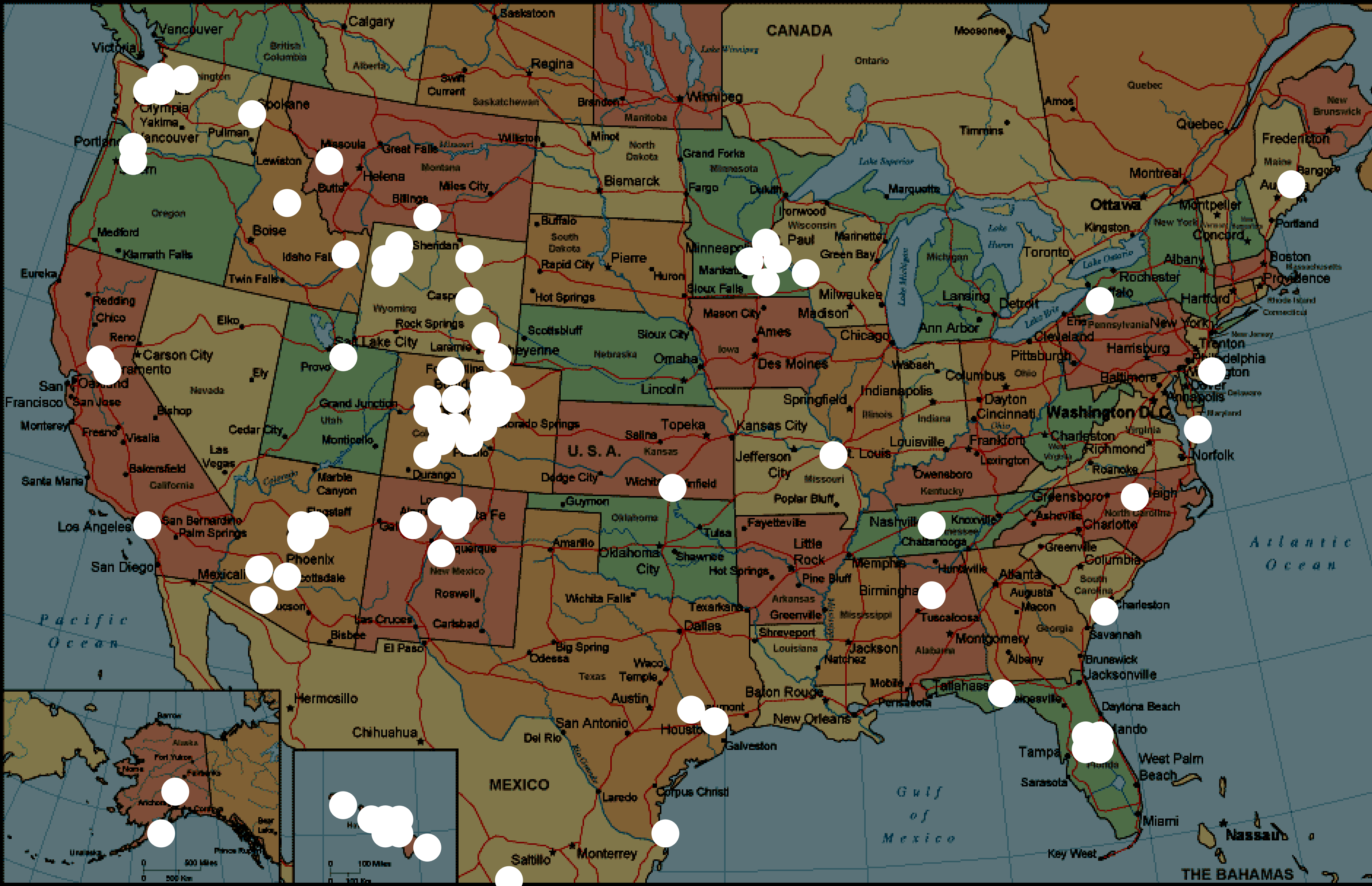
Helena: Growing Up or Growing Out

Sustainable Mobility for a Growing Downtown

Charlier Associates, Inc.

Our Work



Vancouver
Victoria
Calgary
Saskatoon
Regina
Swift Current
Saskatchewan
Alberta
British Columbia
Brandon
Manitoba
Winnipeg
CANADA
Ontario
Moosonee
Quebec
Amos
Timmins
Montreal
Ottawa
Kingston
Toronto
Fredericton
New Brunswick
Maine
Portland
Concord
Montpelier
Boston
Albany
Rochester
Providence
Hartford
Massachusetts
Rhode Island
Connecticut
New York
New Jersey
Trenton
Philadelphia
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Baltimore
Annapolis
Delaware
Maryland
Washington D.C.
Virginia
Richmond
Norfolk
Roanoke
Charleston
West Virginia
Pittsburgh
Cleveland
Erie
Columbus
Ohio
Dayton
Cincinnati
Frankfort
Lexington
Louisville
Owensboro
Kentucky
Indianapolis
Indiana
Wabash
Detroit
Lansing
Ann Arbor
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Lake Huron
Lake Ontario
Lake Erie
Lake Michigan
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Fargo
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U. S. A.
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Missouri
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South Carolina
Atlanta
Augusta
Macon
Georgia
Savannah
Albany
Brunswick
Jacksonville
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Daytona Beach
Orlando
Tampa
Florida
Sarasota
West Palm Beach
Miami
Key West
Nassau
THE BAHAMAS
Atlantic Ocean
Gulf of Mexico
Texas
Dallas
Waco
Temple
Austin
San Antonio
Houston
Galveston
Corpus Christi
Laredo
Del Rio
Big Spring
Odessa
Wichita Falls
Amarillo
El Paso
MEXICO
Monterrey
Saltillo
Chihuahua
Hermosillo
New Mexico
Santa Fe
Roswell
Carlsbad
Las Cruces
Durango
Pueblo
Colorado Springs
Grand Junction
Cheyenne
Laramie
Wyoming
Rock Springs
Sheridan
Montana
Helena
Great Falls
Missoula
Butte
Billings
Miles City
Idaho
Boise
Twin Falls
Lewiston
Spokane
Pullman
Yakima
Olympia
Portland
Vancouver
Oregon
Medford
Klamath Falls
Eureka
Redding
Chico
Reno
Carson City
Nevada
Elko
Ely
Salt Lake City
Provo
Utah
Cedar City
Monticello
Marble Canyon
Colorado
Las Vegas
Phoenix
Scottsdale
Bisbee
Mexicali
San Francisco
Oakland
San Jose
Monterey
Fresno
Visalia
Bishop
Bakersfield
California
Santa Maria
Los Angeles
San Bernardino
Palm Springs
San Diego
Pacific Ocean
Barrow
Alaska
Fort Yukon
Nome
Fairbanks
Unalaska
Bear Lake
Prince Rupert
0 500 Miles
0 500 Km
0 100 Miles
0 100 Km

Sustainable Mobility

- Why Build In Downtown?
- What Works – Peer Experiences
- Suggested Priorities

Copies Available @
www.charlier.org

Why Build In Downtown?

Sustainable Mobility

Why Build In Downtown?

- Energy Security
- Climate Change
- Economic Viability

Energy Security

Sustainable Mobility

Are we running out of gas?

