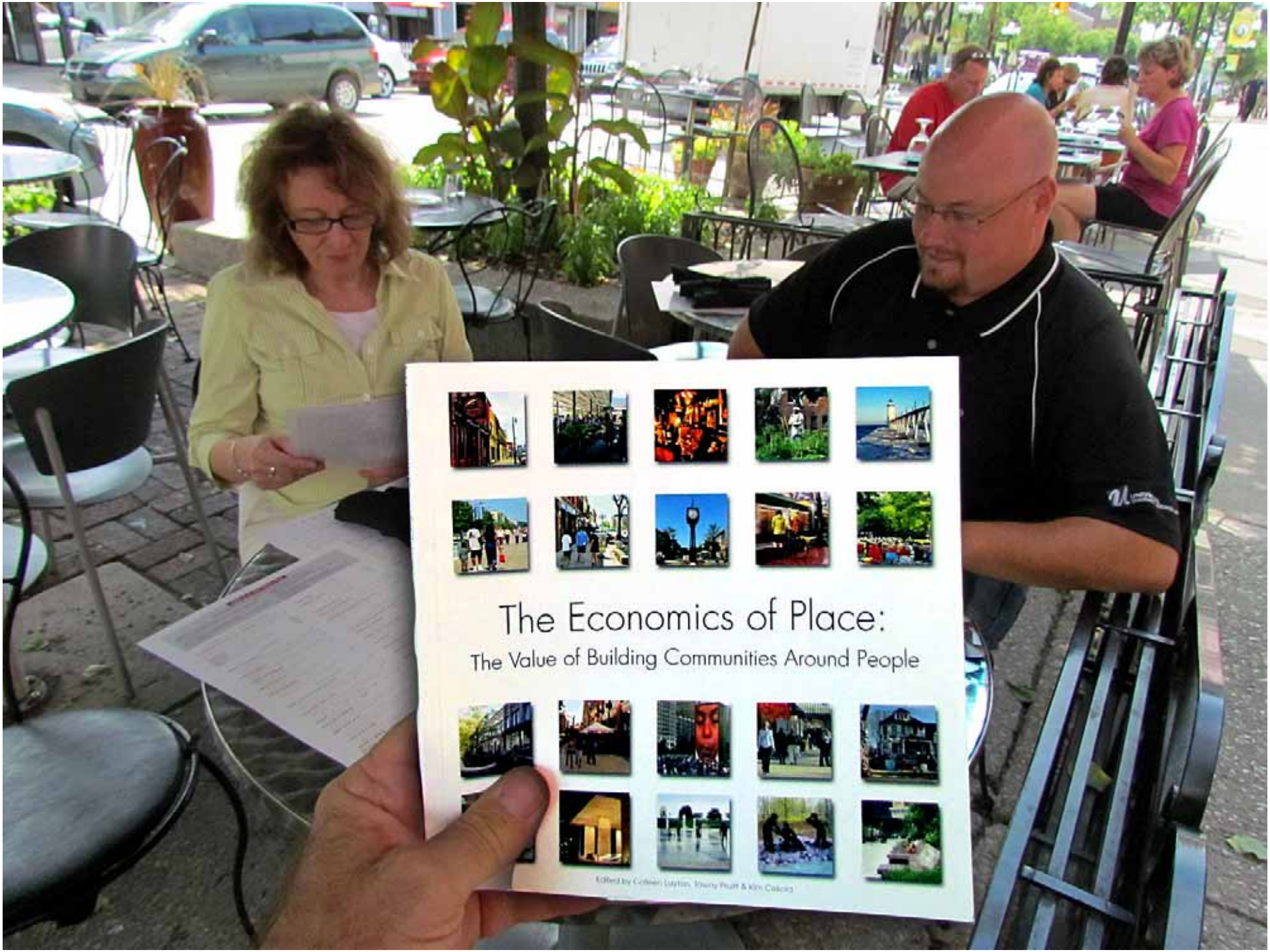
Traffic is growing about five times faster than the growth in population.

(Data compiled for a report to the U.S. Department of Transportation in 2006 written by Stephen Polzin, (transportation researcher at the University of South Florida in Tampa.)

Cities are an invention to maximize exchange (goods, culture, friendship, knowledge) and to minimize travel.

The role of transport is to maximize exchange.

....David Engwicht


The Economics of Place:
The Value of Building Communities Around People

The Day that Bubbles Froze Before Hitting the Ground

Photo by: Kelly Morphy, Glatting Jackson

The street is the river of life of the city, the place where we come together, the pathway to the center.

William H. Whyte

“I am more and more convinced that our happiness depends more on the way we meet the events of life than on the nature of those events themselves.”

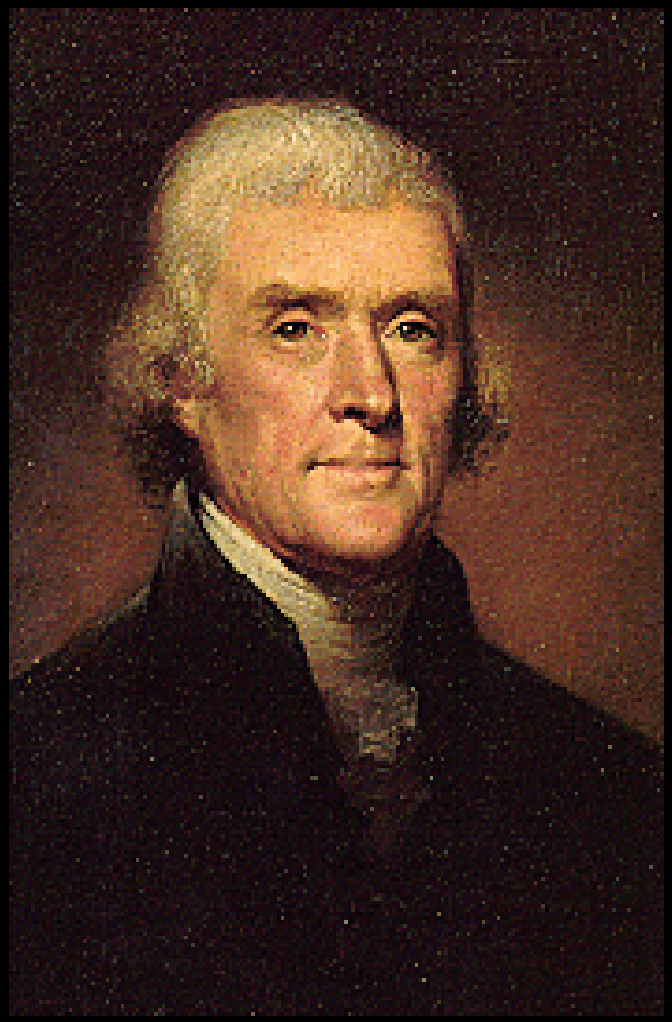
Alexander von Humboldt

Early 1800’s

The Father of Geography, and the last Master of Geography.

Darwin refers to Humboldt as the most scientific traveller who ever lived.”

Humboldt made order out of our complex Universe



“I know no safe depository of the ultimate powers of the society but the people themselves.

And if we think them not enlightened enough to exercise their control with a wholesome discretion, the remedy is not to take it from them, but to inform their discretion.”

Thomas Jefferson - September 28,1820

Where have all our children gone?

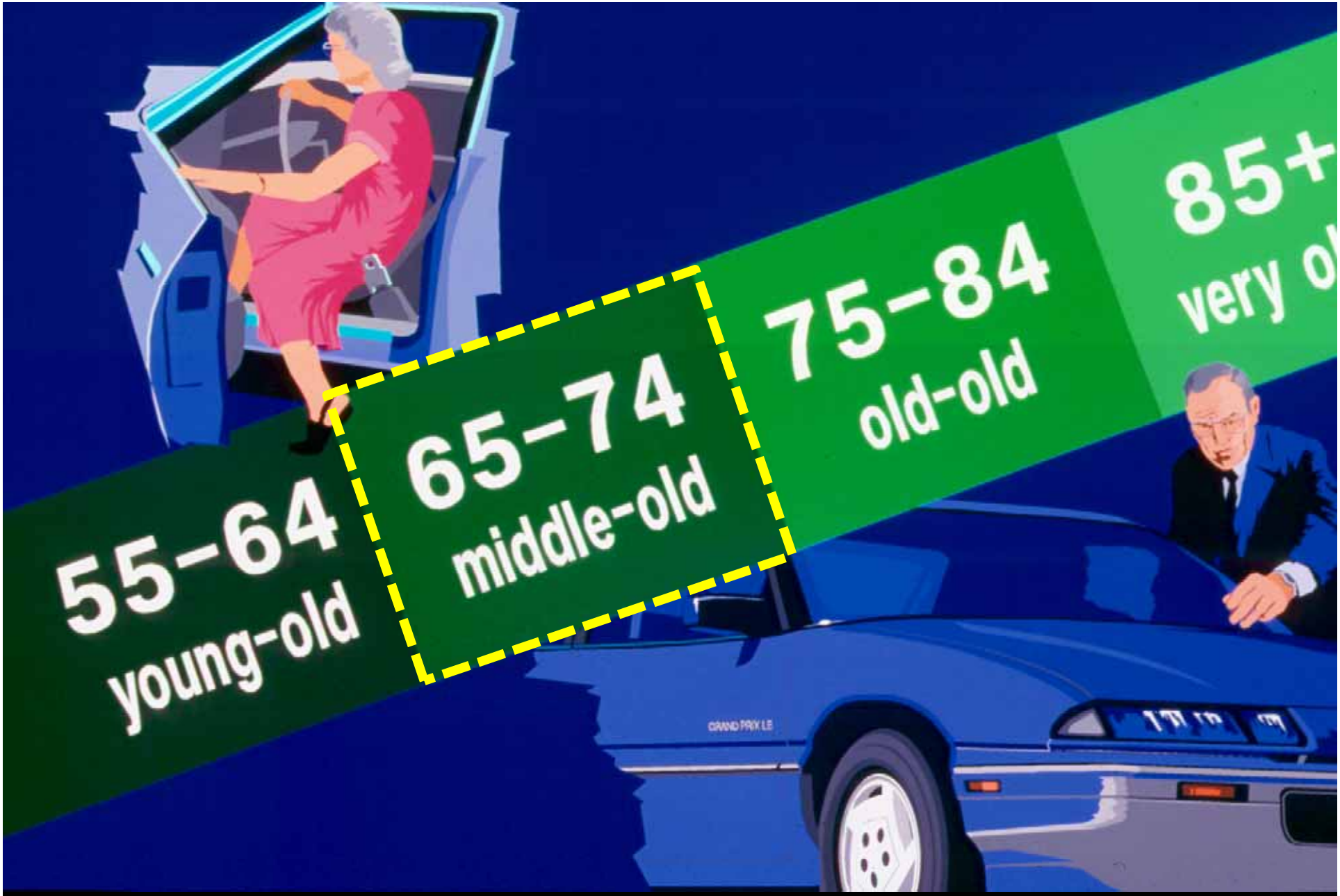
Future facing towns, those creating jobs, attracting our children, and which are most sought after by retiring boomers, have several features in common:

- They are designed for "people first”
- They focus on placemaking
- They have trails
- Their per capita VMT is declining
- Their downtowns are abuzz with life
- They are giant mixing bowls of creative minds
- Healthy food is easy to find; music and arts are found in abundance

These towns focus on happiness

Transportation has always built our cities.

Always.



We must adjust as we age

Just as with Youth ... Senior Years have distinct periods

Cost Comparisons
Suburban vs. Urban

	Housing Costs		Transportation Costs		Total
New York City	37.1%		15.1%		52.2%
Tampa	31.1%		25.1%		56.4%

Cost of owning a car (per year):

Funds staying in the local economy

License, taxes, repair, tires, registration, maintenance

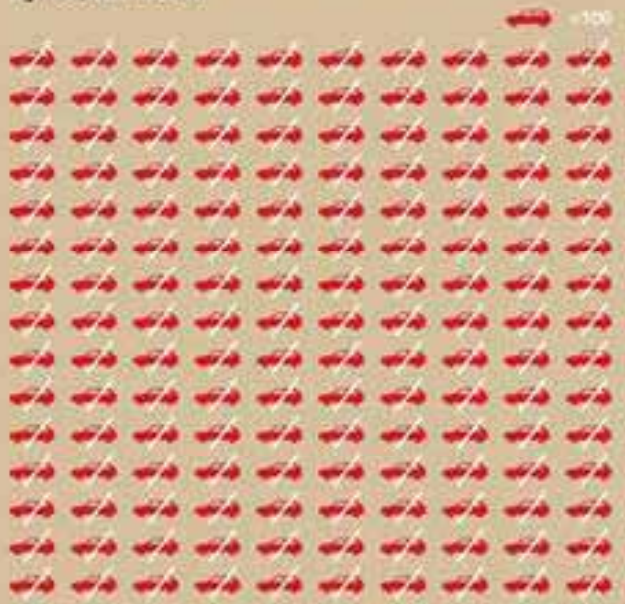
$1,390

Funds leaving the local economy

Gas, insurance, purchase price over time, finance charges

$7,095

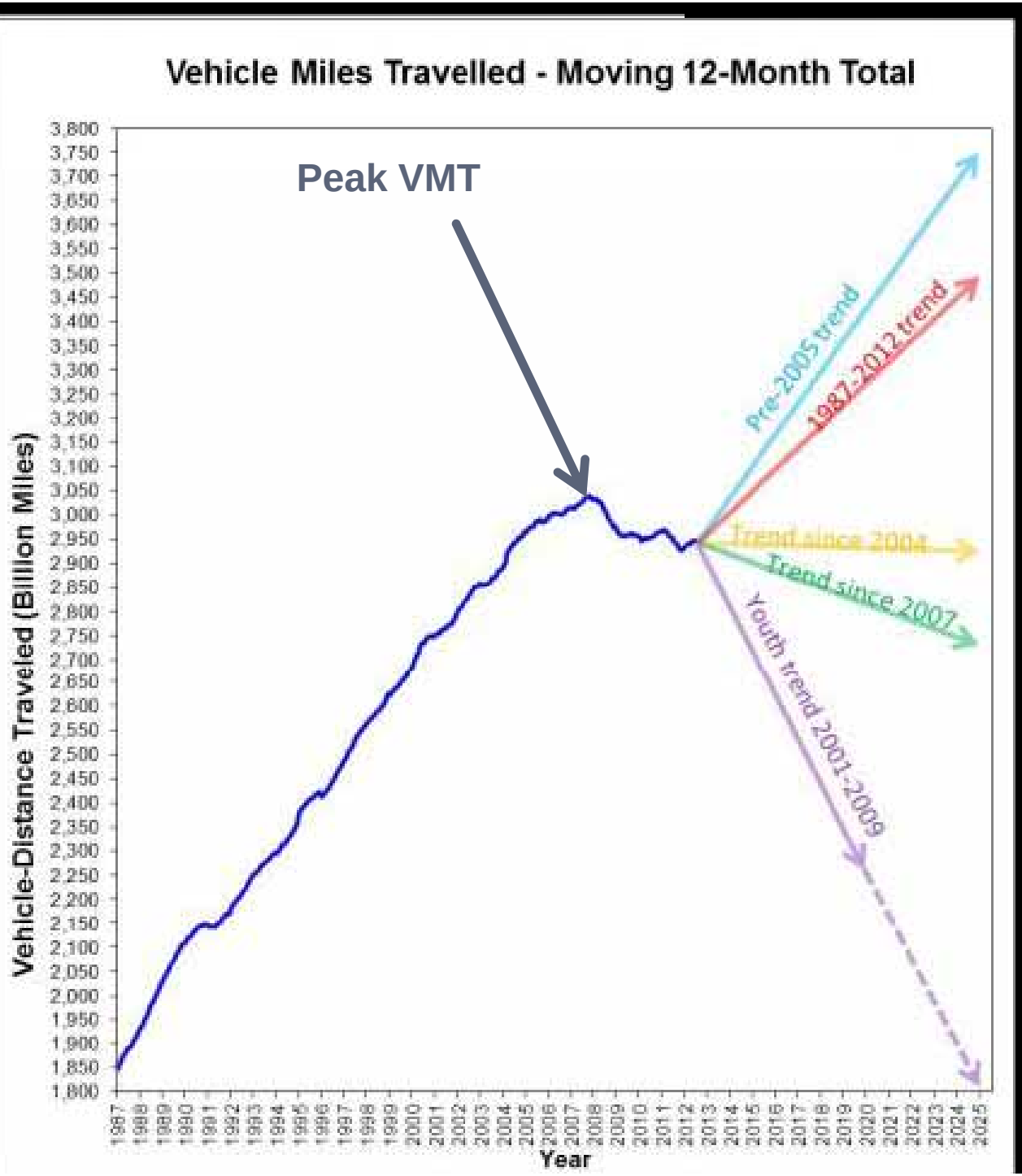
If a city could reduce car ownership by 15,000 cars:



$127,275,000

Money that could stay in the local economy

According to AAA, Americans spend on average $8,485 each year on their cars. Seems like a lot of money, doesn't it? And most of that money leaves your local economy. What if you were able to get rid of a car and spend—or invest—that money in your community? What if 15,000 people decided to make that same decision? That's exactly what happened in Washington, D.C. From 2005 to 2009, the District's population increased by 15,862 people while car registrations went down by close to 15,000 vehicles. Living in a walkable city has value beyond personal convenience—it also allows more of your money to stay closer to home while reducing your carbon footprint. With better information, can we make our cities more intelligent? We can. **What makes a city intelligent? You do.**


Vehicle Miles Travelled - Moving 12-Month Total
Peak VMT
Pre-2005 trend
1987-2012 trend
Trend since 2004
Trend since 2007
Youth trend 2001-2009
Vehicle-Distance Traveled (Billion Miles)
Year

