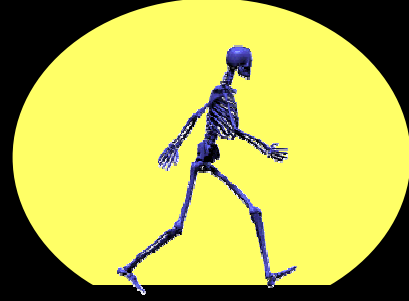
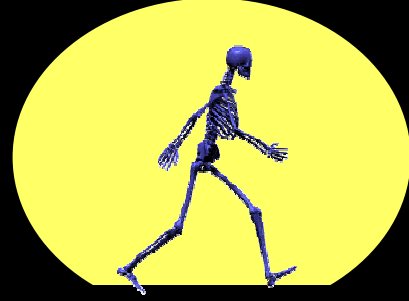


Pedestrians and the City

Planning and Design for Humans

Tonight

- The Pedestrian Defined
- Pedestrians and Urban Form
- Pedestrian Environments
- Pedestrian Policy



The Pedestrian Defined

- Humans & health
- Pedestrian typology

This is what we do…
…but it is not who we are.

This is who we are:

- **Recently descended from nomadic hunter/gatherers**
- **Who walked extensively… and burned lots of calories**
- **Who experienced the world @ 2 – 15 mph**
- **Whose bodies were designed for collisions @ < 15 mph**

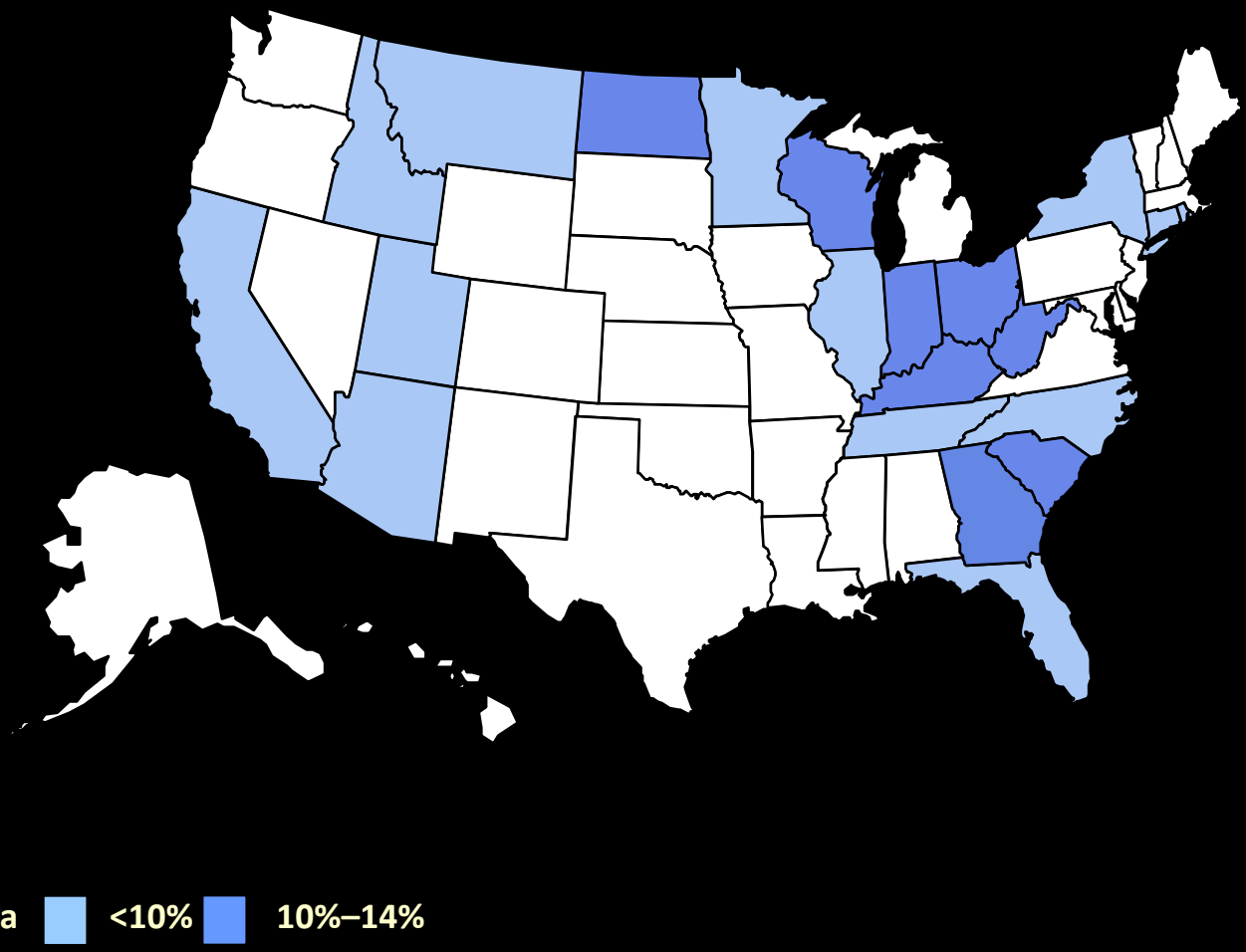
Human History

We cannot escape our DNA…

…no matter how hard we try

1985

Obesity Trends Among U.S. Adults



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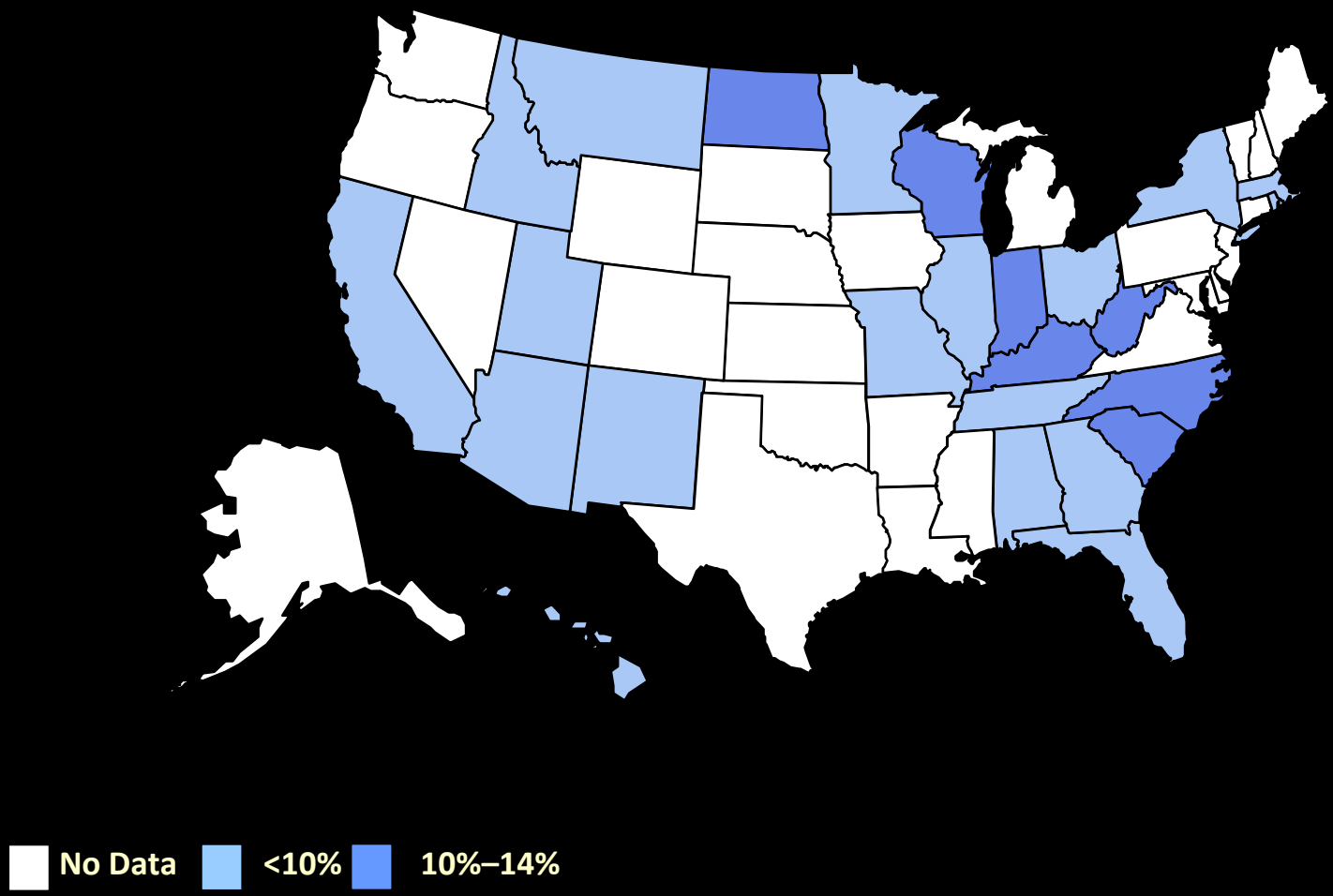

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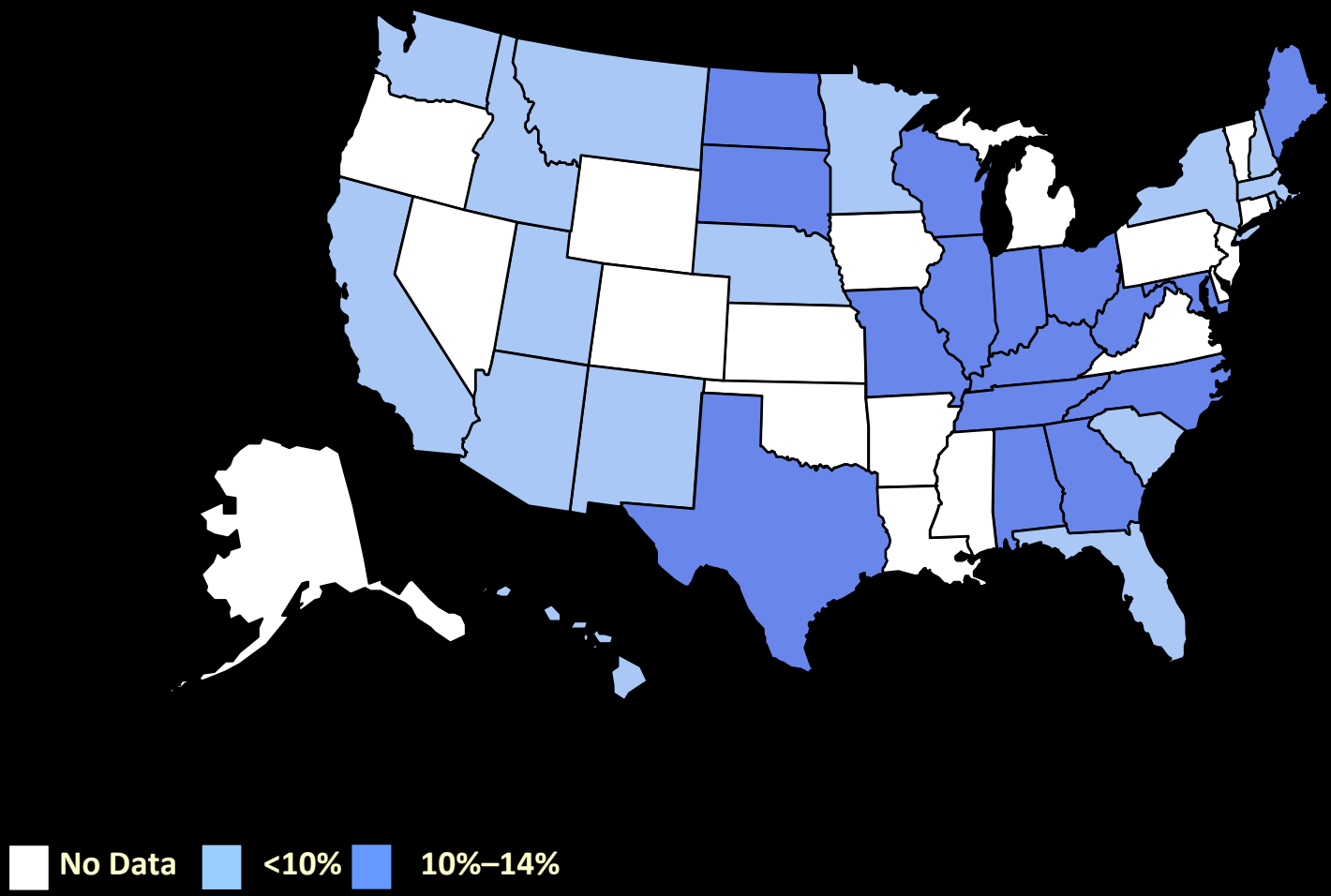

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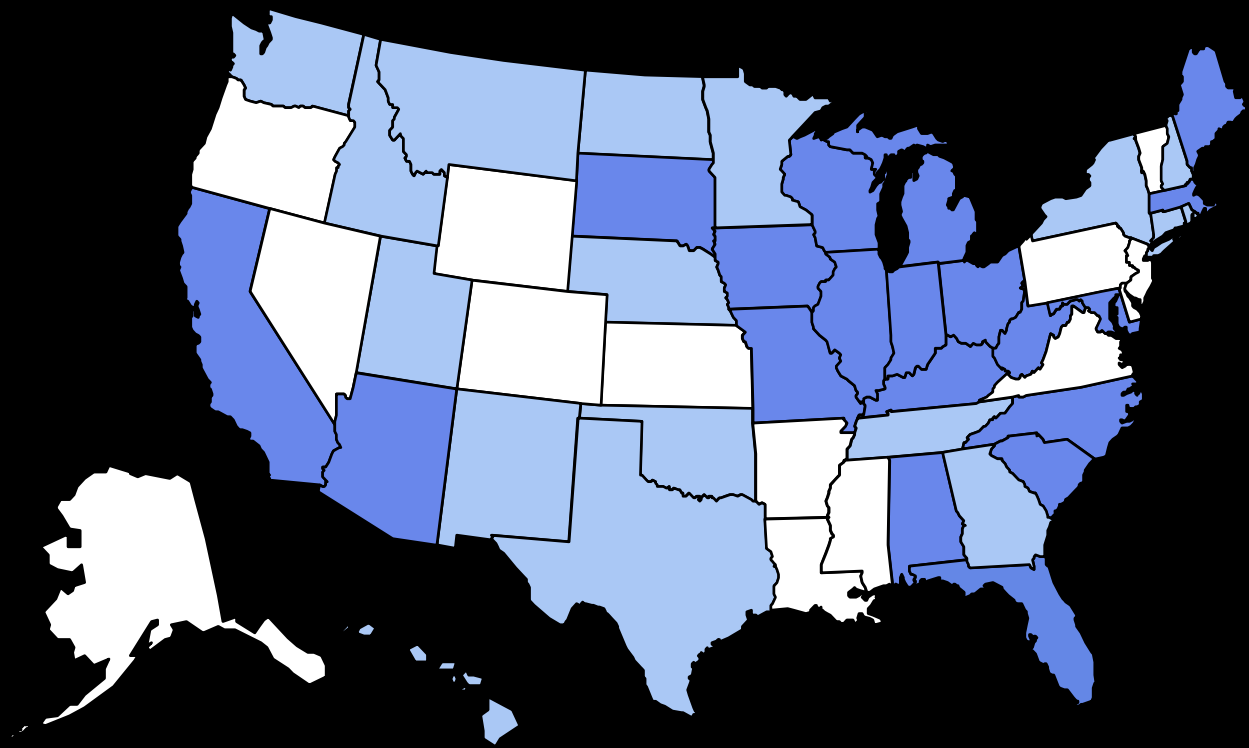

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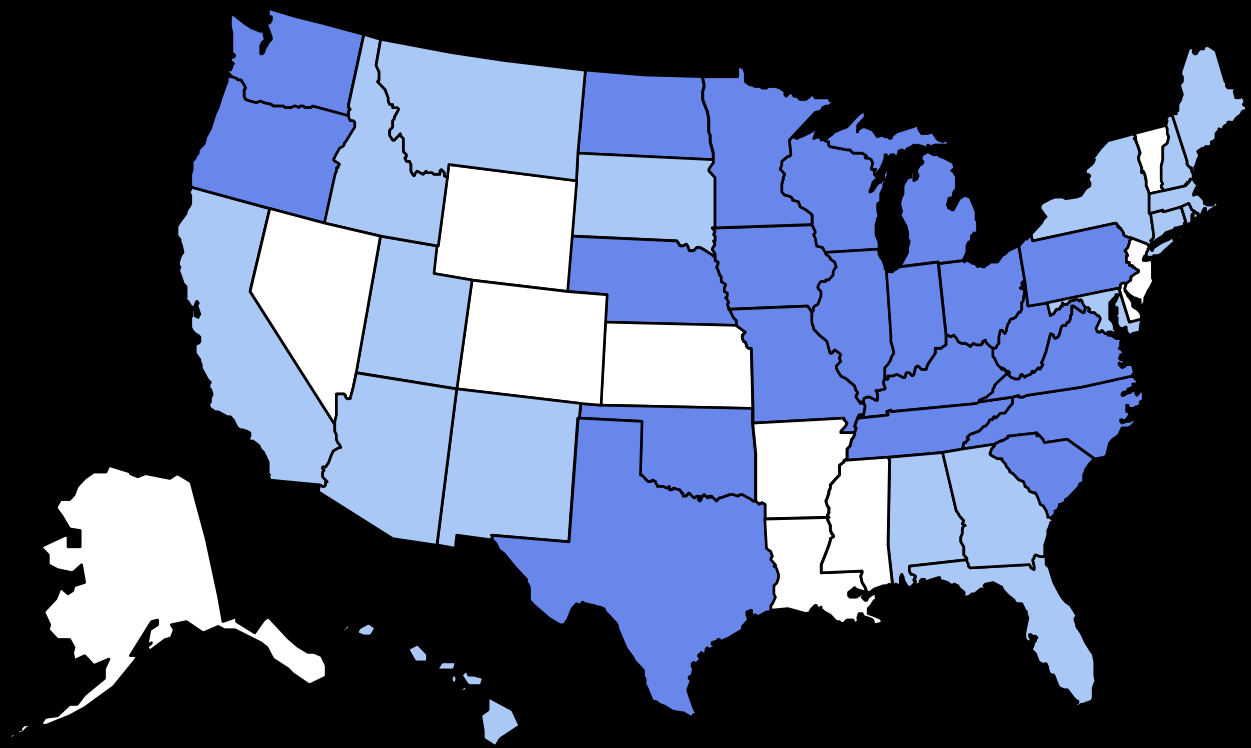
1989



No Data <10% 10%–14%

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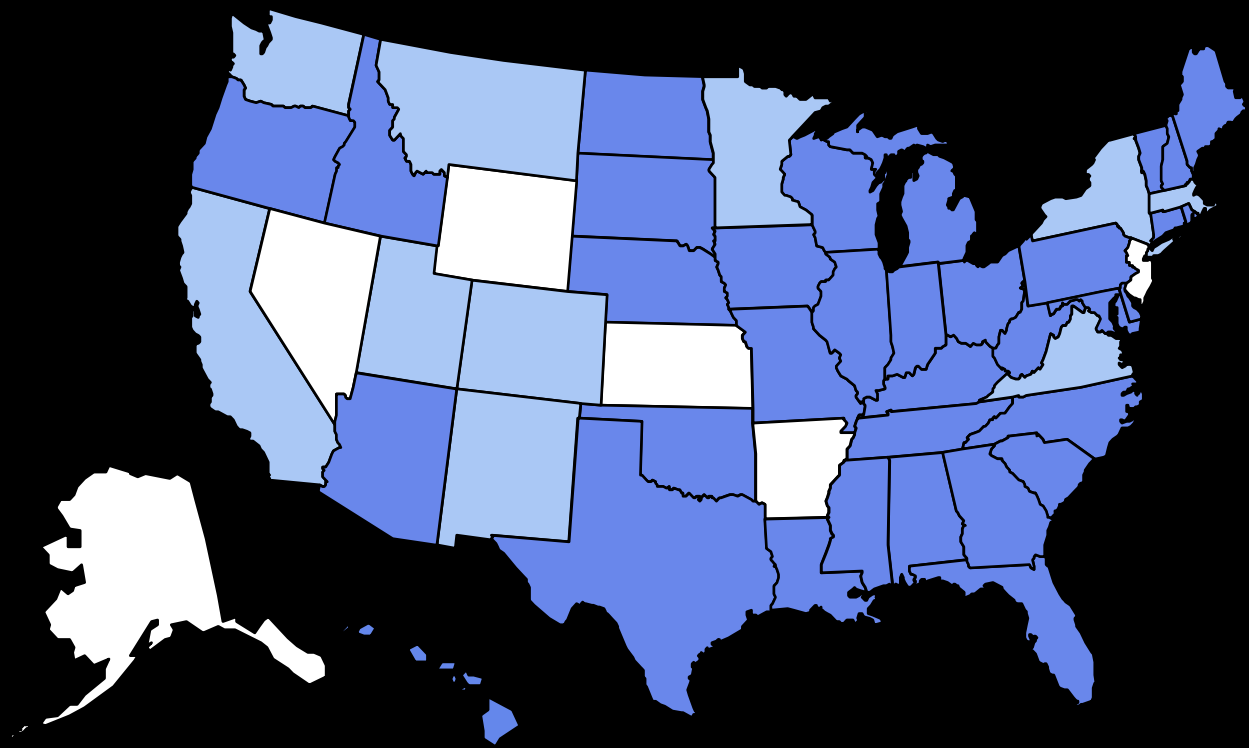

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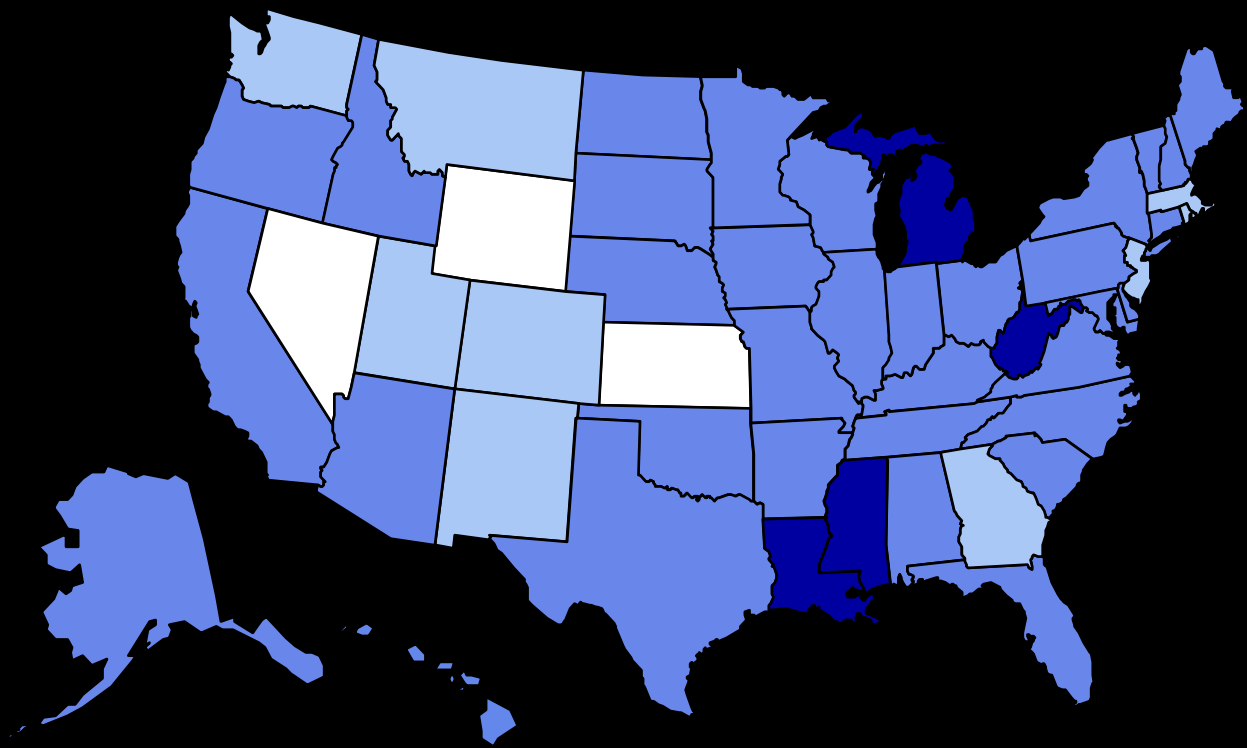

