

Impacts of Transportation on Livability in Colorado

10 Principles

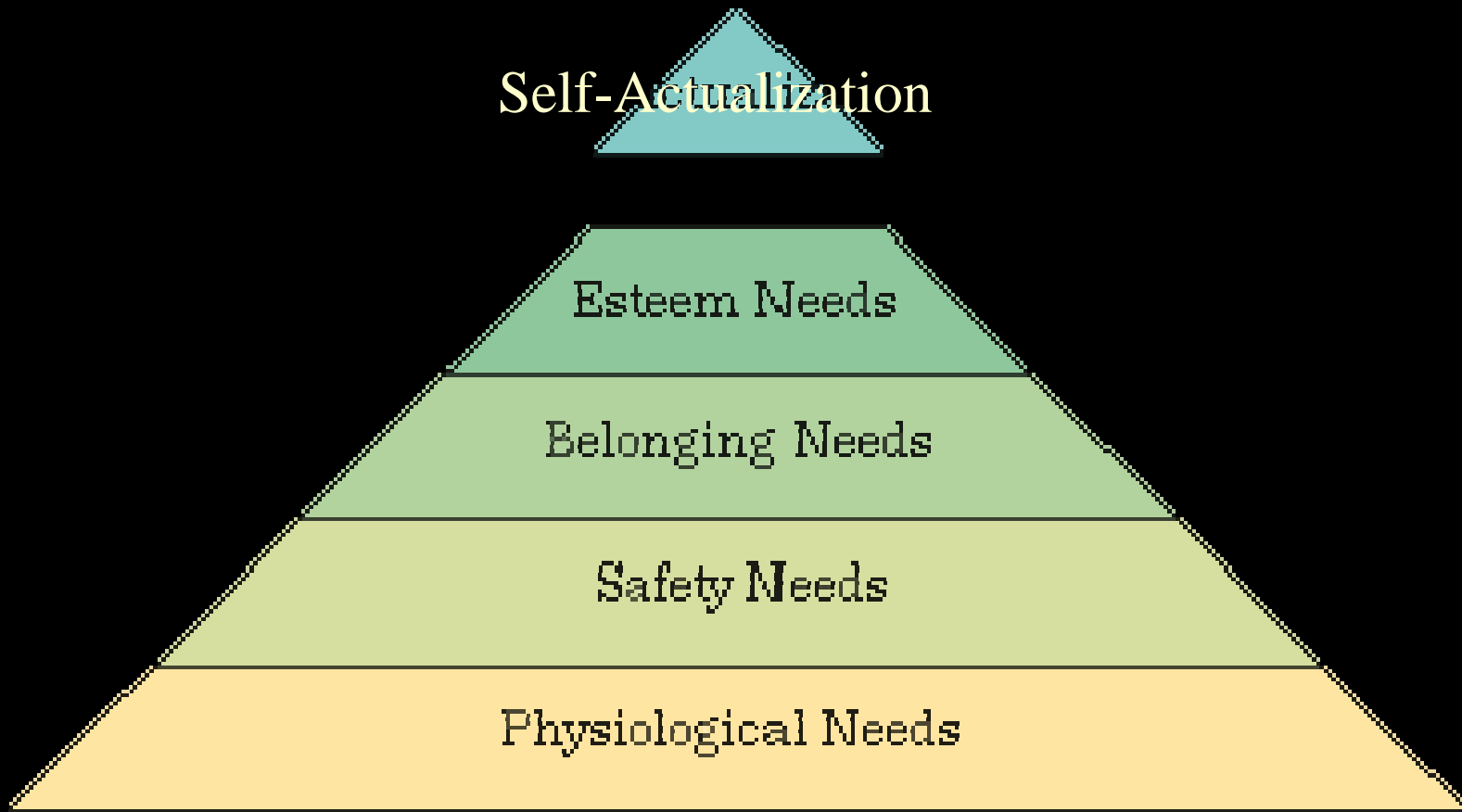
1. Mobility Balance
2. Street Connectivity
3. Community Character
4. Forecasting is not Planning
5. Transit will not Alleviate Congestion
6. Active Living
7. Multimodal Streets
8. Sustainable Mobility
9. Empowerment
10. Monitoring & Reporting

Impact of Transportation on

“Livability”

In Colorado

Maslow's Hierarchy of Needs



What does “Livability” Mean?