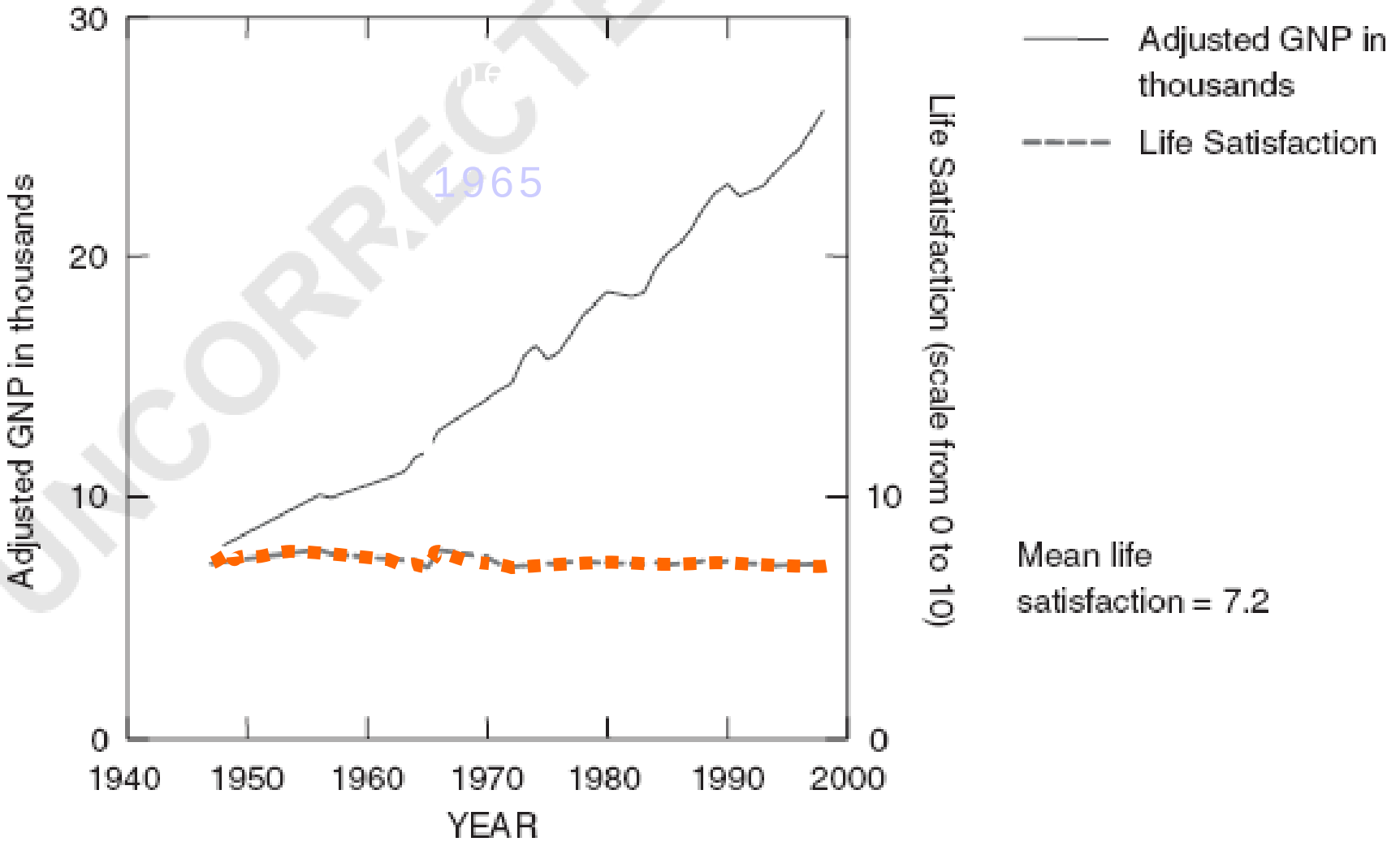
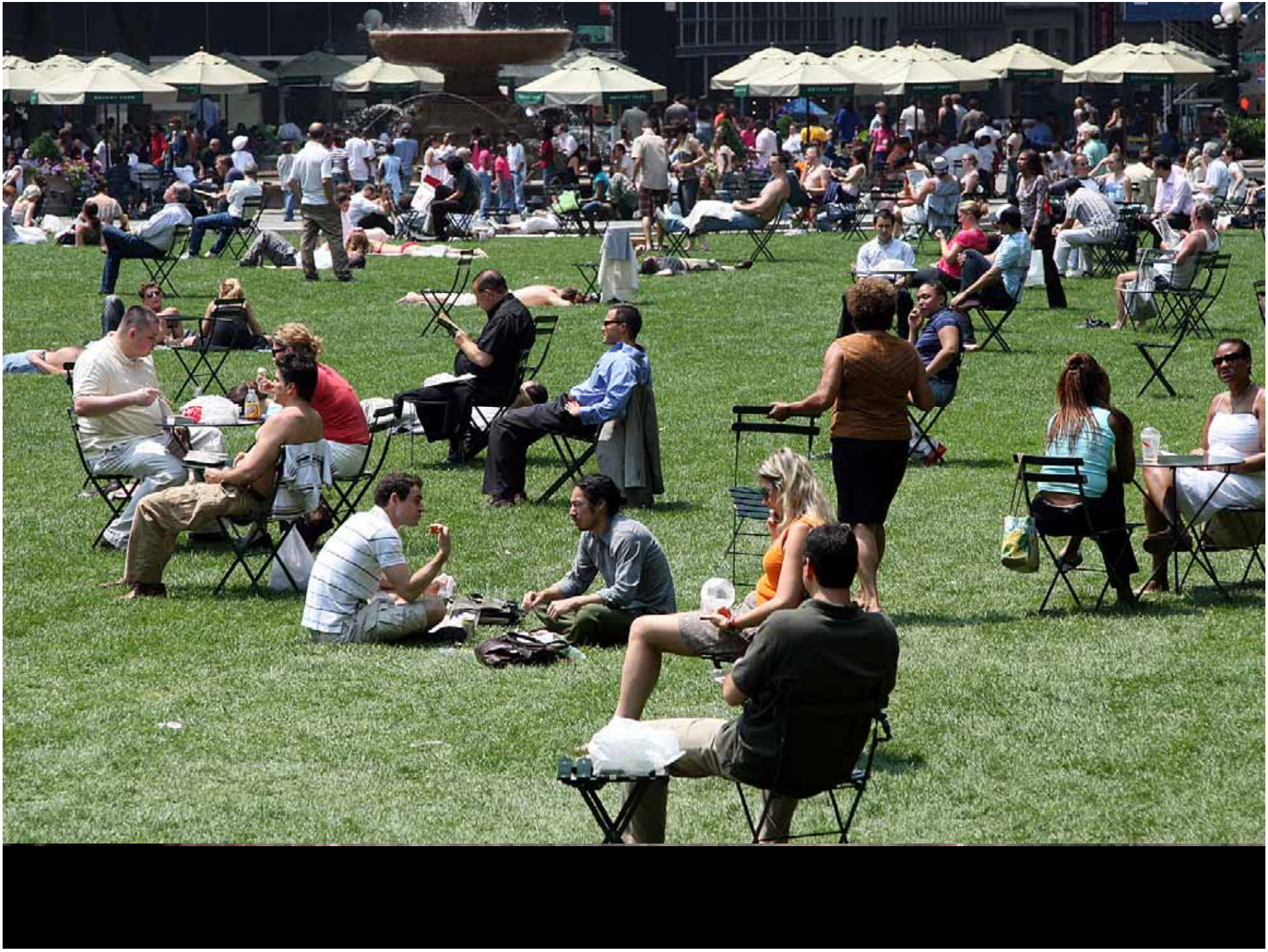
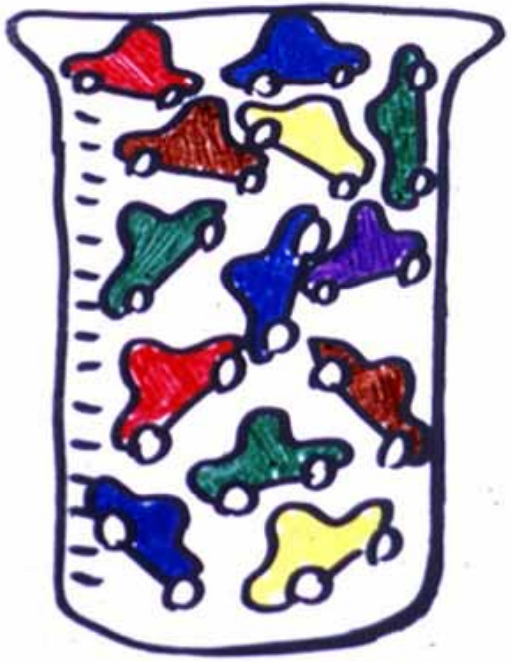


Fig. 1. U.S. gross national product (GNP) and mean life satisfaction from 1947 to 1998.

[redacted]




cafe entrance

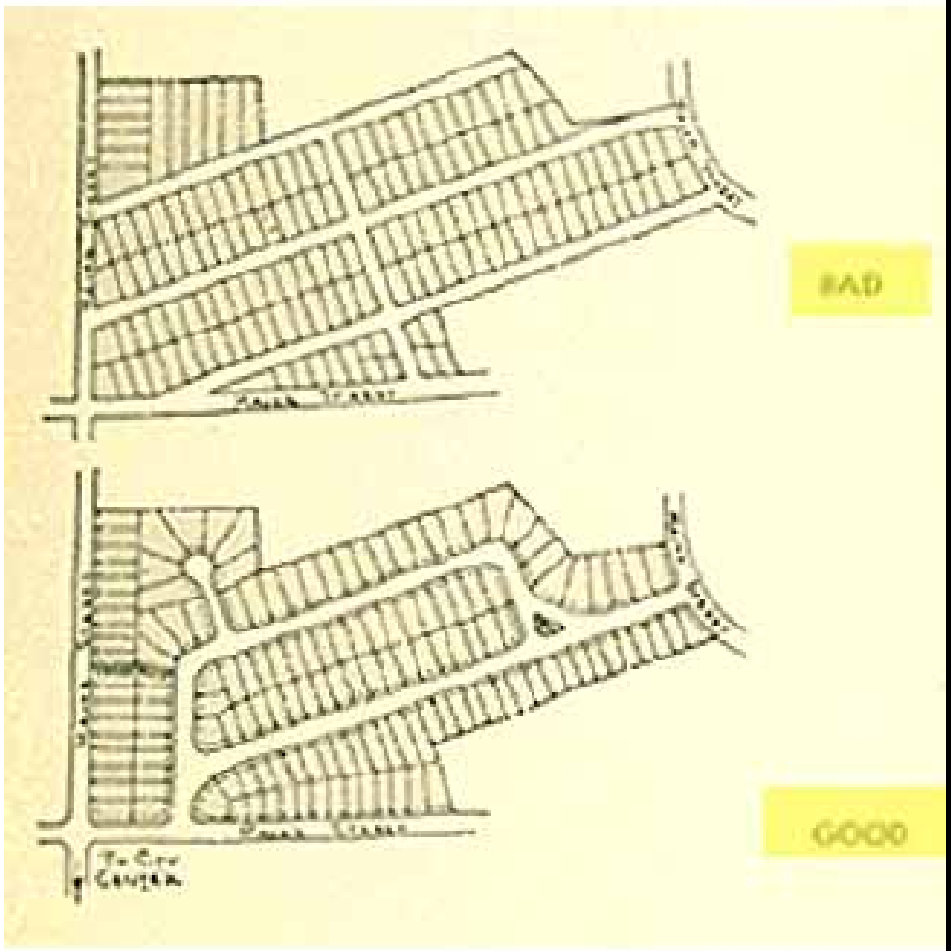


New measure for street performance:

People come to your street to shoot their wedding pictures

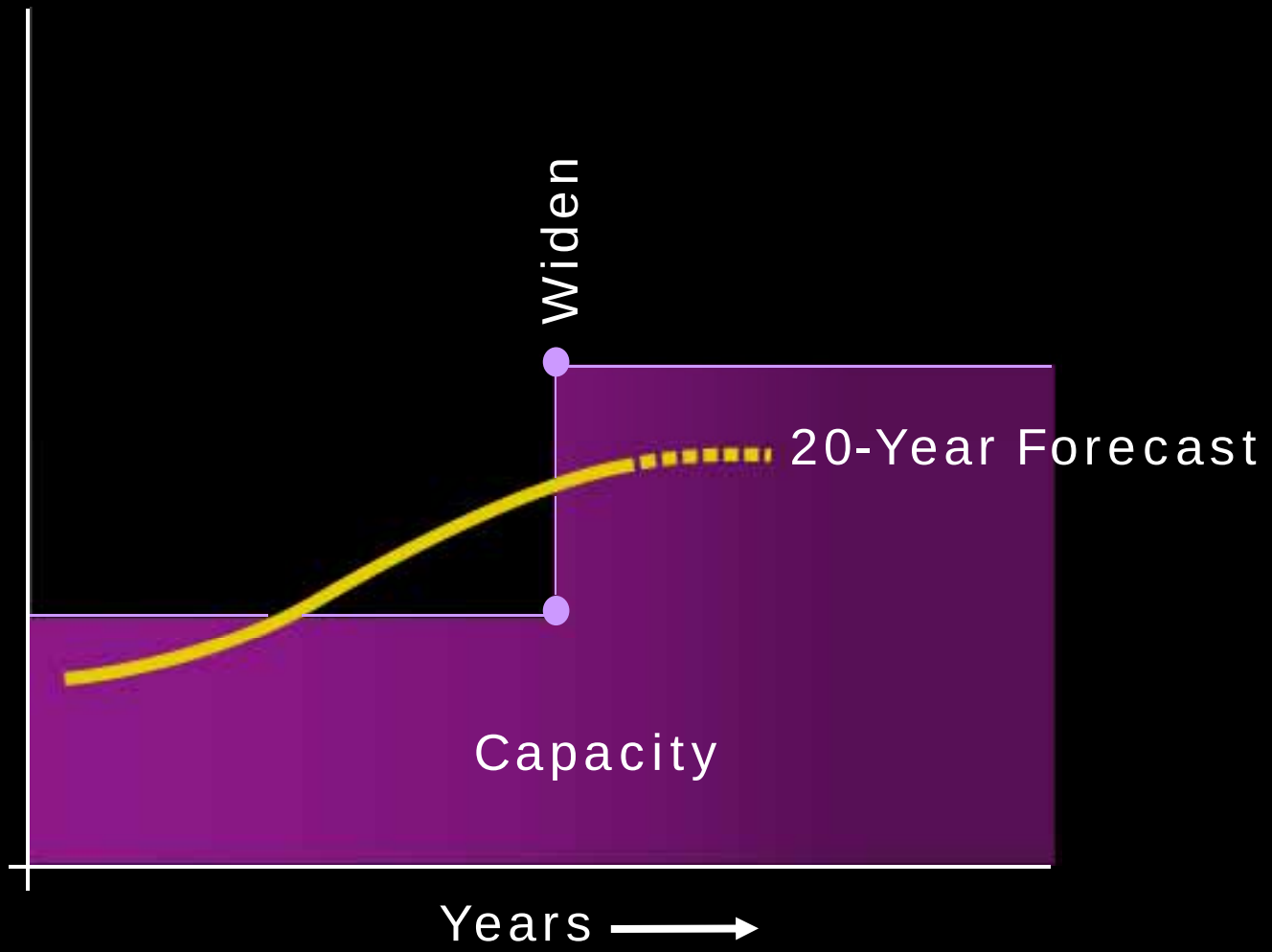
We should "discourage through traffic"

1938 - FHA Technical Bulletin No. 7 Planning Profitable Neighborhoods

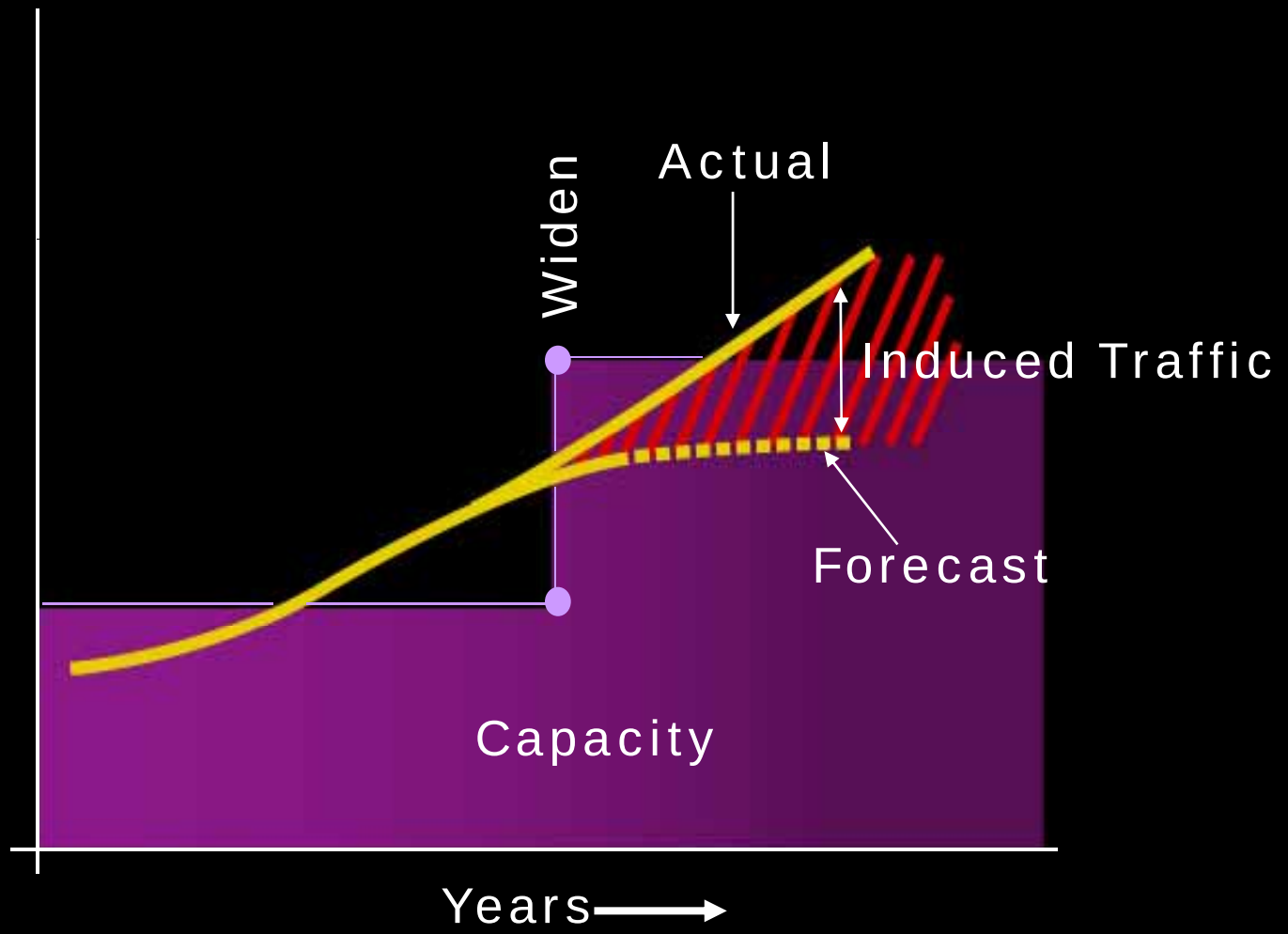


[redacted]