No Data <10% 10%–14% 15%–19%

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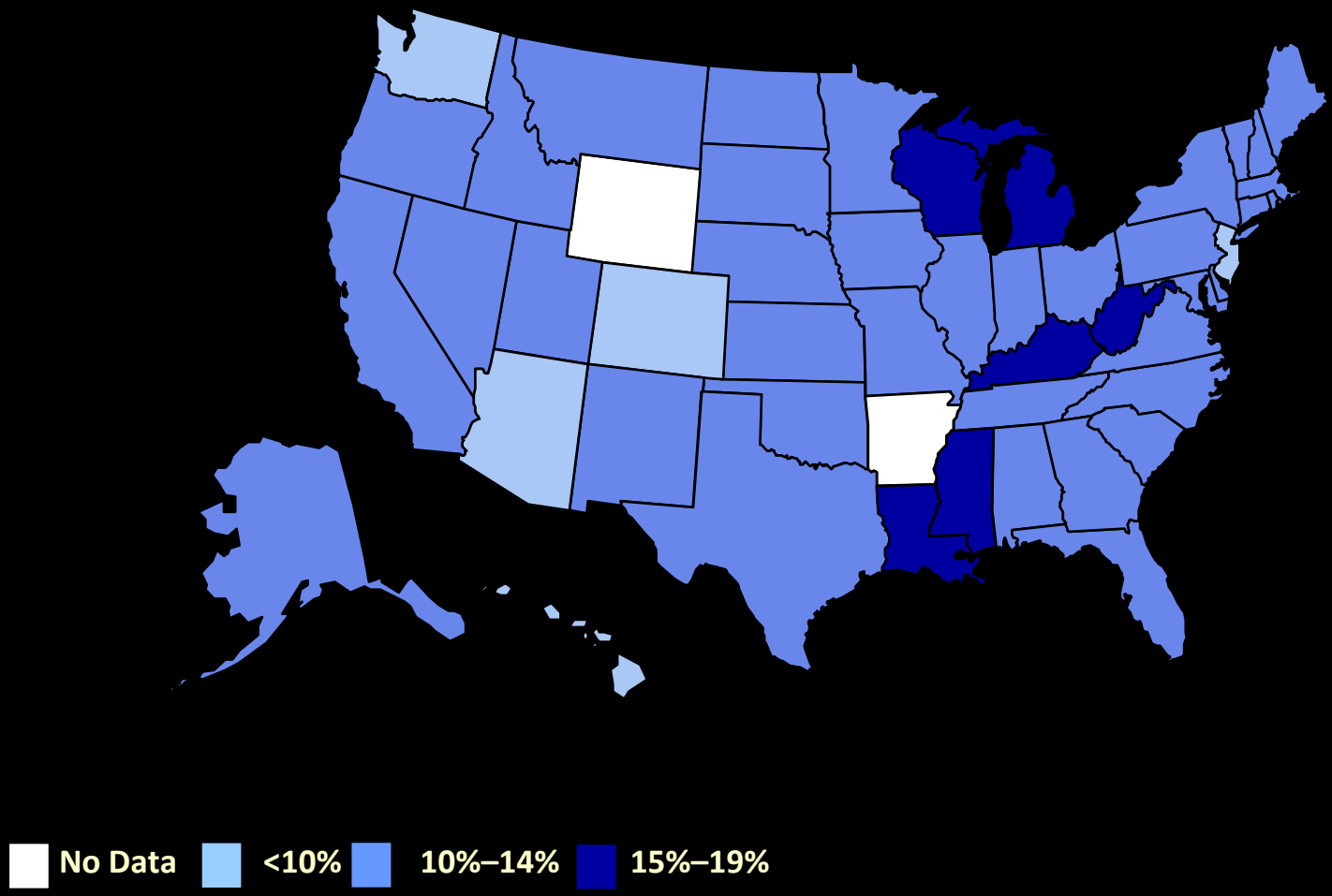

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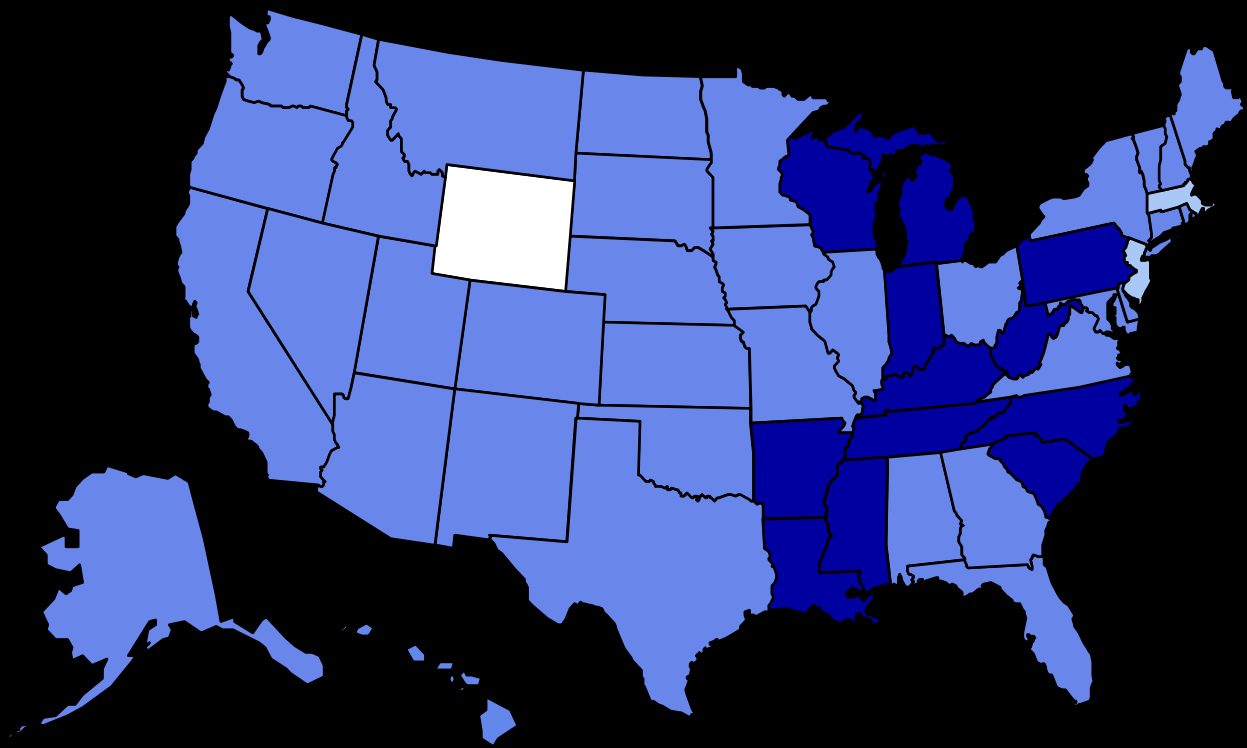
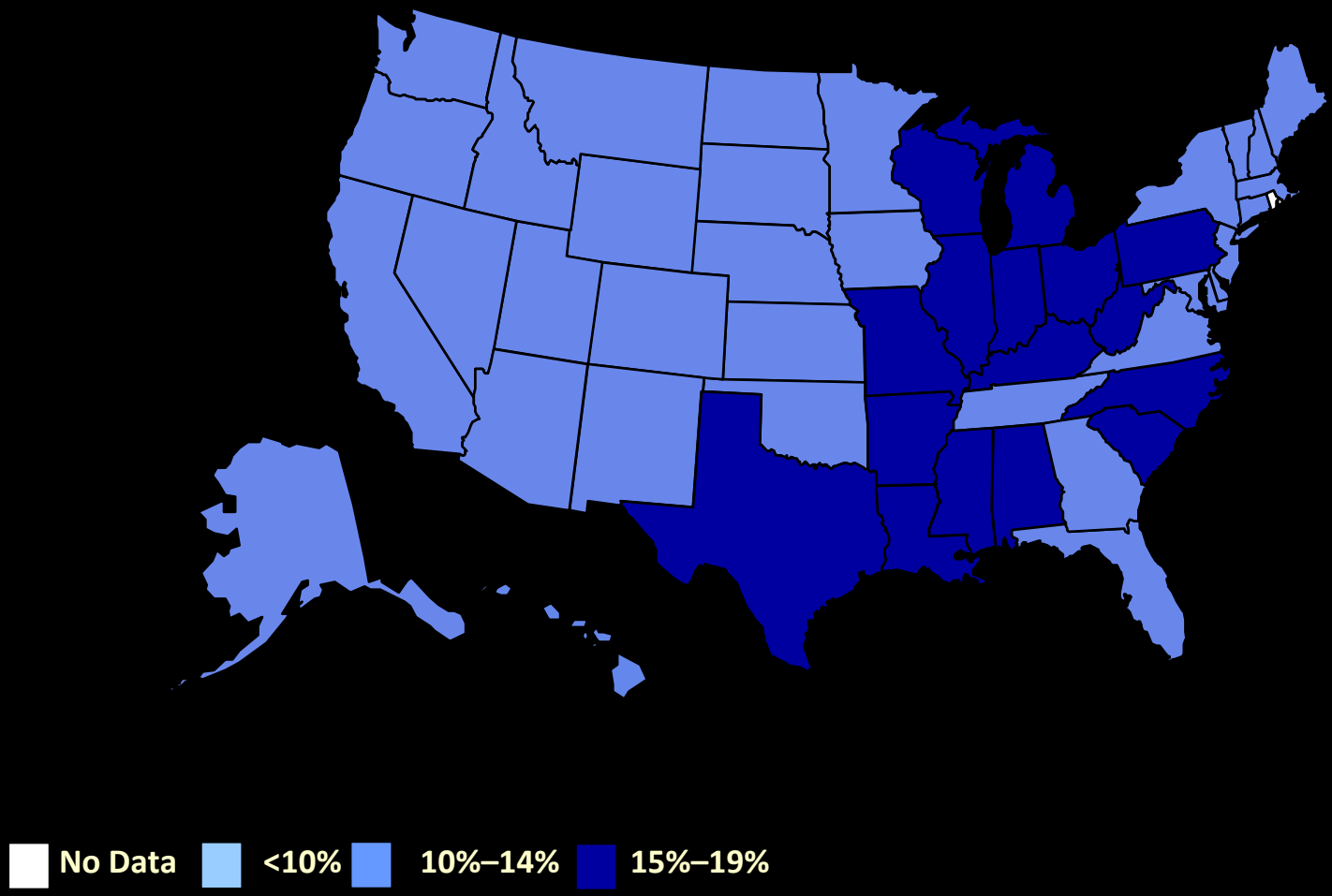


No Data | <10% | 10%–14% | 15%–19%

1994



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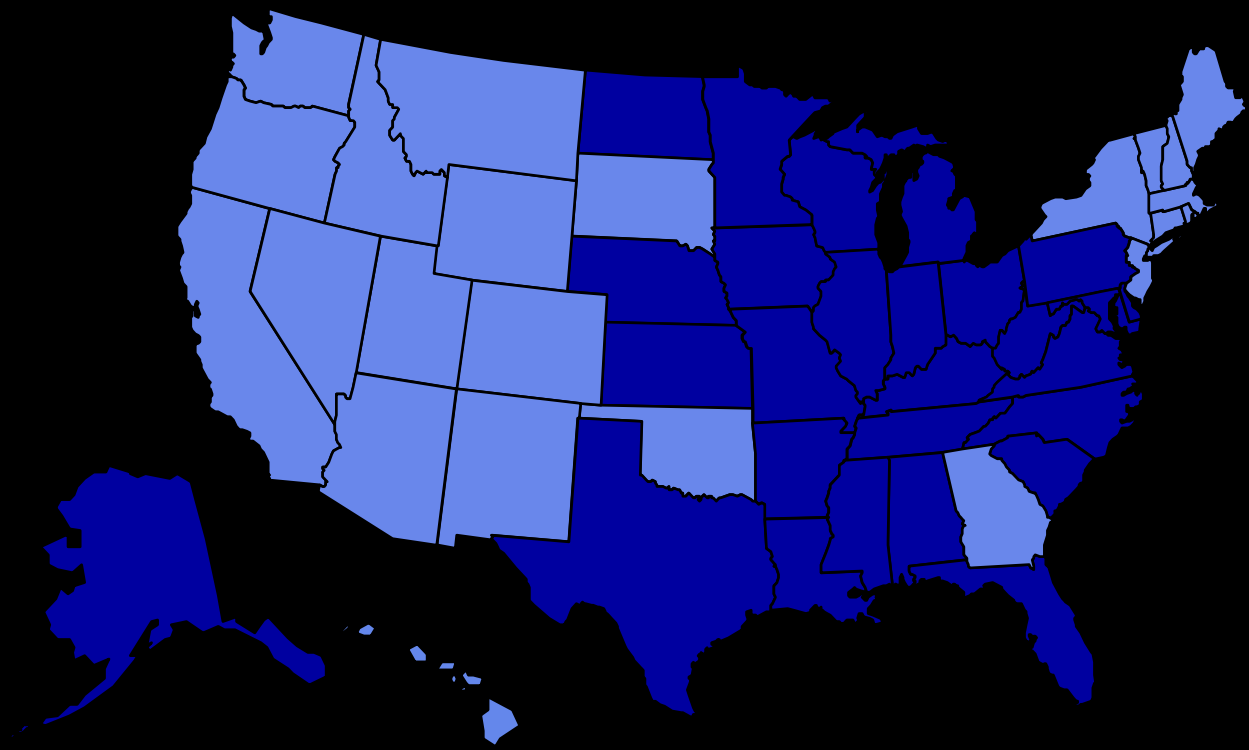

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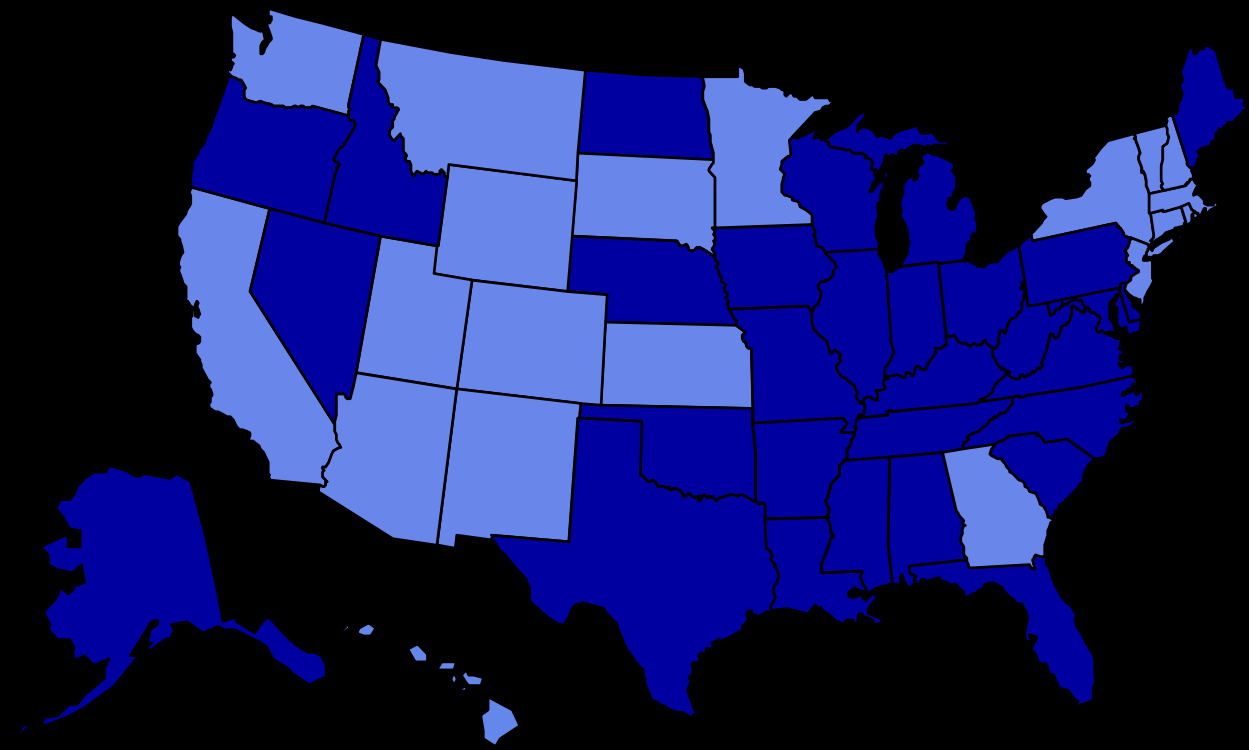

No Data <10% 10%–14% 15%–19%

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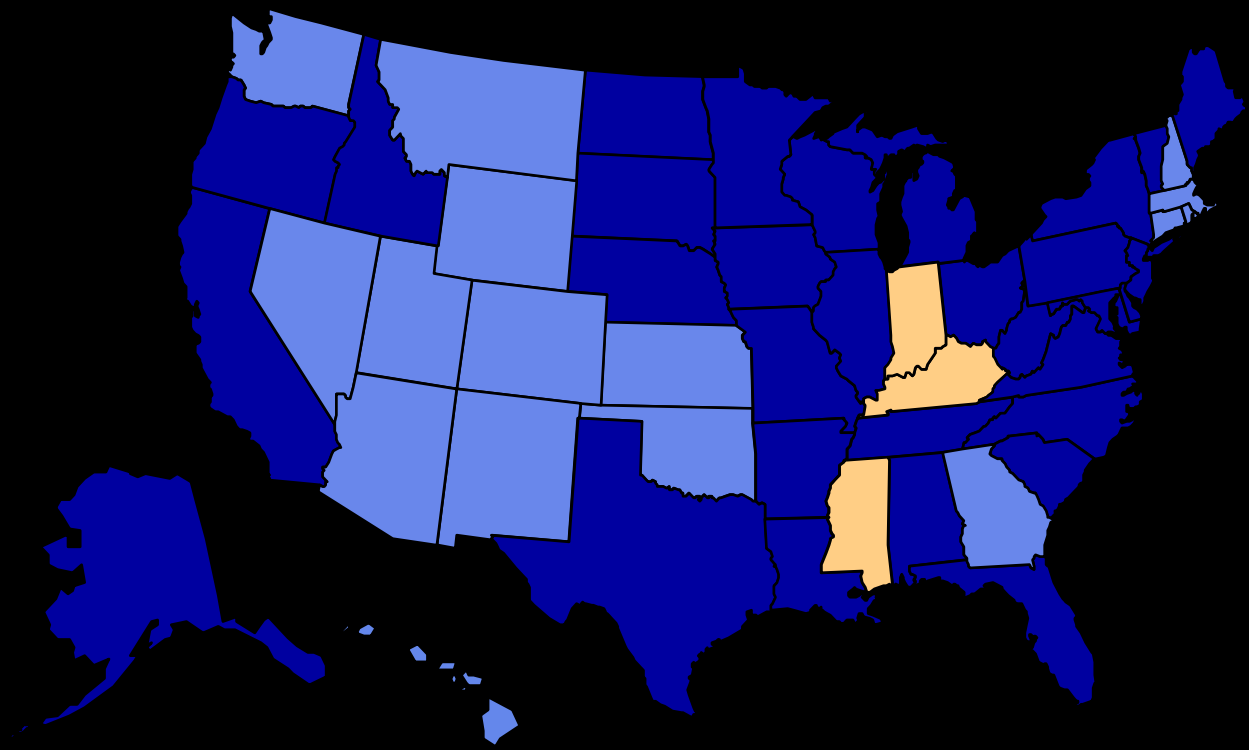

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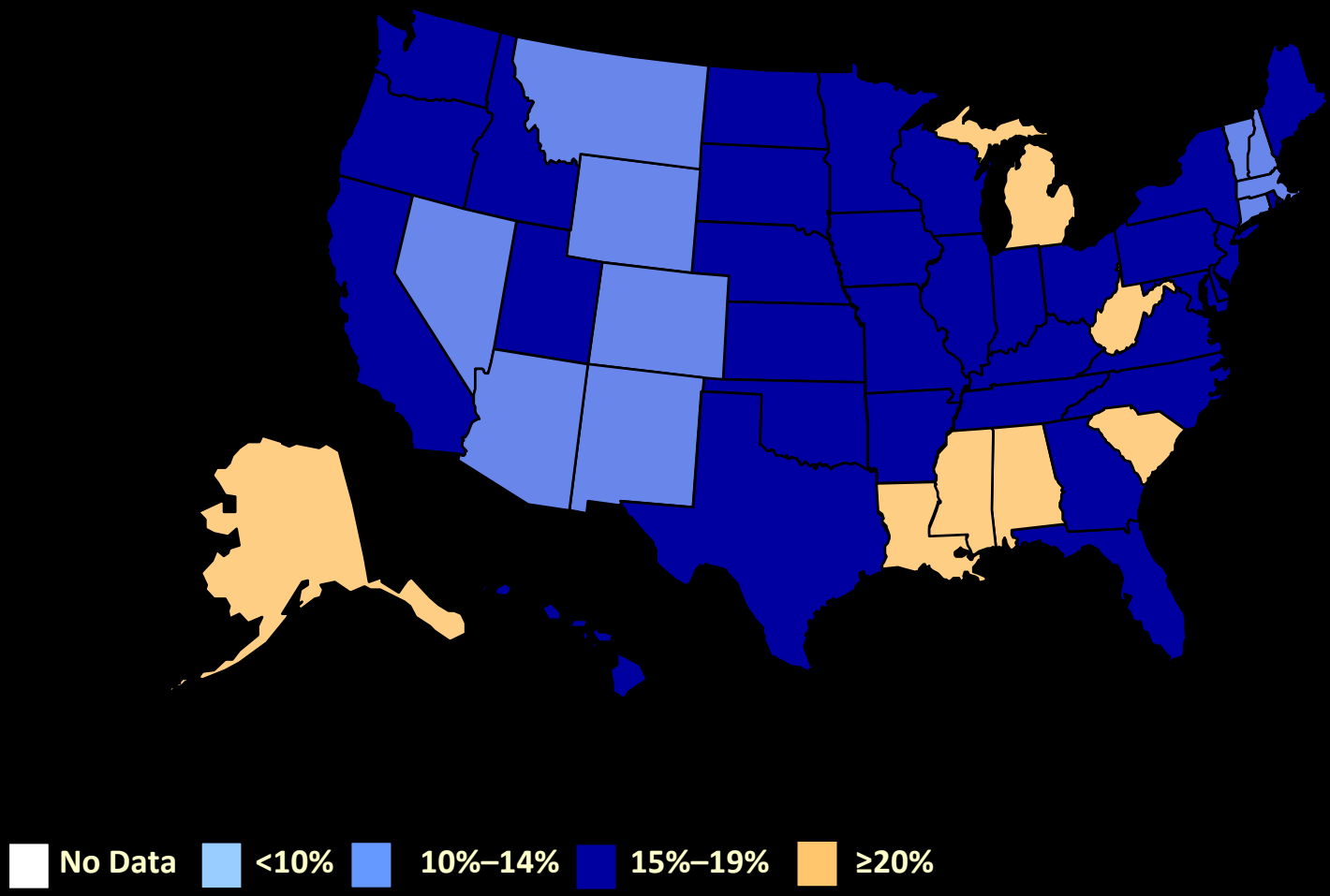