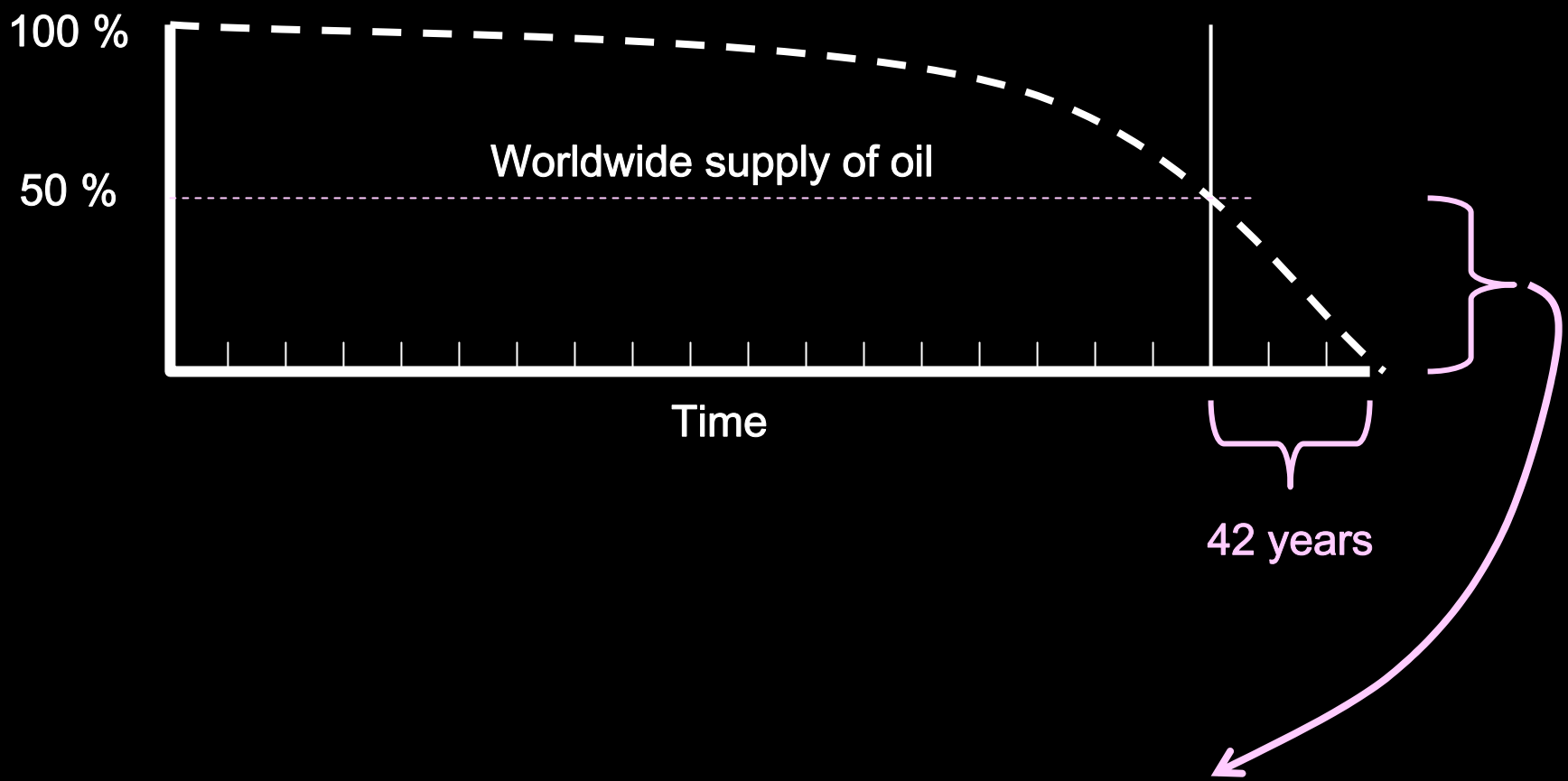
The stone age did not end…

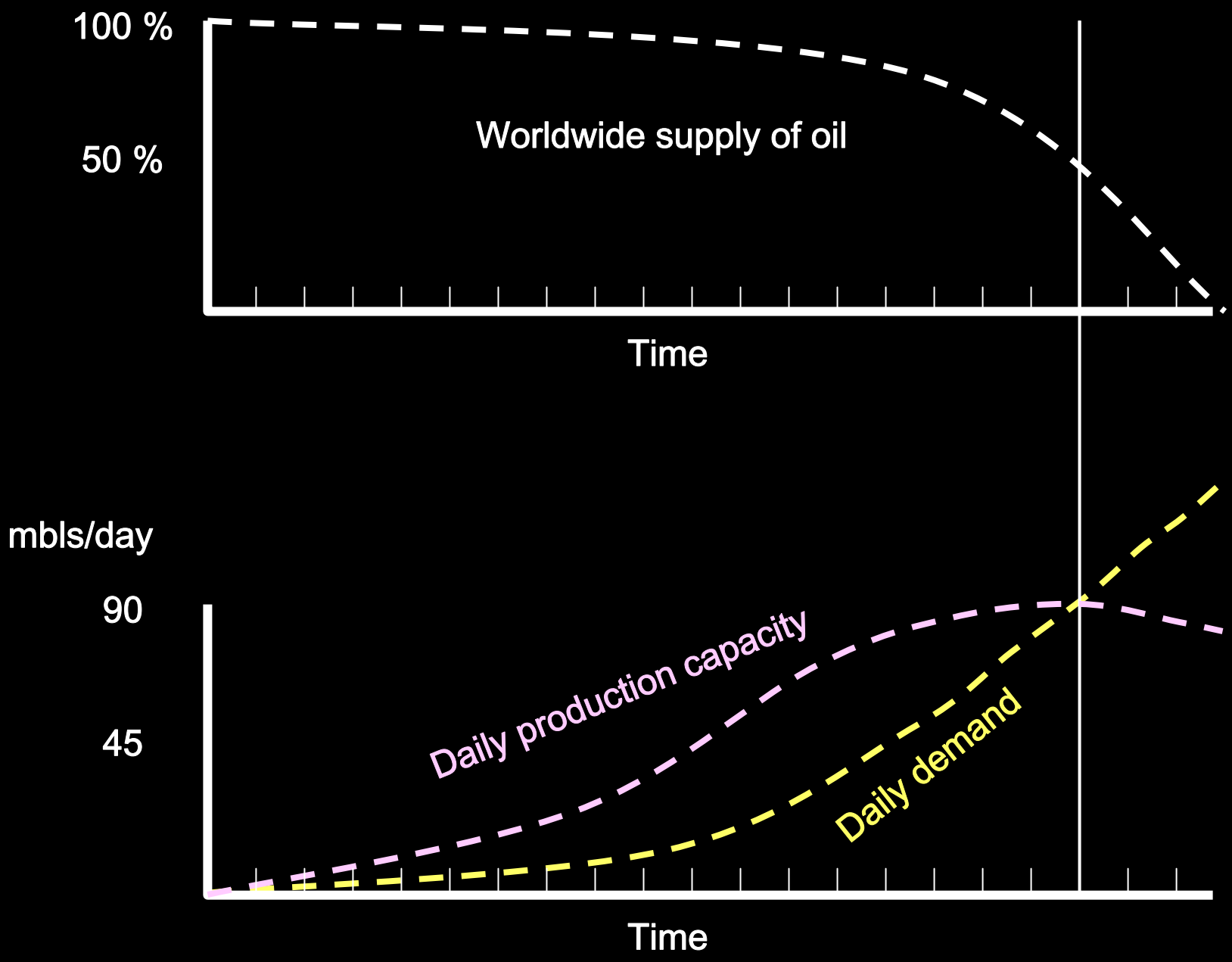
…because we ran out of stones

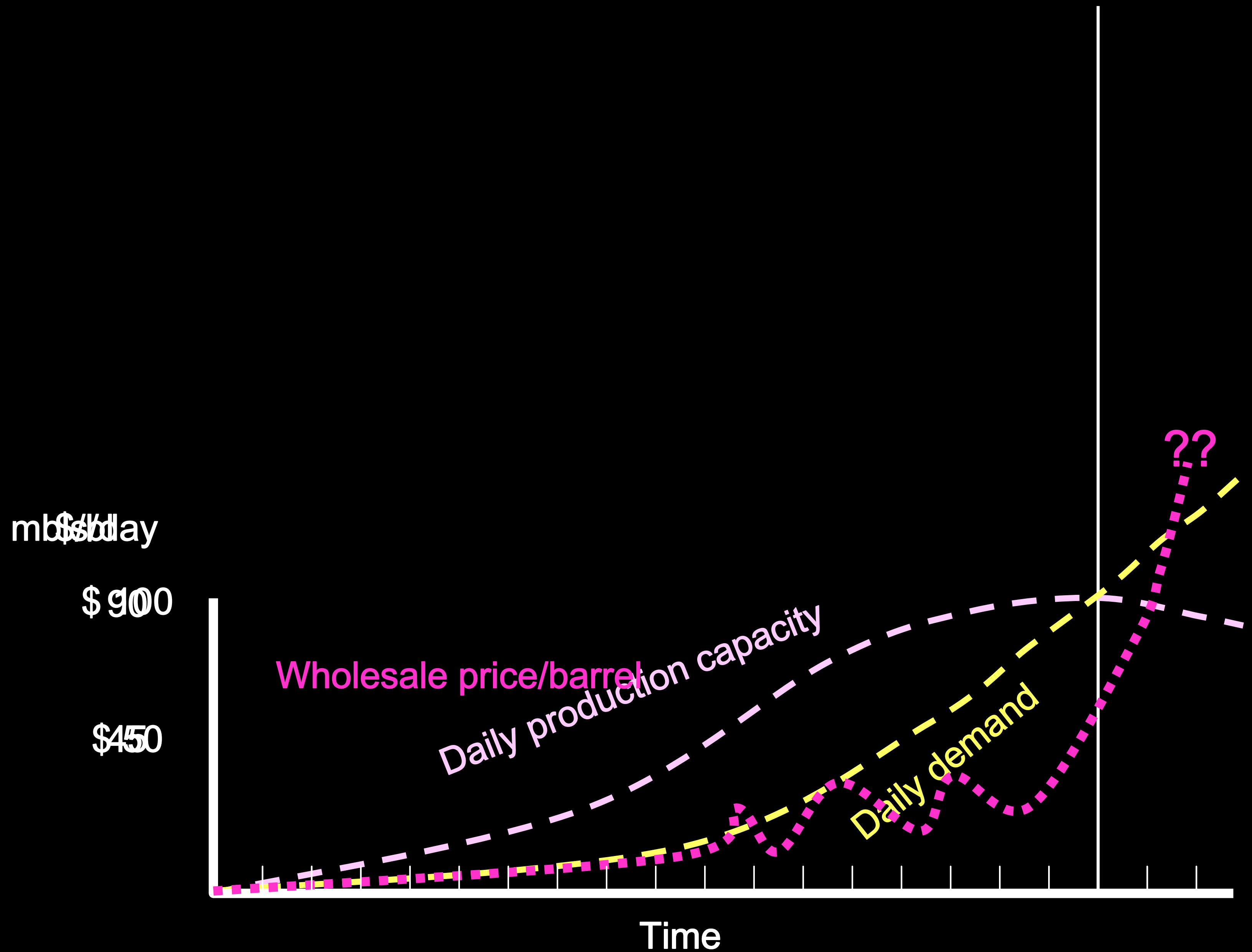
The end of the age of…

…cheap oil

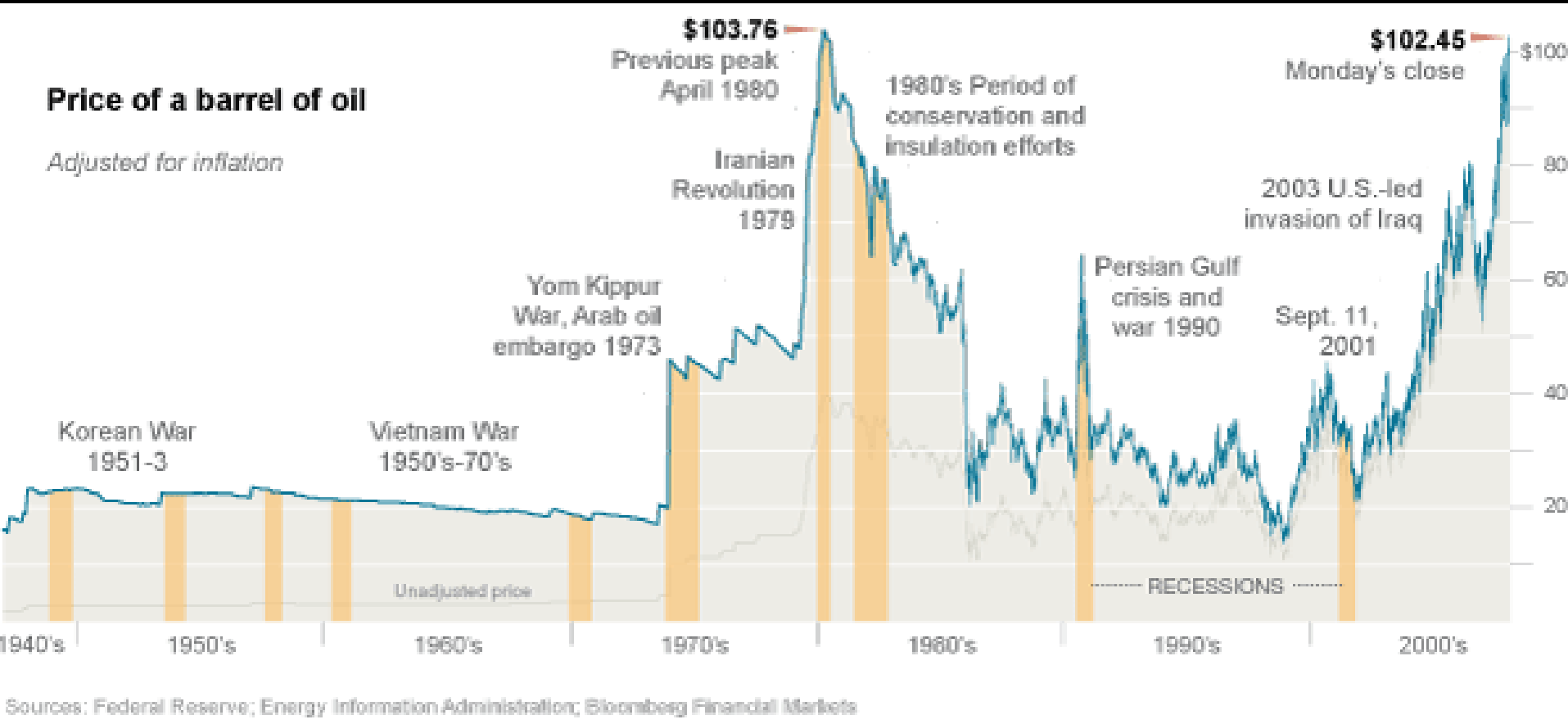
Charlier Associates, Inc.