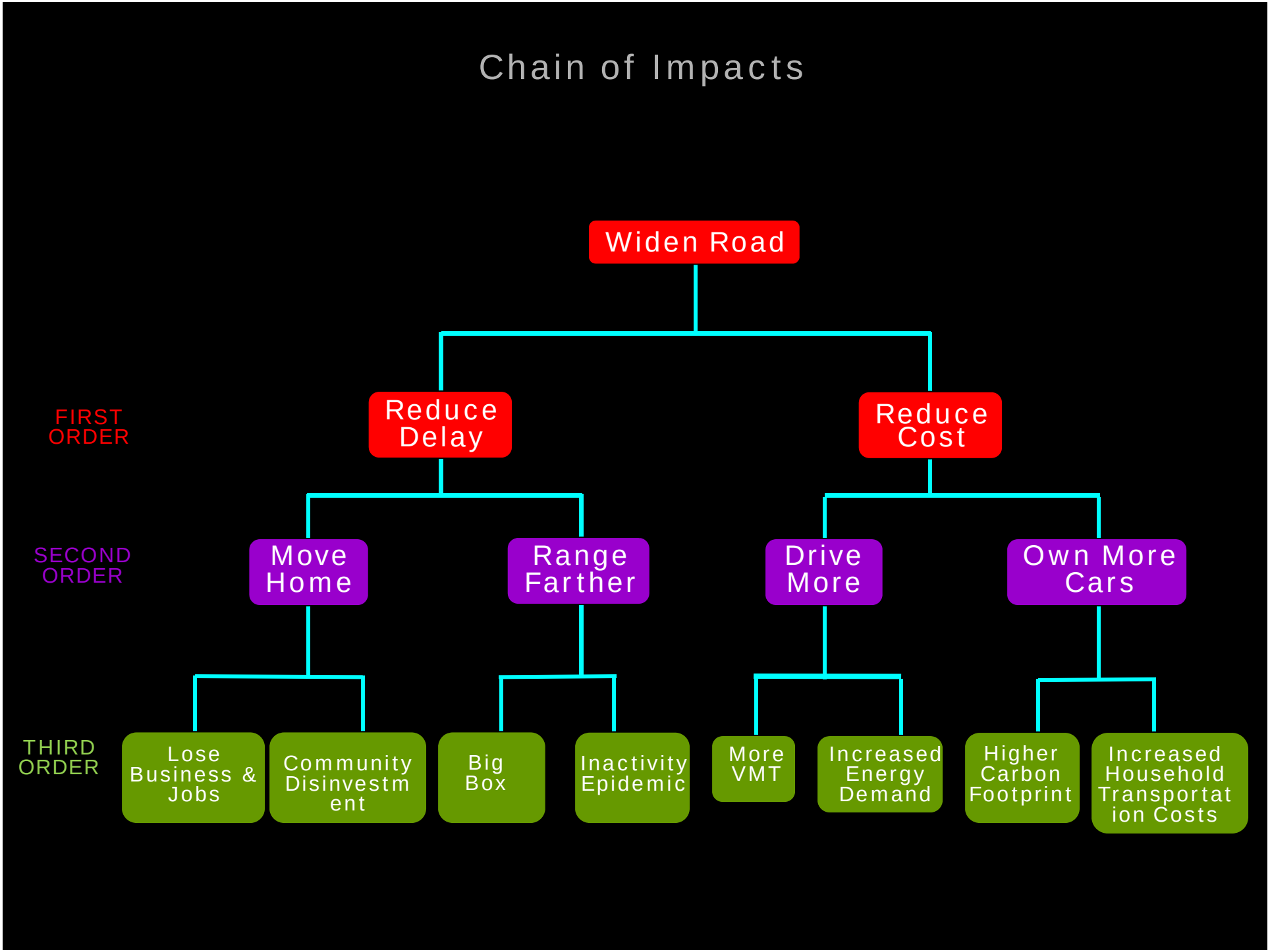
Land Use & Transportation – Ideal Traffic Planning

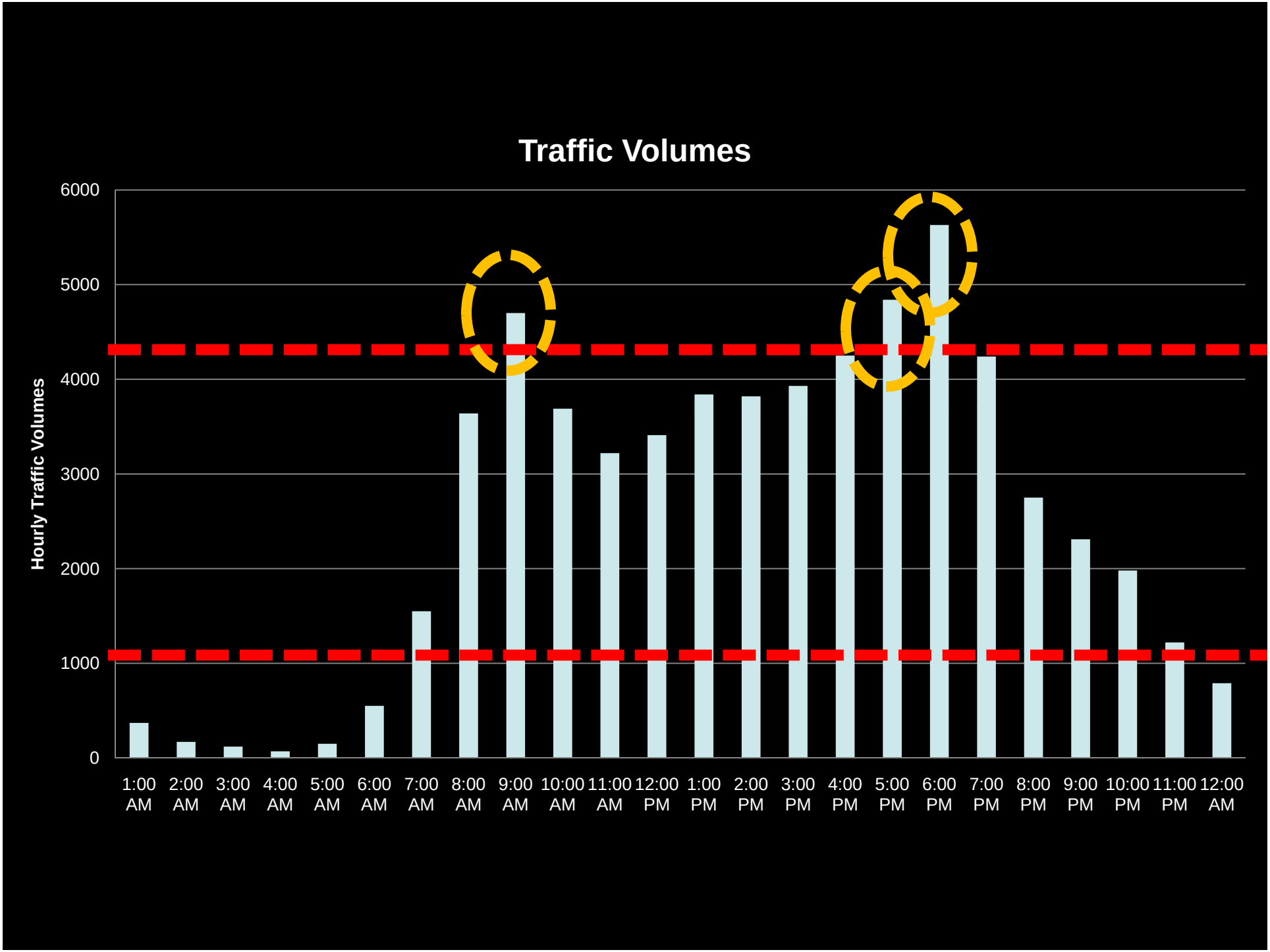


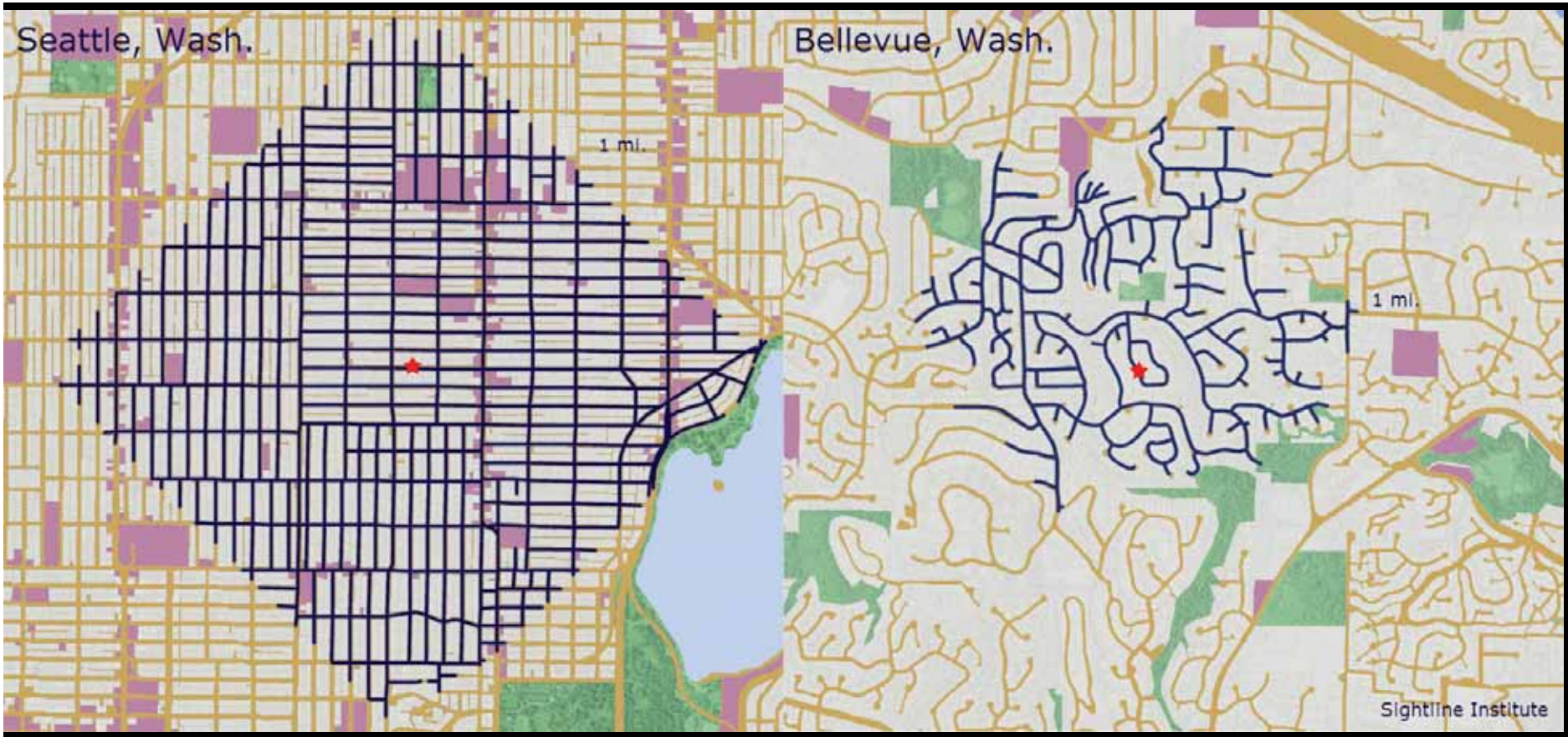
Land Use & Transportation – The Reality



Chain of Impacts

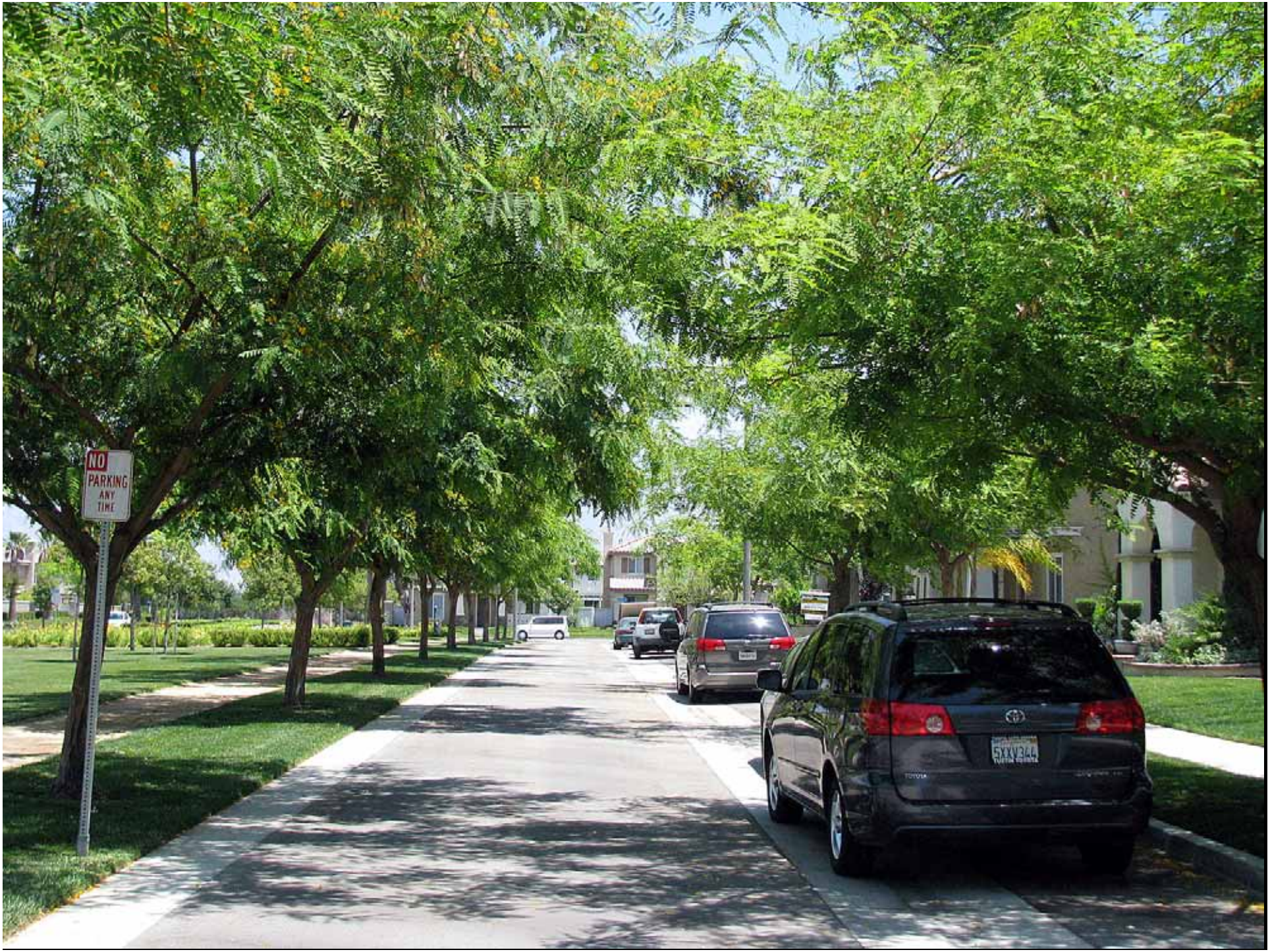



Traffic Volumes
Hourly Traffic Volumes
6000
5000
4000
3000
2000
1000
0
1:00 AM
2:00 AM
3:00 AM
4:00 AM
5:00 AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
9:00 PM
10:00 PM
11:00 PM
12:00 AM


Seattle, Wash.
1 mi.
Bellevue, Wash.
1 mi.
Sightline Institute

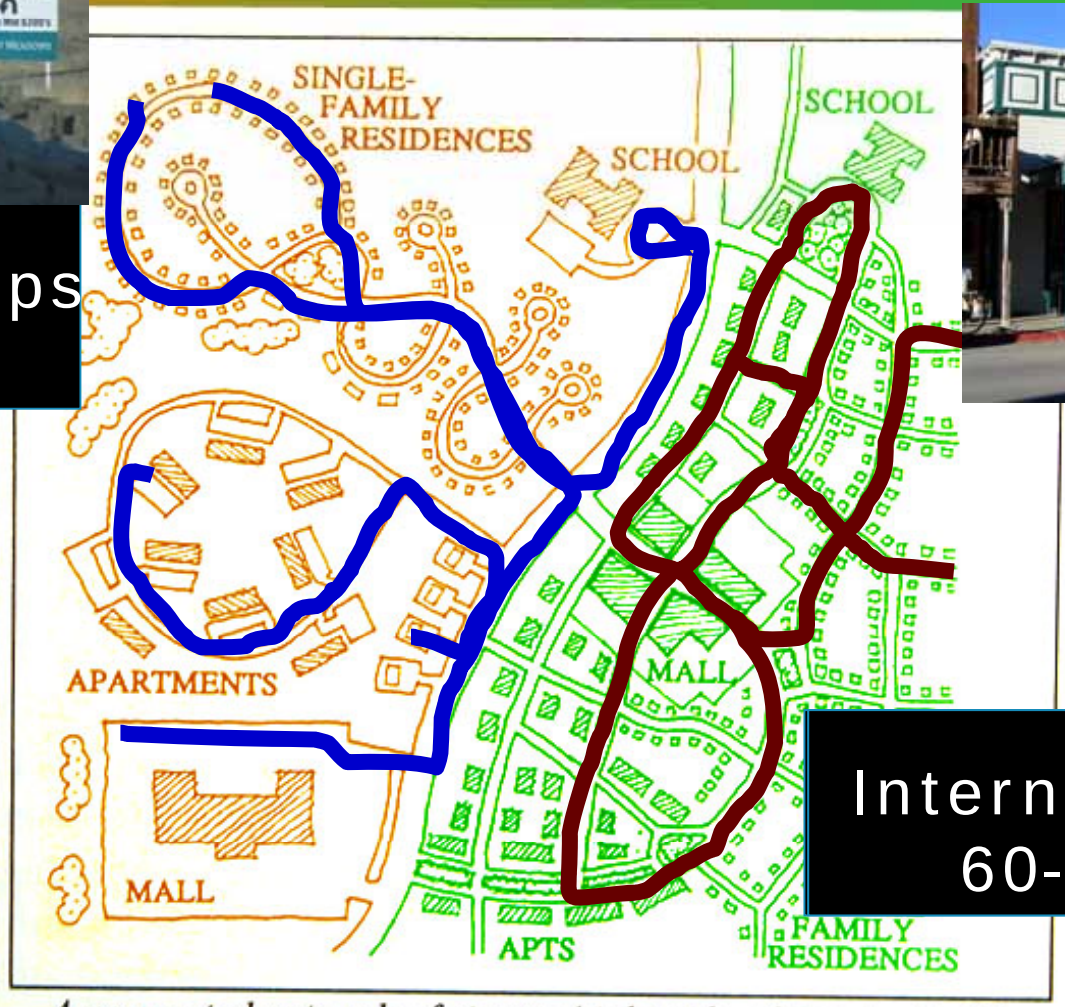

300’ gap in road
~1½ miles
~½ mile
N
Fairview Dr
Ravencrest Dr
Fairway Point Dr
Pipestone Ln
Mozart Ct
Huntmeadow Dr
Ridge Rd
Beauvista Dr
Glen Manor Dr
Mantario Dr
Highland

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?