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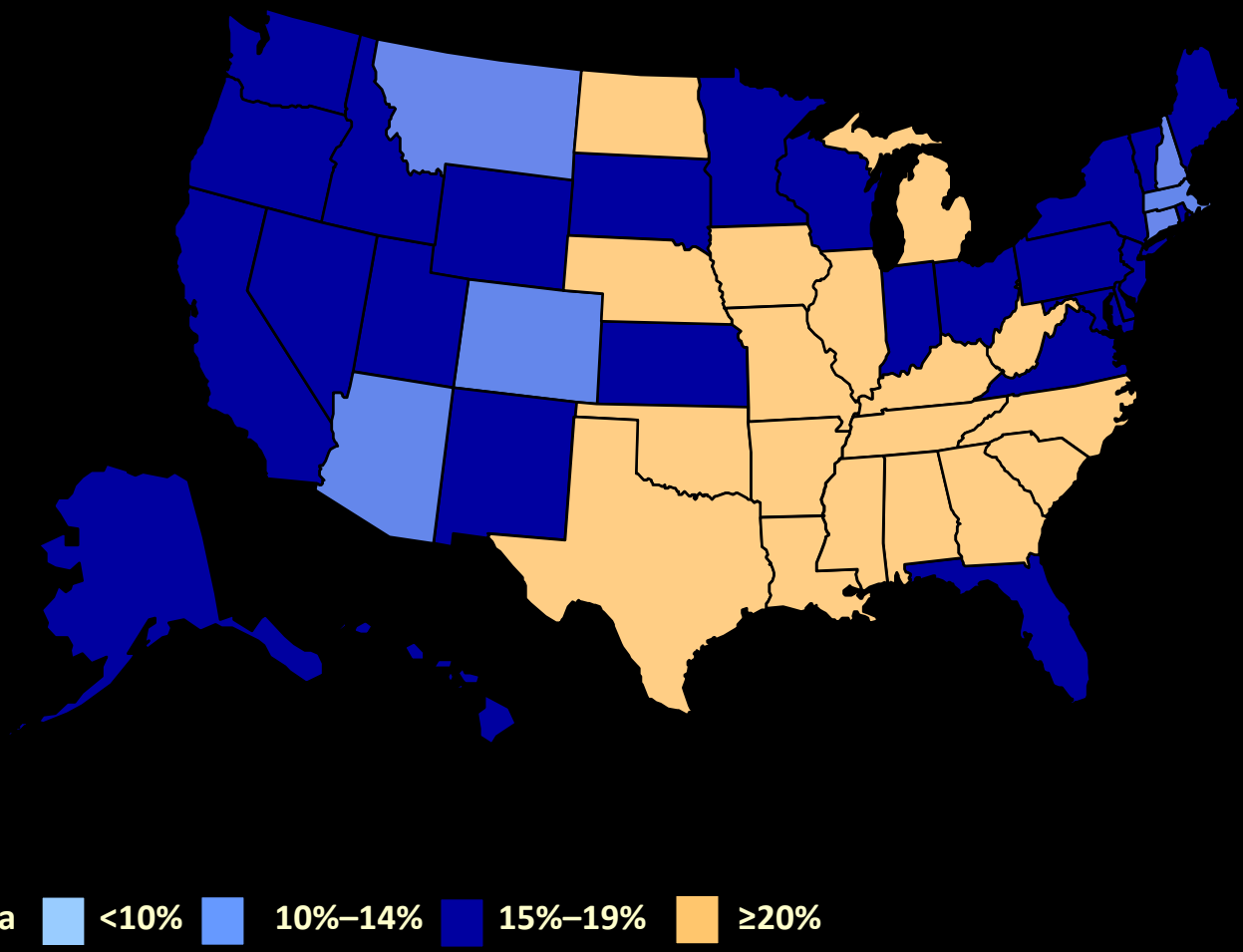

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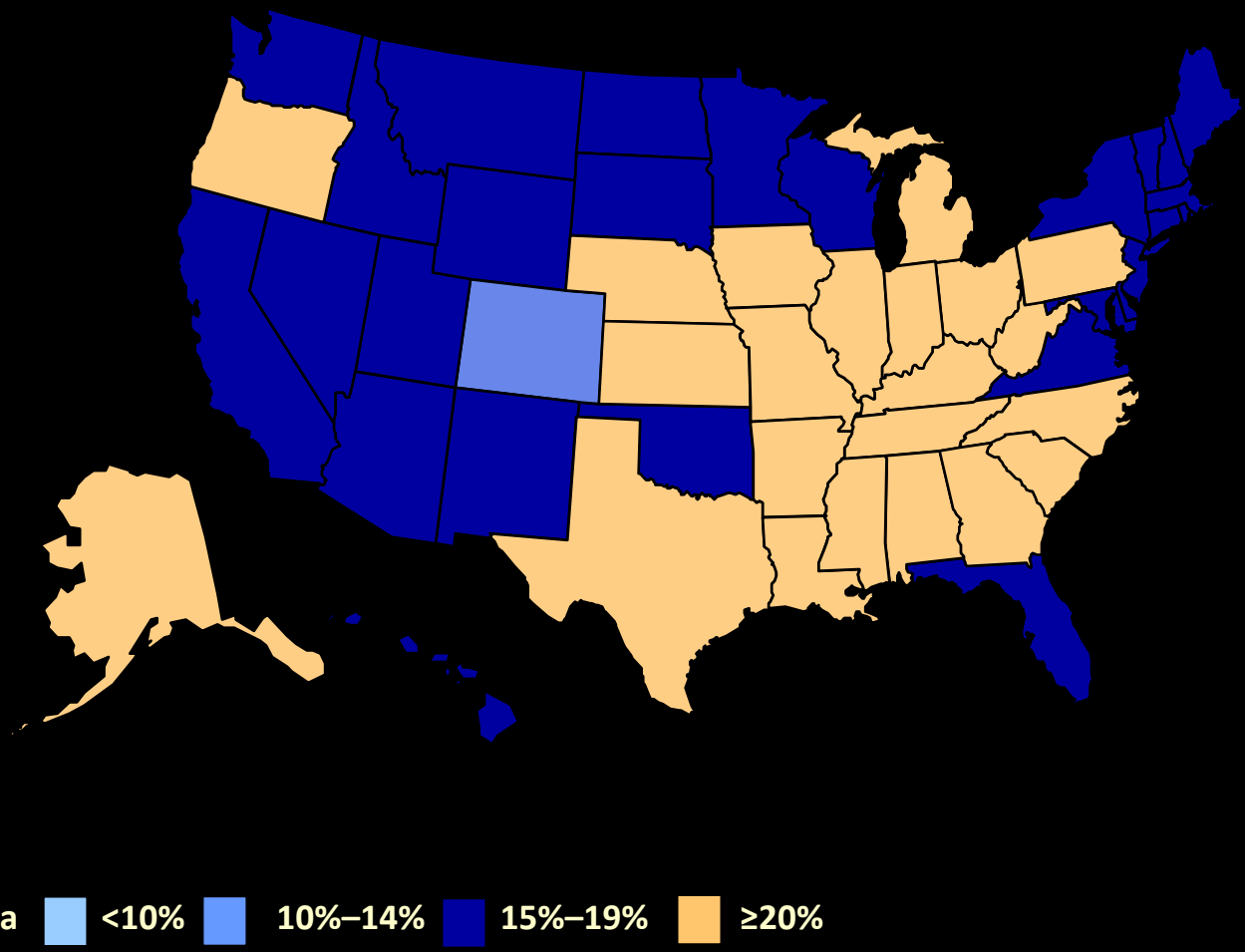

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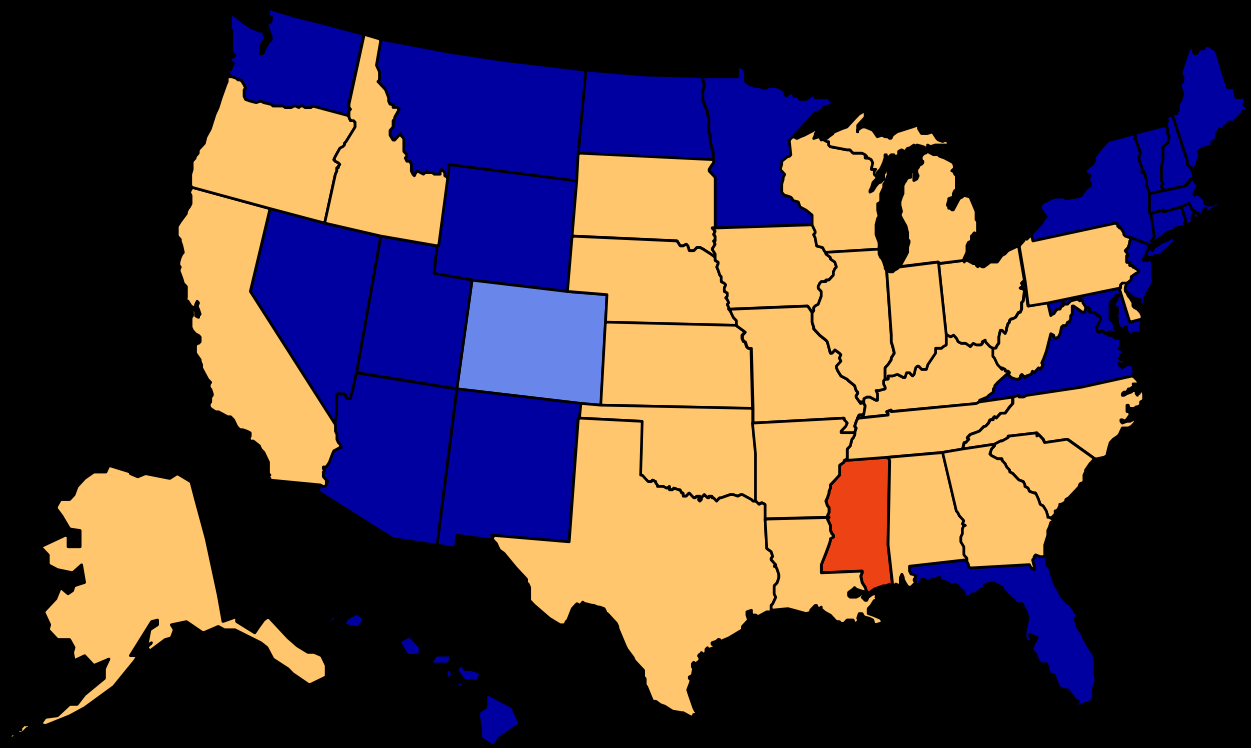

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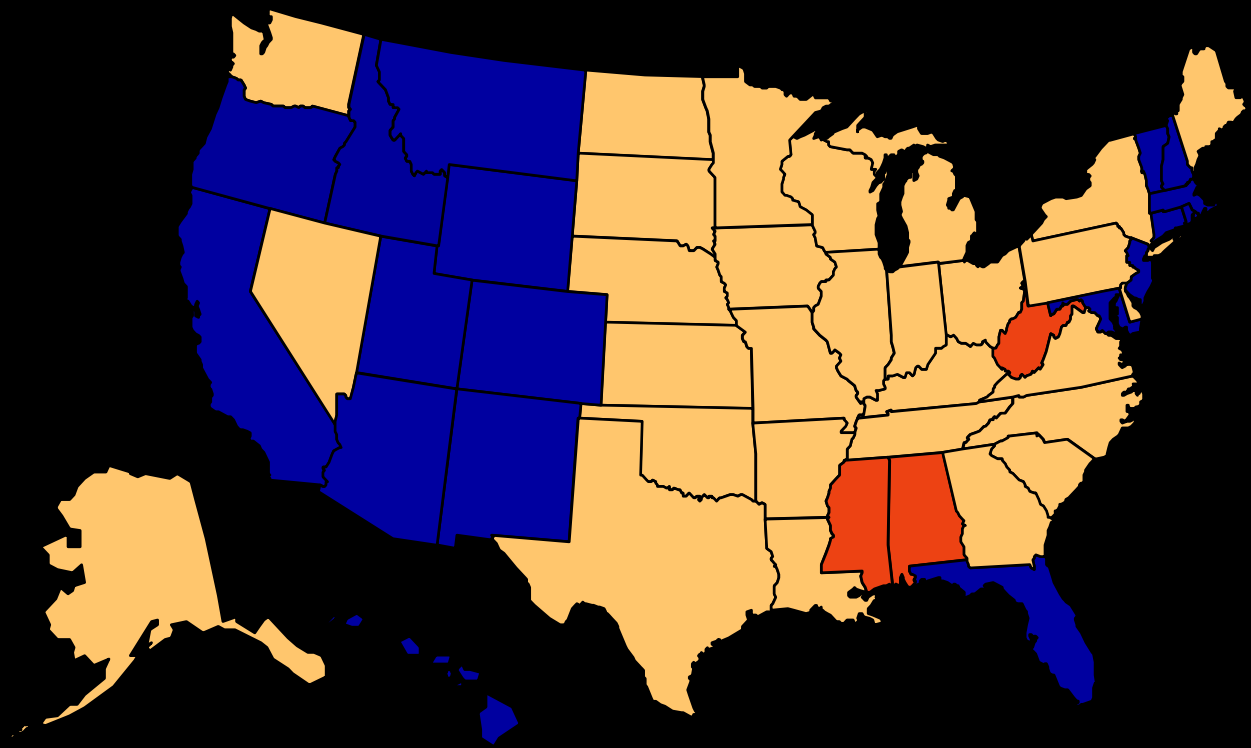

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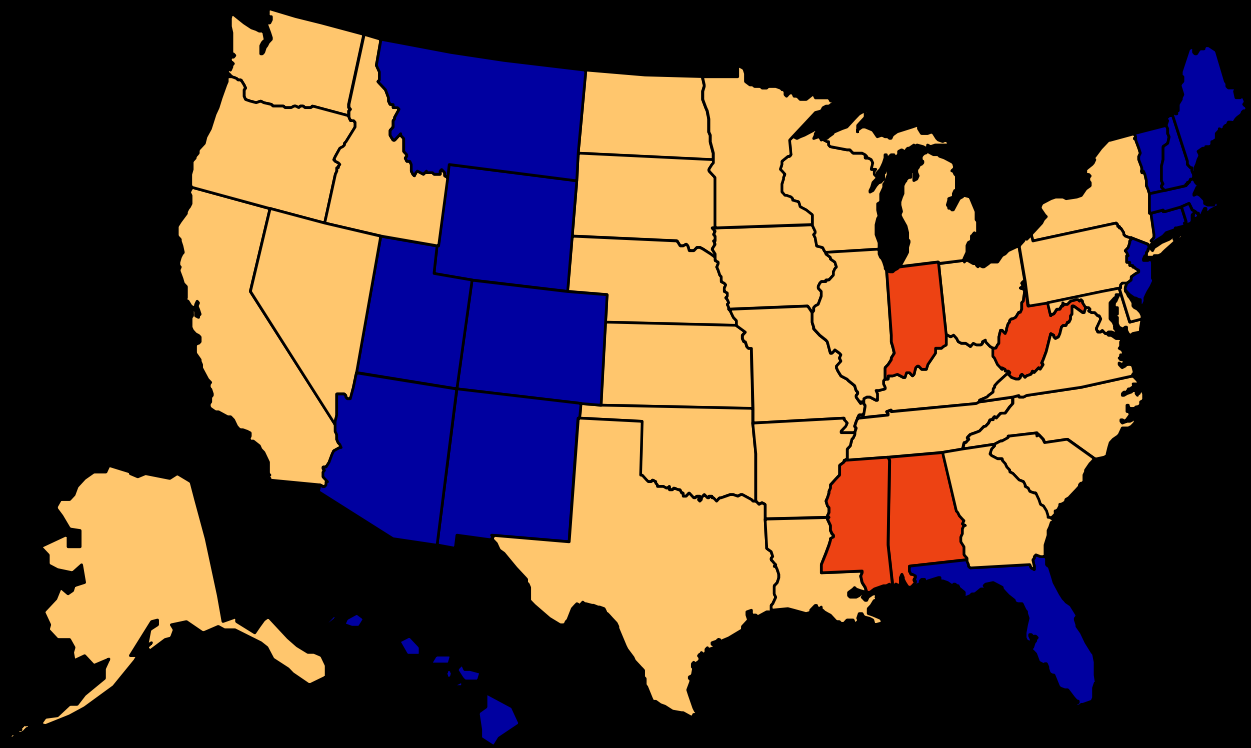

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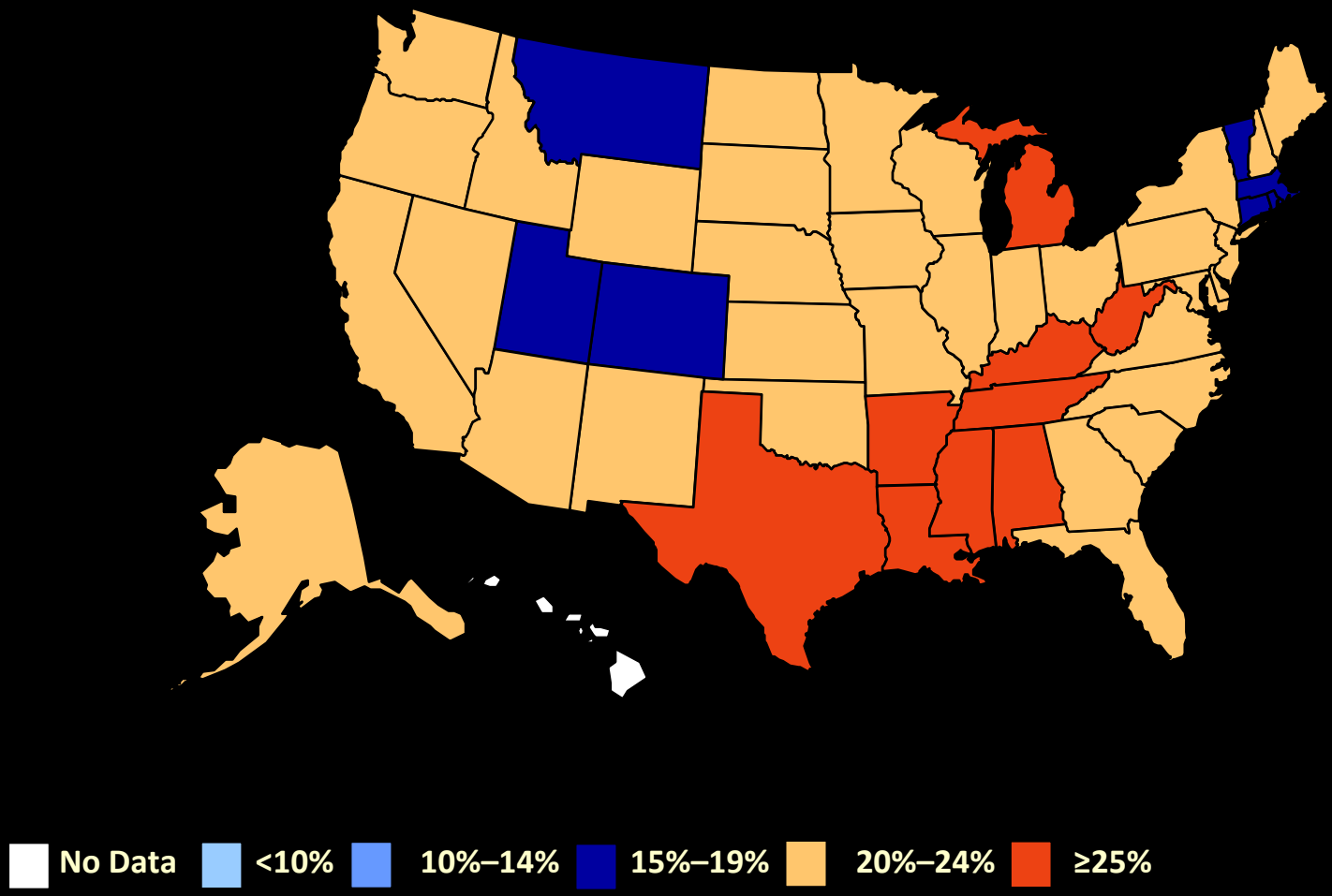
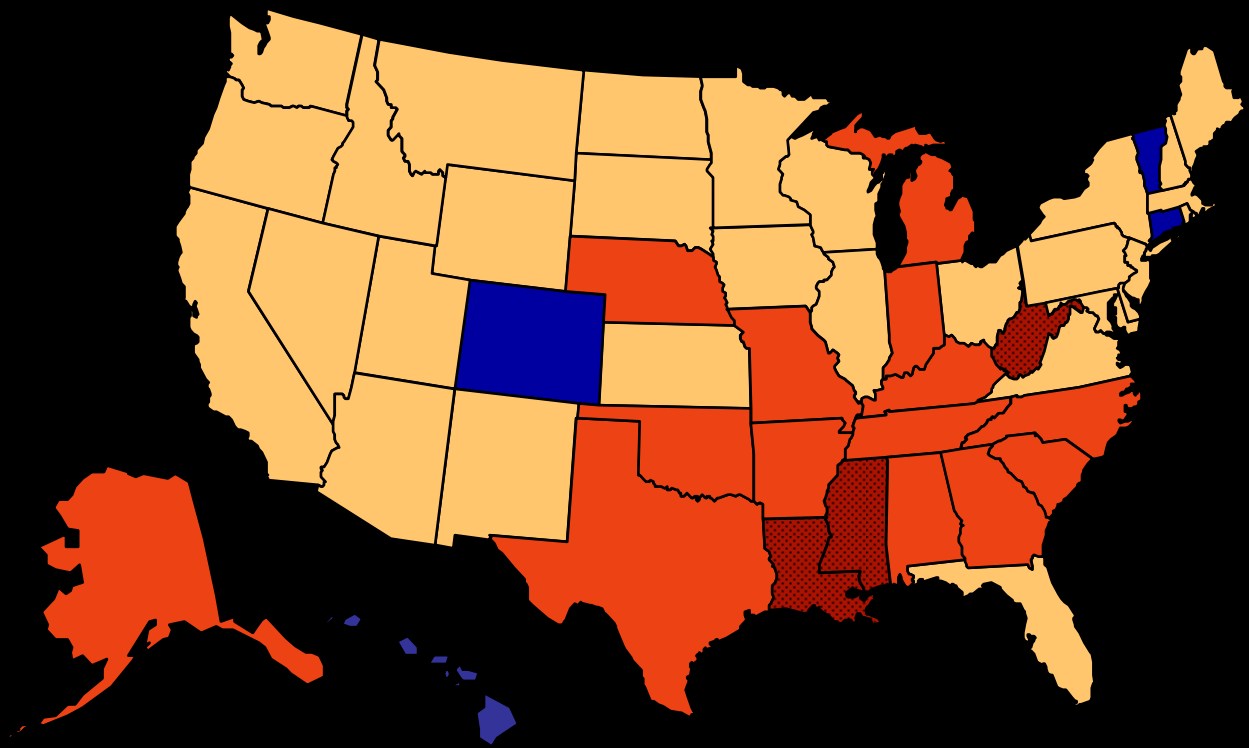
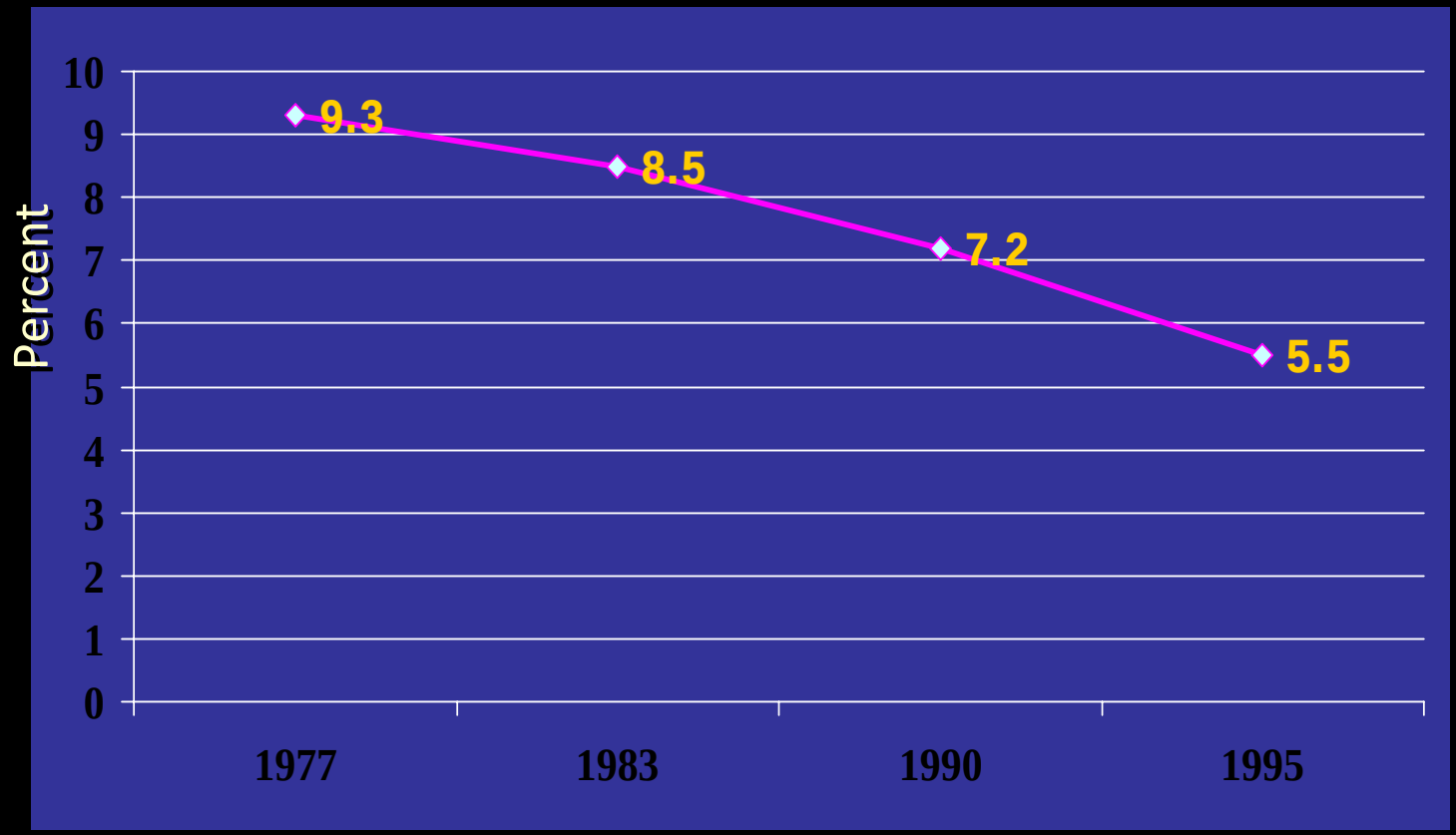