- Thriving Family
- Personal Freedom
- Physical & Mental Health
- Community Engagement
- Economic Independence
- Mobility

Thriving Family

Impact of Transportation on

Thriving Family







Why roads are crowded

From 1970 to 1996, the mileage people drive has grown four times as fast as the population, twice as fast as licensed drivers and 18 times as fast as new roads:

Miles driven: 2.5 billion

Vehicles: 206.4 million

Drivers: 179.5 million

Population: 265.3 million

Miles of roads: 3.9 million

Growth since 1970
+123%

+90%

+61%

+30%

+7%

Source: Road Information Program analysis of December report by the Federal Highway Administration

Moms Become Cab Drivers

Everything is a Drive Away

Suburban mothers spend
17 full days a year
behind the wheel, more than the
average parent spends dressing,
bathing and feeding a child

Source: Surface Transportation Policy Project

Home

Recreation

Workplace









Personal Freedom

Impact of Transportation on Personal Freedom









Real Families – 3 cars

	Mom	Dad	Daughter
Monday	SOV	SOV	SOV
Tuesday	SOV	SOV	SOV
Wednesday	SOV	SOV	SOV
Thursday	SOV	SOV	SOV
Friday	SOV	SOV	SOV
Saturday	--	SOV	--
Sunday	varies	varies	varies

Real Families – 2 cars

	Mom	Dad	Daughter
Monday	SOV	LRT	SOV
Tuesday	SOV	SOV	Bike
Wednesday	SOV	LRT	SOV
Thursday	SOV	SOV	Bike
Friday	Bike	LRT	SOV
Saturday	--	SOV	--
Sunday	varies	varies	varies





(Exit)
Doc

Debbie Thomas Real Estate

NW 10TH & GILMAN

Portland
Streetcar
to NW 23rd Ave.