NO
PARKING
ANY
TIME
5XXV344

External Trips
100%

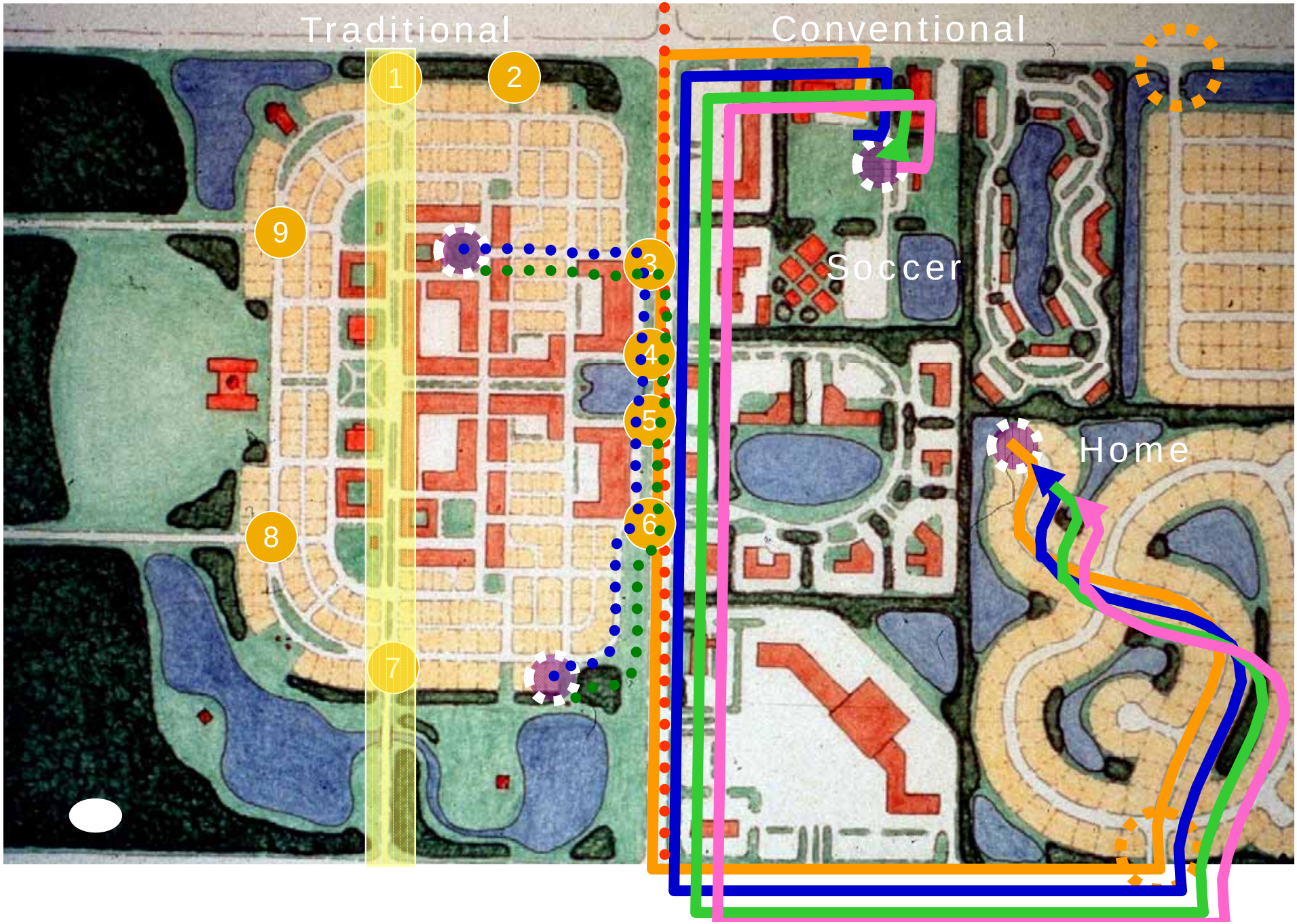
nventional Versus Tradtitional Pattern



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)

Internal Trips
60-90%


Traditional
Conventional
1
2
3
4
5
6
7
8
9
Soccer
Home

Not Walkable

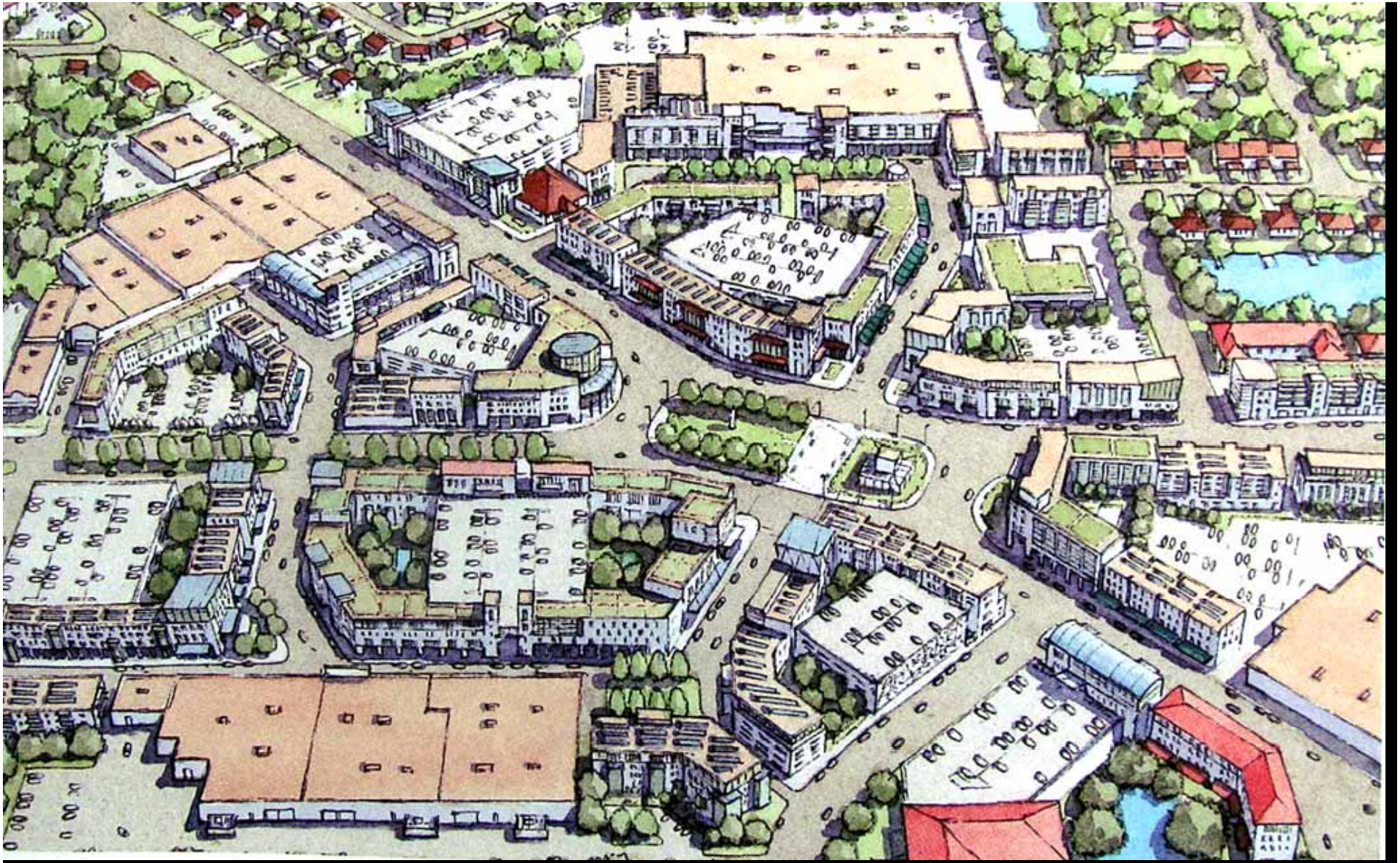
High Car Dependency

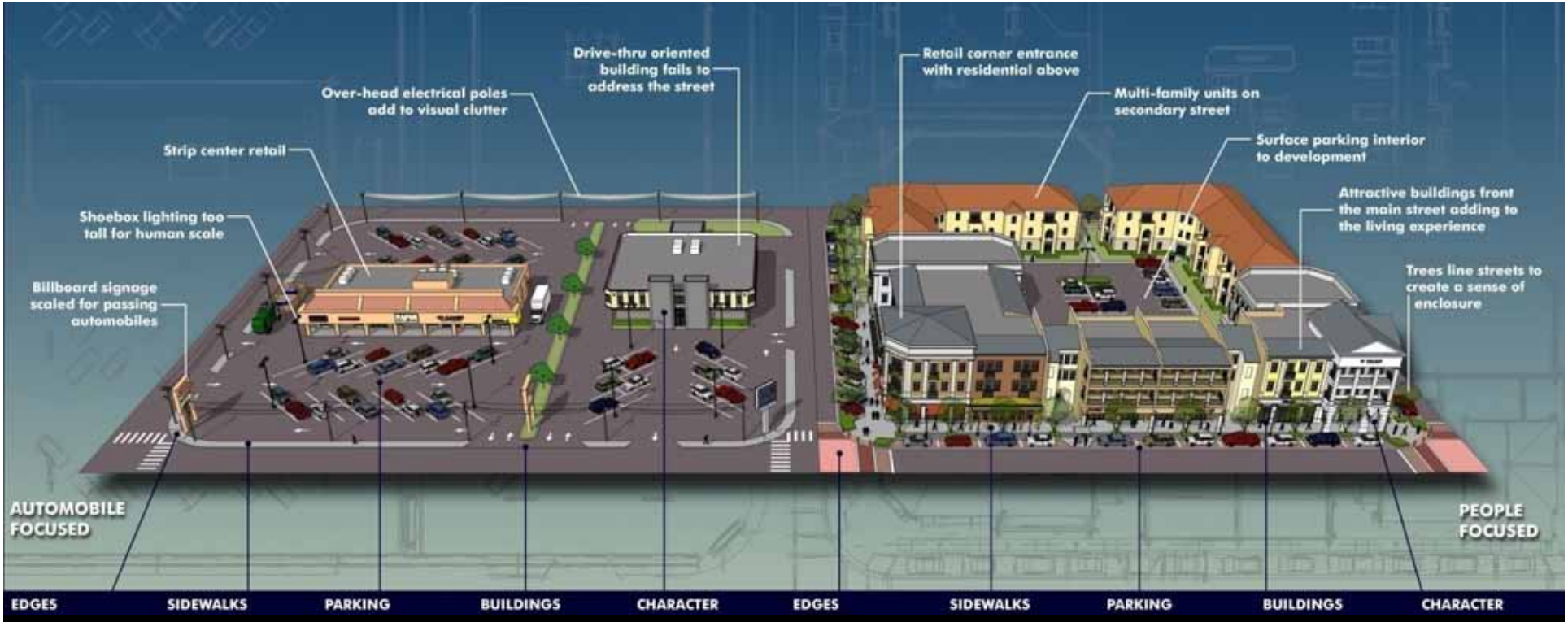
Serious Congestion

Walkable

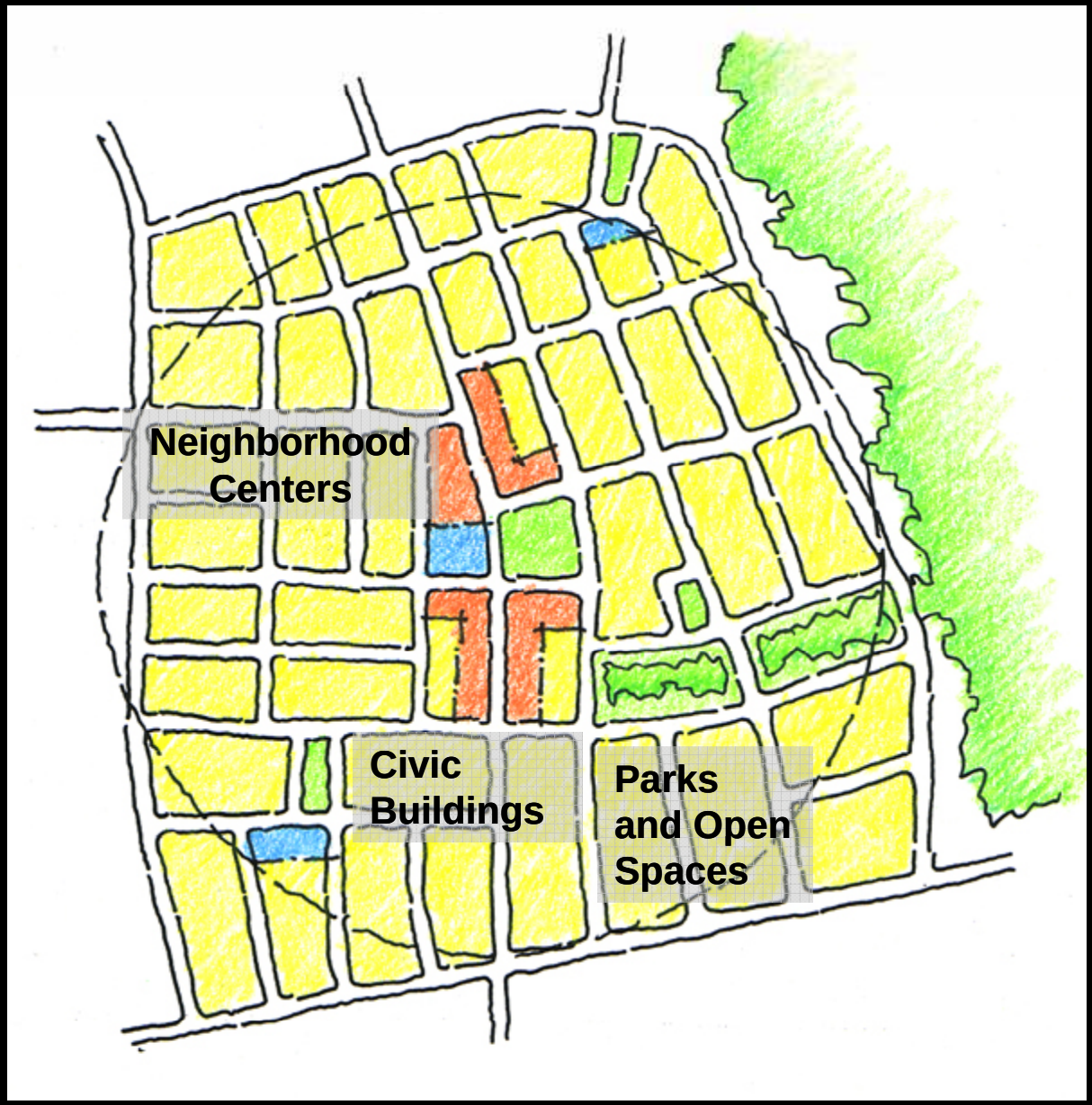
Low Car Dependency

Moderate Congestion




Drive-thru oriented building fails to address the street
Retail corner entrance with residential above
Over-head electrical poles add to visual clutter
Multi-family units on secondary street
Strip center retail
Surface parking interior to development
Shoebox lighting too tall for human scale
Attractive buildings front the main street adding to the living experience
Billboard signage scaled for passing automobiles
Trees line streets to create a sense of enclosure
AUTOMOBILE FOCUSED
PEOPLE FOCUSED
EDGES
SIDEWALKS
PARKING
BUILDINGS
CHARACTER
EDGES
SIDEWALKS
PARKING
BUILDINGS
CHARACTER


CVS/pharmacy



Size neighborhoods for a 5-minute walk

Design for a mix of land uses:

Make blocks a walkable size:

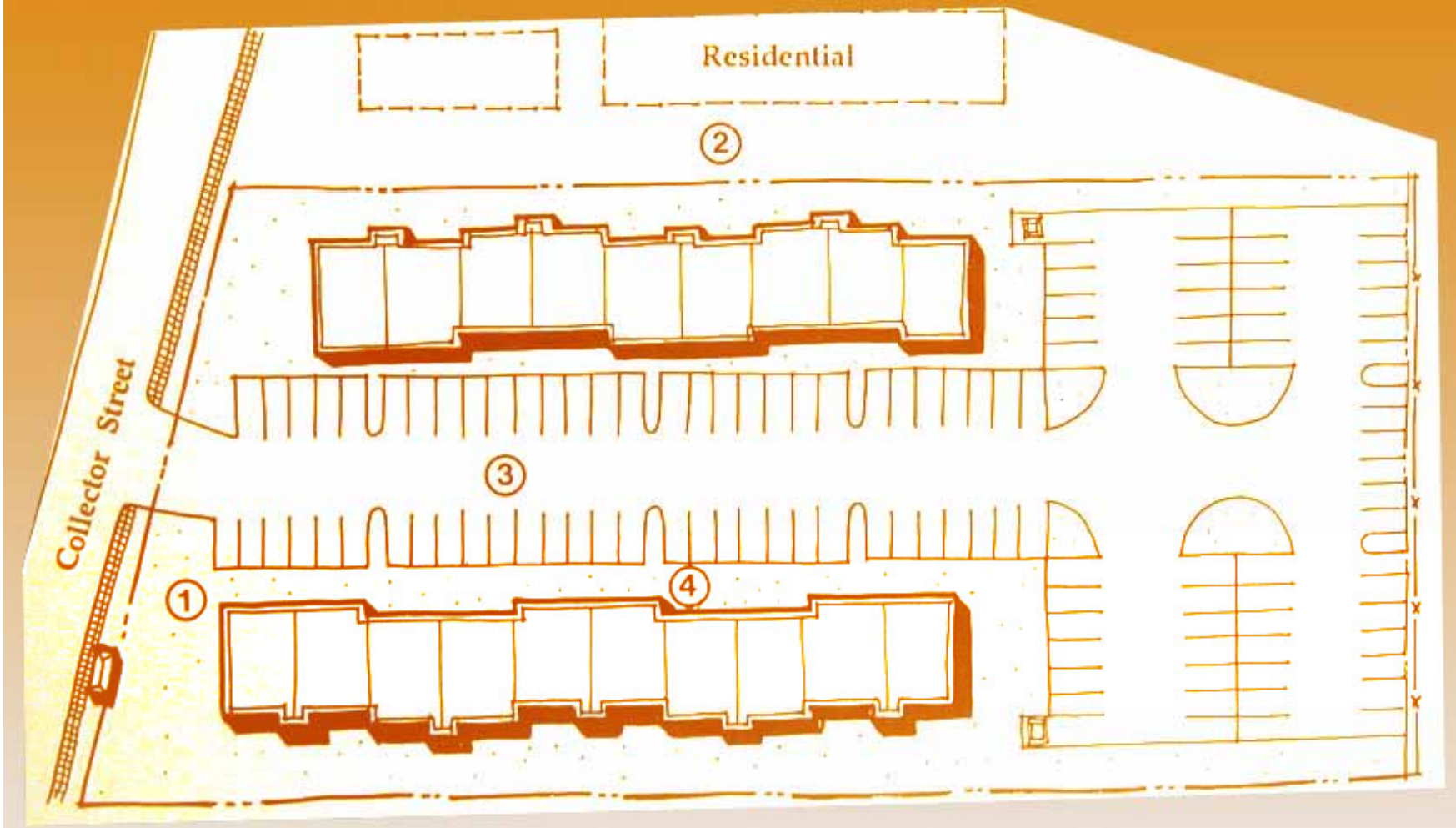
- Block perimeters of 1,500' to 2,000'
- Create a connected network of streets

Centers include denser housing, a square, civic uses, and neighborhood-oriented retail.