2005



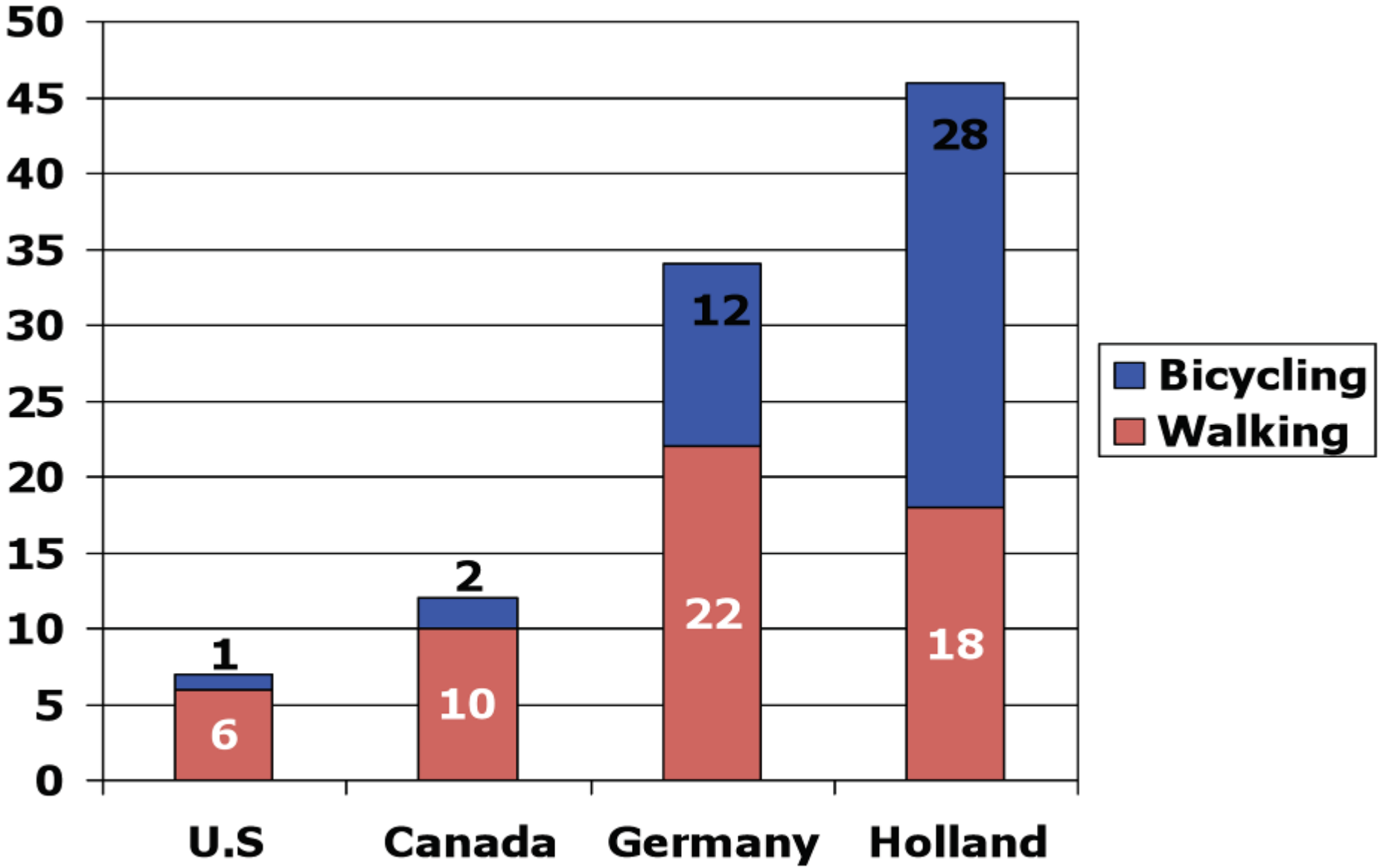
No Data | <10% | 10%–14% | 15%–19% | 20%–24% | 25%–29% | ≥30%

U.S. Walk Trips 1977-1995



Source: Nationwide Personal Transportation Survey, 1995

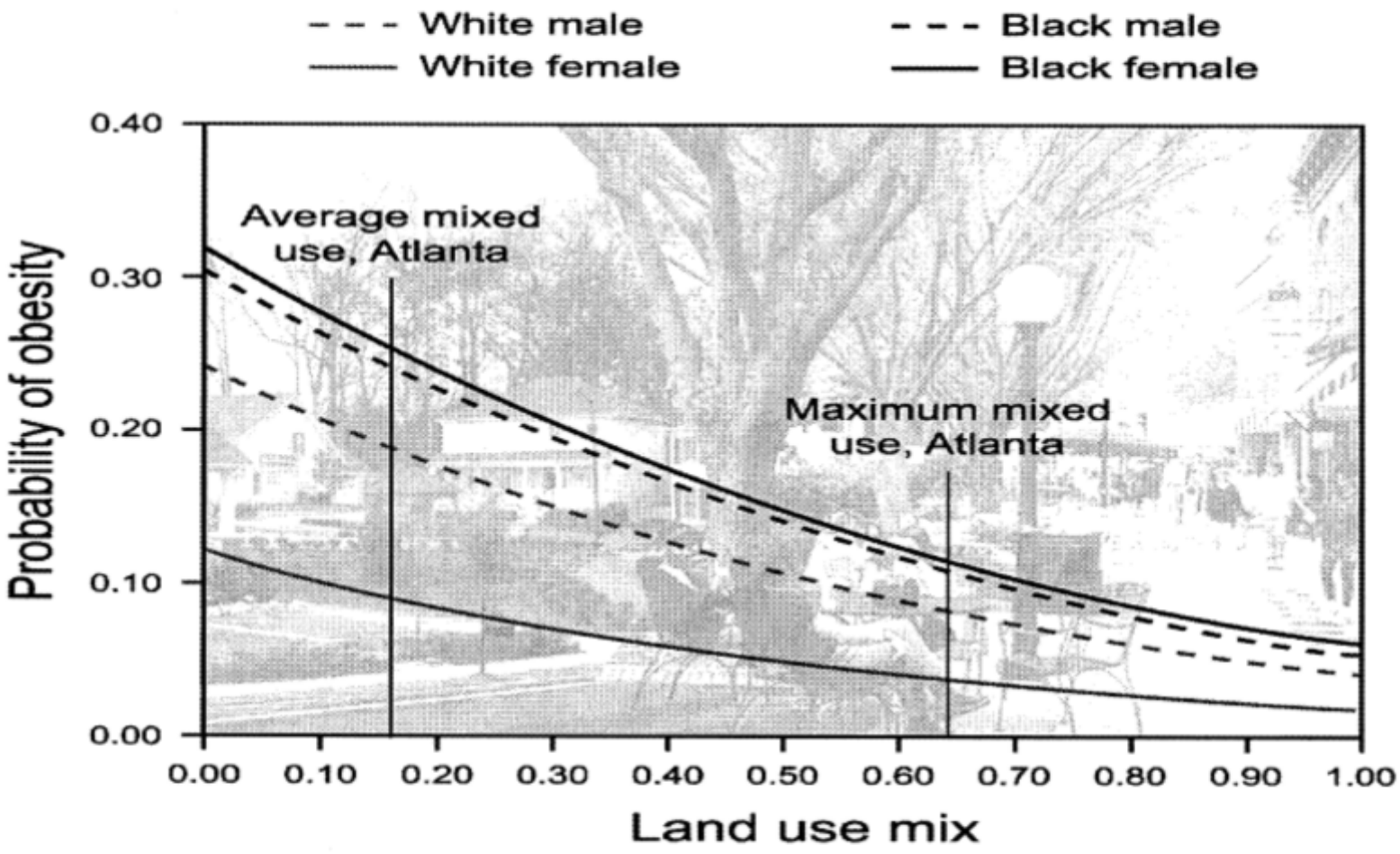
% of Trips in Urban Areas – 1995



Pucher J and Dijkstra L. Promoting Safe Walking and Cycling to Improve Public Health: Lessons From The Netherlands and Germany. AJPH, September 2003;93(9):1509-16.


Auto Zone
Discount Auto Parts

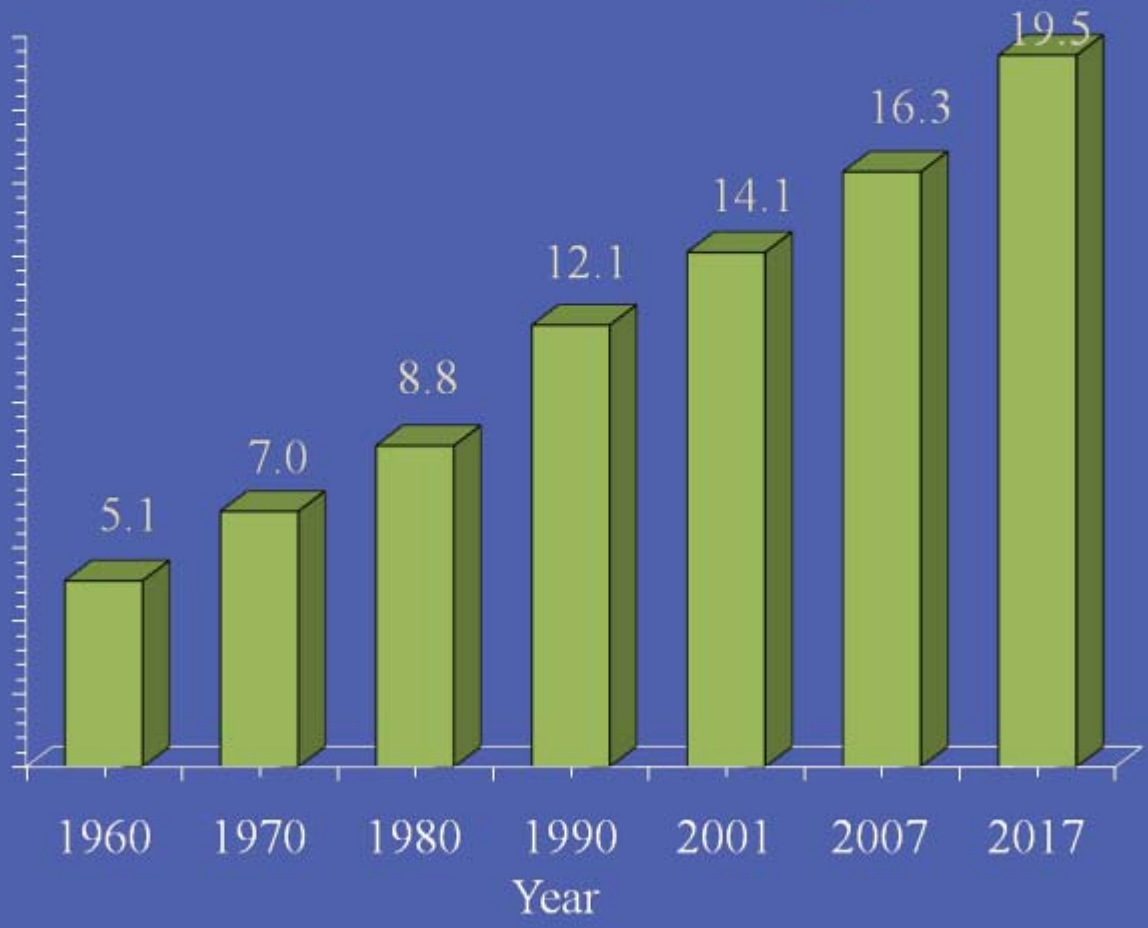
Higher density and connectivity: lower obesity– Atlanta study 2004



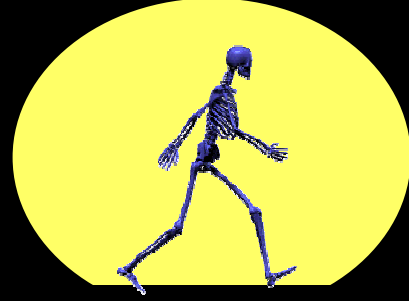
Obesity Relationships with Community Design, Physical Activity, and Time Spent in Cars

Lawrence D. Frank, PhD, Martin A. Andresen, MA, Thomas L. Schmid, PhD

U.S. Health Care Expenditures as Percent of GDP Projections



Keehan et al:
Health Affairs
March/April 2008 27:
145-155



The Pedestrian Defined

- Humans & health
- Pedestrian Typology

“Pedestrians”

Types of Walking

1. Rambling
2. Utilitarian Walking
3. Strolling, Lingering
4. Promenading


Rambling
Redmond


Rambling
Prospect

Upcountry Maui

Rambling


Prospect
Rambling

Prospect

Rambling

Types of Walking

1. Rambling
2. Utilitarian Walking
3. Strolling, Lingering
4. Promenading

Utilitarian Walking


Kailua
57 KAILUA SEA LIFE PARK
Utilitarian Walking


Upcountry Maui
Utilitarian Walking

Utilitarian Walking

Redmond

Types of Walking

1. Rambling
2. Utilitarian Walking
3. Strolling, Lingering
4. Promenading


Boulder
Strolling, Lingering


Winter Park, FL
keyb wl
MODA
Park Avenue
Ladies' Fine
Fashion
Apparel
Strolling, Lingering


Pukalani
R GALLON
ATER VENDING
REVERSE OSMOSIS
ES AVAILABLE IN HARDWARE STORE
E 878-VEND
PURIFIED WATER
35¢
Per Gallon
Reverse Osmosis
MONEY REMOVED NIGHTLY
Strolling, Lingering

Types of Walking

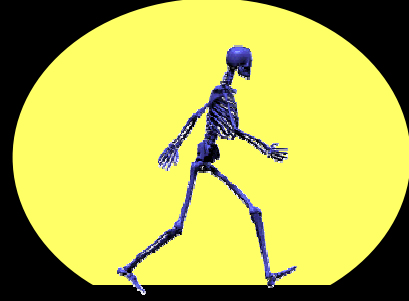
1. Rambling
2. Utilitarian Walking
3. Strolling, Lingering
4. Promenading

Promenading

Boulder

Tonight

- The Pedestrian Defined
- Pedestrians and Urban Form
- Pedestrian Environments
- Pedestrian Policy

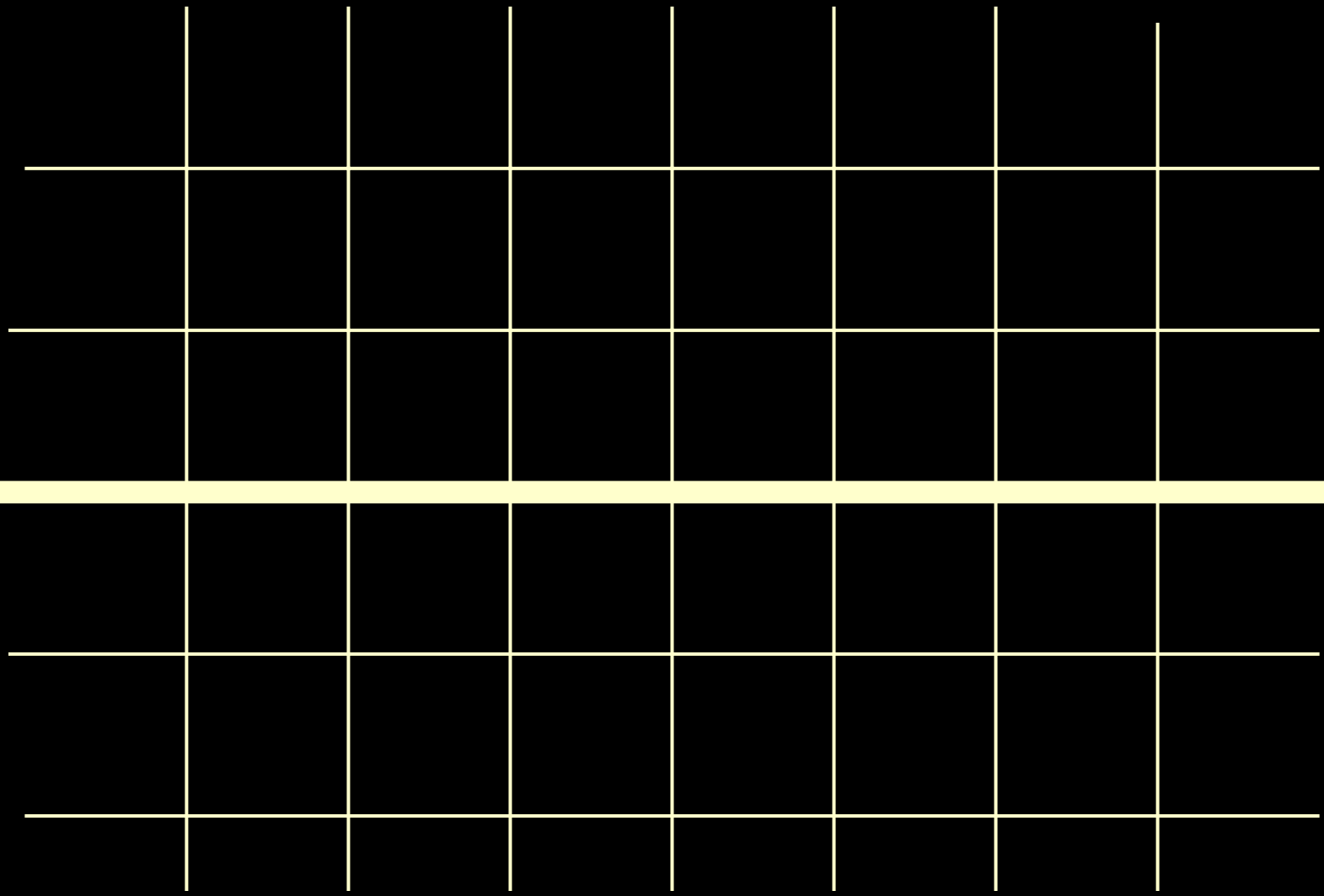


Pedestrians & Urban Form

- Networks & connectivity
- Elements in the pedestrian environment
- Climate
- Destinations & land use


Aurora

Ideal Block Size for Efficient Traffic Flow

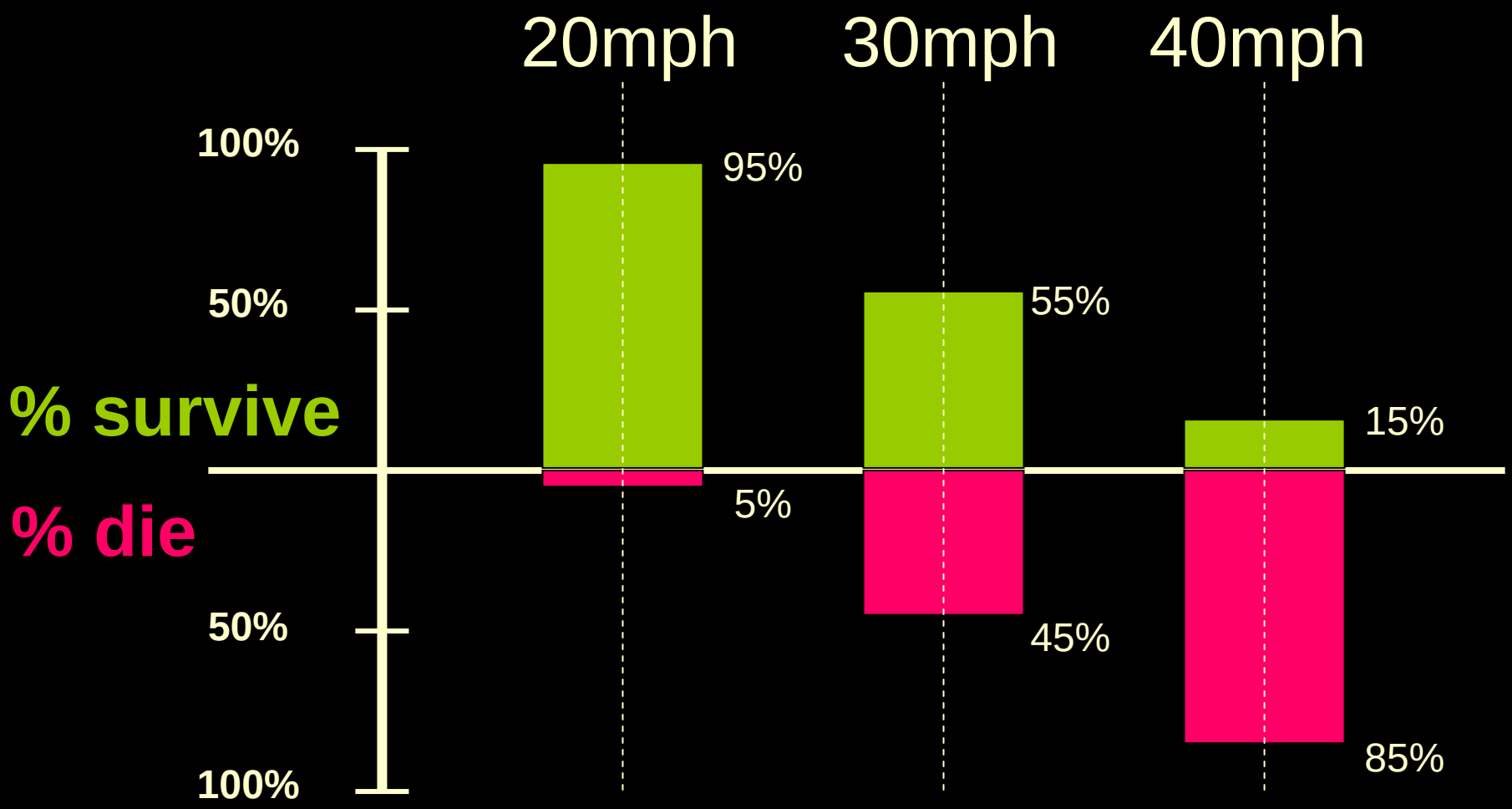


330’ to 528’


Aurora

Driggs

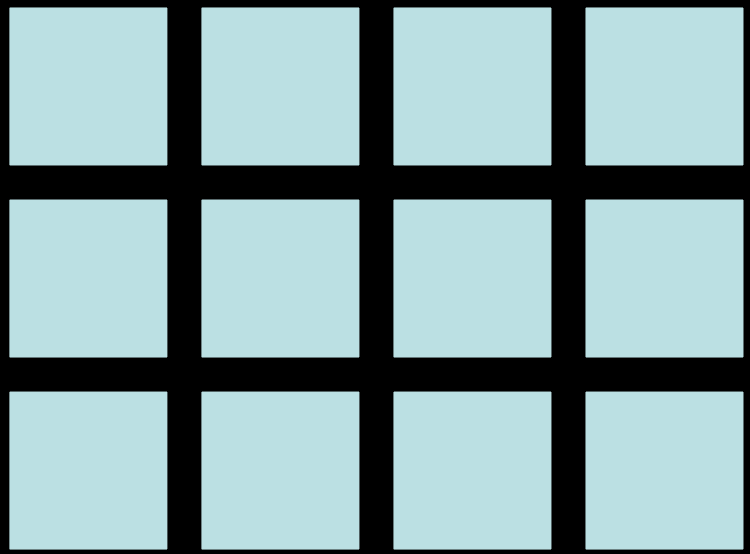
Pedestrian Survival Rates – Vehicle Speeds




ALOHA


LAFAYETTE
MOTEL
TACO
BELL

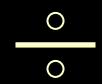
Pedestrian Networks



The ideal pedestrian “grain” is 250’ to 350’

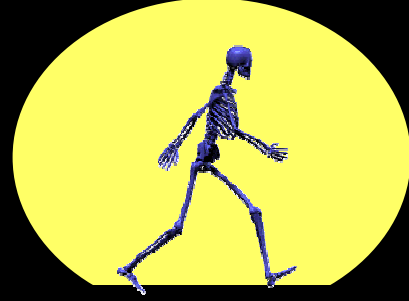
Path Index

Shortest feasible route on street network



Straight line distance (as the crow flies)