100 %
50 %
Worldwide supply of oil
Time
42 years
1.3 trillion barrels


100 %
50 %
Worldwide supply of oil
Time
mbls/day
90
45
Daily production capacity
Daily demand
Time



??
Wholesale price/barrel
Daily production capacity
Daily demand
Time



Graphic: New York Times

Summary: Energy Security

- The supply/demand relationship for energy has changed fundamentally & permanently
- Energy prices & especially motor fuel prices will rise inexorably
- Montana's economy will be directly & significantly impacted
- Citizens expect governments to address these issues

Climate Change

Sustainable Mobility

Stranded Polar Bears

Receding Glaciers

Basics: Climate Change 1

- Greenhouse gases associated with human activities are contributing to global warming with potentially serious consequences

Basics: Climate Change 2

- Scientific consensus:
  - We must limit global temperature increases to no more than 2° to 3° C
  - To do that we must cut GHG emissions by 60% to 80% below 1990 levels by 2050

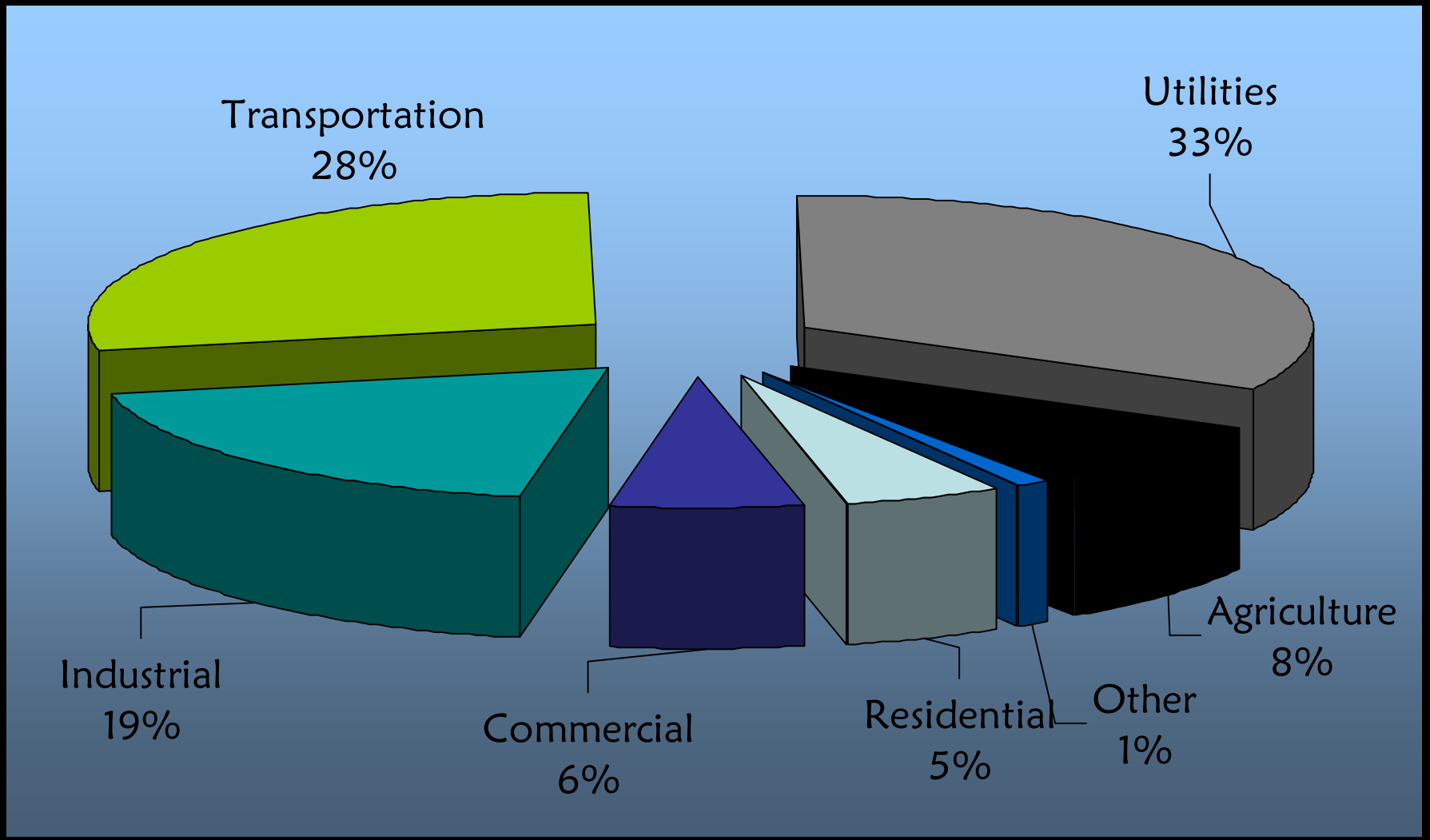
Basics: Climate Change 3

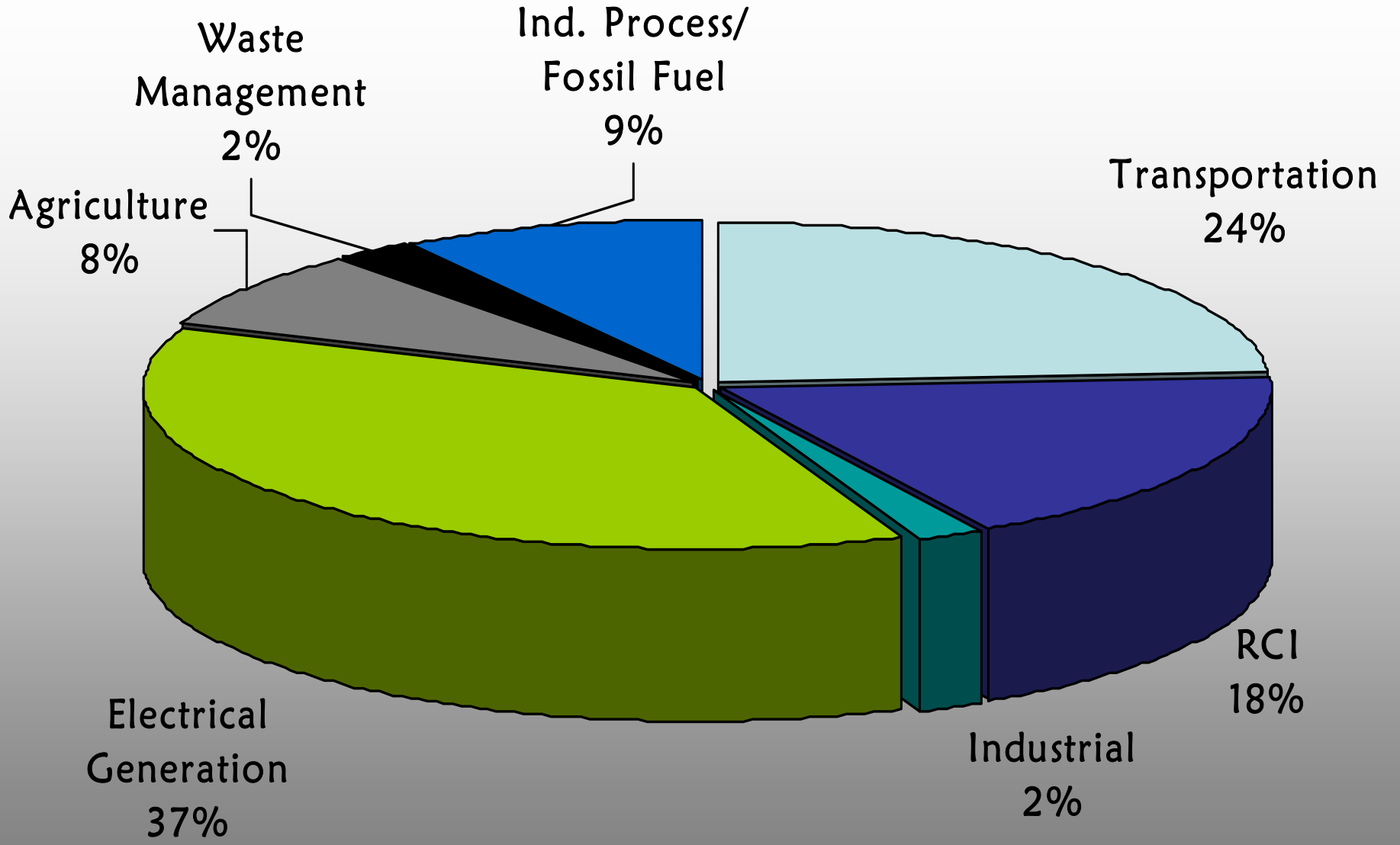
- GHGs persist in the atmosphere – we do not start over each year
- If we hesitate to begin reducing GHG emissions, the amount we have to reduce in later years increases EXPONENTIALLY
- What we do now is more important than what we do in 2050

Basics: Climate Change 4

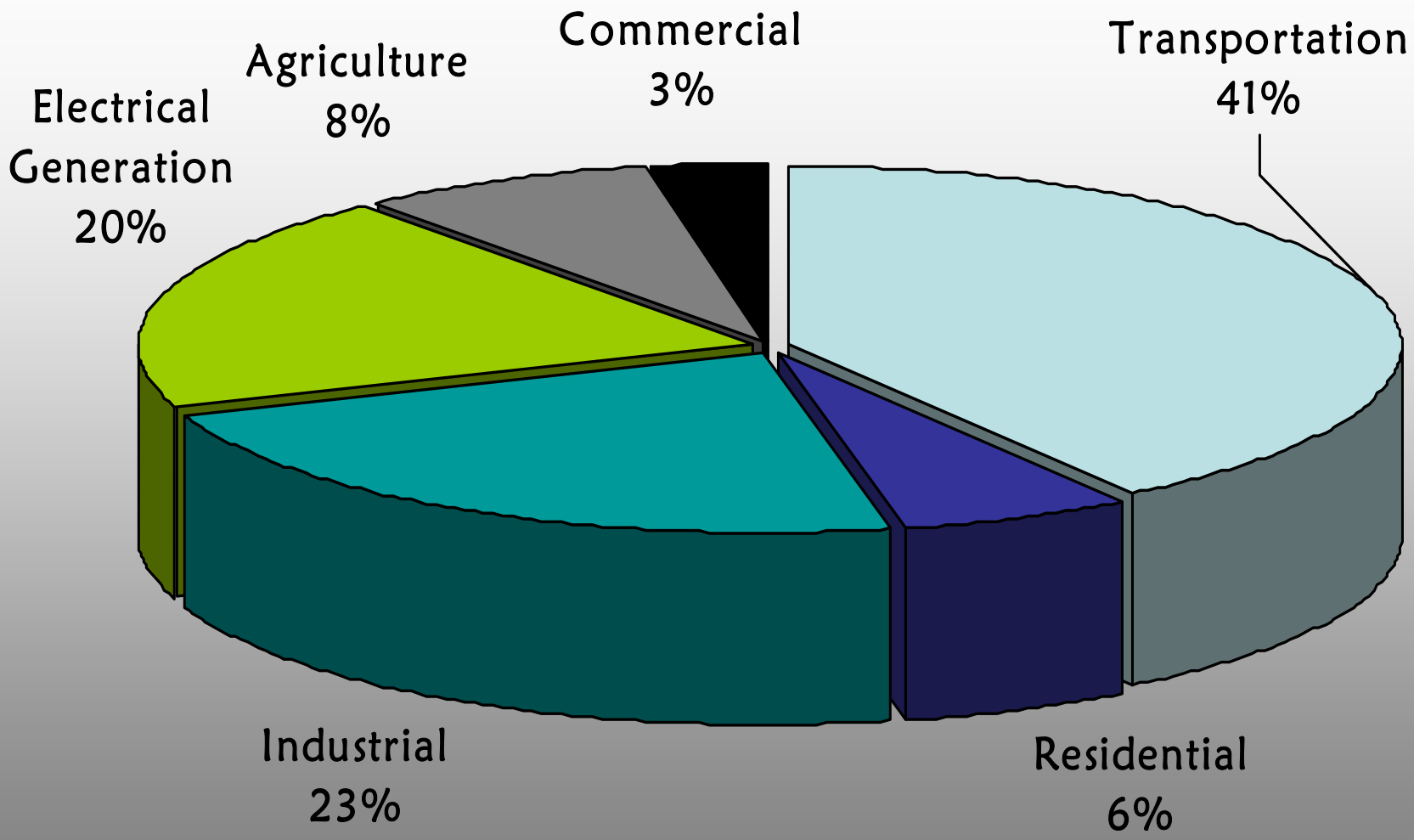
- The Western US
  - Will Be Hotter
  - Will Be Drier
  - Will Have More Volatile Weather