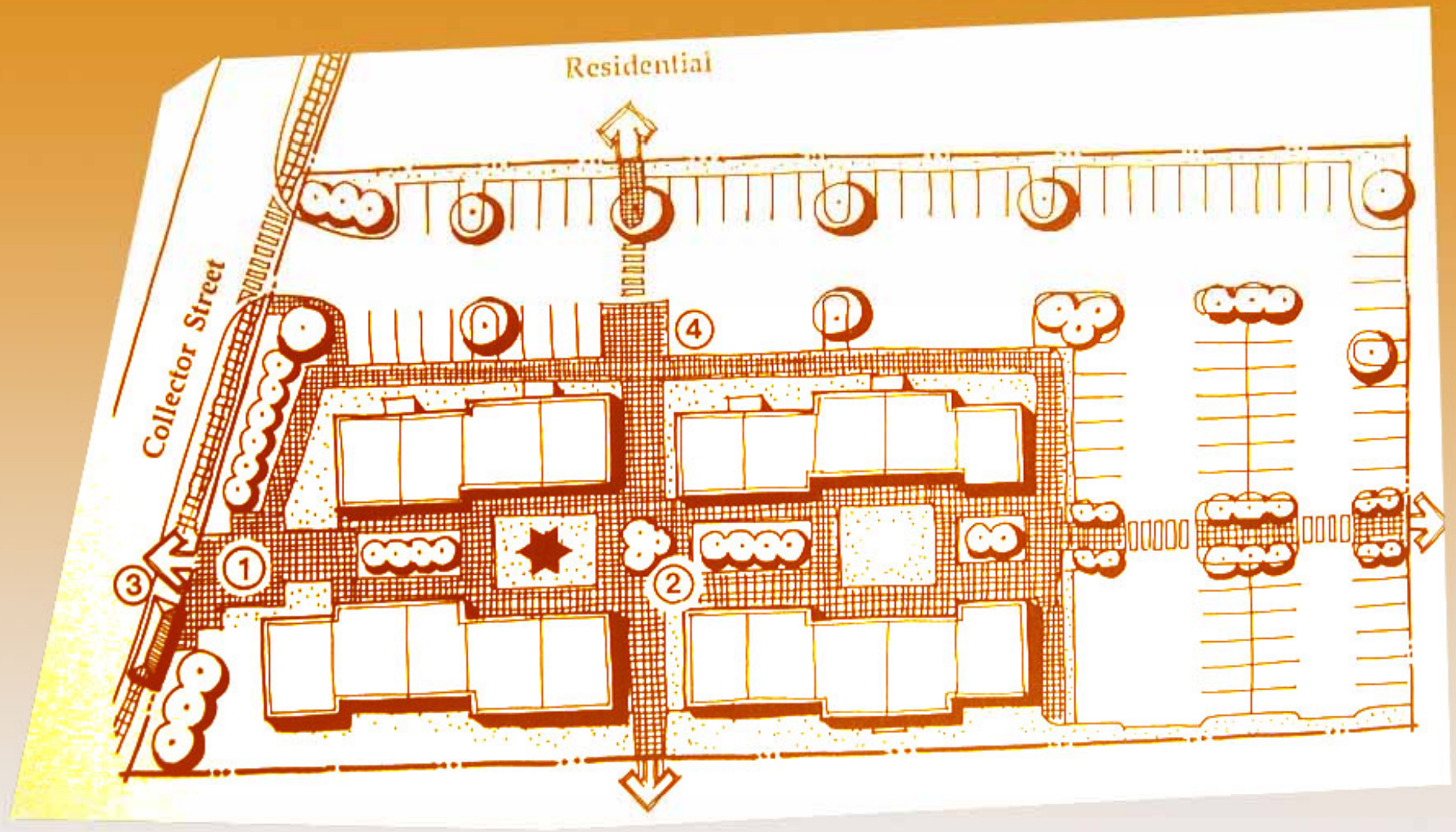
8-10 du/a net

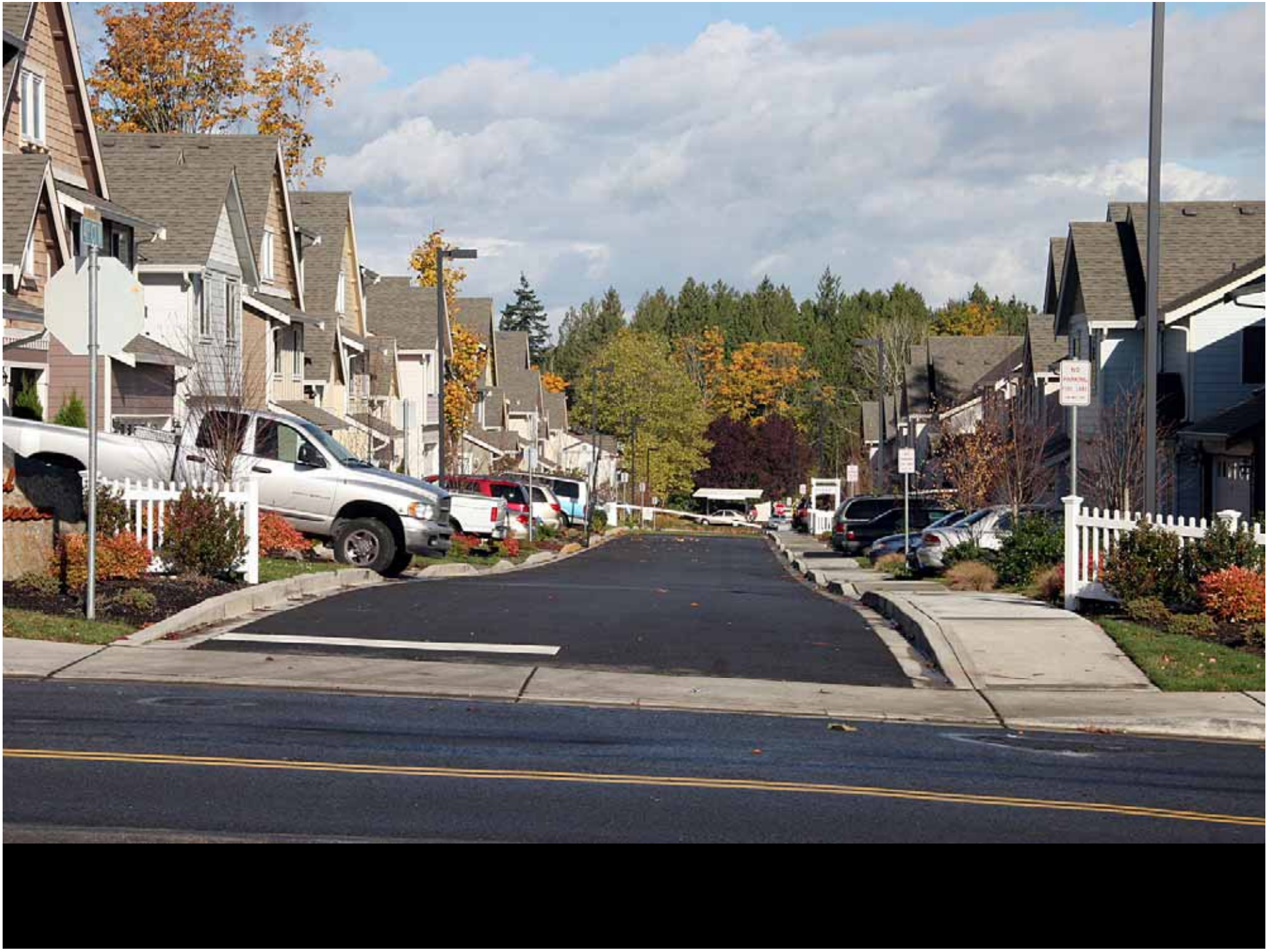
11-12 du/a net

Small Apartment - Typical

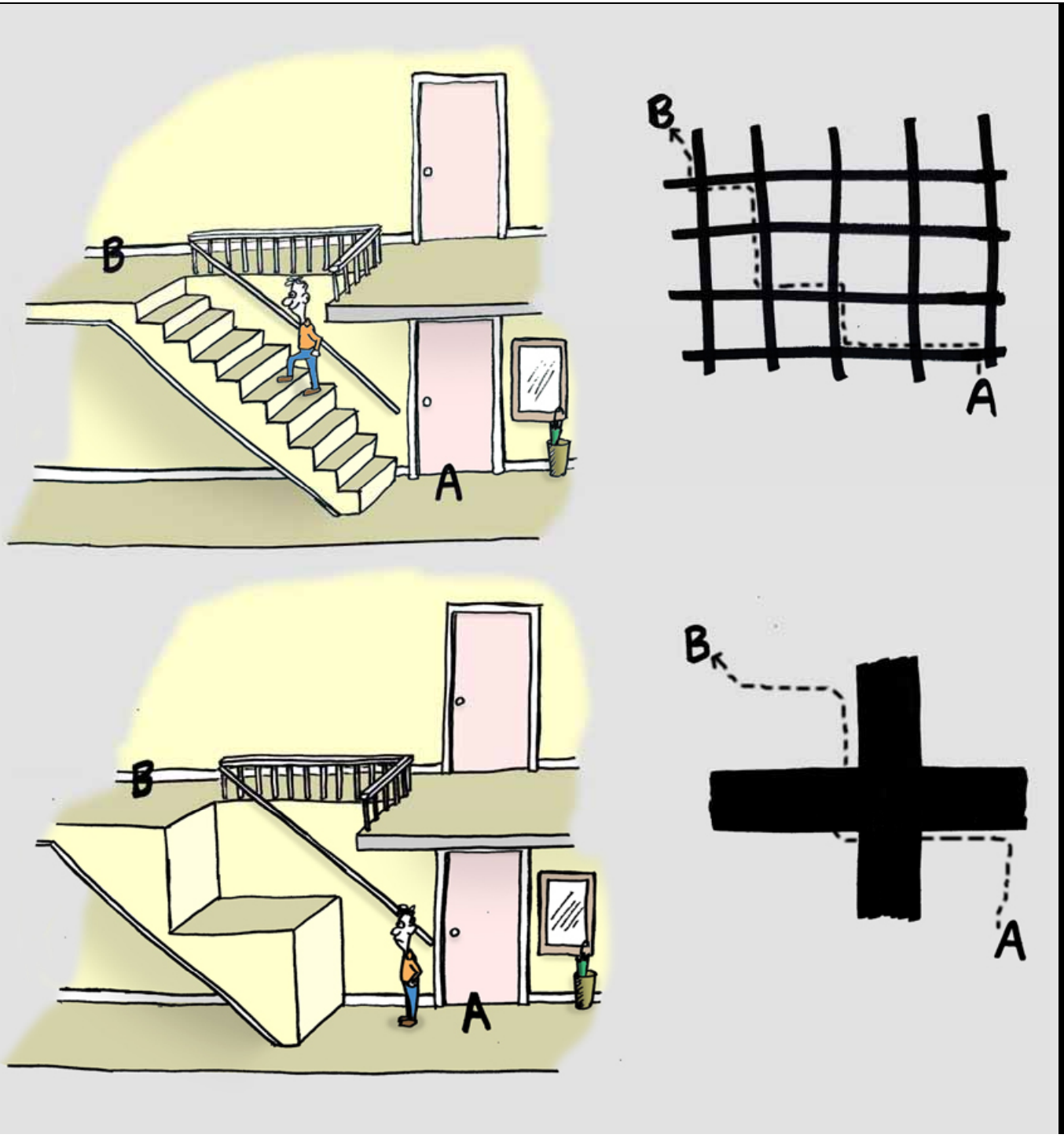


Small Apartment Complex
Transit Compatible





Connectivity


B
A
B
A
B
A
B
A


SUPER BLOCK


K Mart
Lee Rd.
Orlando Ave.
Webster Ave.
Winter Park
Vo Tech
Winter Park
Village
Denning Dr.


Lee Road Extension
Mixed Use
Redevelopment
Lee Rd.
K Mart
Orlando Avenue
Webster Ave.
Winter Park
Village
W.P.V. Development
Residential
Redevelopment
Denning Dr.


W. East Ave.
Lindo Ave
W. 12th Ave
Nord Ave
W. 11th Ave
W. 8th Ave
W. 4th Ave
W. 2nd Ave
Oak Way
W. Sacra-
mento Ave
W. Sacramento Ave


W. East Ave.
Lindo Ave
W. 12th Ave
Nord Ave
W. 11th Ave
W. 8th Ave
W. 4th Ave
W. 2nd Ave
Oak Way
W. Sacra-
mento Ave
W. Sacramento Ave


W. East Ave.
Lindo Ave
W. 12th Ave
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W. 8th Ave
W. 4th Ave
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W. Sacramento Ave

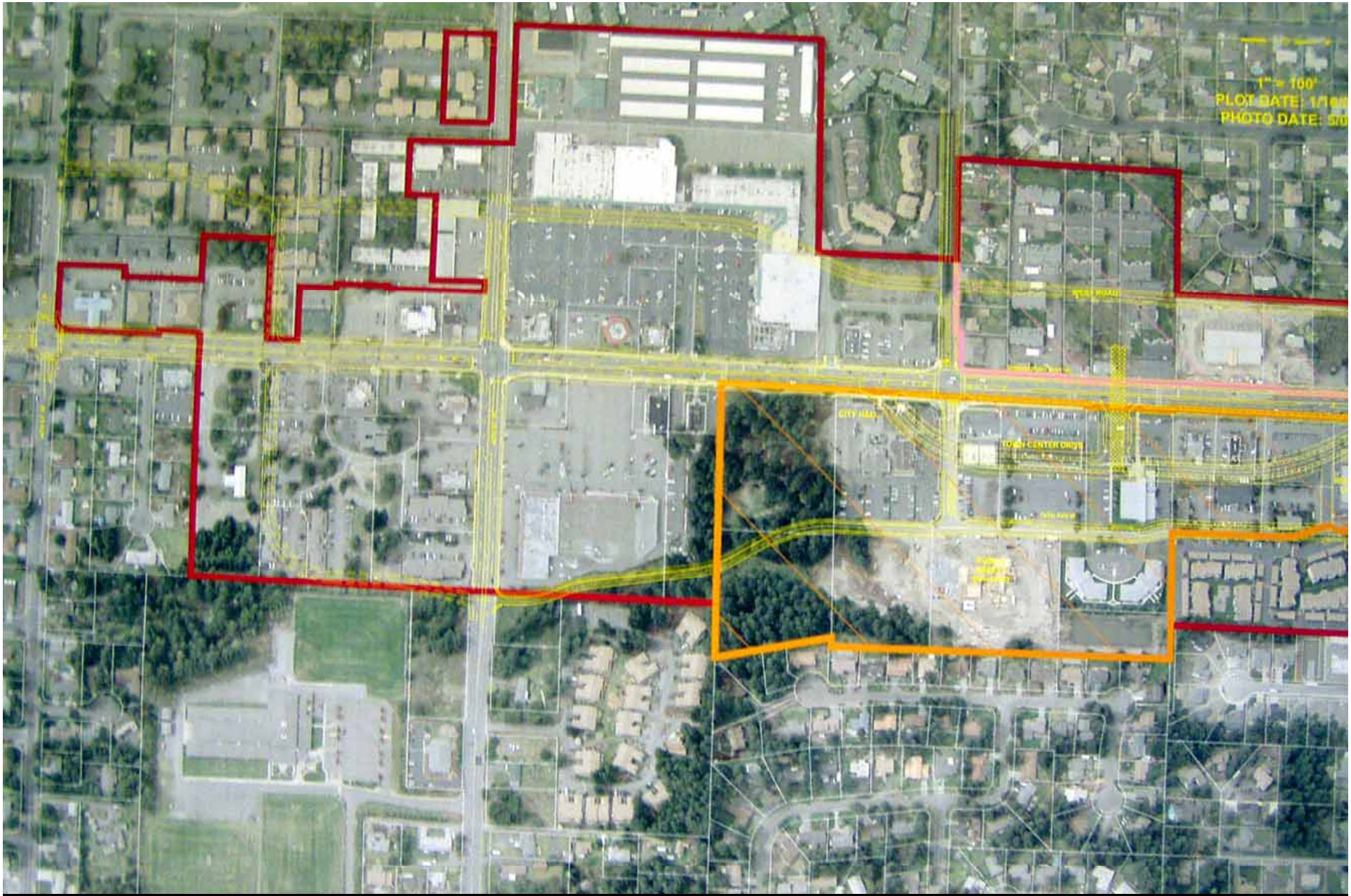

W. East Ave.
Lindo Ave
W. 12th Ave
Nord Ave
W. 11th Ave
W. 8th Ave
W. 4th Ave
W. 2nd Ave
Oak Way
W. Sacra-
mento Ave
W. Sacramento Ave