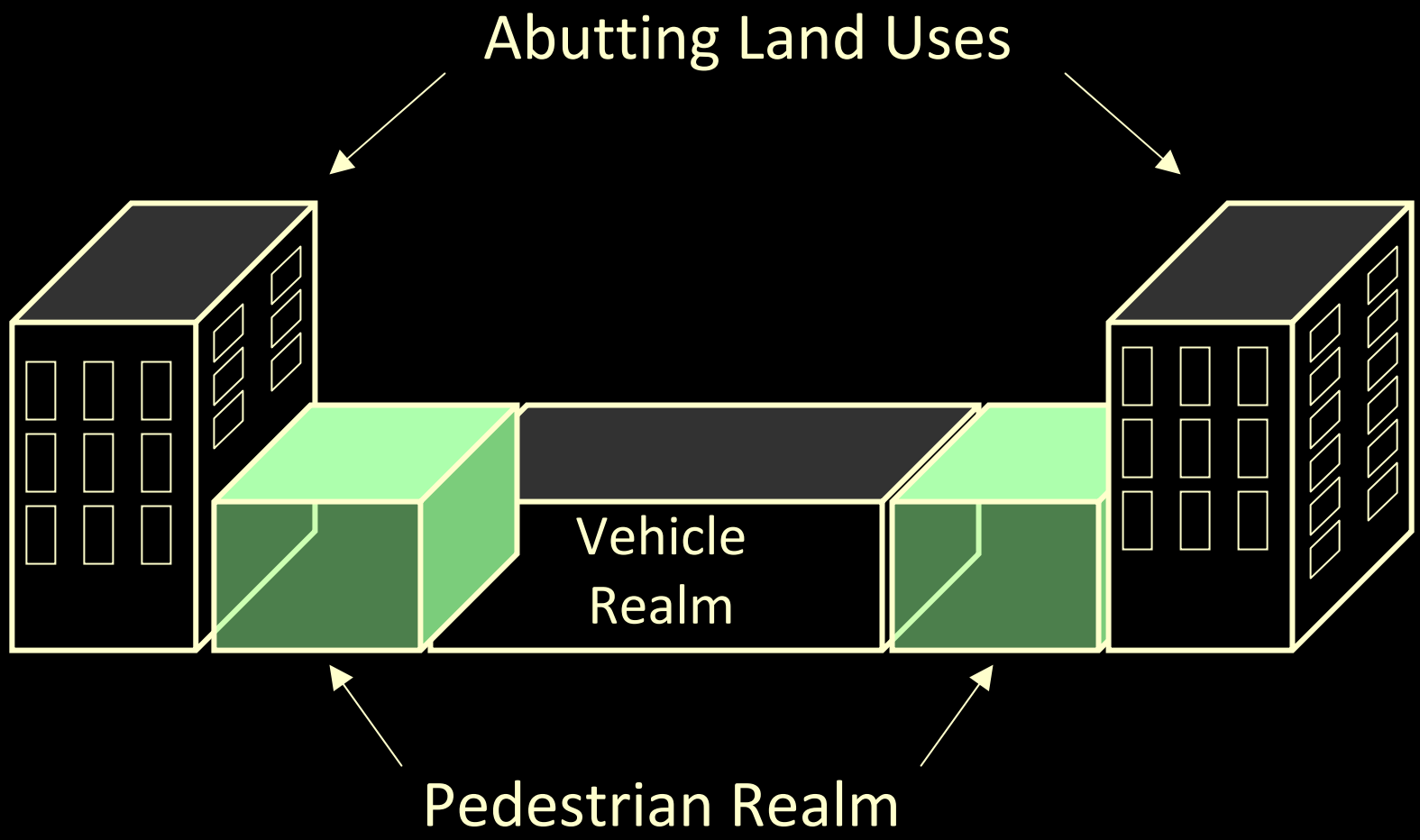

2100 feet
300 feet
Path Index: 7.0
LOS A < 1.4



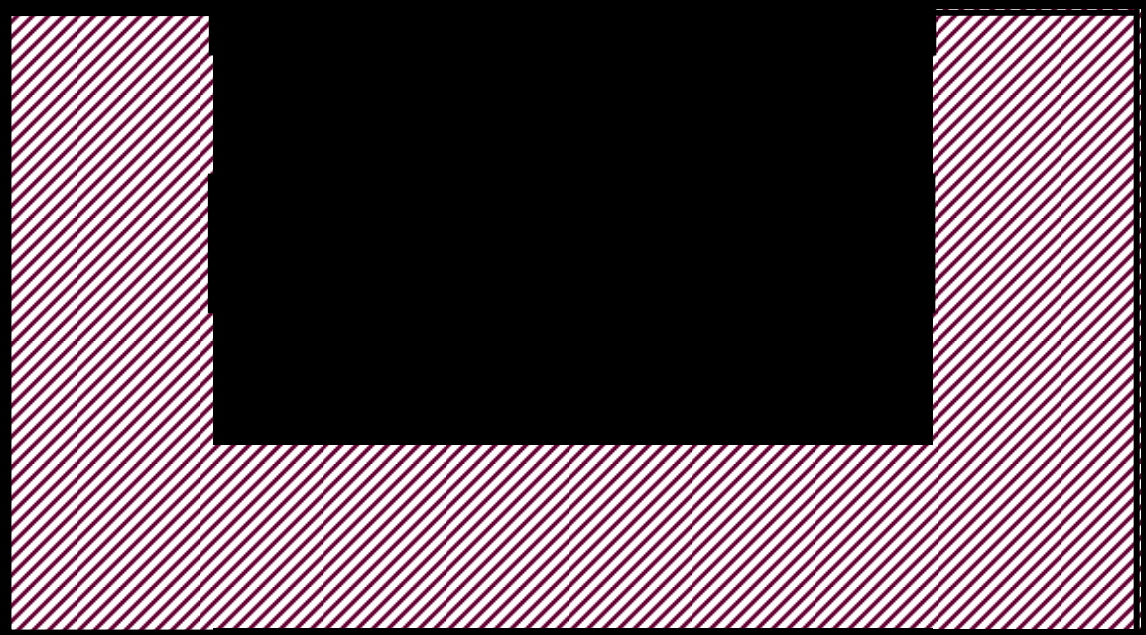
Pedestrians & Urban Form

- Networks & connectivity
- Elements in the pedestrian environment
- Climate
- Destinations & land use

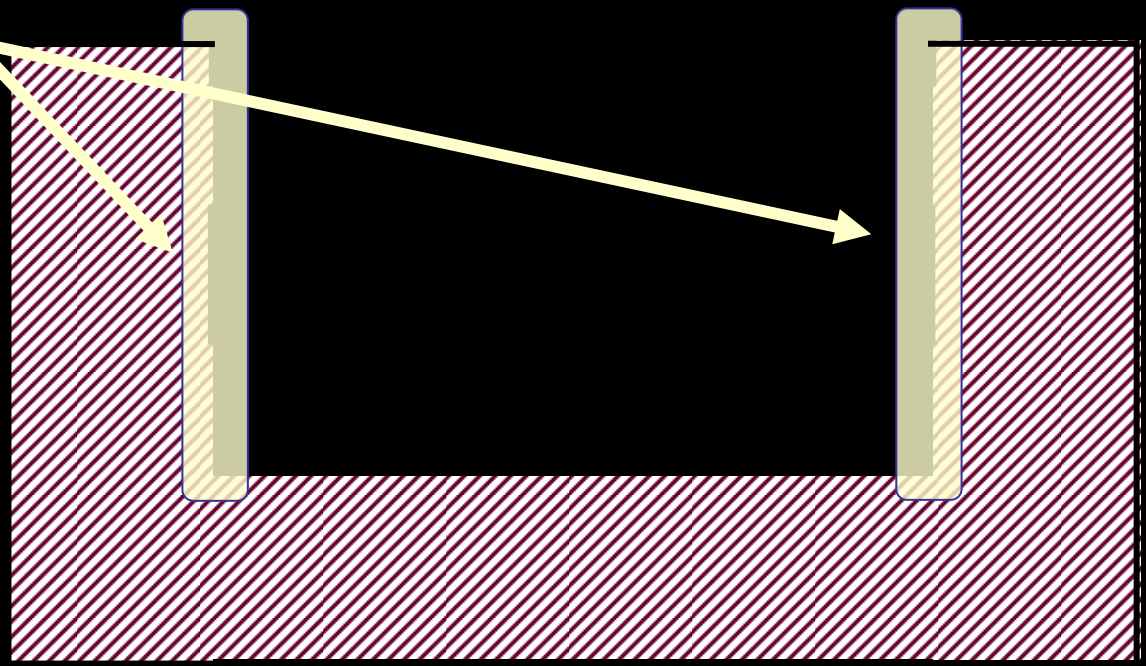
The Pedestrian Environment



1. Street Wall
2. Pedestrian Realm
3. Overhead Area
4. Vehicle Realm
5. Subsurface Area

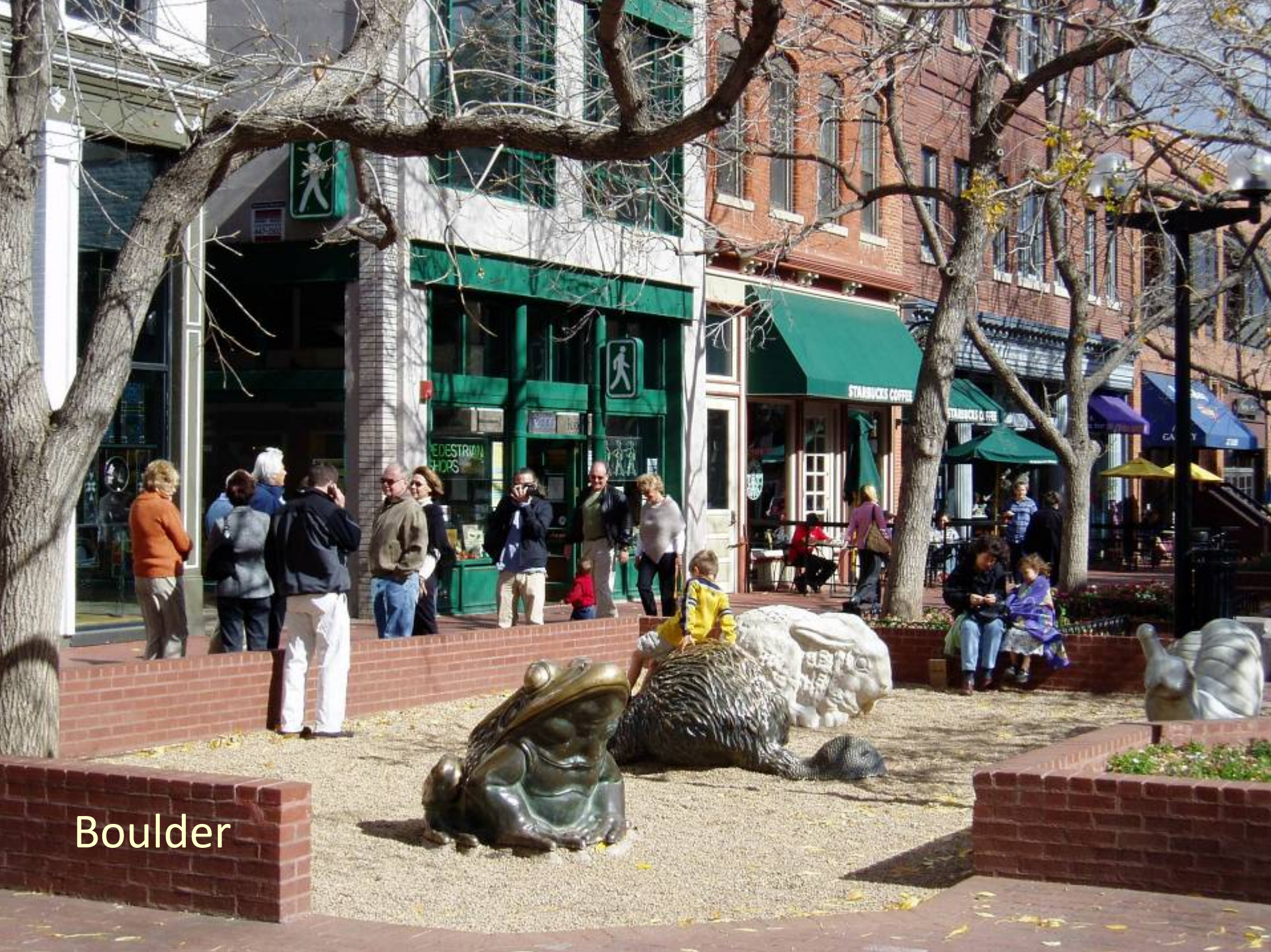


1. **Street Wall**
2. Pedestrian Realm
3. Overhead Area
4. Vehicle Realm
5. Subsurface Area

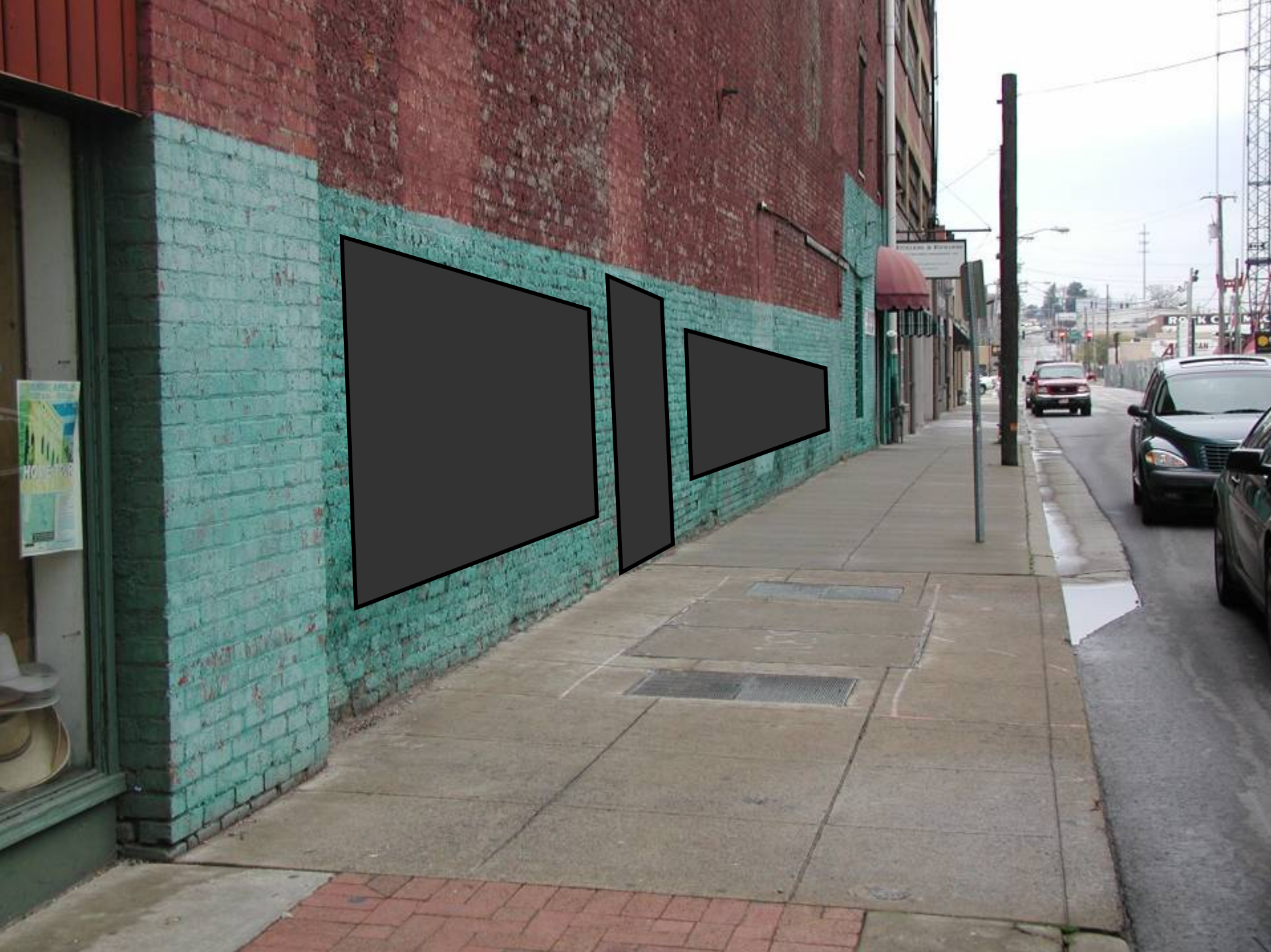



TIMBUKTU
STATION
Juanita's
MEXICAN
FOOD
Jägermeister
VOTED
BEST MEX
FOOD IN
Boulder!