U.S. Greenhouse Gases

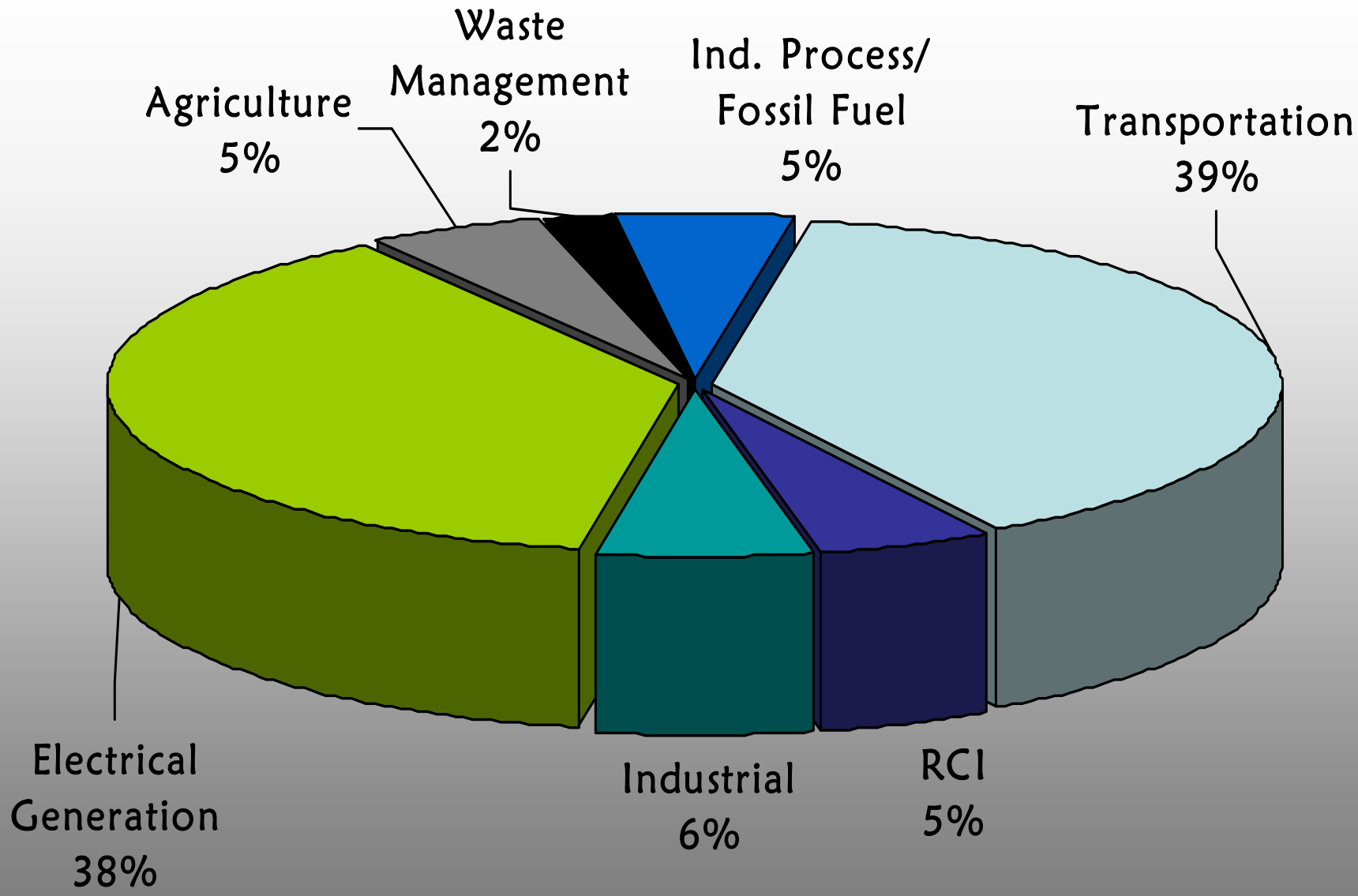



Waste Management 2%
Ind. Process/ Fossil Fuel 9%
Transportation 24%
Agriculture 8%
RCI 18%
Electrical Generation 37%
Industrial 2%

Colorado

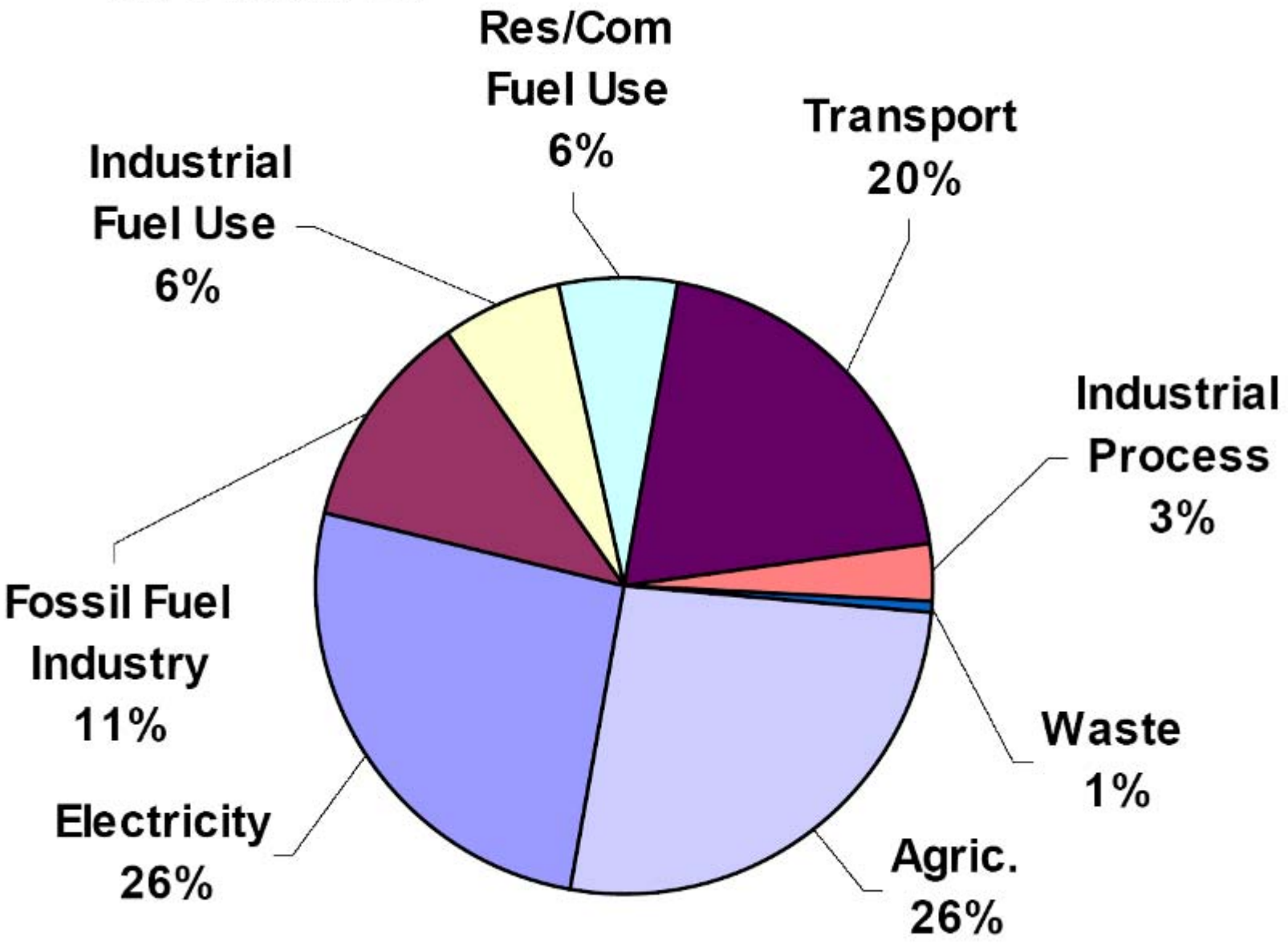

Commercial
3%
Transportation
41%
Agriculture
8%
Electrical
Generation
20%
Industrial
23%
Residential
6%

California


Waste Management 2%
Ind. Process/ Fossil Fuel 5%
Agriculture 5%
Transportation 39%
Electrical Generation 38%
Industrial 6%
RCI 5%