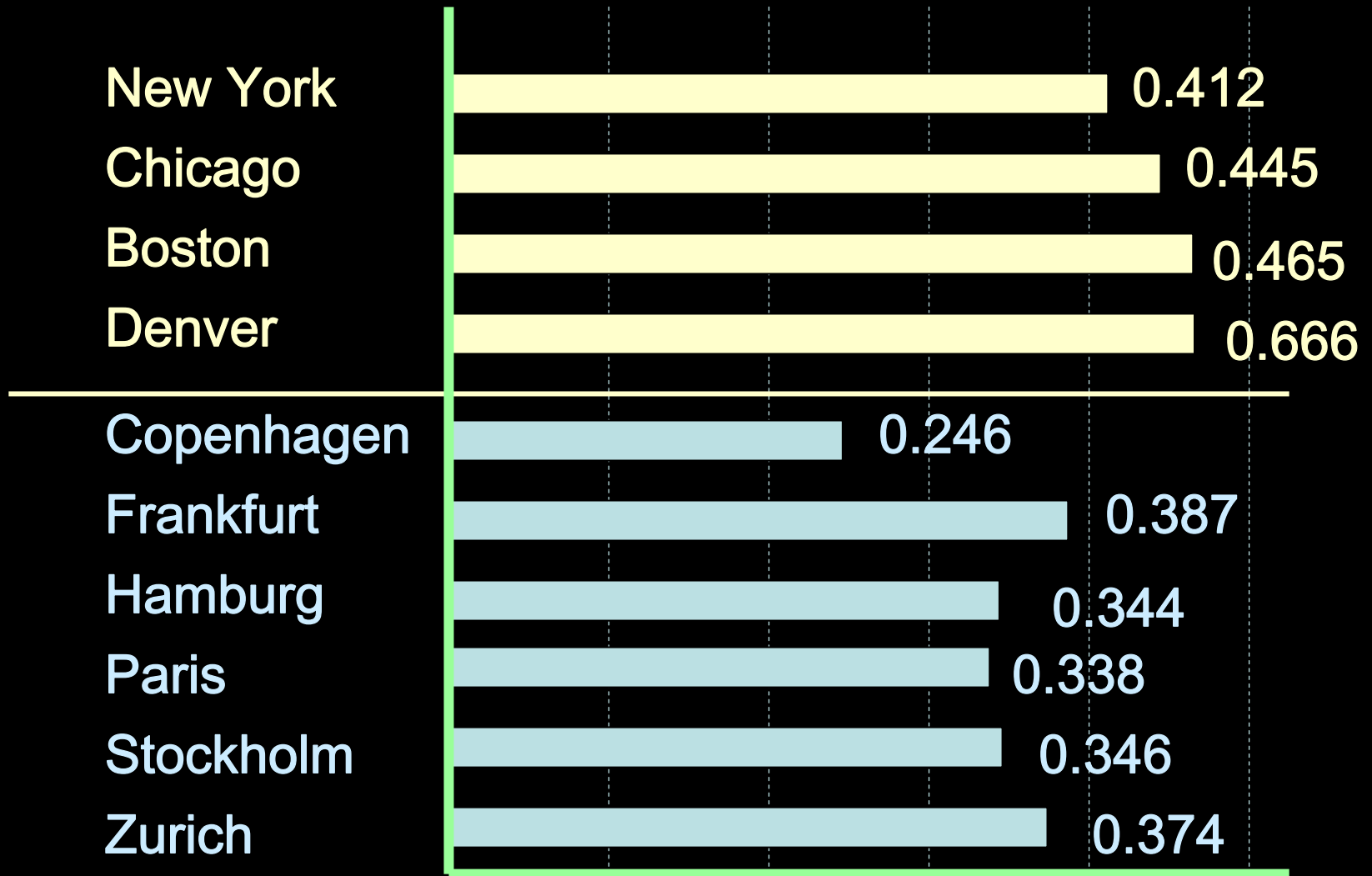
003

NW 23RD AVE.