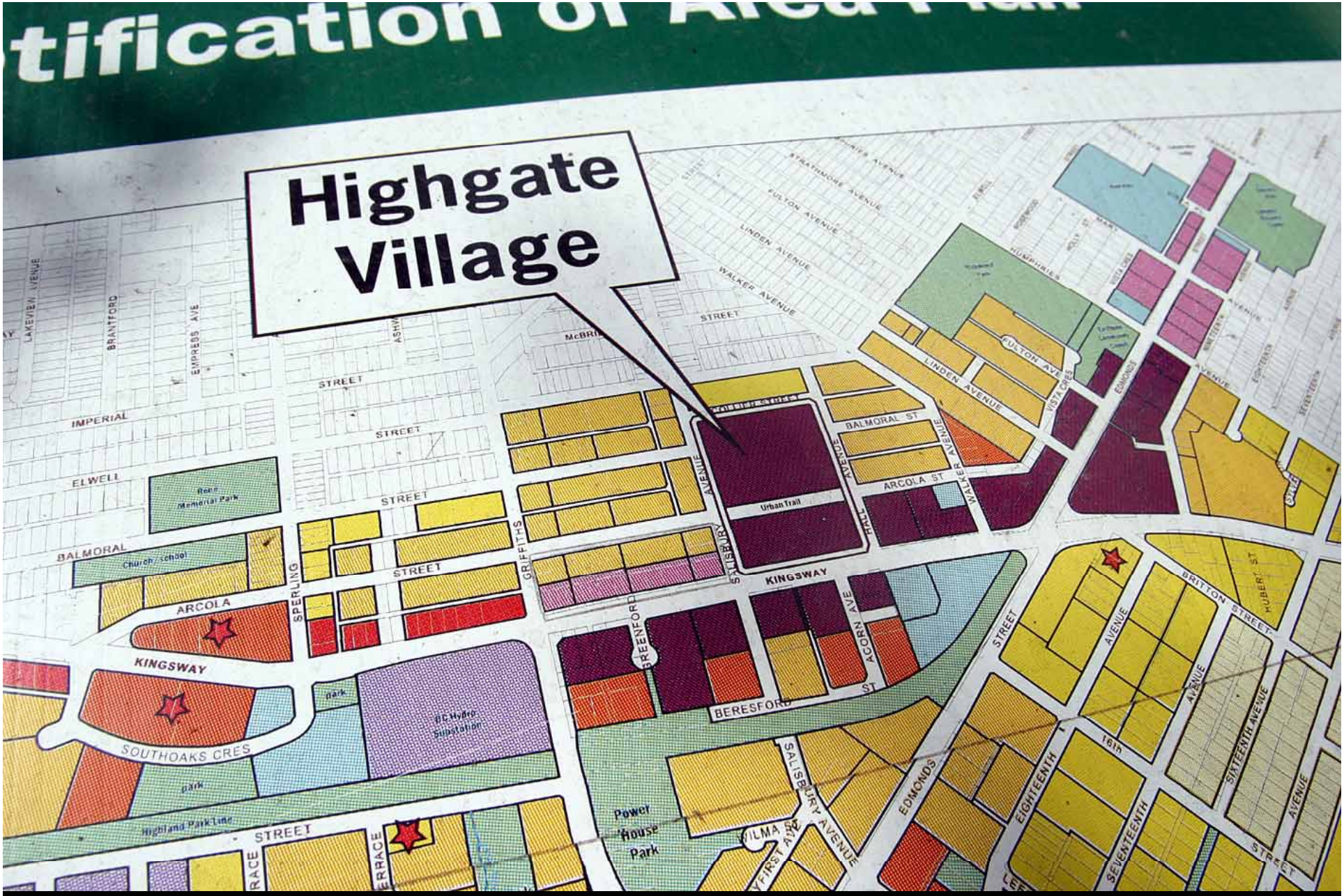

FOR SALE
15
SPEED LIMIT
25
Phone


OPEN

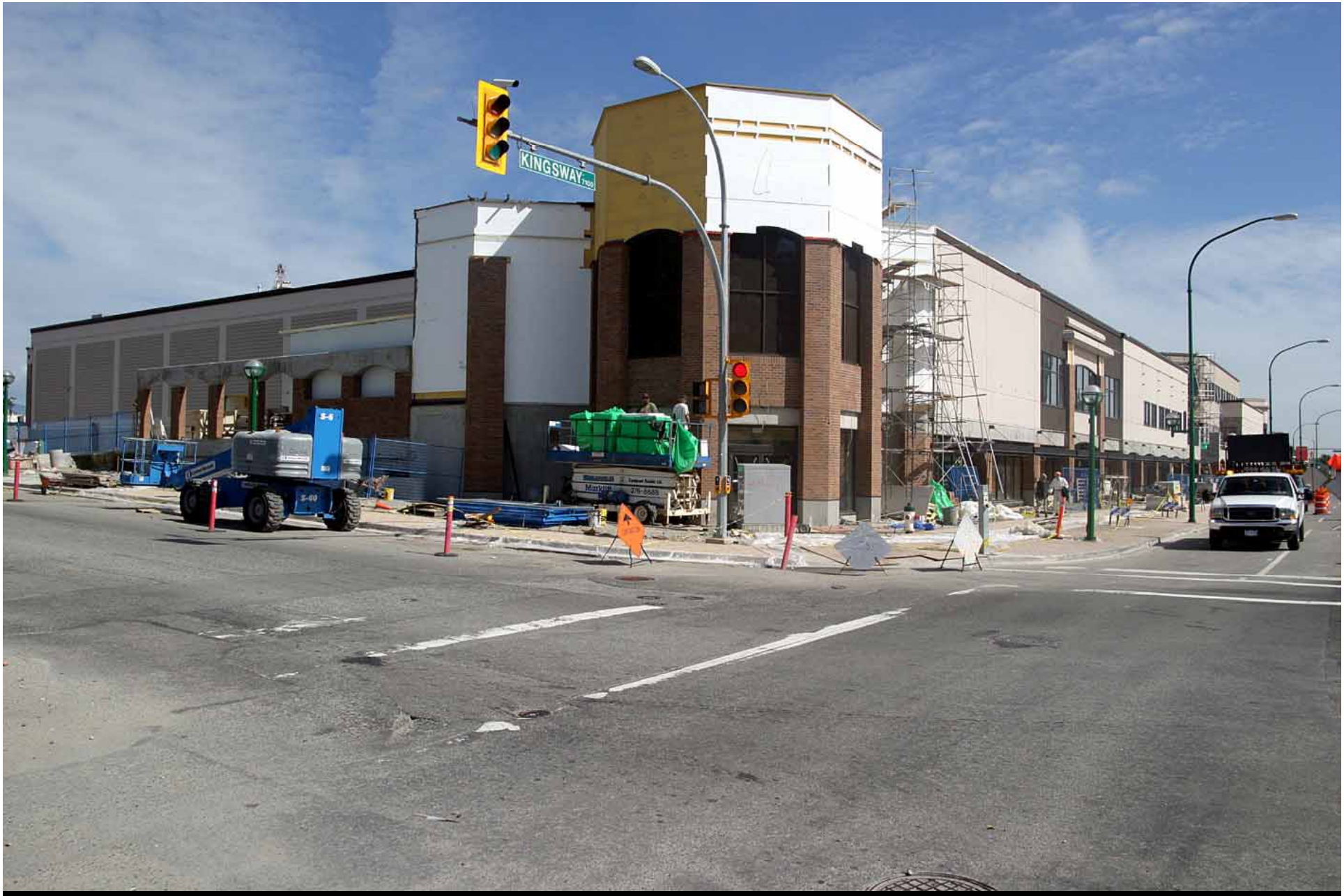

BURGER KING
9/29/1999 2:06pm


MARKET SQUARE
RAISED


1" = 100'
PLOT DATE: 1/16/
PHOTO DATE: 5/0
CITY HALL
TOWN CENTER DRIVE



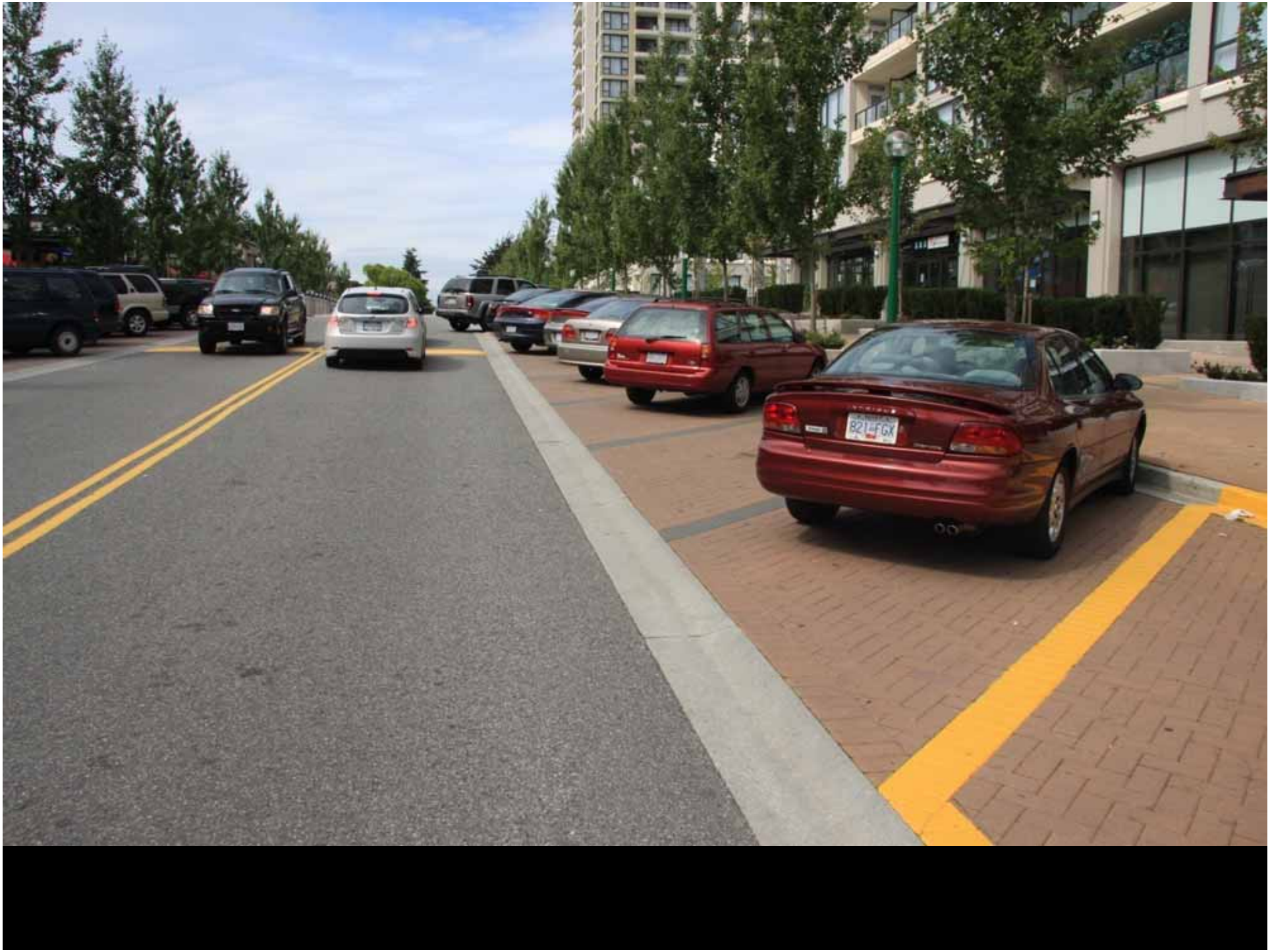
Burnaby, British Columbia



High Gate Village - Former Strip Mall

Burnaby, British Columbia


944-EKH



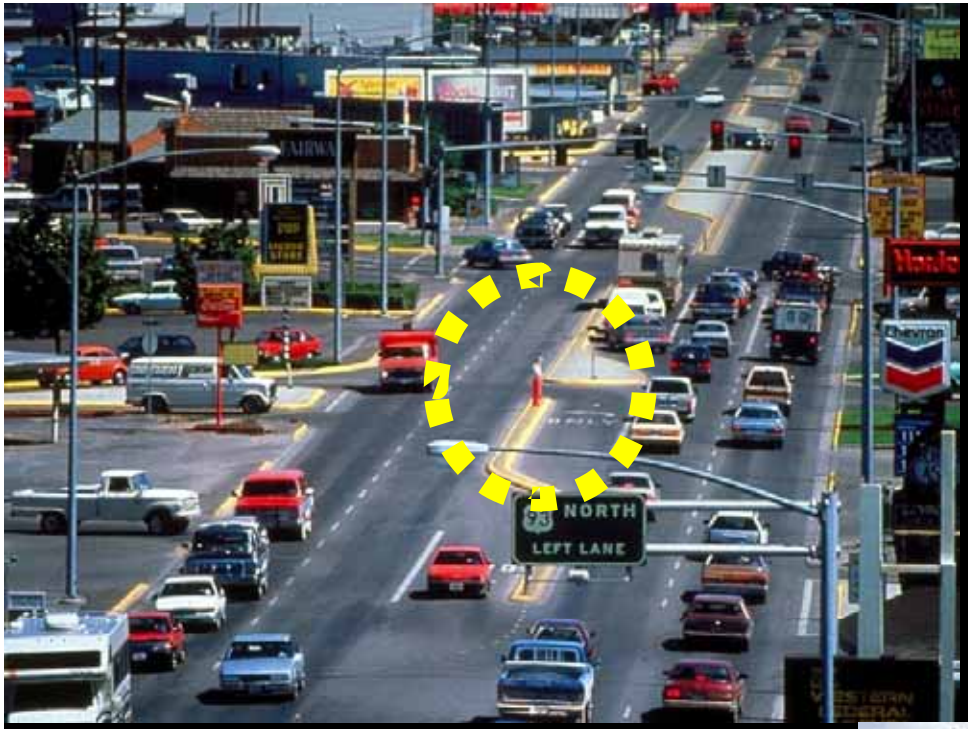
New Port Village, Port Moody

New Port Village, Port Moody

New Port Village, Port Moody

New Port Village, Port Moody

Boulevards


NORTH
LEFT LANE
Chevron


100
BLOCK
COFFEE
ONE
WAY


Gino's

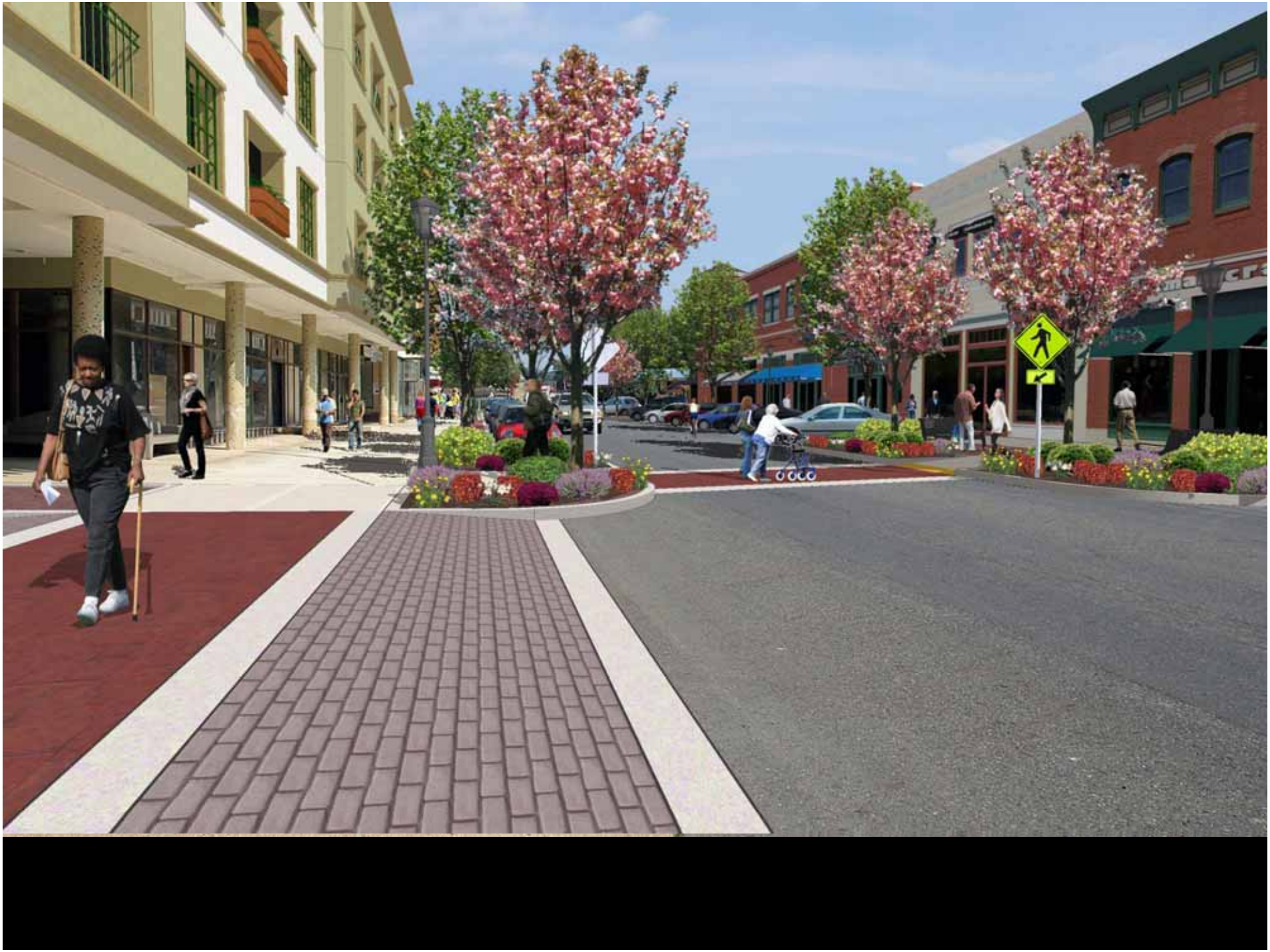

VIETNAM GRILL
RESTAURANT

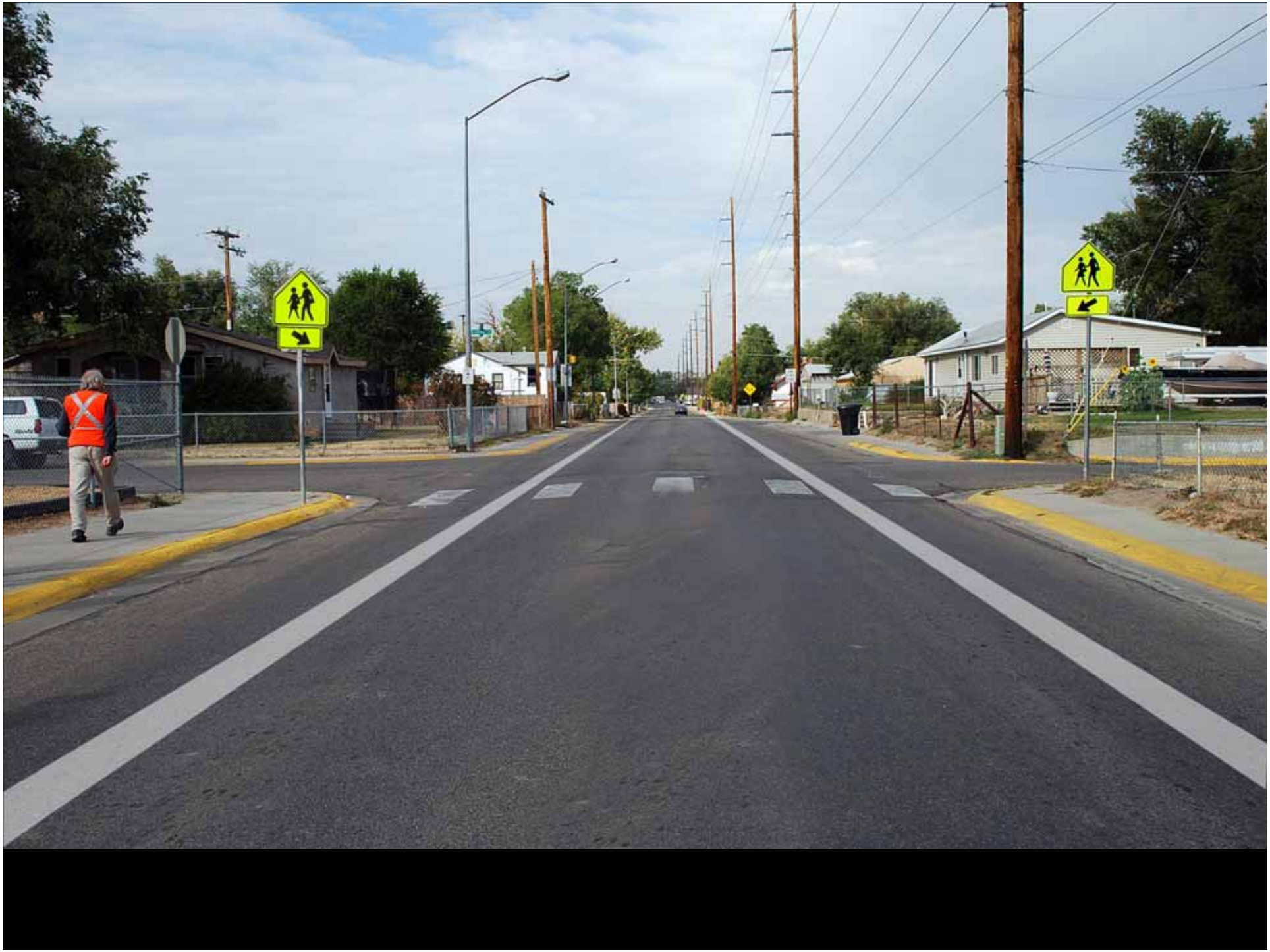

CROSSWALK

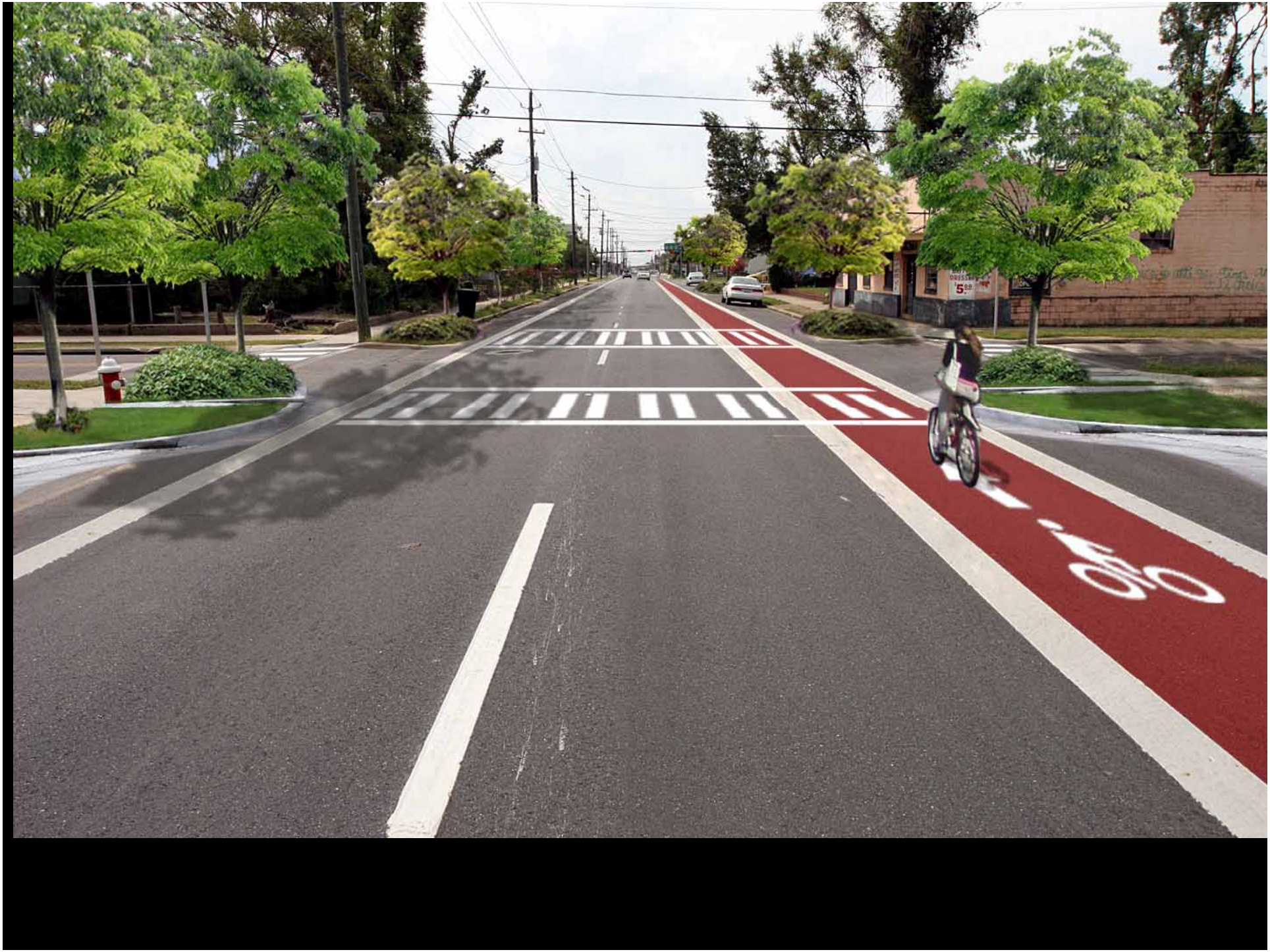

Walgreens


SPEED
LIMIT
25


UNDERHILL FLATS
UNDERHILL FLATS





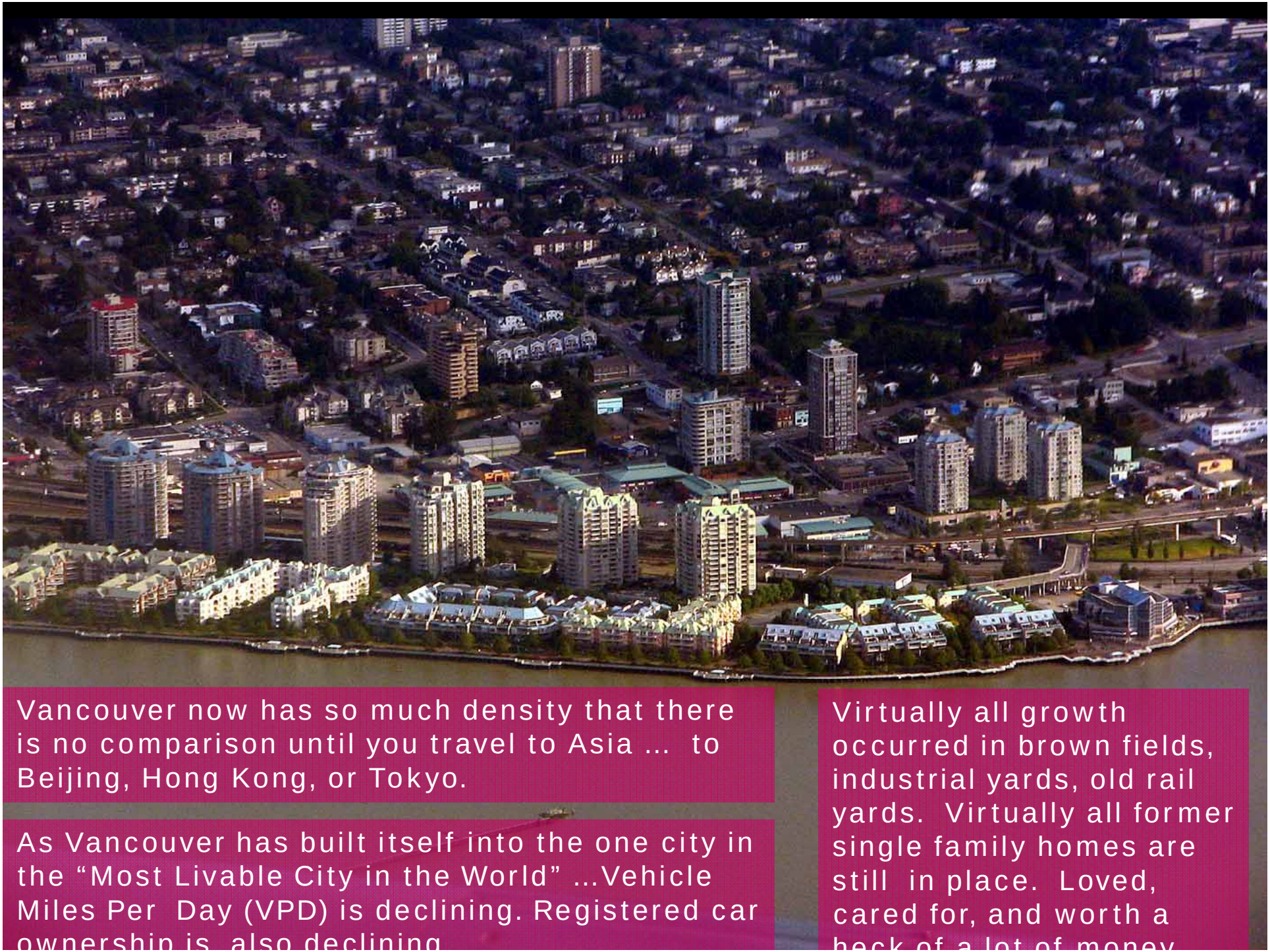



Can handle 25,000 vehicles
per day


YIELD
Can handle 25,000


See
FORT COLLINS