Arizona

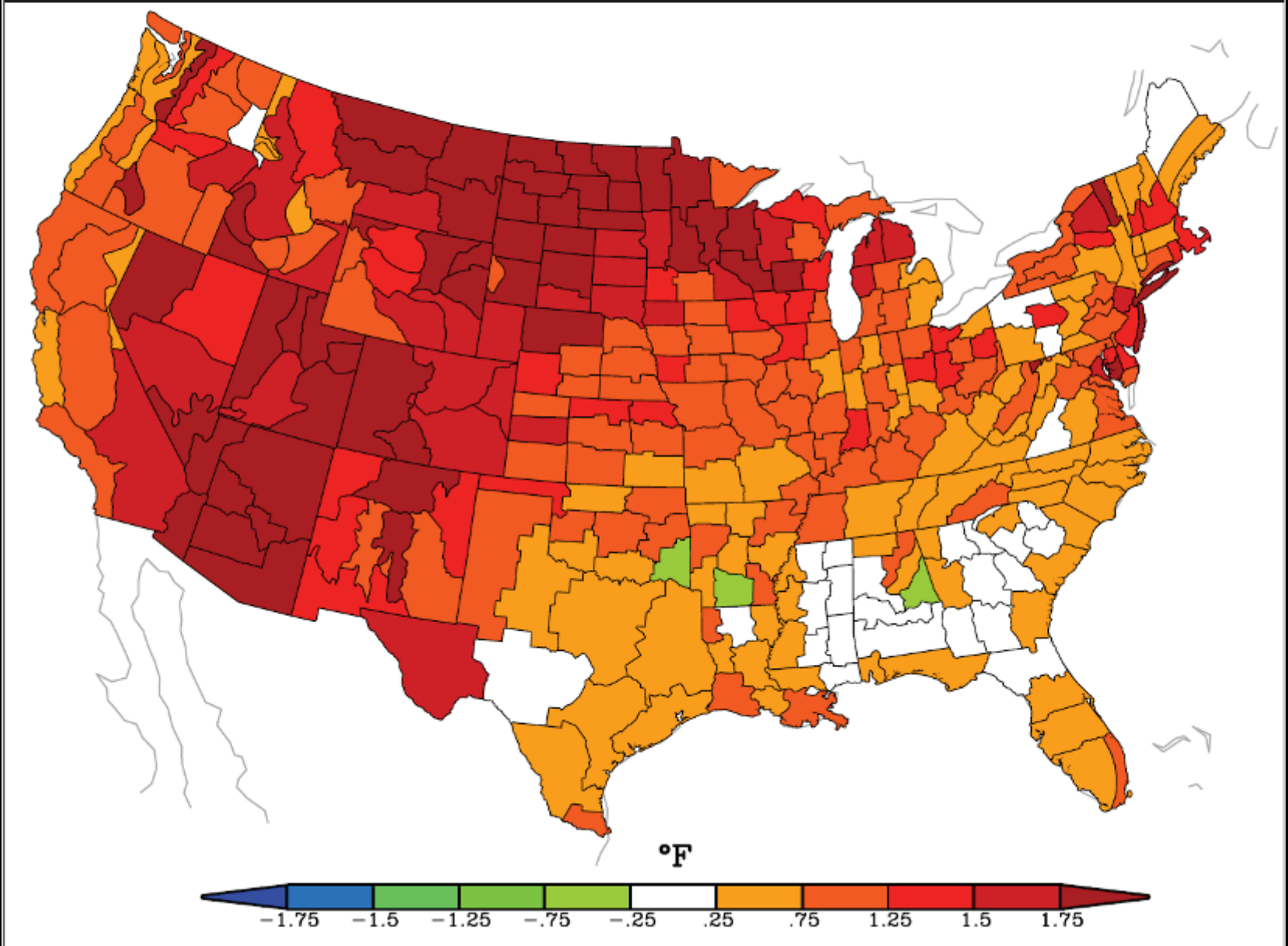
Montana


Res/Com
Fuel Use
6%
Transport
20%
Industrial
Fuel Use
6%
Industrial
Process
3%
Fossil Fuel
Industry
11%
Waste
1%
Electricity
26%
Agric.
26%

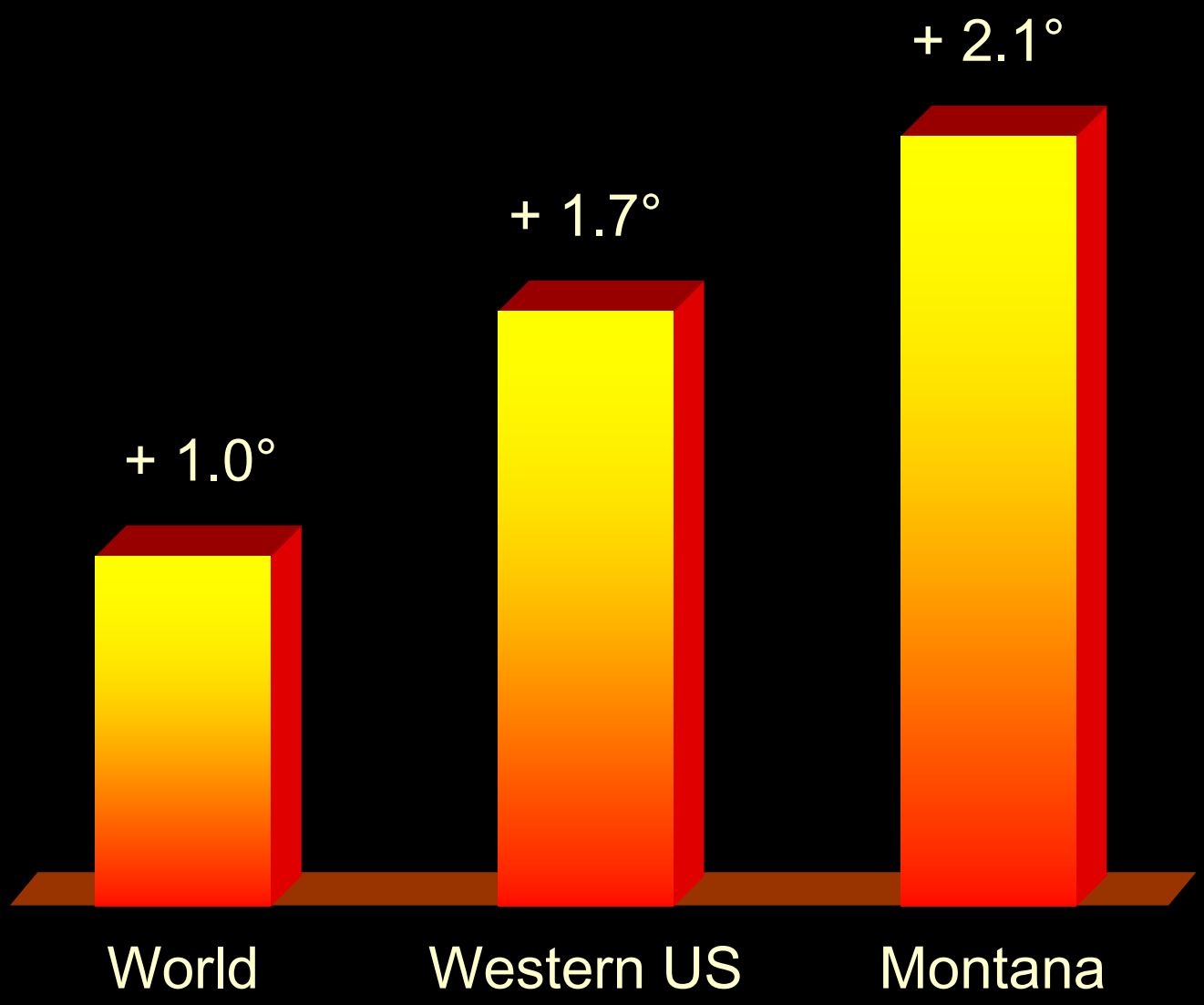
Potential Responses to Climate Change

- Ignore ✓
- Mitigate ✓
- Adapt ✓

Figure 3. The Interior West: Epicenter of Warming in the Contiguous U.S. (2000 - 2007 Average Temperatures Compared to 20th Century Averages)



Ambient Temperature Change 1908 – 2007 (° F)



White "bathtub rings" show the pre-drought water level of Lake Powell.

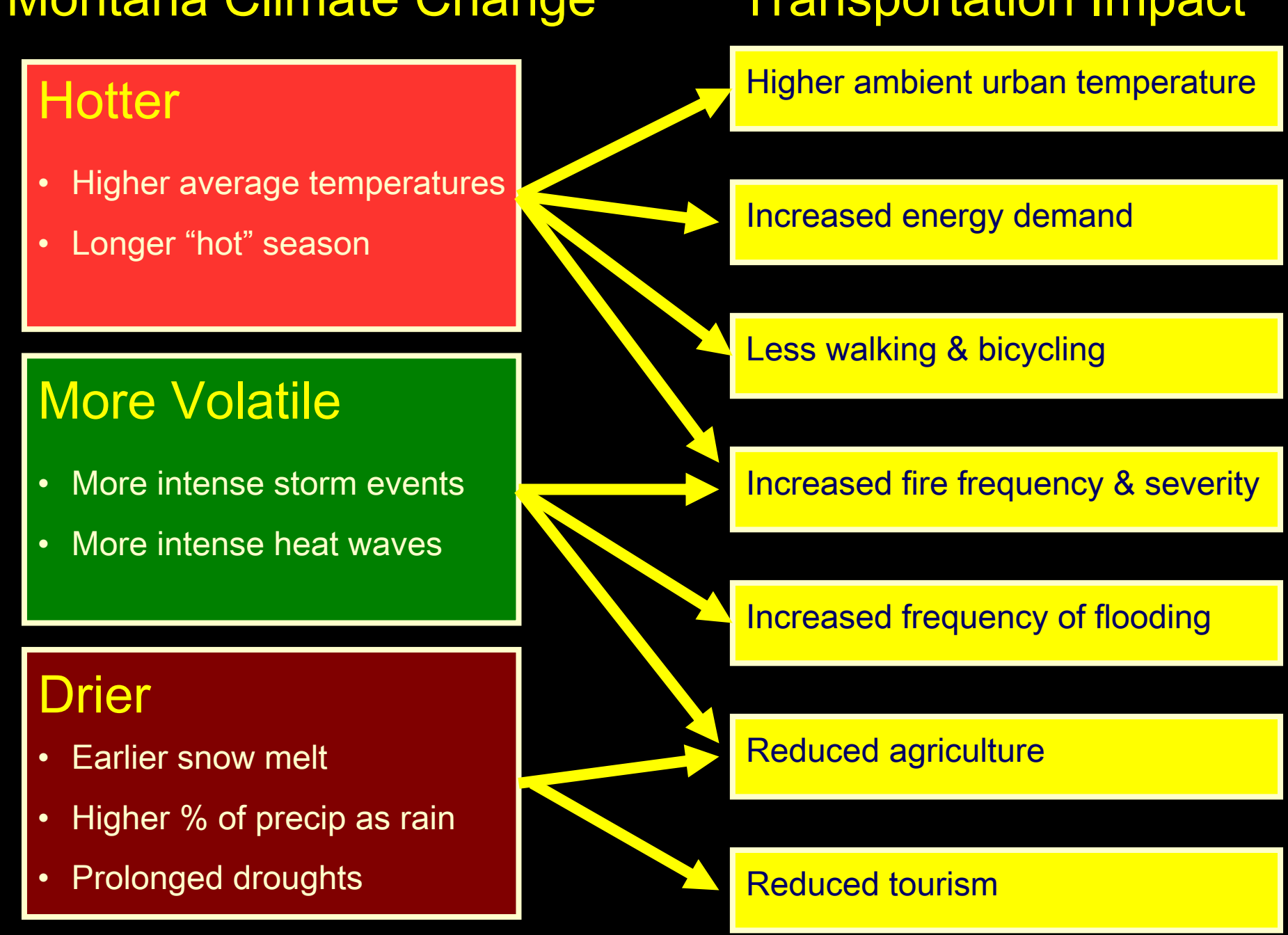
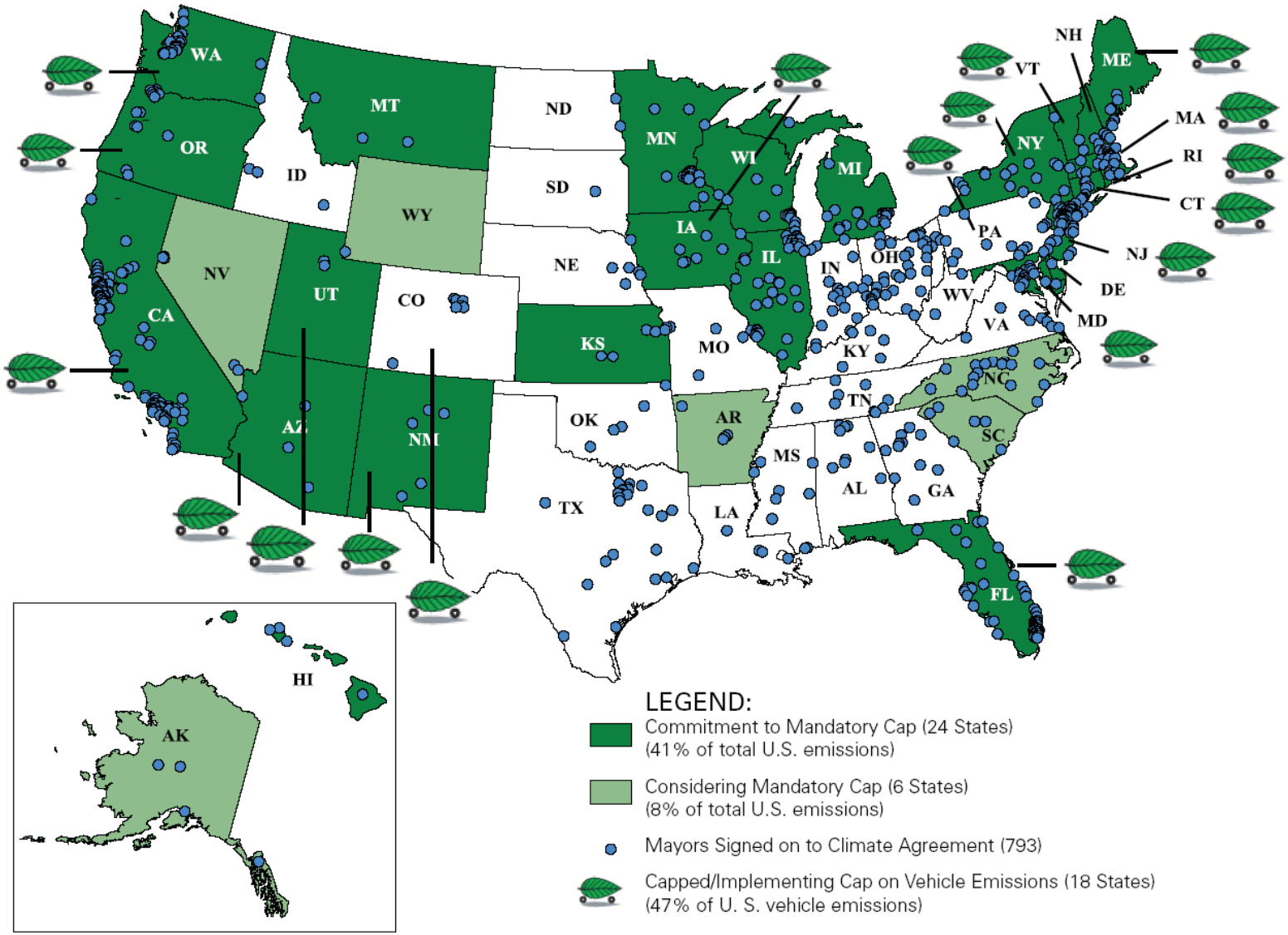