Boulder



Boulder



Victor, ID

Newbury Street, Boston

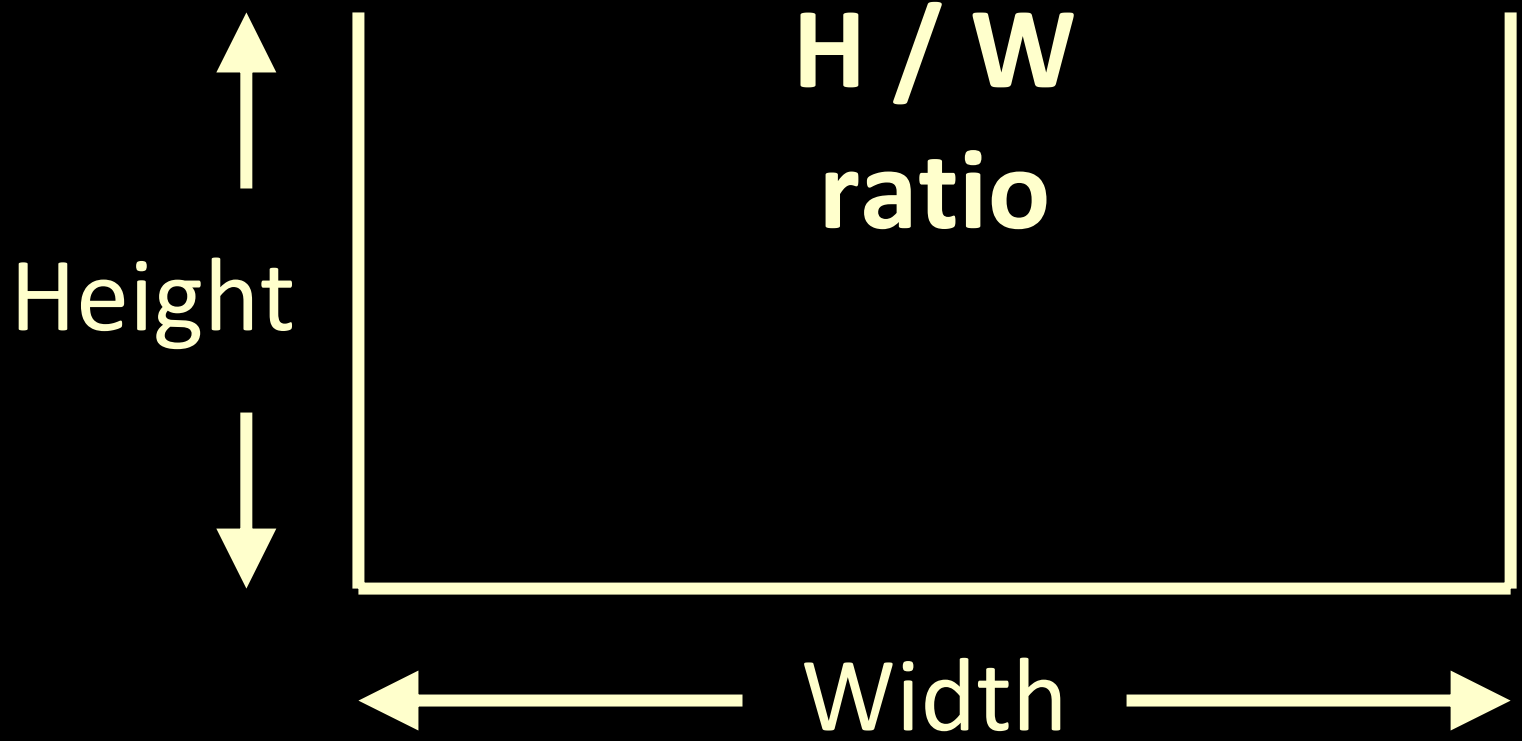
Copley Square, Boston

London

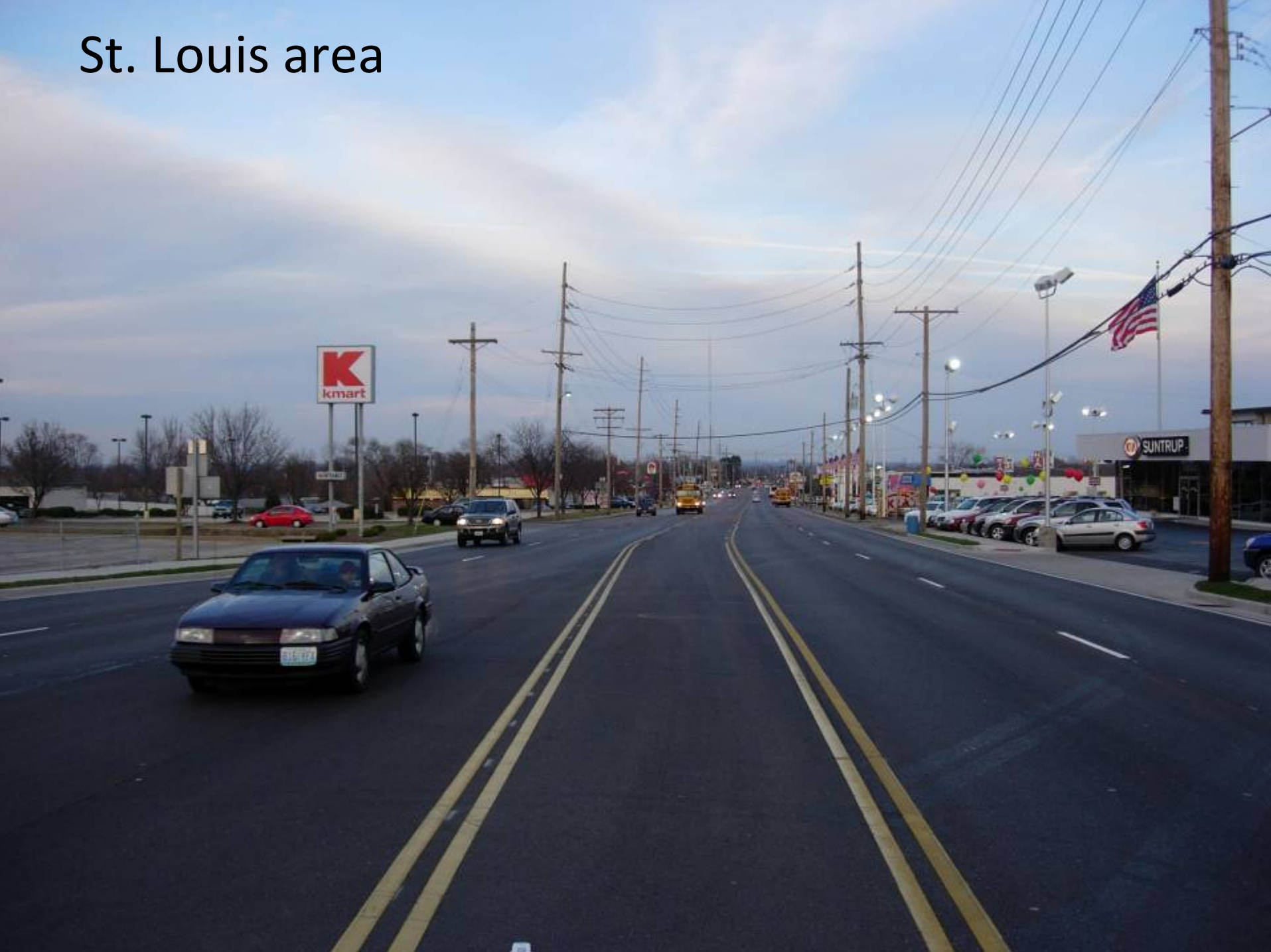

Houston

Houston

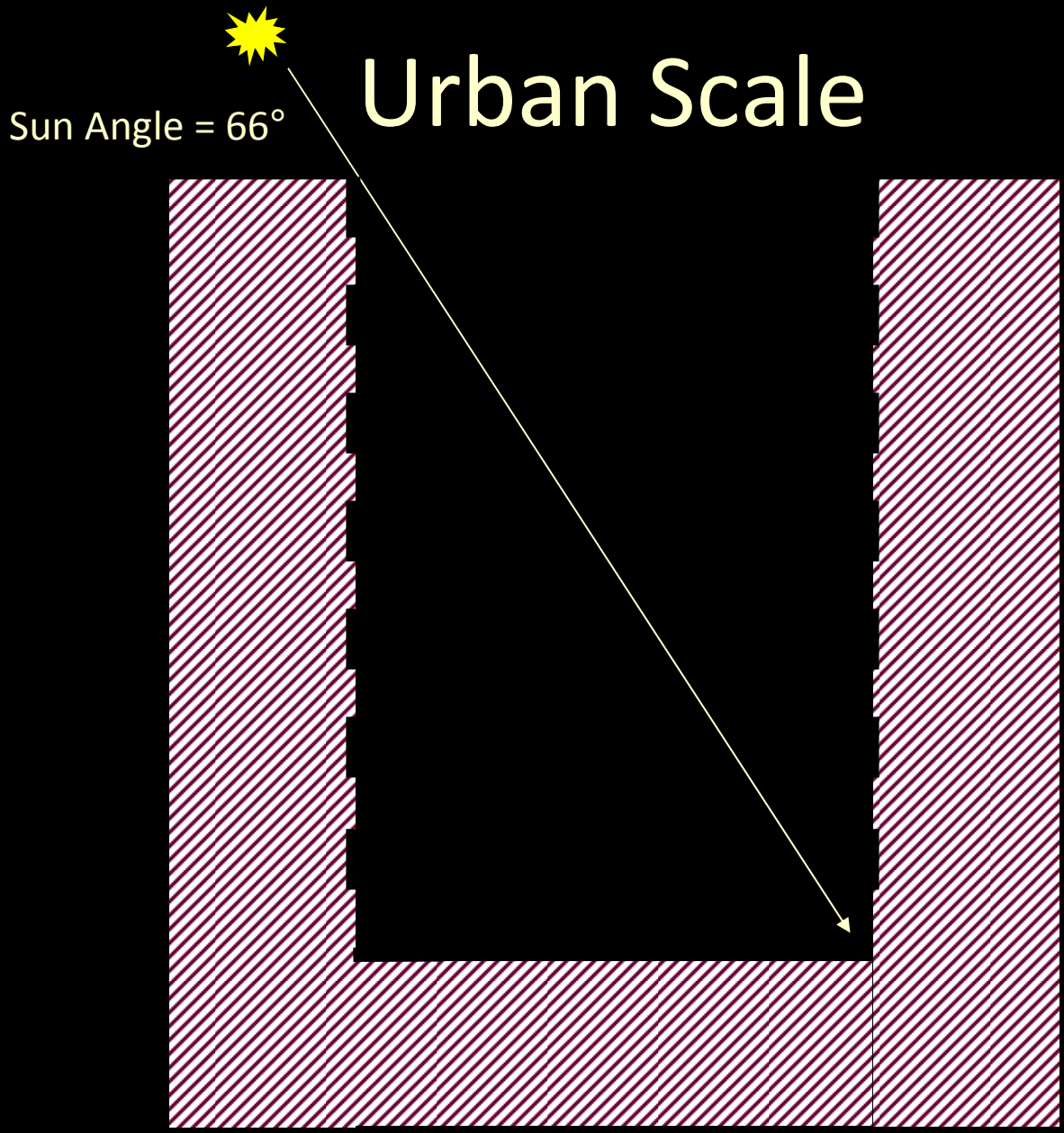
Urban Scale



St. Louis area



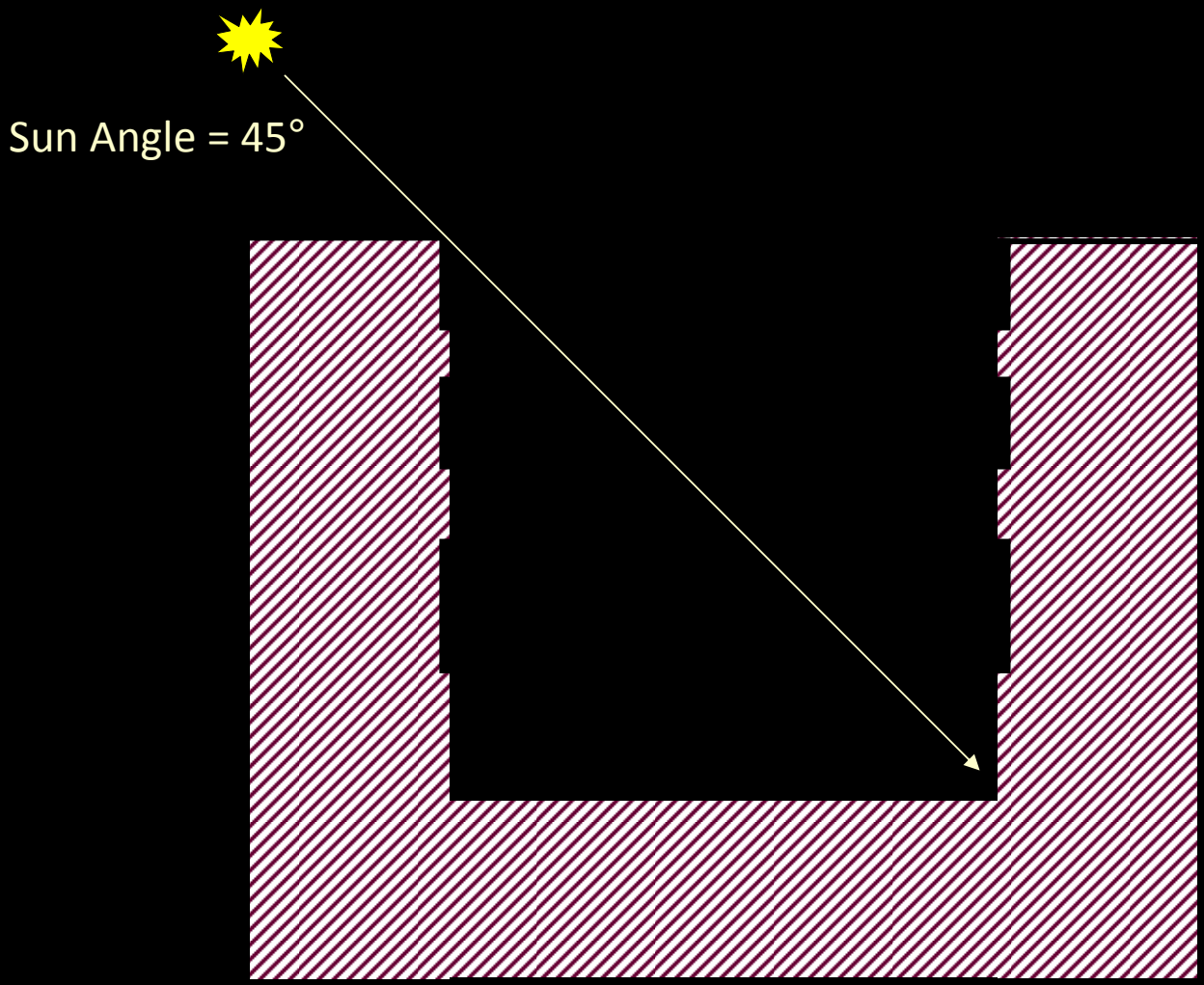
Urban Scale



3:2 Height to Width Ratio

Houston

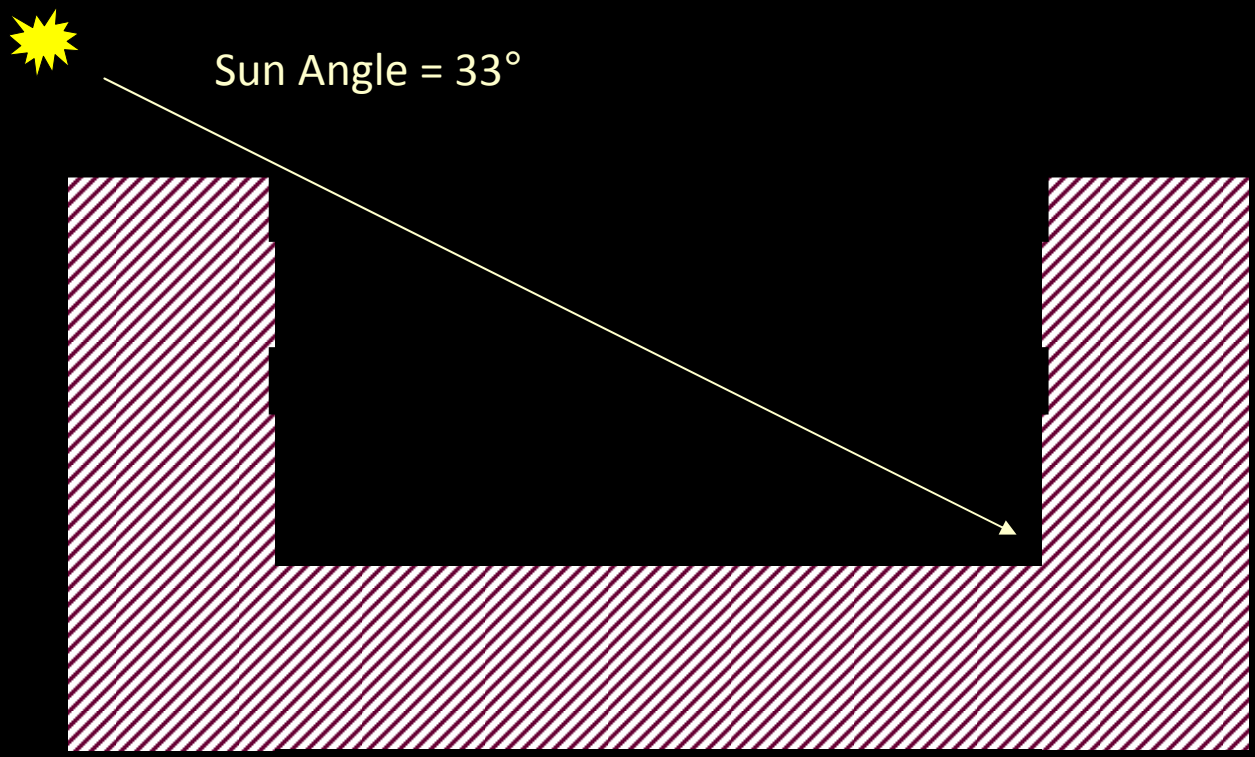
Urban Scale



1:1 Height to Width Ratio

Portland, ME

Urban Scale

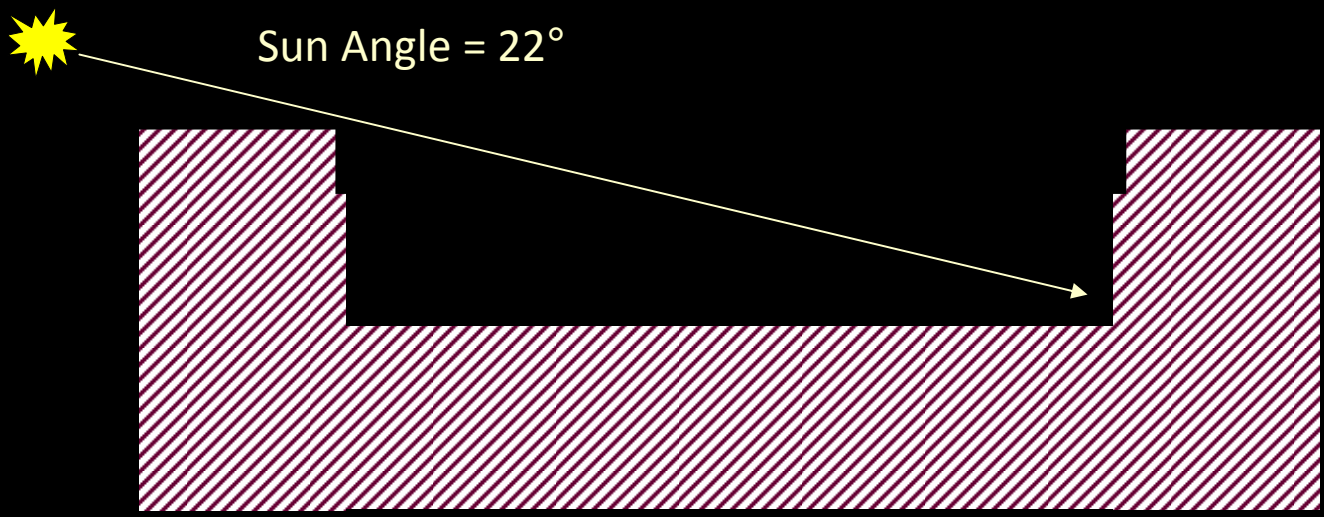


1:2 Height to Width Ratio

Santa Cruz


Flagstaff

Urban Scale



1:4 Height to Width Ratio


Boulder

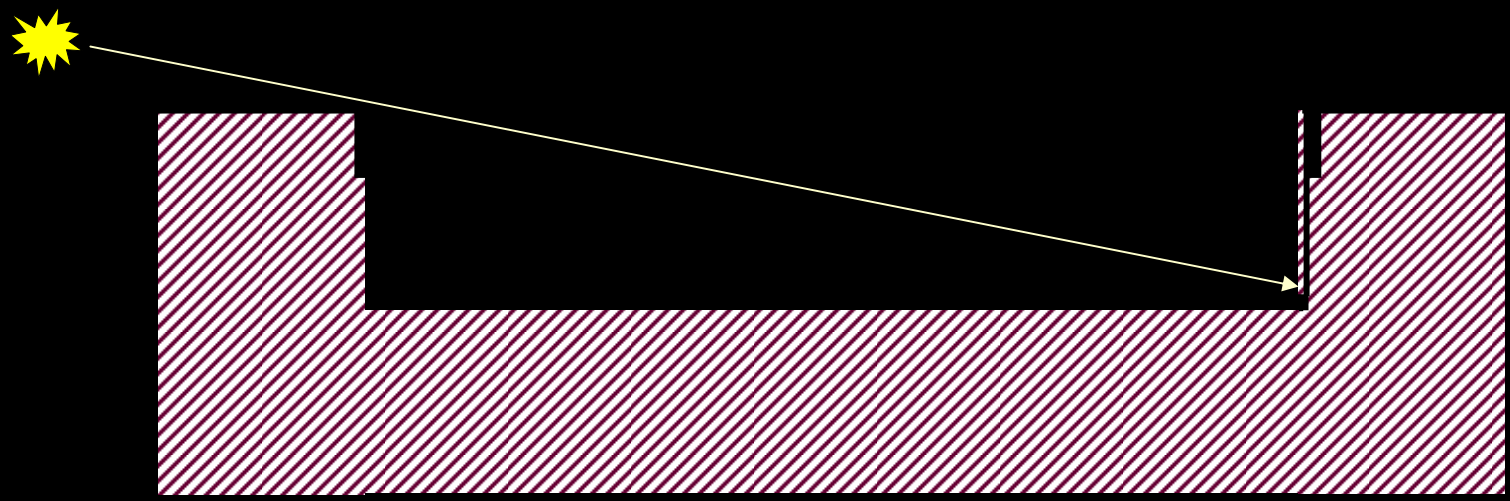

Boulder

Boulder

Pleasanton, CA

Pleasanton, CA

Urban Scale

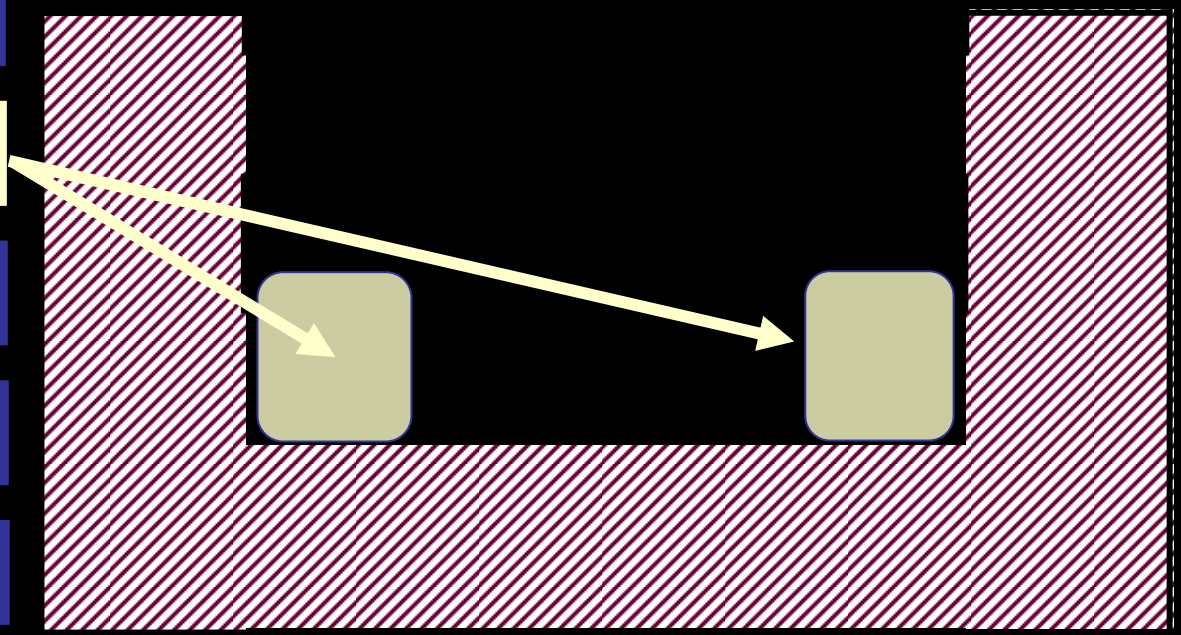


1:5 Height to Width Ratio

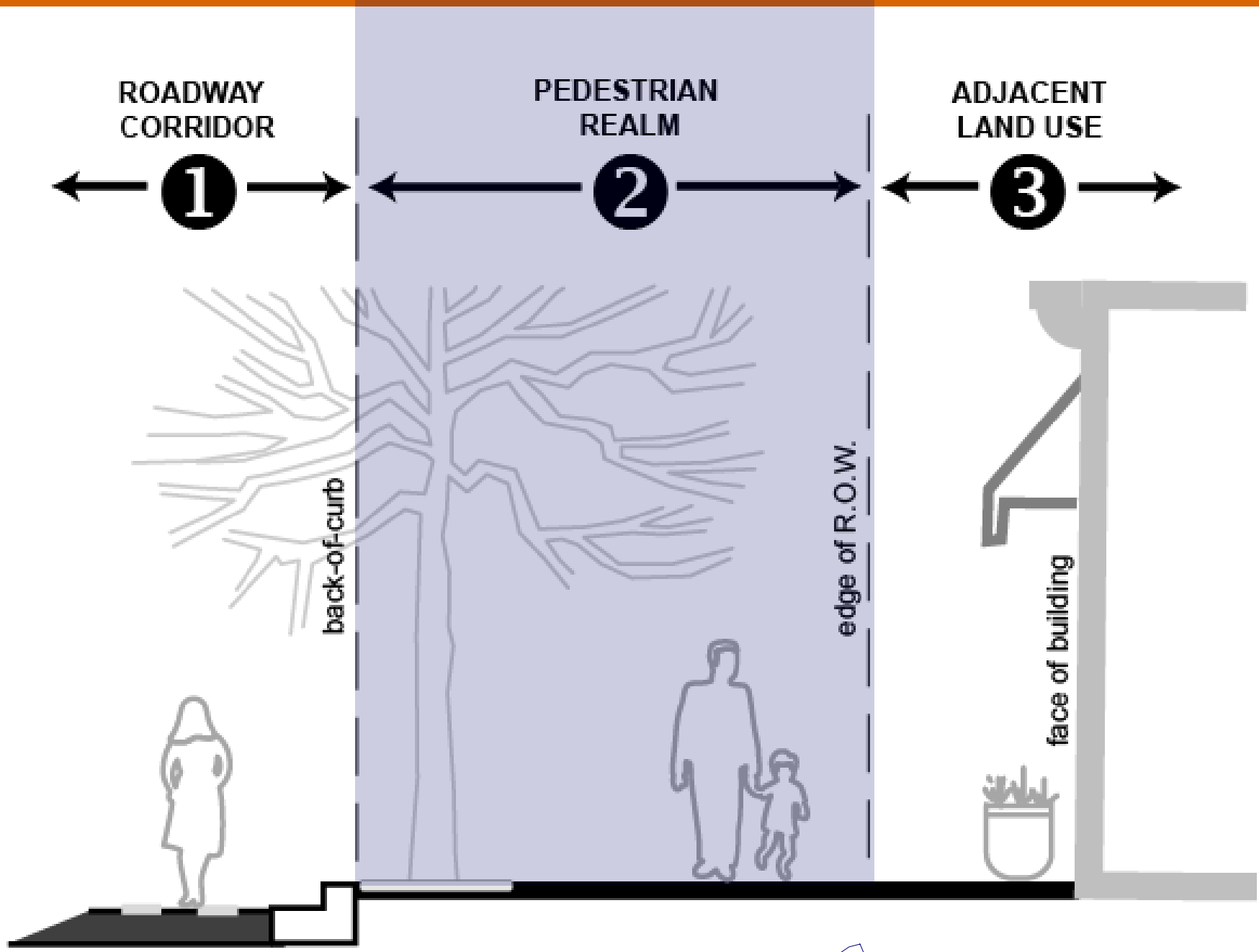
Aurora, CO

Longmont, CO

1. Street Wall
2. **Pedestrian Realm**
3. Overhead Area
4. Vehicle Realm
5. Subsurface Area

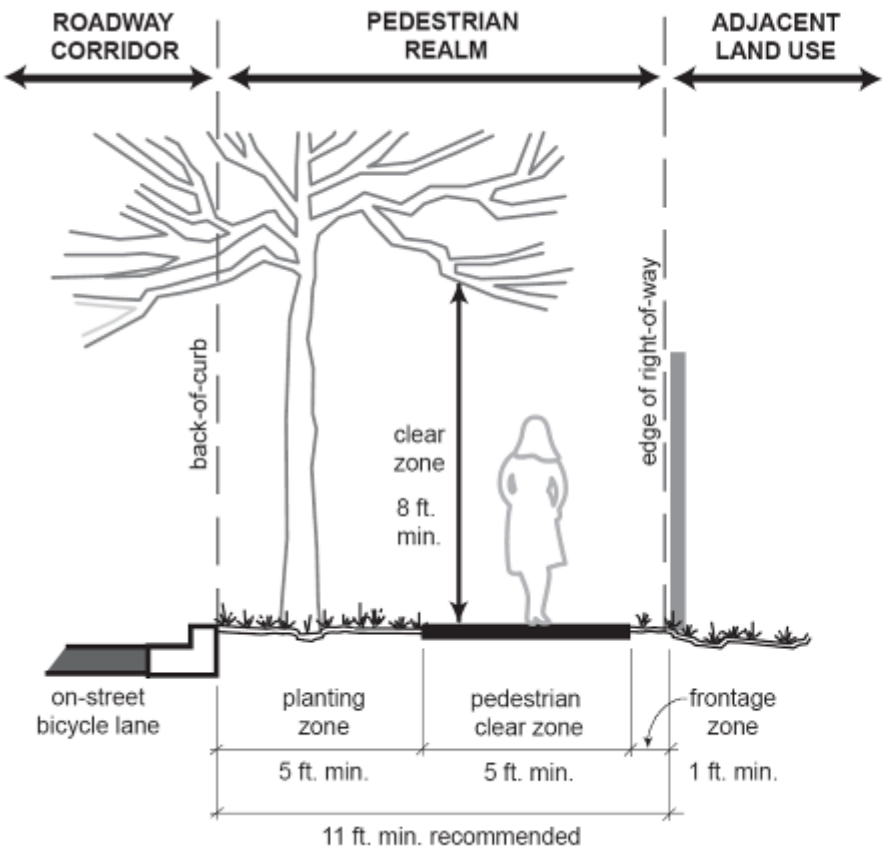


Winter Park, Fl

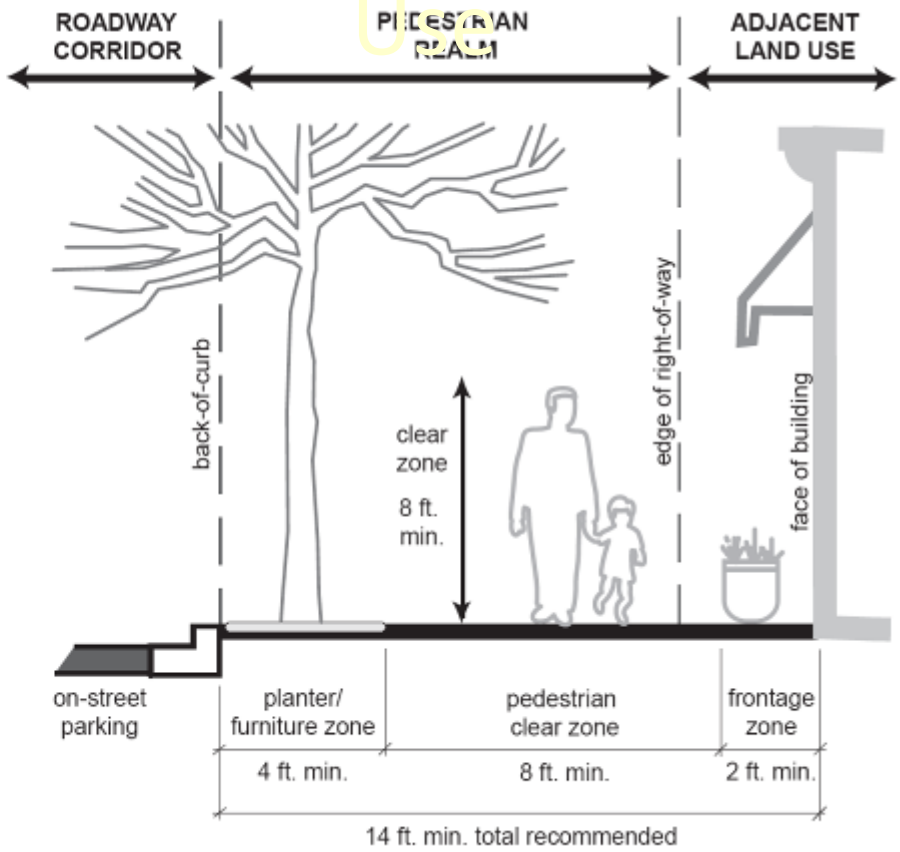

ROADWAY CORRIDOR
1
PEDESTRIAN REALM
2
ADJACENT LAND USE
3
back-of-curb
edge of R.O.W.
face of building