By Bicycle


Crime Lab

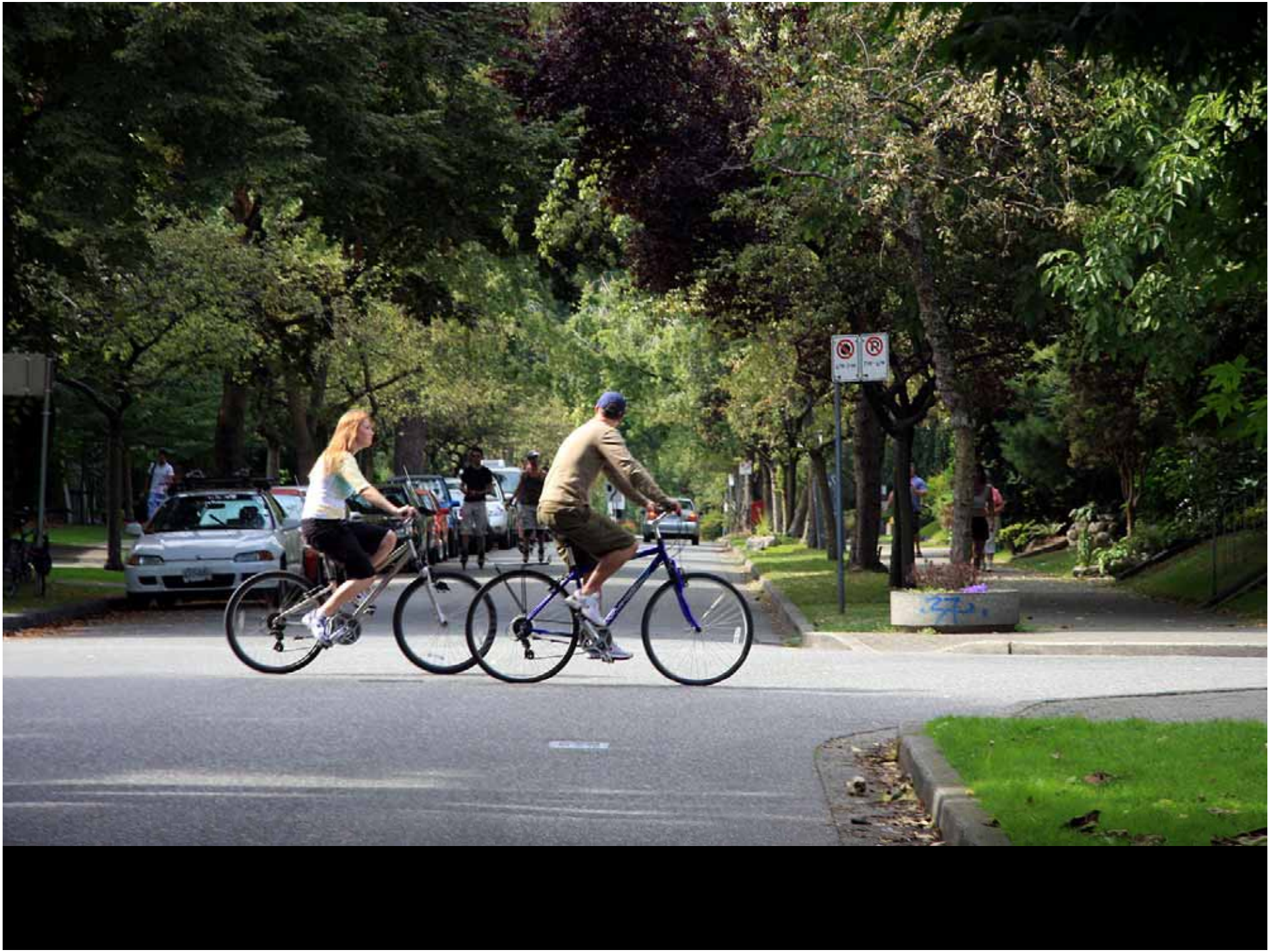


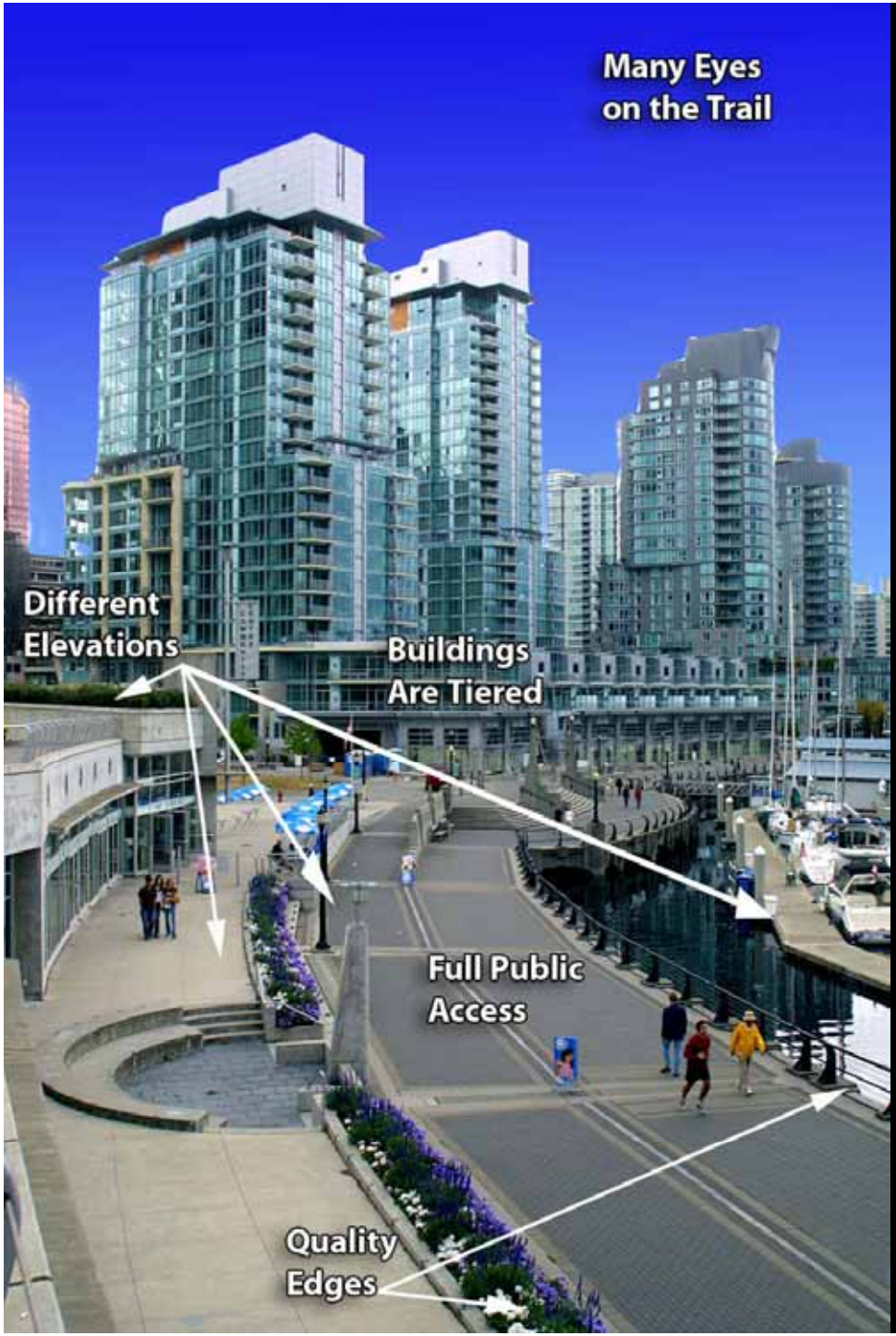
Vancouver now has so much density that there is no comparison until you travel to Asia ... to Beijing, Hong Kong, or Tokyo.

As Vancouver has built itself into the one city in the "Most Livable City in the World" ...Vehicle Miles Per Day (VPD) is declining. Registered car ownership is also declining

Virtually all growth occurred in brown fields, industrial yards, old rail yards. Virtually all former single family homes are still in place. Loved, cared for, and worth a heck of a lot of money


DENMAN
P
ST




Many Eyes
on the Trail
Different
Elevations
Buildings
Are Tiered
Full Public
Access
Quality
Edges


THE TAKING OF
PELHAM
123
THE TAKING OF
PELHAM
123
THE TAKING OF
PELHAM
123
PUBLIC
PARKING
WIRELESS
boost

This:

Pottstown PA


OPEN
GUINNESS
HAPPY HOUR
4-7pm
$3.00 CARLSBERG
$4.00 MARGARITA
$4.00 IRISH COFFEE
MUSIC AT 9pm
NADER
We All Live Downstream
It's up!