Montana Climate Change
Transportation Impact
Hotter
• Higher average temperatures
• Longer “hot” season
More Volatile
• More intense storm events
• More intense heat waves
Drier
• Earlier snow melt
• Higher % of precip as rain
• Prolonged droughts
Higher ambient urban temperature
Increased energy demand
Less walking & bicycling
Increased fire frequency & severity
Increased frequency of flooding
Reduced agriculture
Reduced tourism

Figure 6. The Rising Tide for Global Warming Solutions



Montana Climate Change Action Plan

Final Report of the Governor's Climate Change Advisory Committee

November 2007

March 2008

Hotter and Drier

The West's Changed Climate

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Charles Montgomery
Tom Easley
The Rocky Mountain Climate Organization

Contributing Author

Theo Spencer
Natural Resources Defense Council

the ROCKY MOUNTAIN CLIMATE Organization

NRDC
THE EARTH'S BEST DEFENSE

Economic Viability

Sustainable Mobility

Star Bulletin

Wednesday MARCH 12, 2008 · HAWAII'S OLDEST DAILY NEWSPAPER, SINCE 1882 · 50¢

Maui gas hits $4

Some residents wonder why prices are at least 40 cents higher than on Oahu

WAILUKU >> Some Maui County residents are staying home more and driving less as the price for unleaded regular gasoline has already soared above $4 at rural areas and appears poised to move above $4 in Wailuku.

Unleaded regular sold for $4.33 yesterday at Lucky's Gas Station in west Molokai and $4.82 at Lanai City Service. Diesel fuel already costs more than $5 per gallon on Lanai.

Some residents cannot understand why gasoline prices on Maui are at least 40 cents more than on Oahu.

"Who's making the money?" one Maui resident demands.

MARY T. ALBERTALI / PAHN AN

'FILL 'ER UP' ARE COSTLY WORDS

Here are the latest gasoline prices, in dollars per gallon, for Hawaii, according to the Fuel Gauge Report. Lanai figures were compiled by the Star-Bulletin.

	Regular	Premium	Diesel
Honolulu	$3.48	$3.76	$3.86
Hilo	$3.52	$3.80	$4.04
Lanai City	$4.62	$4.69	$5.07
Wailuku	$3.99	$4.24	$4.21

Judge jails convicted killer for life plus more

HEATED UP ABOUT THE HEAT

Students demand air conditioning at their school

MORNING DIGEST

HAWAII

Hospital gets clean bill of health

To the delight of patients, staff and legislators, the North Shore's only hospital, once mothballed, will get a new lease on life Friday when it comes under state control after a 16-month, $2.9 million transition. >> A8

NATION & WORLD

Gates explains Fallon's departure

Defense Secretary Williams Gates says the resignation of Adm. William Fallon was not due solely to a magazine article that put him at odds with President Bush over Iran, but rather "a cumulative kind of thing." >> A8

BUSINESS

A HEAVY LOAD:

The Combined Housing and Transportation Burdens of Working Families

Center for Housing Policy

October 2006

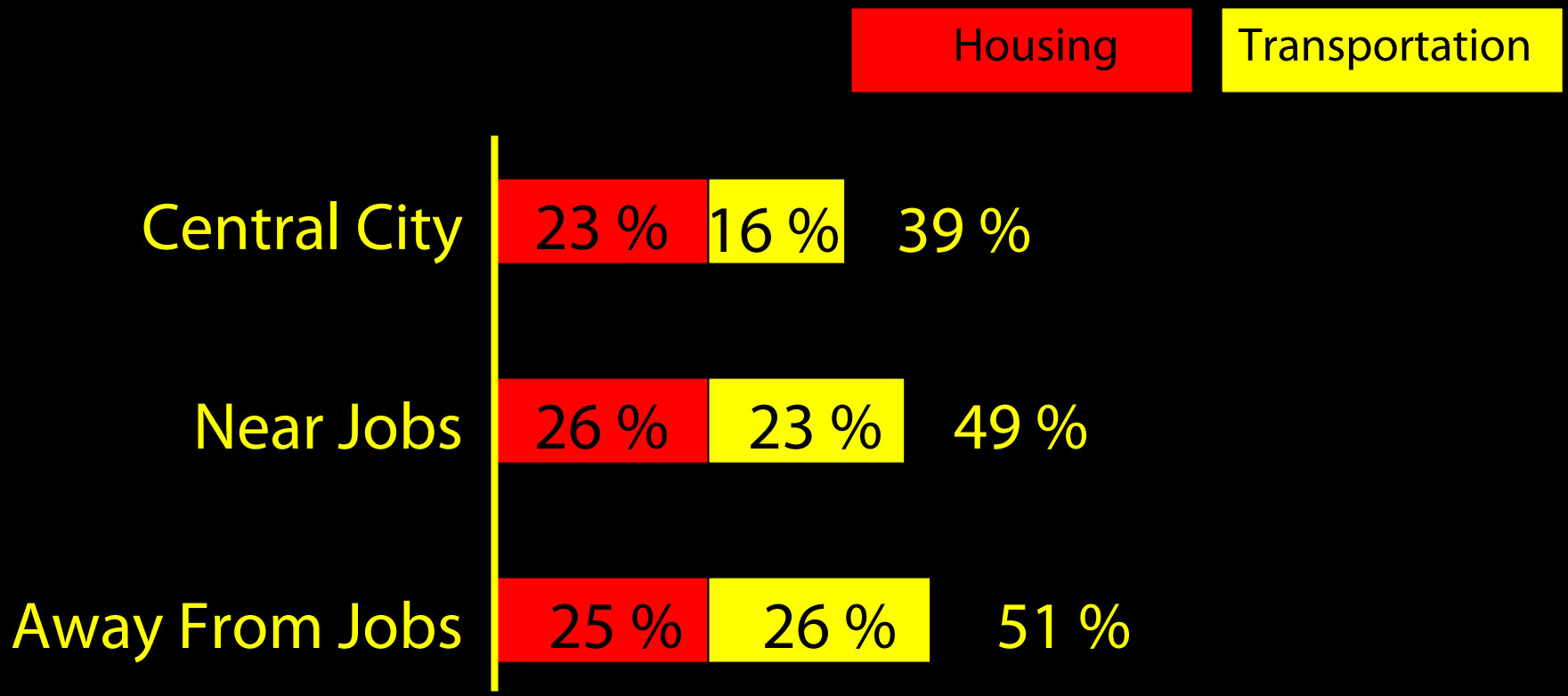
TYPICAL HOUSEHOLD BUDGET IN 28 METROPOLITAN AREAS

(Expenses as a share of income)

	All Households	Working Families Incomes $20,000 – $50,000
Housing	27.4%	27.7%
Transportation	20.2%	29.6%
Food	10.6%	15.1%
Healthcare	4.7%	7.7%

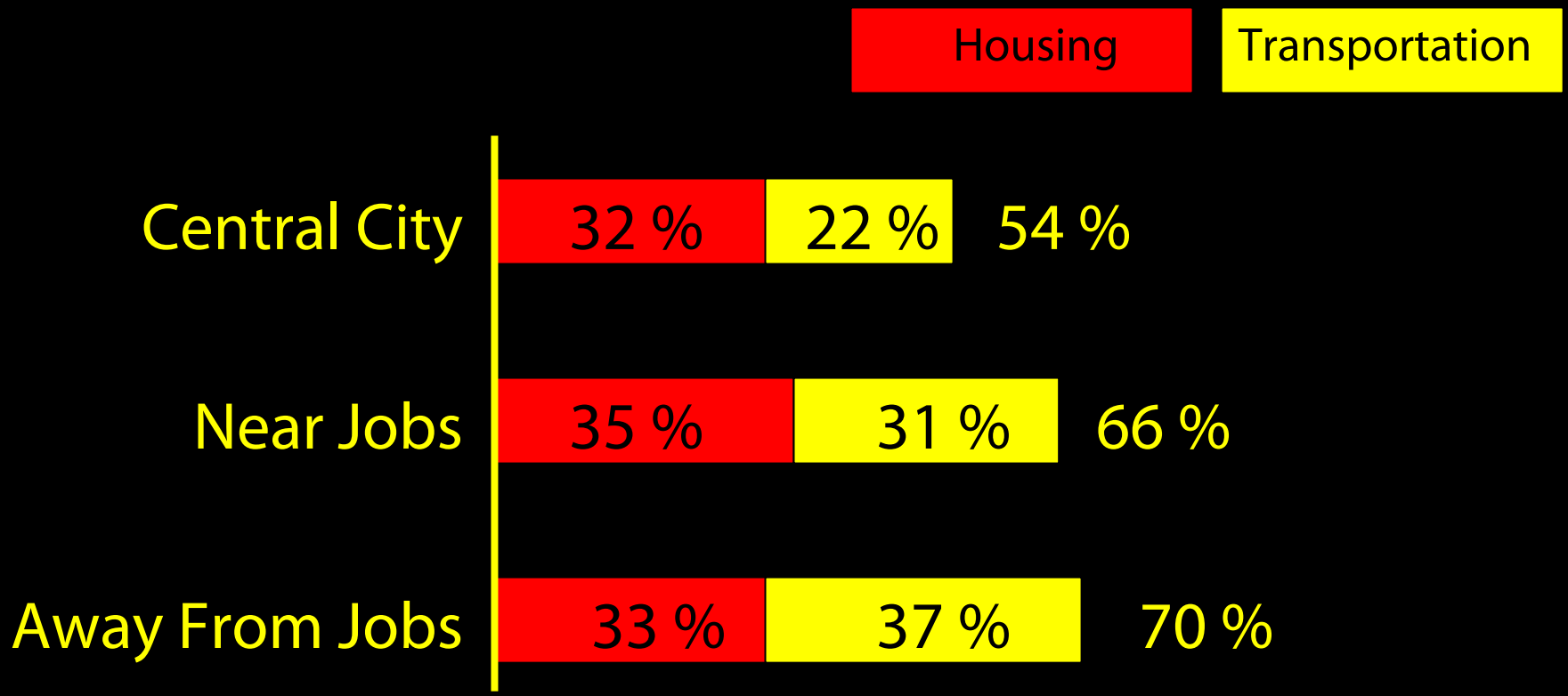
Share of Family Income Spent On Housing & Transportation