VICTOR

70

Per Capita Auto Ownership - 1980



Source: Newman/Kenworthy

**One less car: - \$4,000/yr.
(net about \$3,500)***

At least \$50,000 in
additional mortgage capacity

* assumes 2nd or 3rd car for household





Physical and Mental Health

Impact of Transportation on

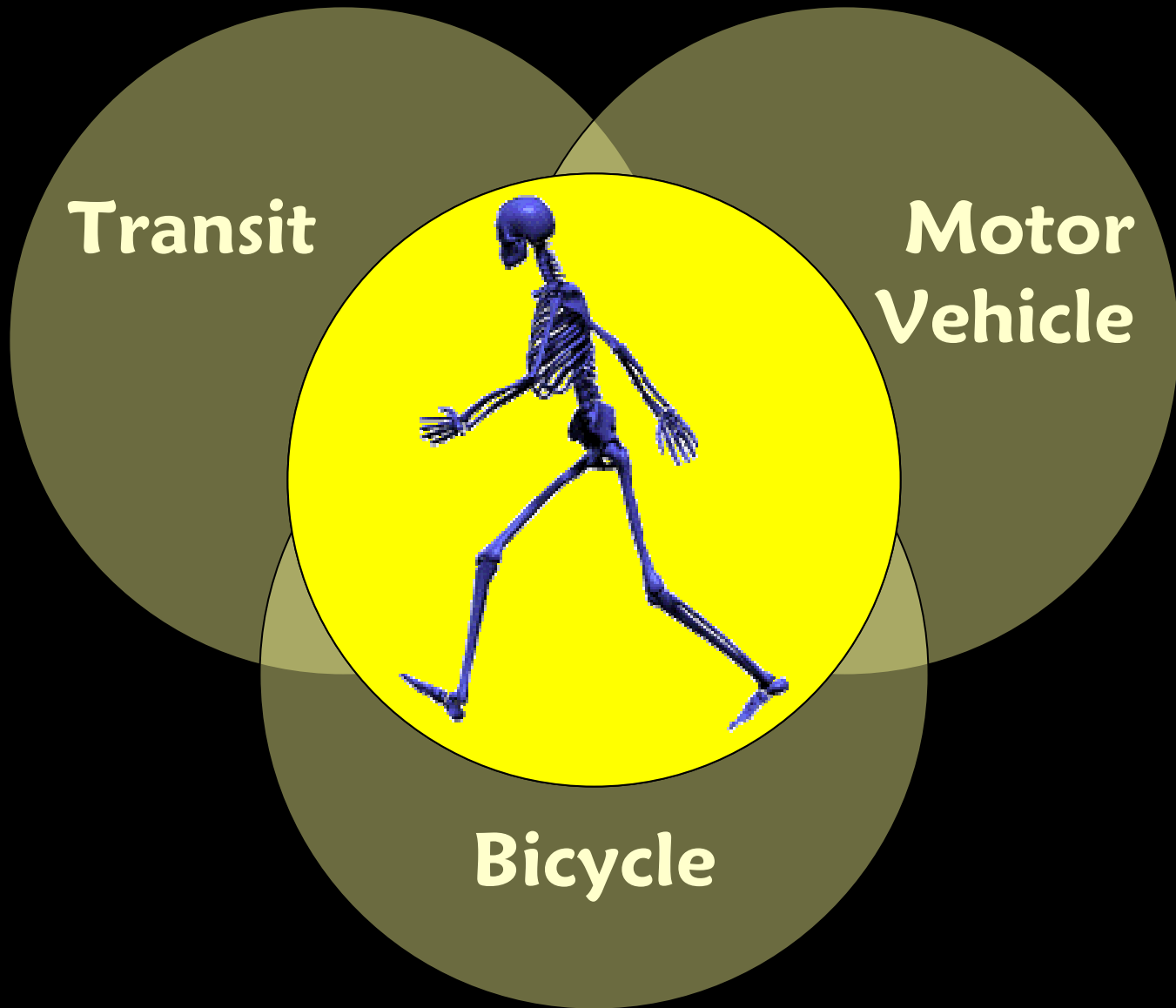
Physical & Mental Health



Walking

...is not an “alternate mode”

Walking
...is Human



We Walk Because We are Human



We are Human Because We Walk

Because We Walk...

- We speak
- We sing
- We use tools
- We orient spatially at 3 mph



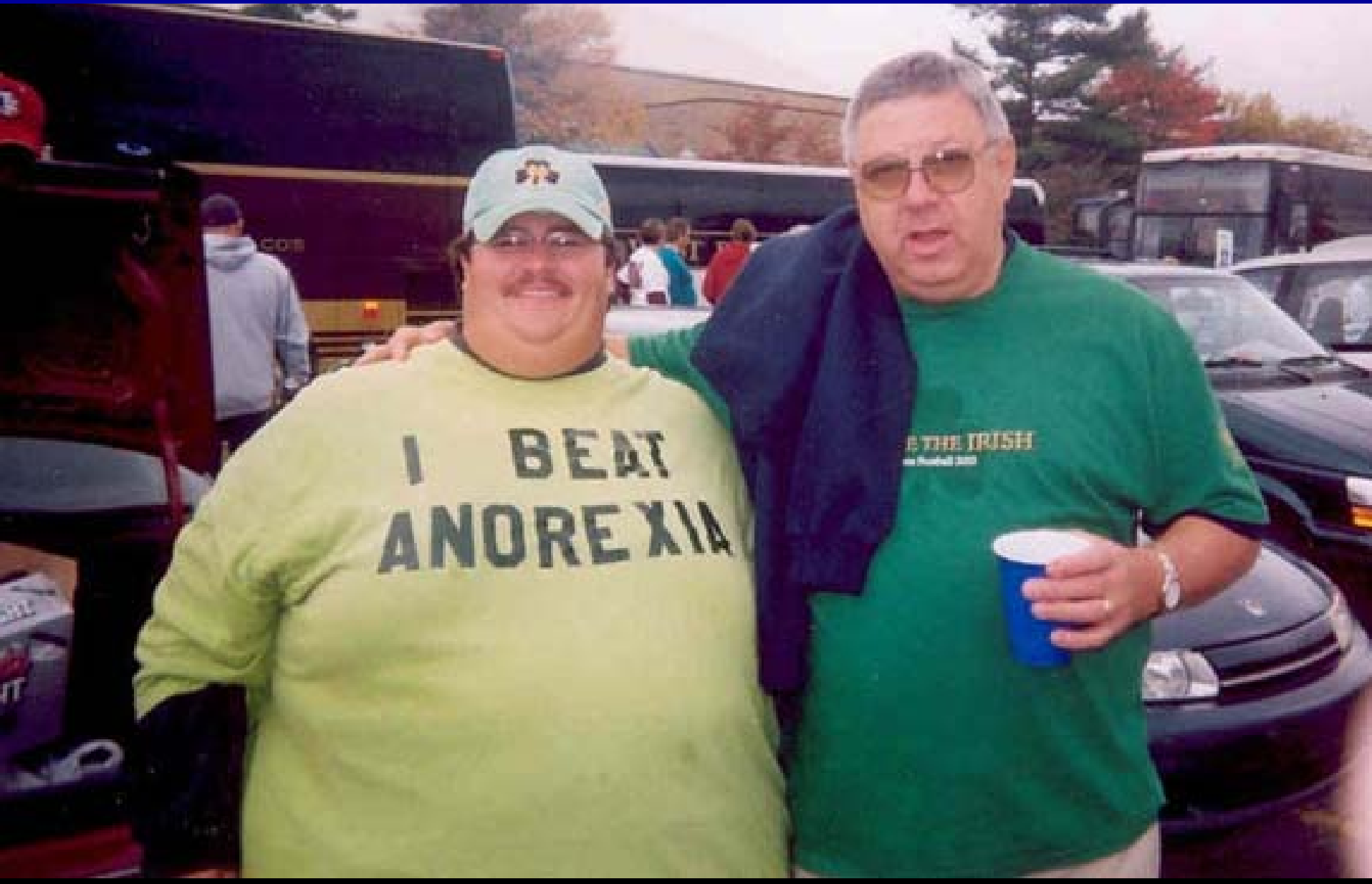
Human History







We cannot escape our DNA...