Importance of Place Type

Residential



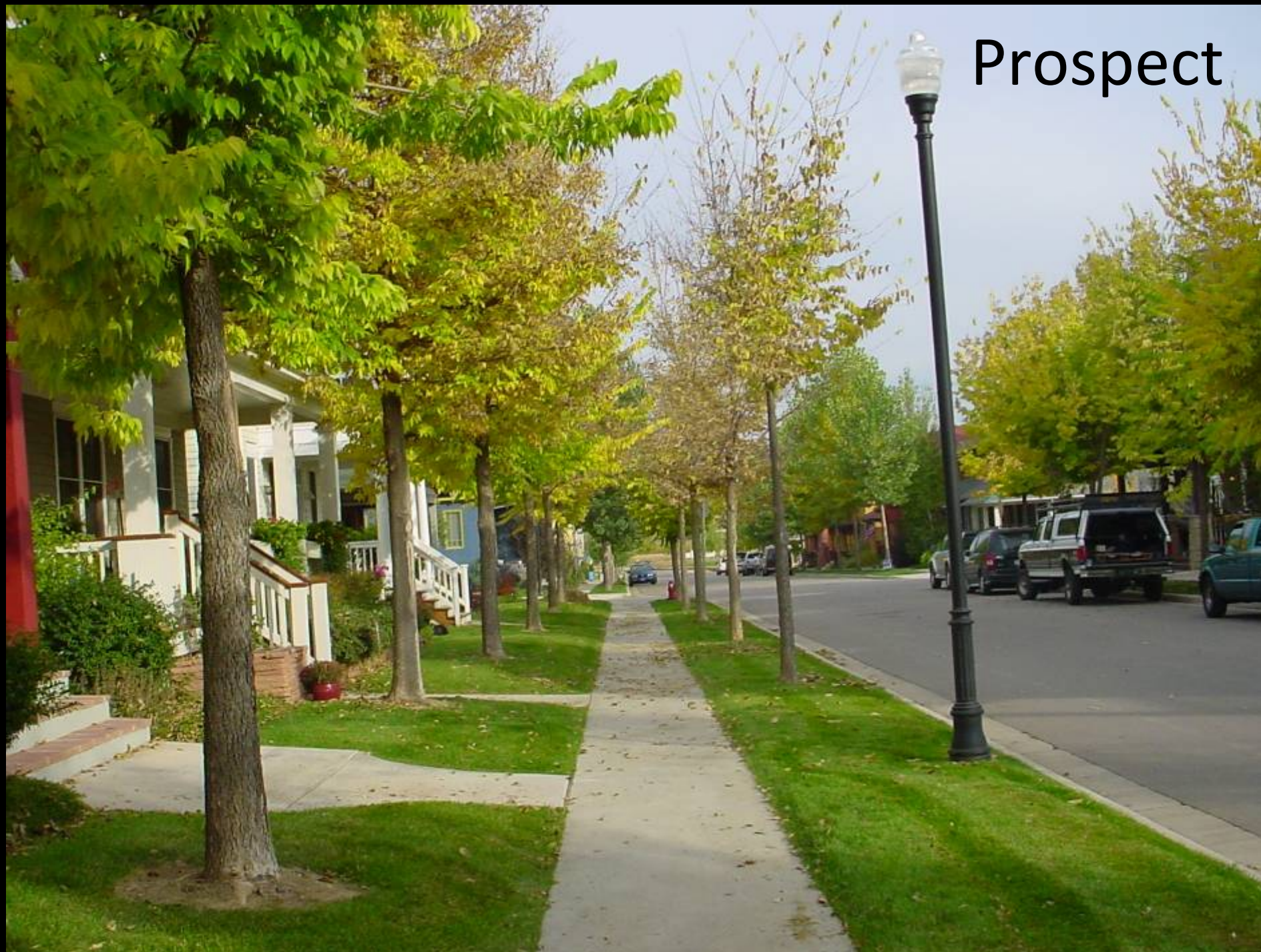
Commercial, Mixed Use




Boulder

Kailua

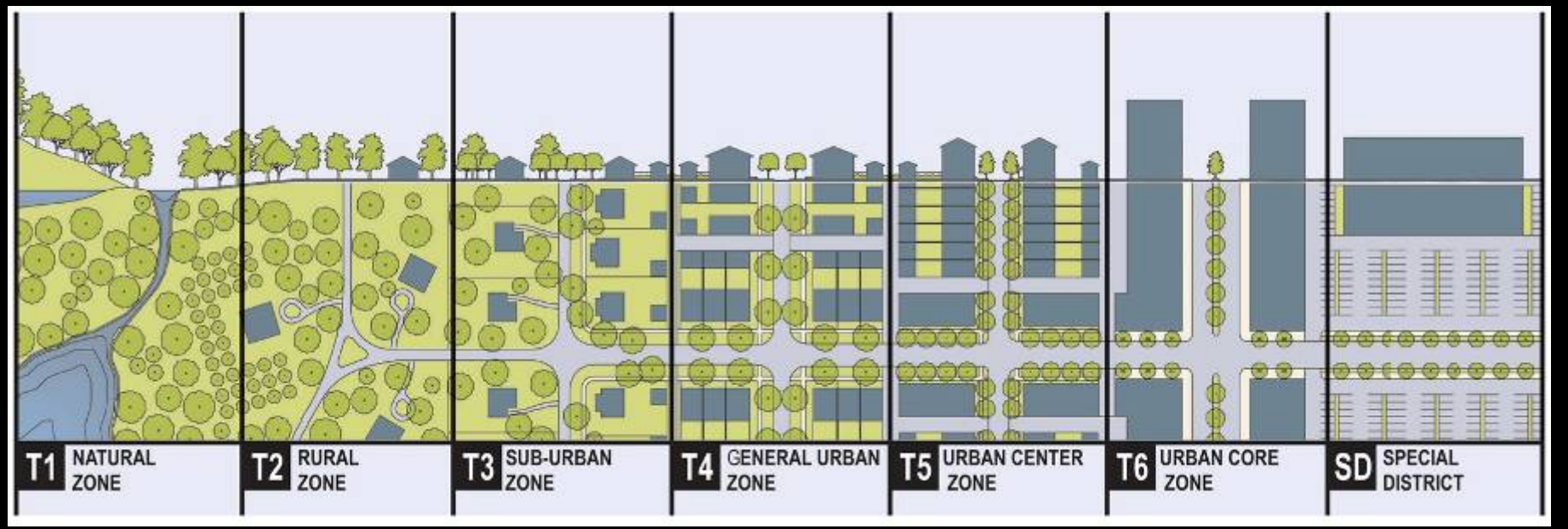
Kailua


Prospect

Boulder

Longmont

Urban “Transect”



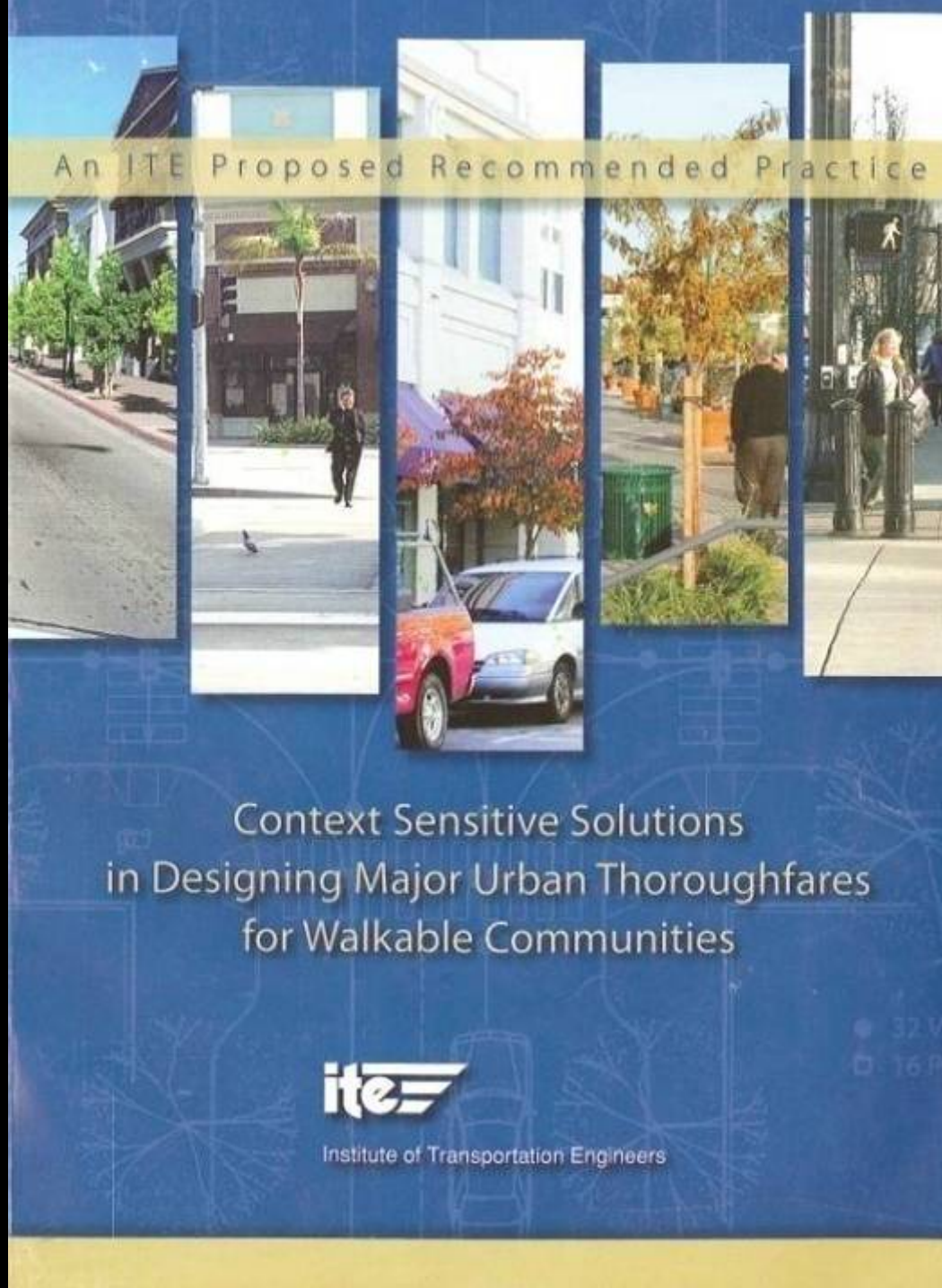
RURAL

URBAN

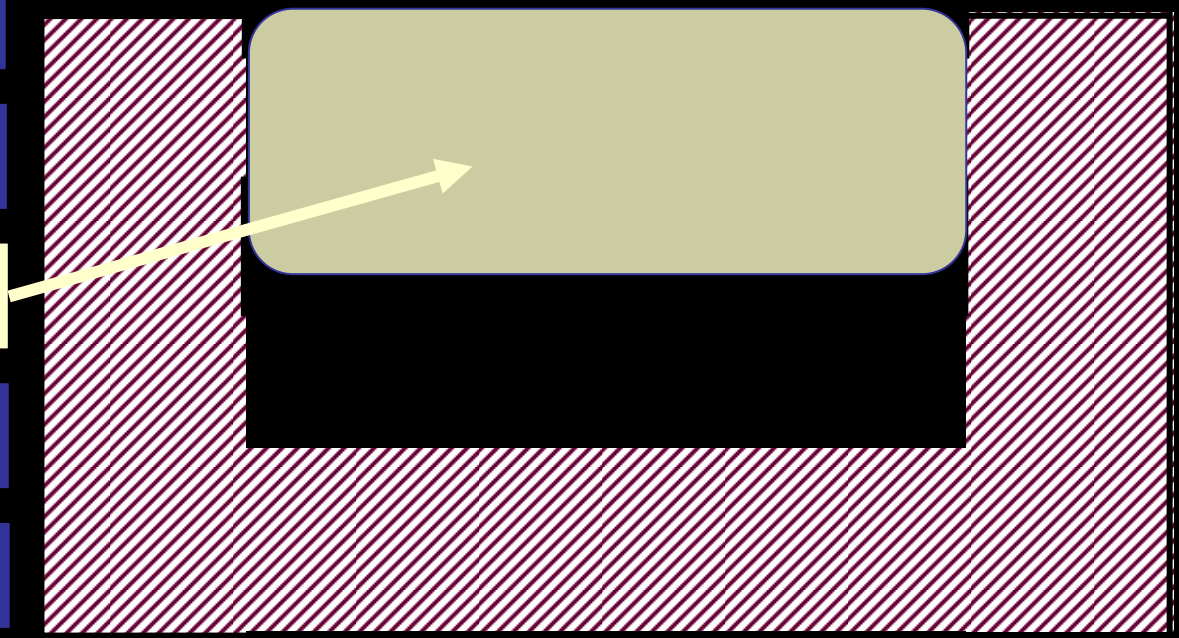
Context

Underlying Principle:

Design should reflect context of the service environment



1. Street Wall
2. Pedestrian Realm
3. **Overhead Area**
4. Vehicle Realm
5. Subsurface Area



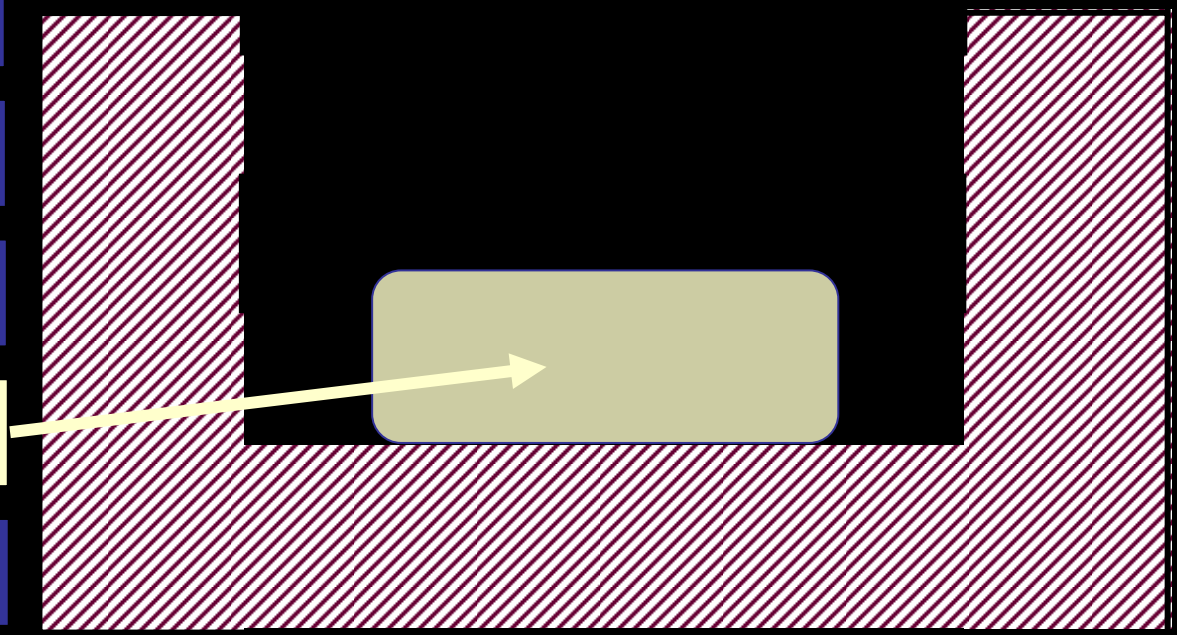
Kailua

Kailua


Kailua

Houston

1. Street Wall
2. Pedestrian Realm
3. Overhead Area
4. **Vehicle Realm**
5. Subsurface Area



Aurora

Portland

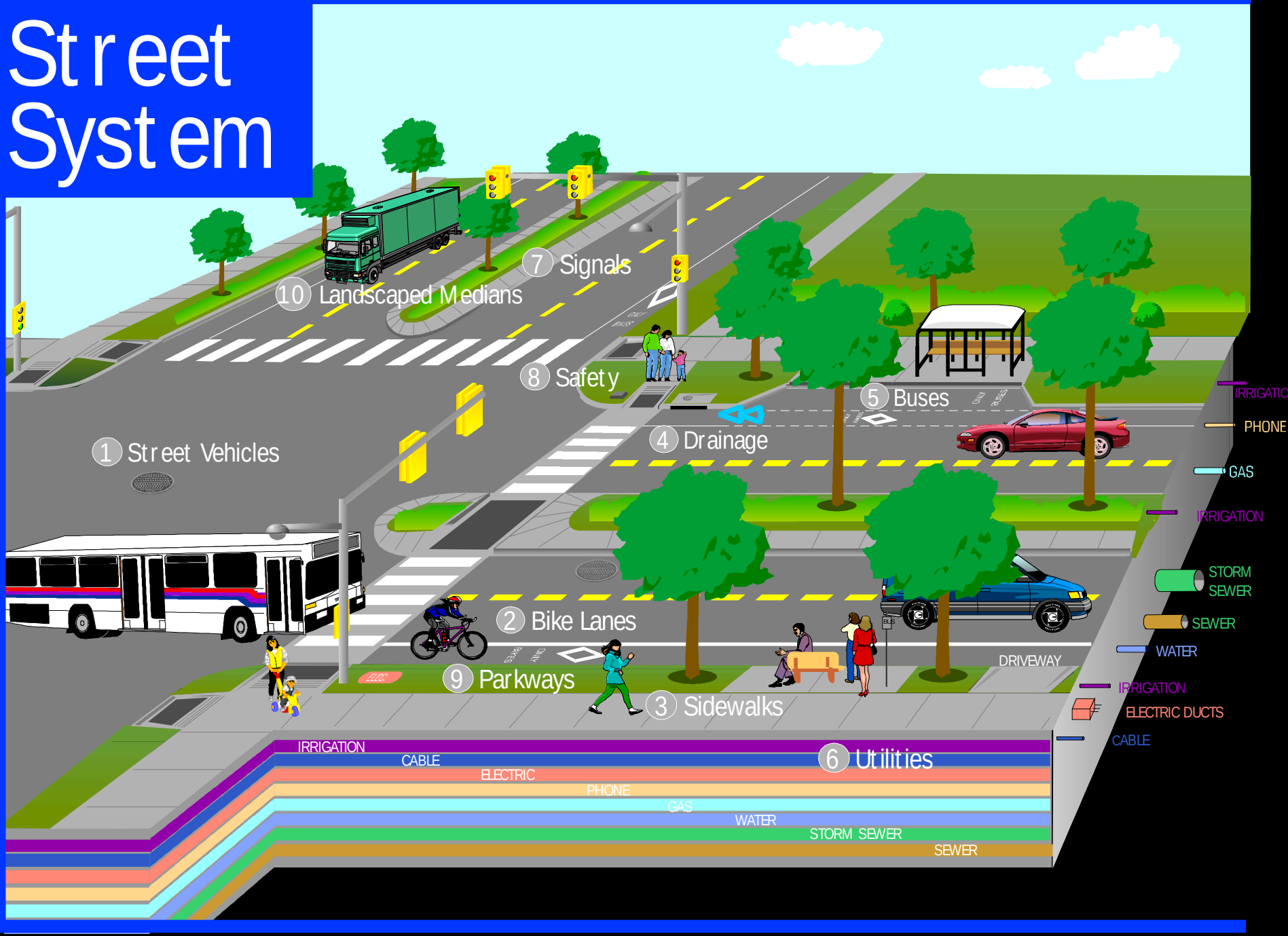

Winter Park, Fl

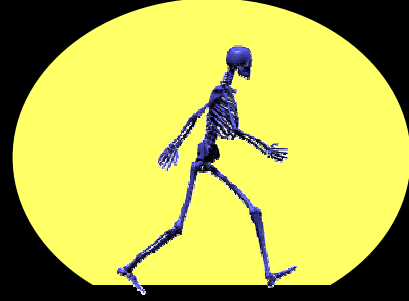
Boulder


Oxford, GB

1. Street Wall
2. Pedestrian Realm
3. Overhead Area
4. Vehicle Realm
5. **Subsurface Area**

Street System





Pedestrians & Urban Form

- Networks & connectivity
- Elements in the pedestrian environment
- Climate
- Destinations & land use