Family Income = $35,000 - $50,000

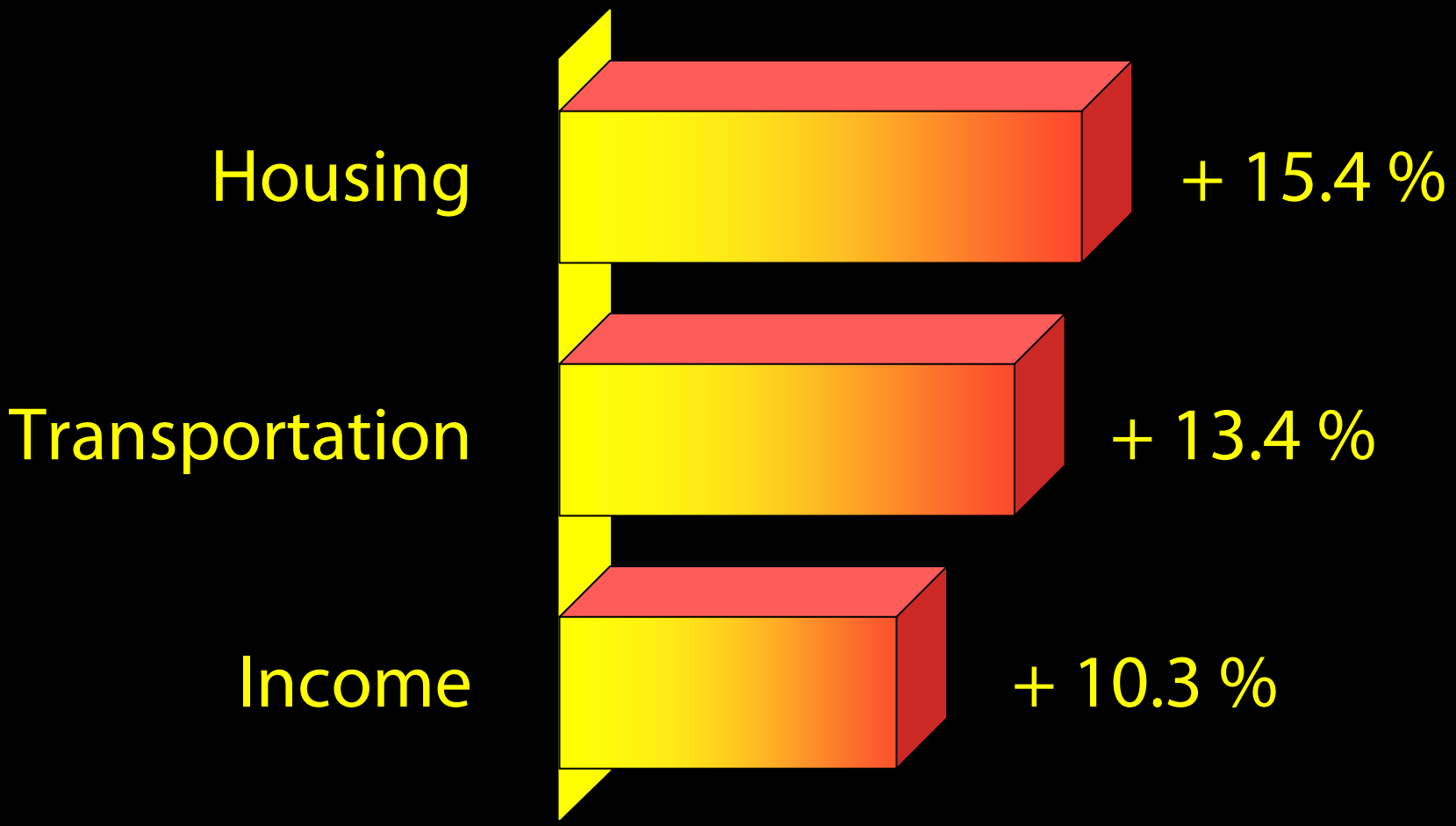


Share of Family Income Spent On Housing & Transportation

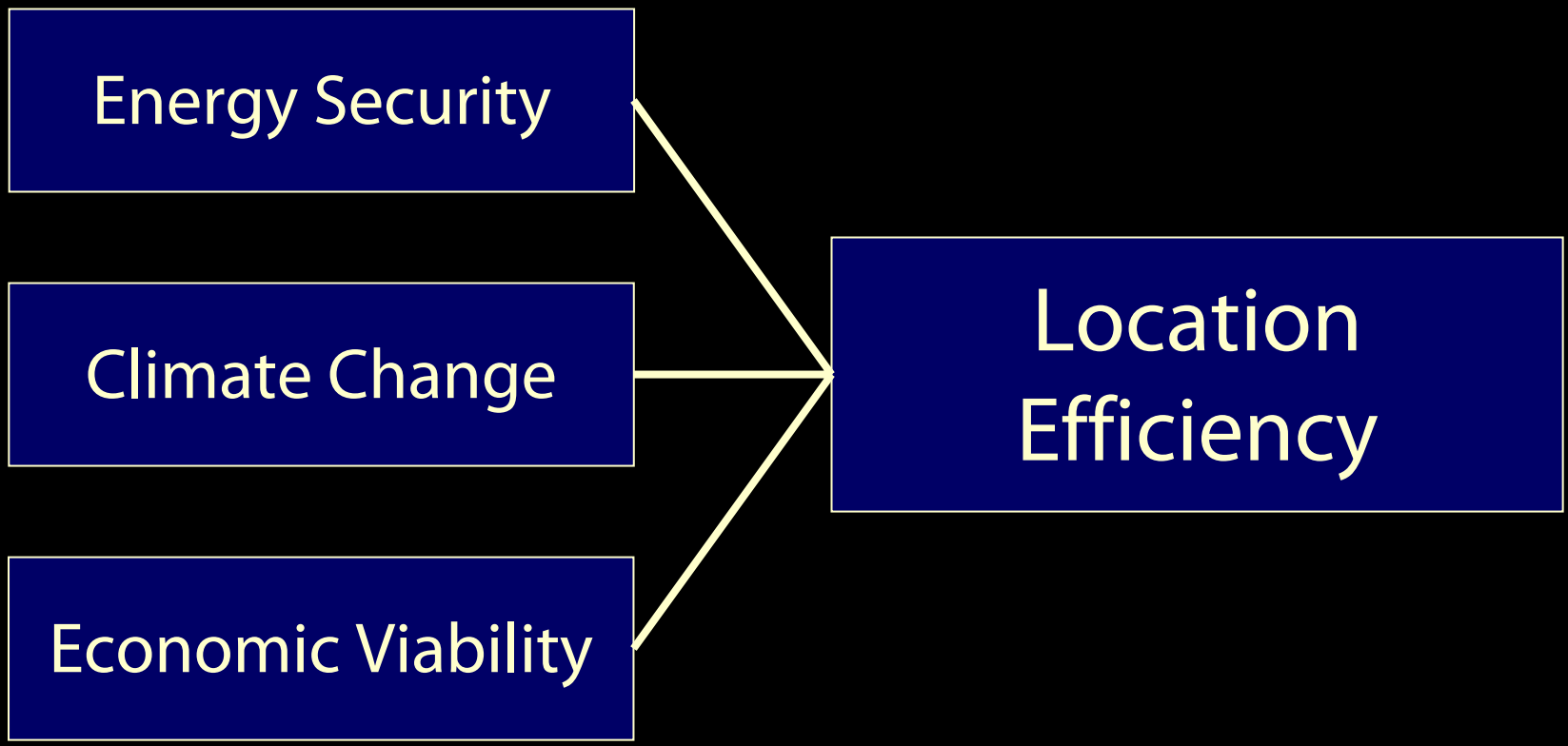
Family Income = $20,000 - $35,000



Family Costs Rising Faster Than Incomes (2000 – 2005)



Why Build In Downtown?



Location Efficiency

- Shorter Trips
- Fewer Vehicle Trips

→ Reduced VMT

- Reduced Petroleum Consumption
- Reduced GHG Emissions
- Reduced Cost of Transportation in Household Budgets
- Improved Employment Security
- Less Money Leaving the Local Economy

Examples of Location Efficiency

- Transit Oriented Development (TOD)
- Mixed Use Centers
- Connected Networks
  - Walkable Neighborhoods
  - Street Connectivity
  - Complete Bicycle System (A, B, C)
- **HEALTHY DOWNTOWNS**

Growing Cooler: The Evidence on Urban Development and Climate Change

Reid Ewing, Keith Bartholomew, Steve Winkelman, Jerry Walters, and Don Chen

with Barbara McCann and David Goldberg

What Works – Peer Experiences

Sustainable Mobility

“MOBILITY”

Mobility Elements

Travel – Moving over distances

Circulation – Moving within areas

Access – Getting in the door

Facilities

Travel –	Freeways, arterials, rail transit, express bus lanes
Circulation –	Collectors, connectors, transit routes, bike trails and lanes
Access –	Local streets, parking, sidewalks and crosswalks

Built for...

Redmond

Seattle

...travel

Built for...

Flagstaff

Redmond

...circulation

Built for...

Portland

Boulder

...circulation

Built for...