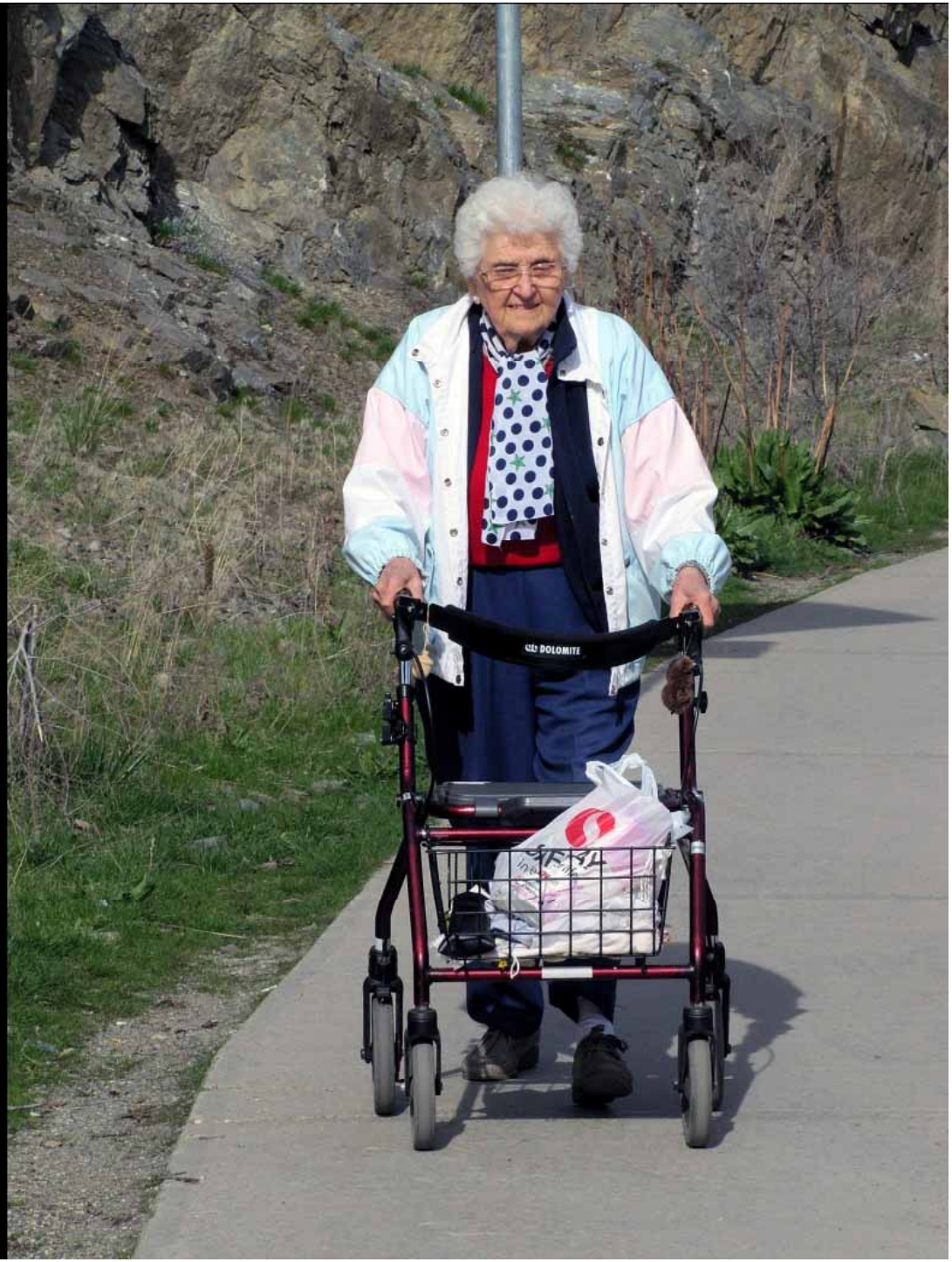

GALA APPLES
99¢ LB.


4-WAY
MPSA
CRUSH

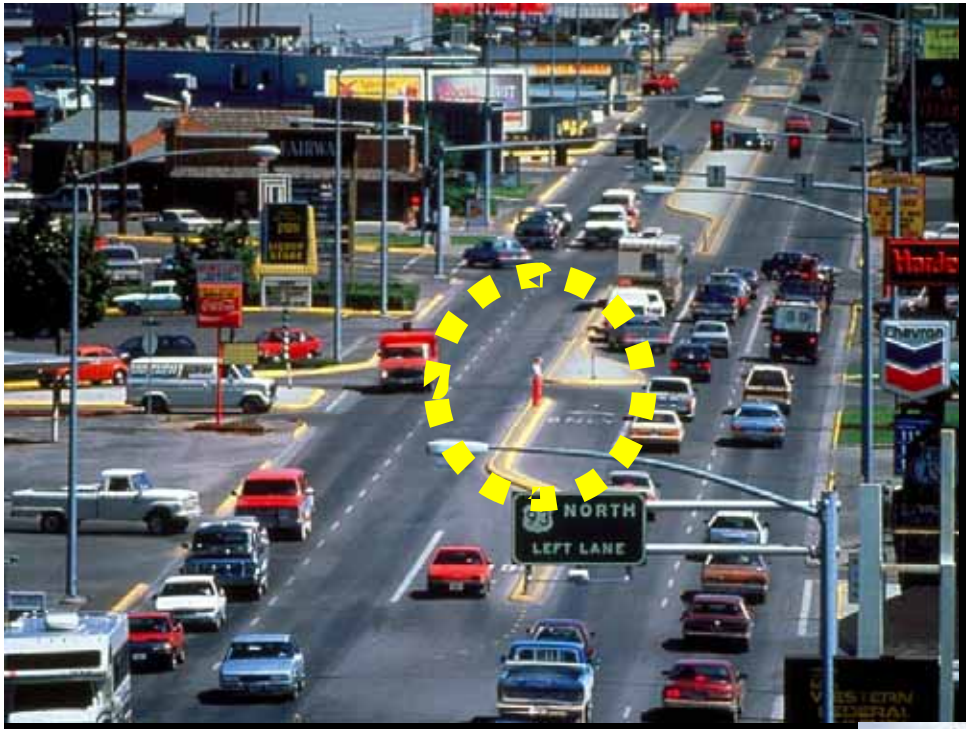

STARBUCKS
COFFEE


FIRST
PRESBYT
CHU
CHURCHILL
CHARGERS


SPECIALIZED
ALL WET


DOLOMITE


ver farm



Highway 93, Missoula, Montana

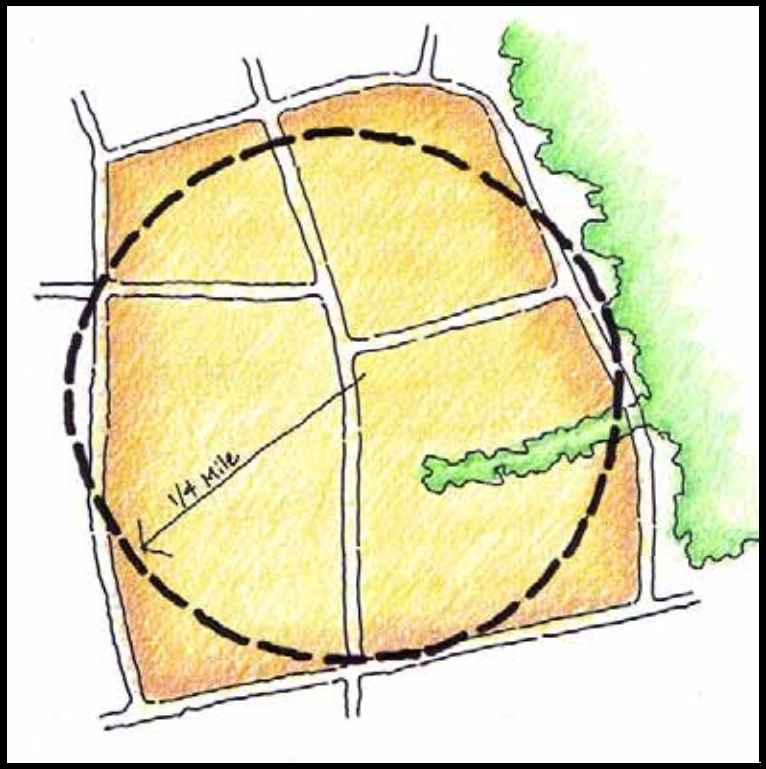
USA

Canada

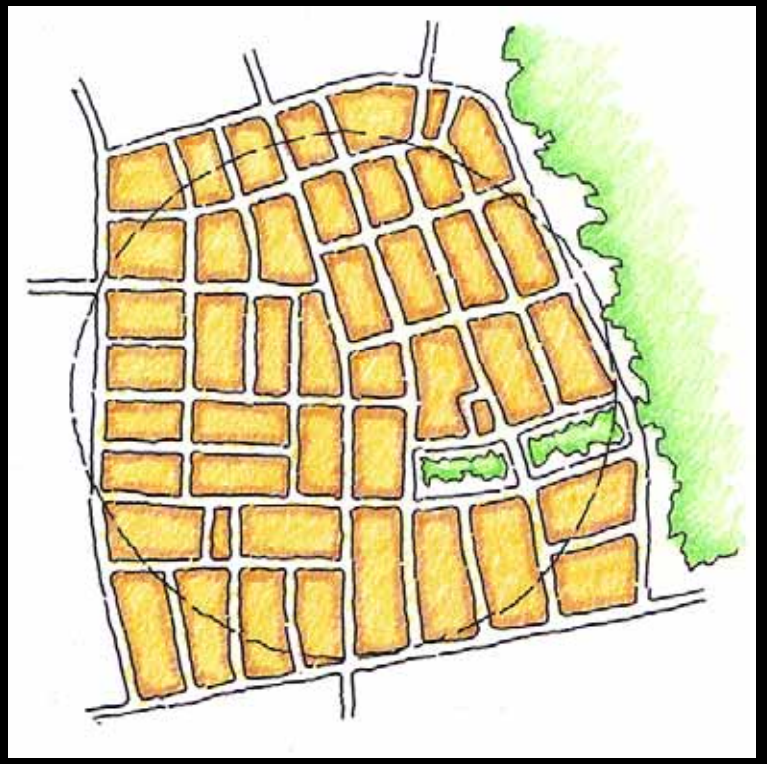
Marine Drive, Dundarave, B.C.

Marine Drive, Dundarave, B.C.

Make blocks a walkable size



Disconnected



Connected

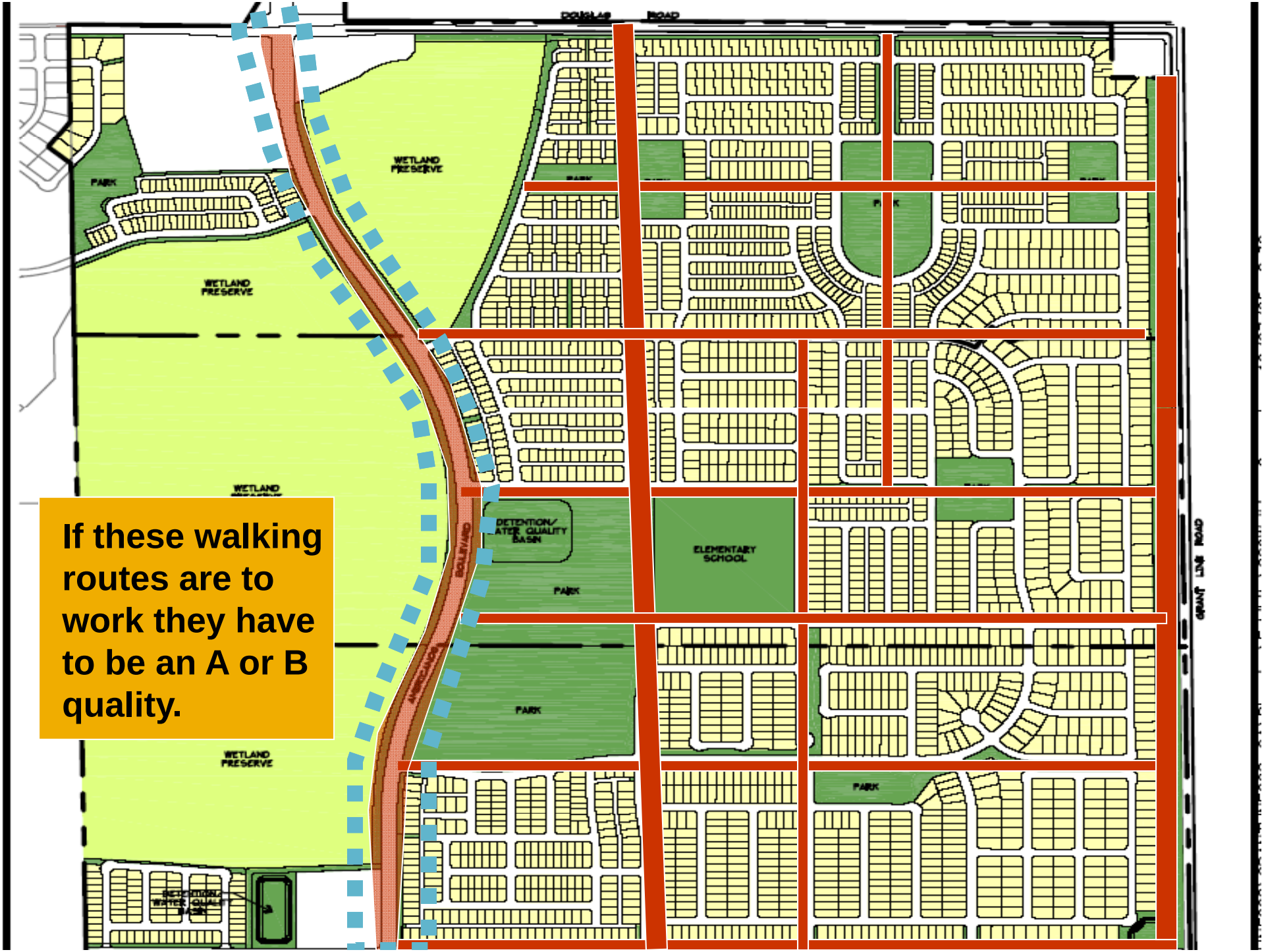
Create a connected network of streets

Use block perimeters of 1,200 to 2,100 feet

Design for a mix of land uses:

Centers include denser housing, a square, civic uses, and neighborhood-oriented retail.


Preserve
Humboldt Road
Preserve
Creekside Greenway
Proposed Ballpark
Parking Structure
Surface Parking
PG&E Sub Station


DOUGLAS ROAD
WETLAND PRESERVE
PARK
WETLAND PRESERVE
WETLAND PRESERVE
DETENTION/ WATER QUALITY BASIN
ELEMENTARY SCHOOL
PARK
PARK
PARK
WETLAND PRESERVE
GRANT LINE ROAD
If these walking routes are to work they have to be an A or B quality.


29th


STOP


NO
STOPPING
STANDING
PARKING
VENTO


ESPAÑOL


ALTERA
ALTERA
www.karenbandy.com
Karen Bandy
STUDIO
OPEN
Ground Floor

2 Lane Streets with Curb and Gutter

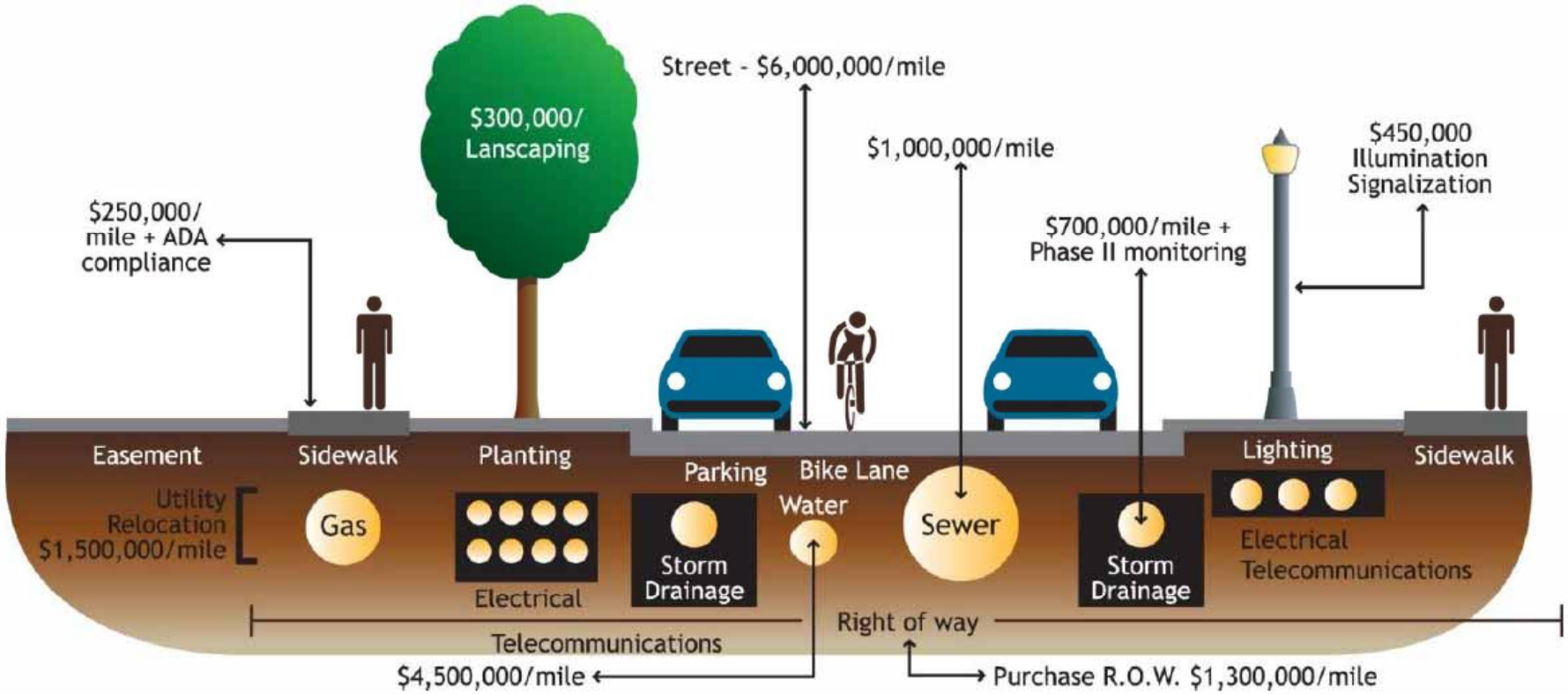
Street Option	Construction Cost Per Mile	Sidewalk	Bike Lanes	Lane Width	% Difference
12′ Lanes (28′ F-F)	$3,800,000	-	-	-	-
12′ Lanes + 5′ sidewalk (28′F-F)	$4,000,000	3.80%	-	-	4%
11′ Lanes (26′ F-F)	$3,750,000	-	-	-1.30 %	-1.5%
11′ Lanes + 5′ sidewalk (26′ F-F)	$3,950,000	3.80%	-	-1.30%	2.50%

3 Lane Streets with Curb and Gutter

Street Option	Construction Cost Per Mile	Sidewalk	Bike Lanes	Lane Width	% Difference
12′ Lanes (40′ F-F)	$4,800,000	-	-	-	-
12′ Lanes + Bike Lanes (50′ F-F)	$5,100,000	-	5.40%	-	5.5%
12′ Lanes + Bike Lanes + 6′ Sidewalk (50′ F-F)	$5,350,000	3.40%	5.10%	-	8.5%
11′ Lanes (36′ F-F)	$4,700,000	-	-	-2.10%	-2.0%
11′ Lanes + Bike Lanes (46′ F-F)	$5,000,000	-	5.50%	-2.10 %	3.5%
11′ Lanes + Bike Lanes + 6′ Sidewalk (46′ F-F)	$5,250,000	3.40%	5.20%	-2.10 %	6.50%

Typical City Infrastructure Costs Today

City streets are more than pavement.



The image illustrates the cost of incorporating roadway elements in the construction process. Only $250,000 of the total $15,700,000 spent per new construction mile is allocated towards ADA compliance. Source: WSDOT

[redacted]