Boulder

Copley Square, Boston

Eastern Parkway, NY


Eastern Parkway, NY

The Ultimate Challenge

Downtown Phoenix

Strategic Building Massing & Orientation

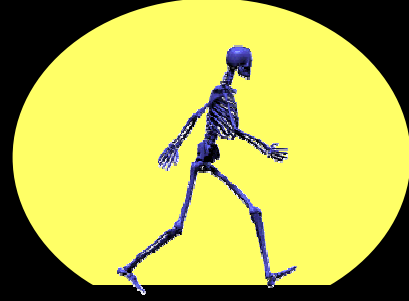
Credit: ASU and City of Phoenix

Urban Streets As Linear Parks

Credit: ASU and City of Phoenix

Potential 10 – 15° Cooler Pedestrian Environment in Urban District

Credit: ASU and City of Phoenix



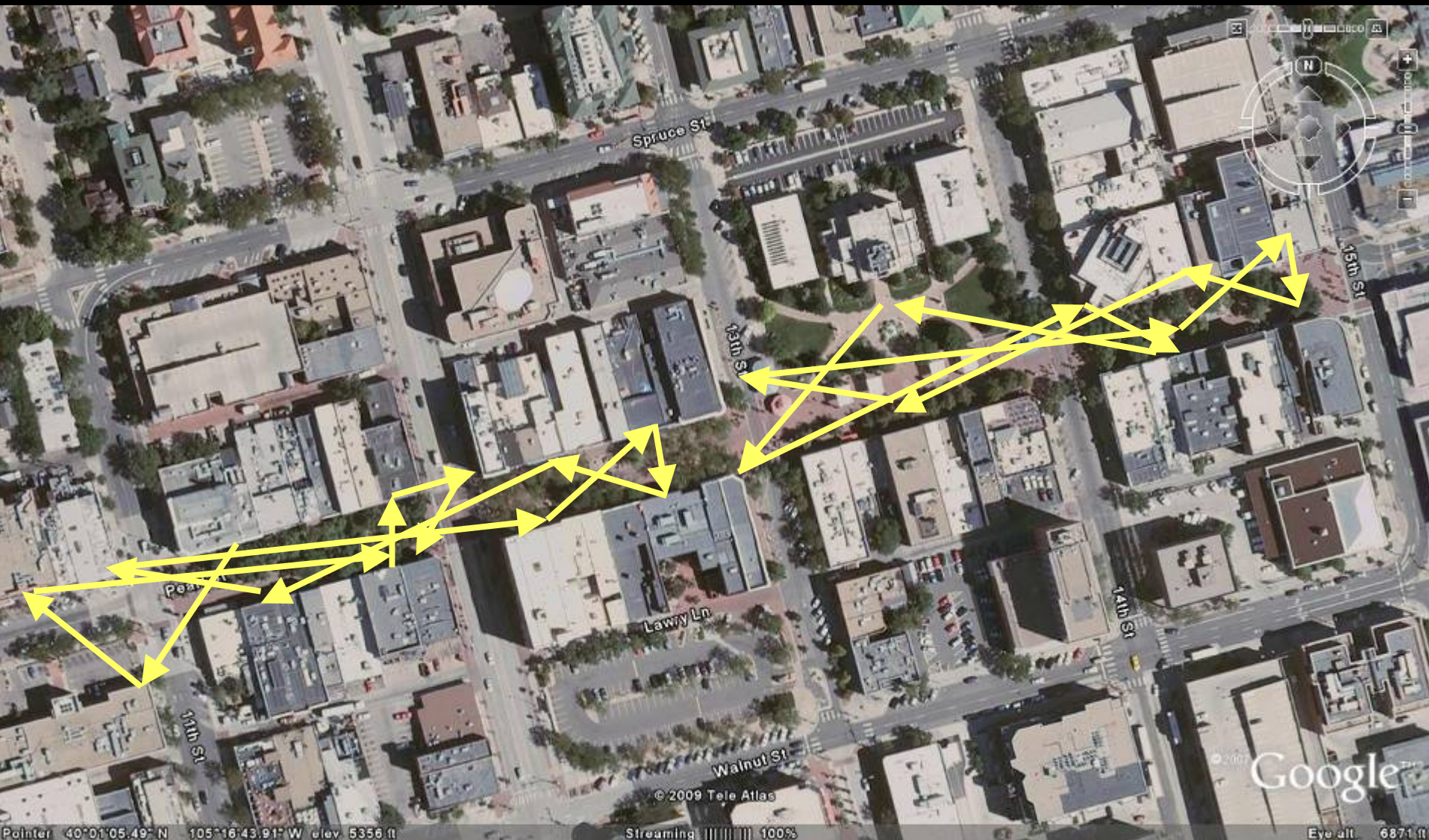
Pedestrians & Urban Form

- Networks & connectivity
- Elements in the pedestrian environment
- Climate
- Destinations & land use

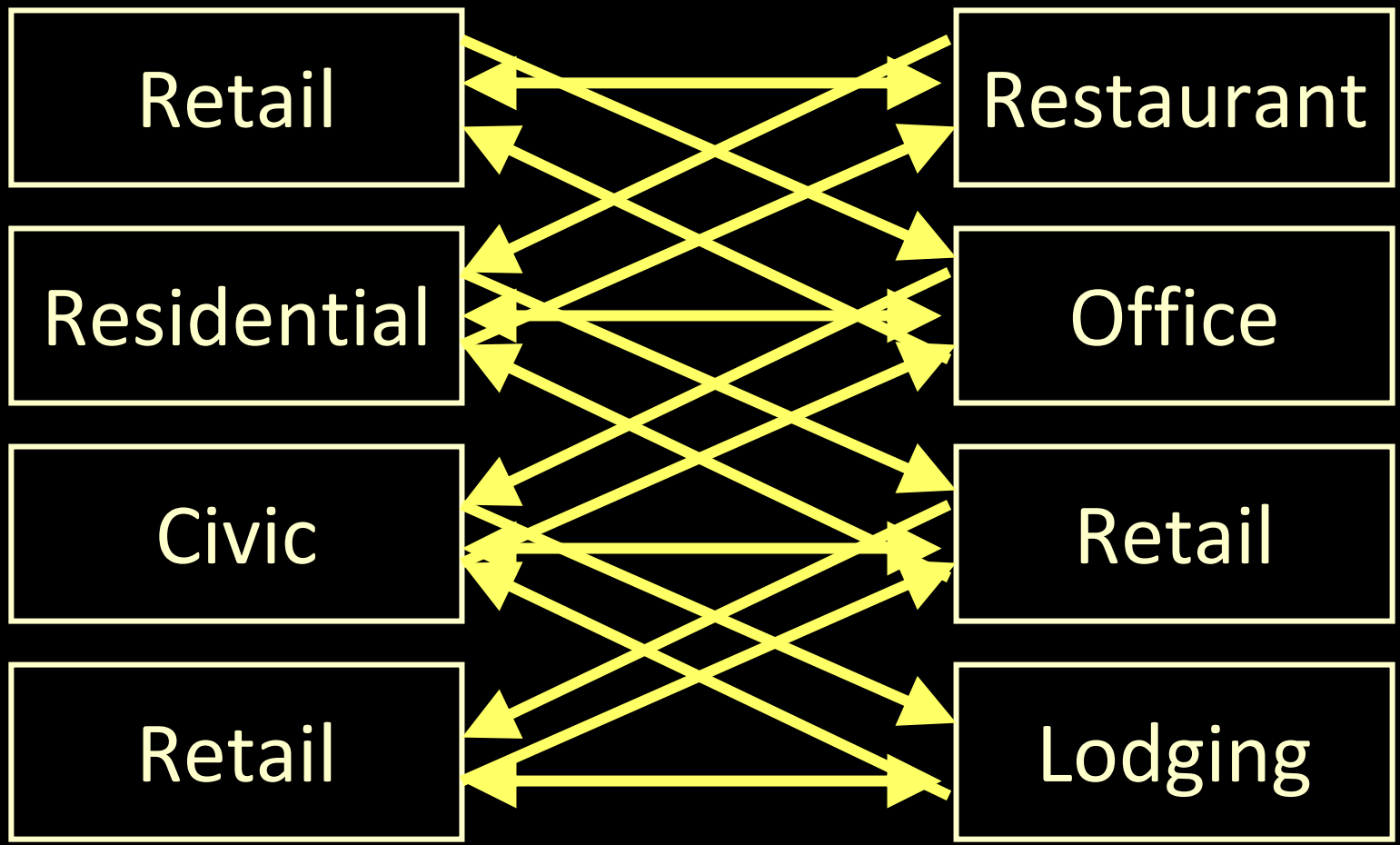

Pearl Mall, Boulder

Land uses:

government offices, private sector offices, retail, restaurant, services, residential, hotel, children play areas, plazas & parks



“Triangulation”



Lots of people lead to…

…more people!

Tonight

- The Pedestrian Defined
- Pedestrians and Urban Form
- Pedestrian Environments
- Pedestrian Policy

“Pedestrian-Friendly”

Pedestrian Environments

"Pedestrian Friendly"

Pedestrian Environment Continuum

Pedestrian Place/District

- Mixed use with retail
- Gathering place – identifiable as a PLACE
- Significant pedestrian presence
- Motor vehicles present, do not dominate
- Supportive transportation required (parking, transit, bike)

Pedestrian Place


Miami Beach, FL
Pedestrian Place

Pedestrian Supportive

- Mixed use including residential
- Should include embedded PLACES
- Pedestrians present at busy times
- Motor vehicles are present, but do not dominate


Redmond
Pedestrian Supportive


Mt. Vernon, IA
Pedestrian Supportive


Longmont
2:00 AM TO 5:00 AM
2 HR PARKING
8:00 AM TO 6:00 PM WEEKDAYS
Pedestrian Supportive


Longmont - Prospect
Pedestrian Supportive

Pedestrian Tolerant

- All land uses except freeway & certain special uses (airport runway, garbage dump, etc.)
- Utilitarian walking & rambling only
- Motor vehicles present, may tend to dominate


Redmond
Pedestrian Tolerant


Longmont
Pedestrian Tolerant

Pedestrian Tolerant

Maui


Maui
Pedestrian Tolerant

Pedestrian Tolerant

Pedestrian Intolerant

- Any land use
- Little or no walking
- Motor vehicles dominate
- Unsafe, unpleasant

Pedestrian Intolerant


Longmont
Pedestrian Intolerant


Maui
DEAD END
SLOW
Pedestrian Intolerant


Somewhere
STOP
Pedestrian Intolerant


Maui
Pedestrian Intolerant

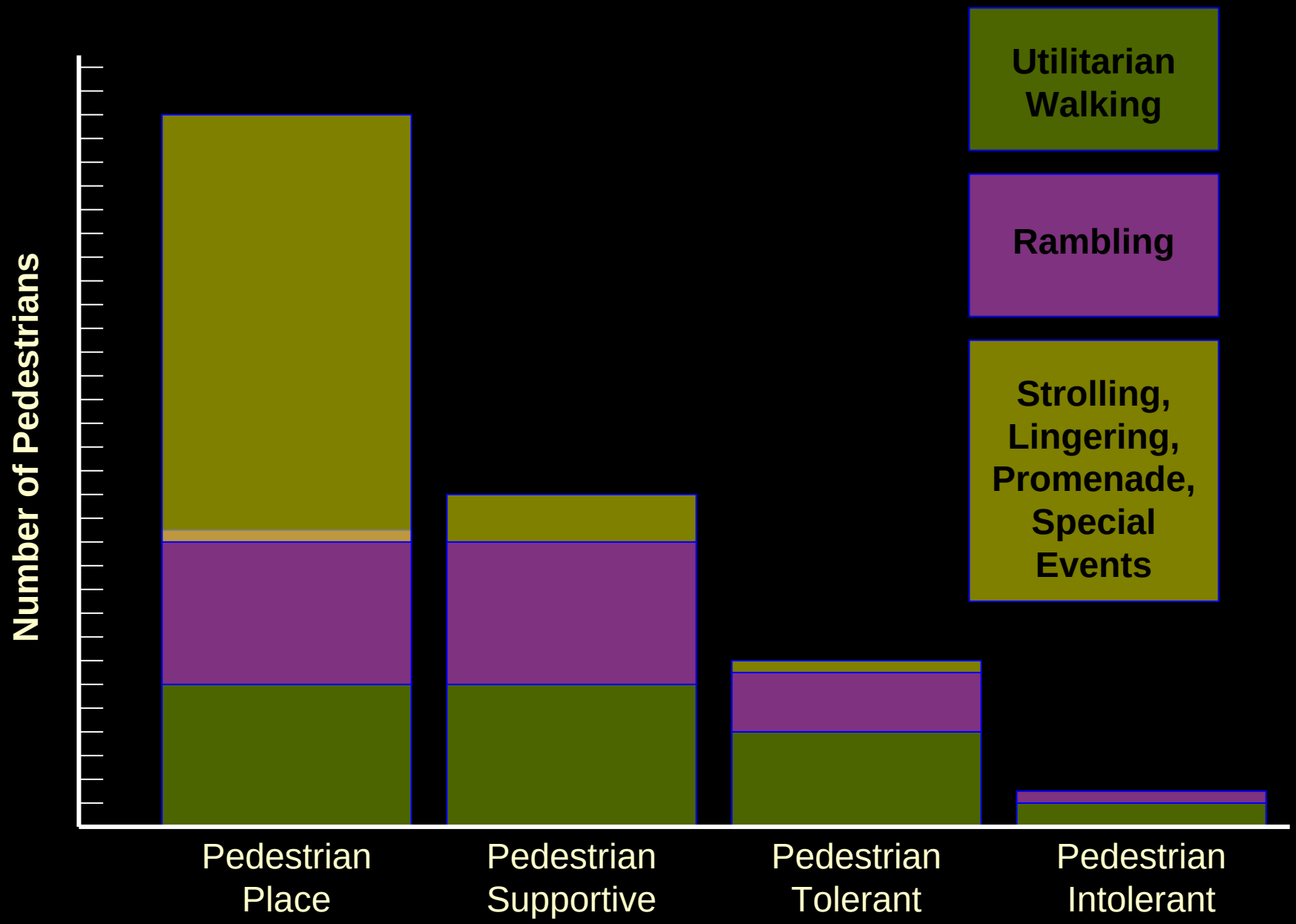
Pedestrian Tolerant

Phoenix

Pedestrian Intolerant

Phoenix

Walk Environments and Types of Walking



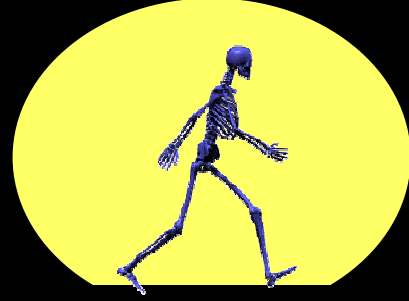
Tonight

- The Pedestrian Defined
- Pedestrians and Urban Form
- Pedestrian Environments
- Pedestrian Policy

Pedestrian Policies

- Use “level of service” in planning
- Set design standards for the benefit of landowners and businesses
- Fund operations and maintenance
- Prioritize!!


108
METRO



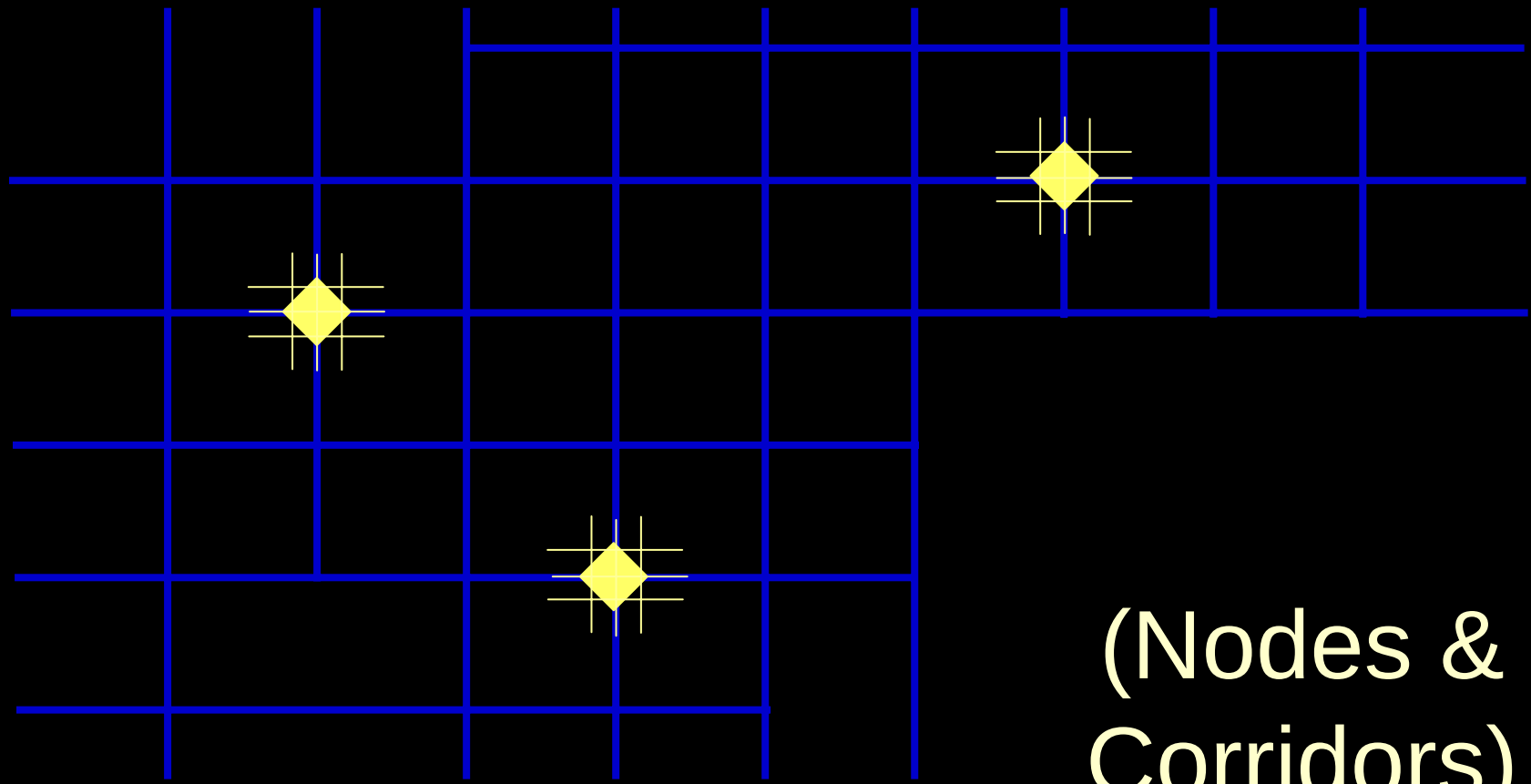
A Final Example

Boulder – Pearl Mall


SPEED
LIMIT
35


Boulder

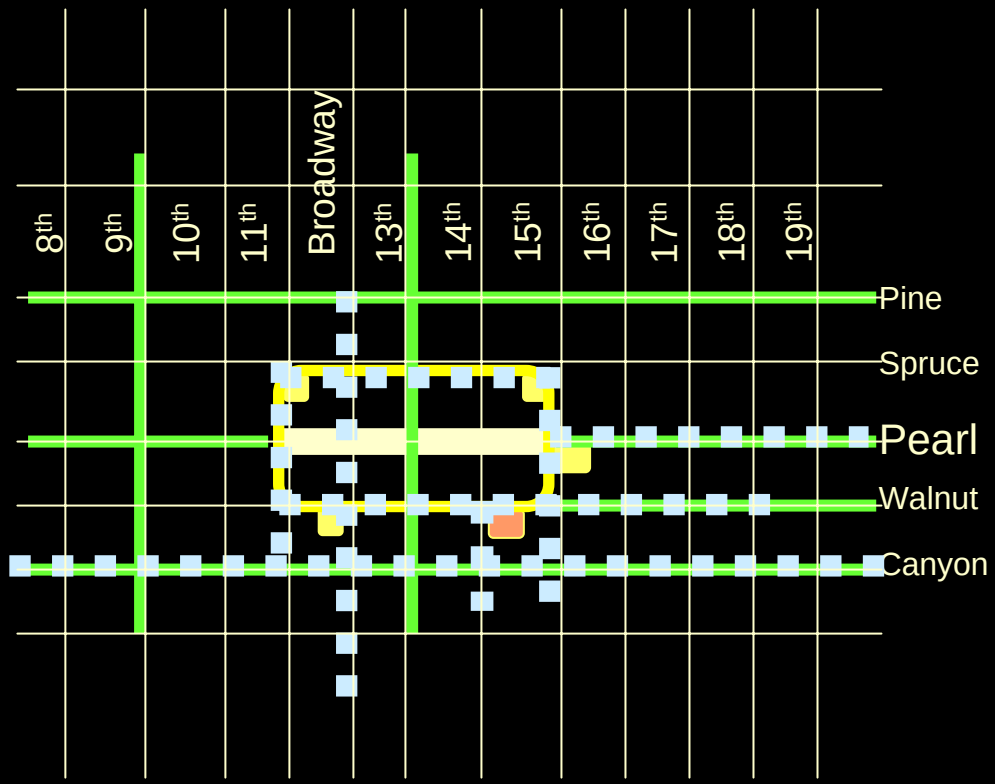
Strategic Approach to Pedestrian Environments

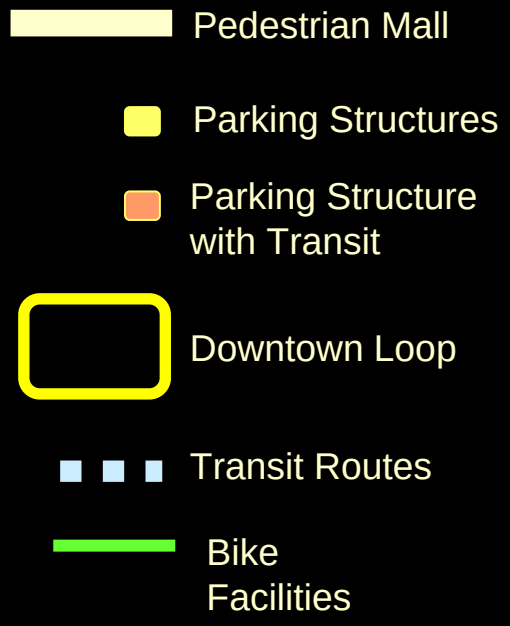


(Nodes & Corridors)

Boulder

Pearl Street “Pedestrian Mall”





Boulder


PUBLIC PARKING
FREE PARKING SAT. & SUN.
P
BOLT
up & down
the Diagonal
6

Boulder


P
PARKING
ONE WAY
Boulder


Boulder


Boulder

Boulder

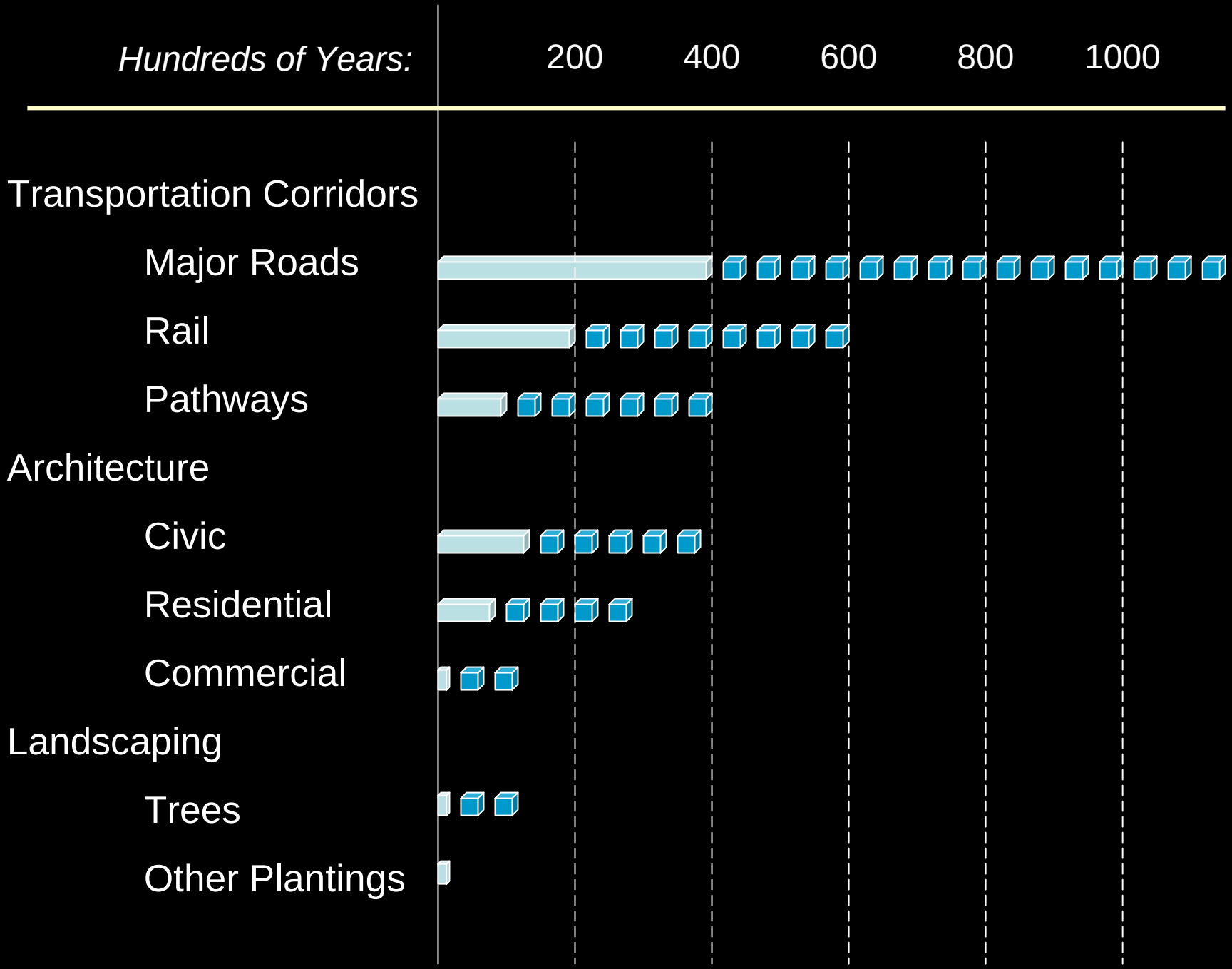

Boulder

Boulder’s “pedestrian mall” works because …

… it is an integral part of an intermodal **system**

Review: Tonight

- The Pedestrian Defined
- Pedestrians and Urban Form
- Pedestrian Environments
- Pedestrian Policy


Hundreds of Years:
200
400
600
800
1000
Transportation Corridors
Major Roads
Rail
Pathways
Architecture
Civic
Residential
Commercial
Landscaping
Trees
Other Plantings

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Thanking You