Winter Park, Fl

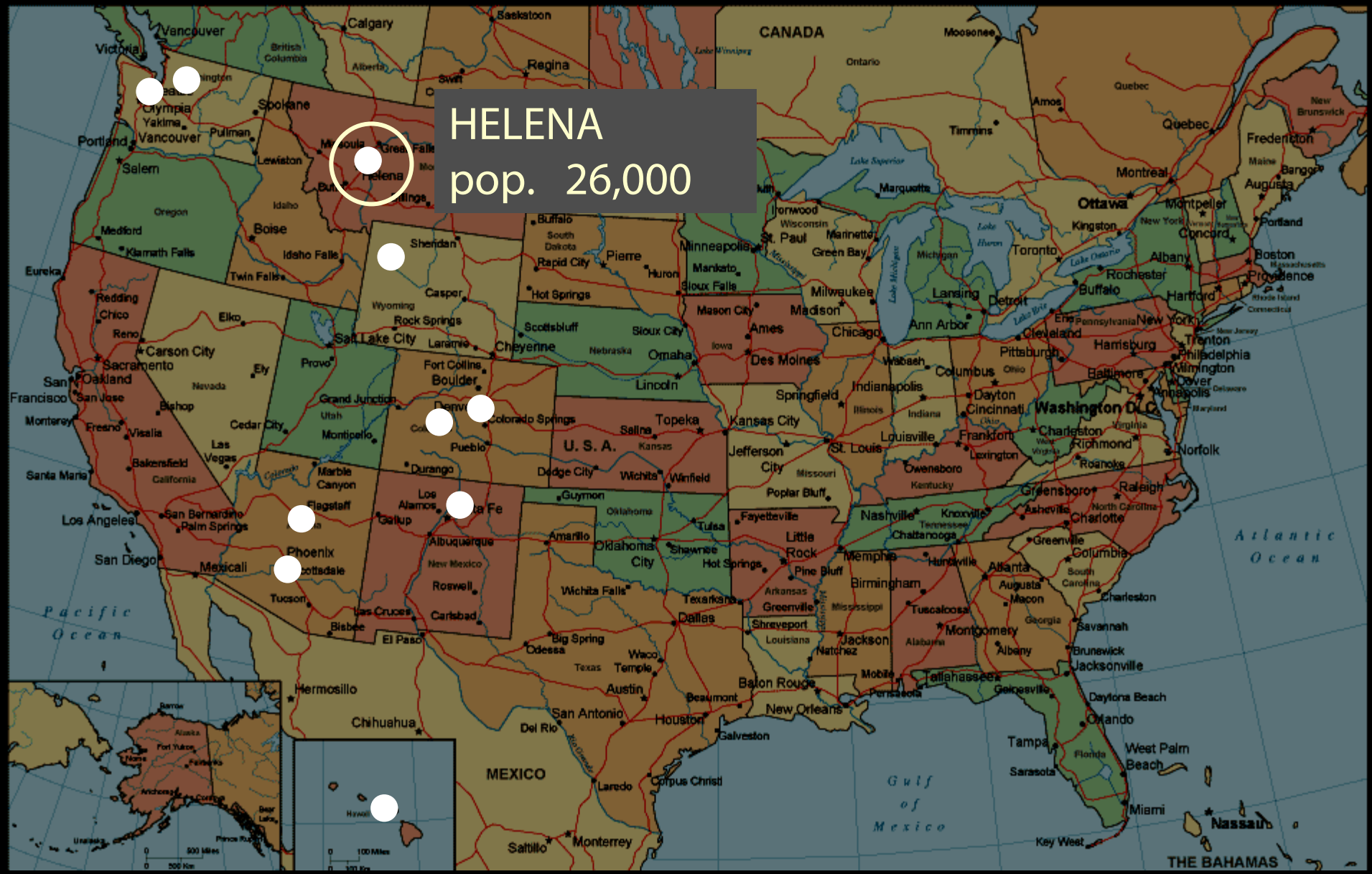
...access

Circulation and access are much more important to downtowns than travel

What Works – Peer Experiences

- Streets
- Parking Management
- Walkable Places – The Intermodal Downtown
- Transit

Peer Examples



What Works – Peer Experiences

- Streets
- Parking Management
- Walkable Places – The Intermodal Downtown
- Transit

Streets


St. Louis Region
EAST
30


Lakewood, CO

Pleasanton, CA

Newbury, Boston


Neighborhood
Abutting Property
Abutting Property
Street
©2007 Google™


Neighborhood
Street
Abutting Property

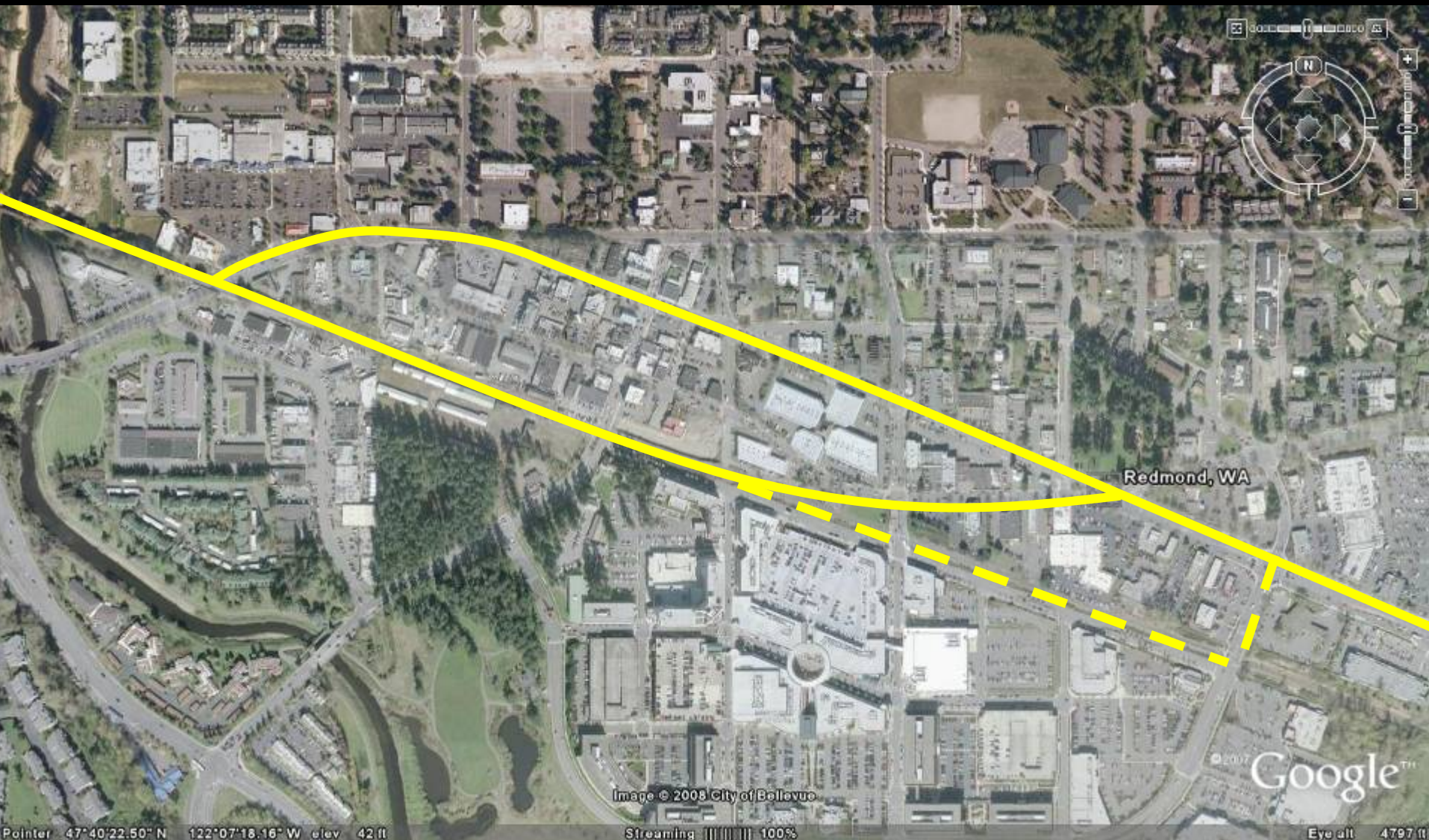
Peer Example – Redmond WA

Streets

Charlier Associates, Inc.

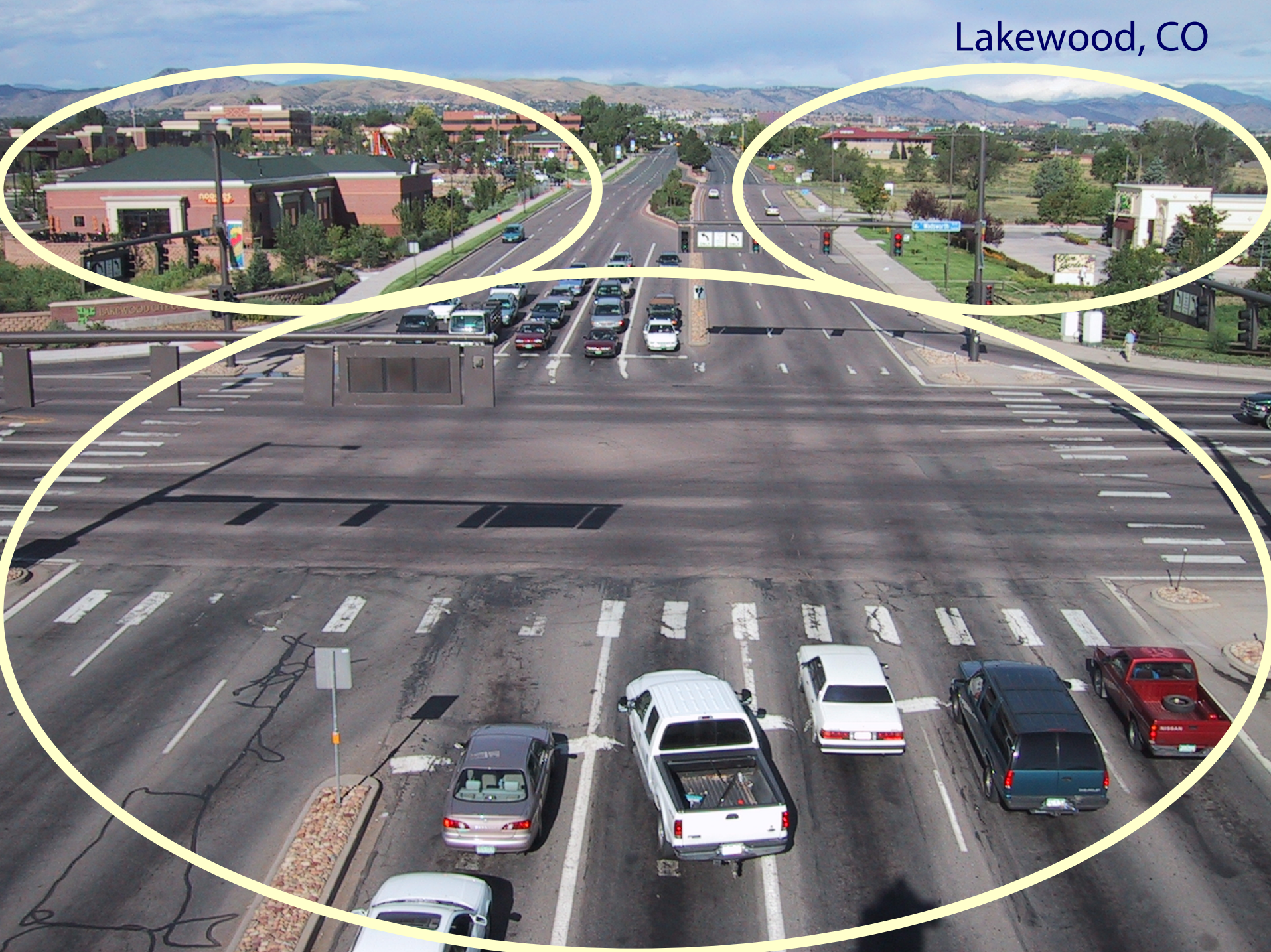
Redmond WA (pop. 60,000)

Redmond, Washington


Redmond, WA
Image © 2008 City of Bellevue
Google™
Pointer 47°40'22.50" N 122°07'18.16" W elev 42 ft
Streaming 100%
Eye alt 4797 ft

Traditional Focus: Traffic Data

Redmond, WA


Lakewood, CO


Boulder