...no matter how hard we try





Community Engagement

Impact of Transportation on Community Engagement

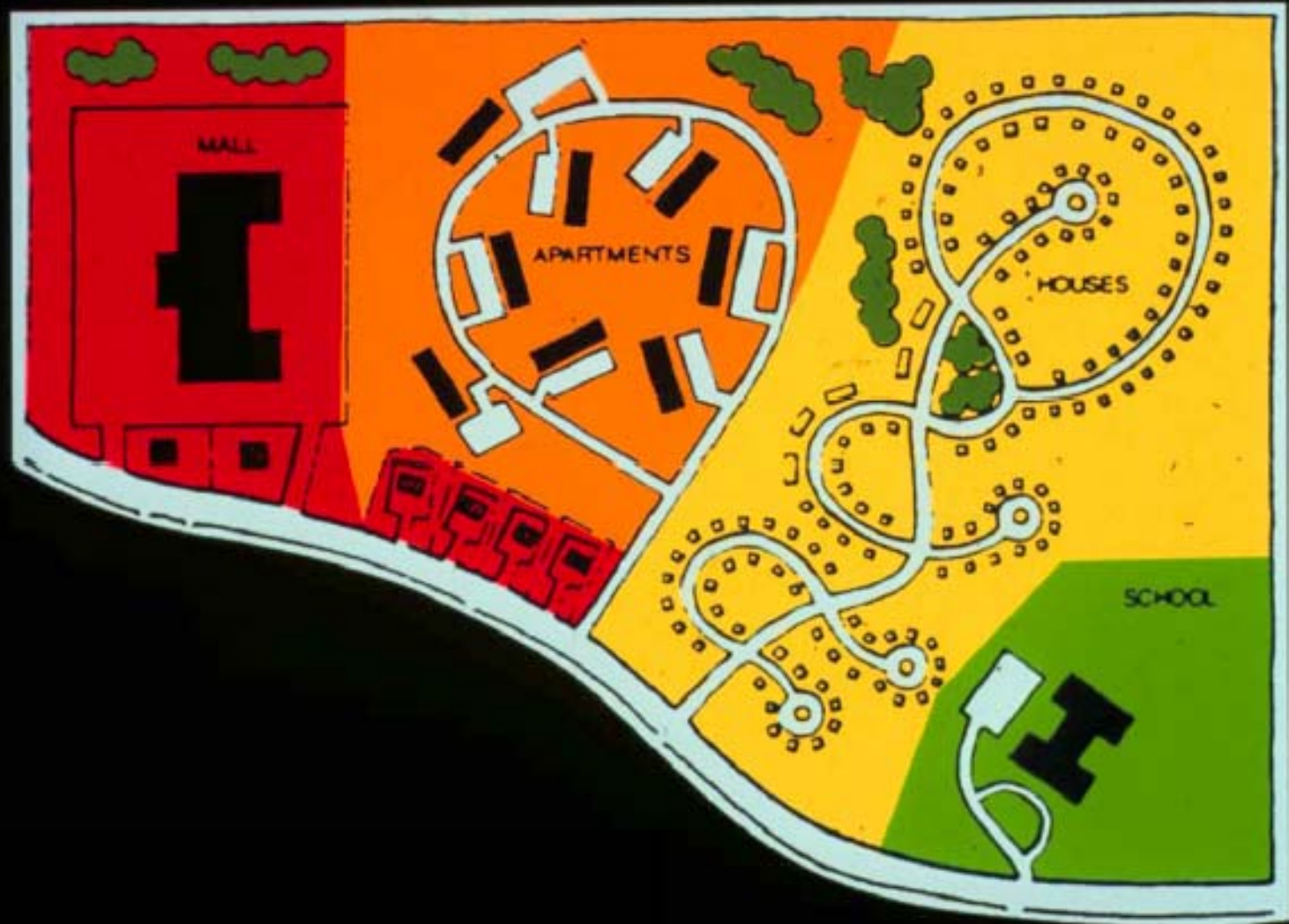






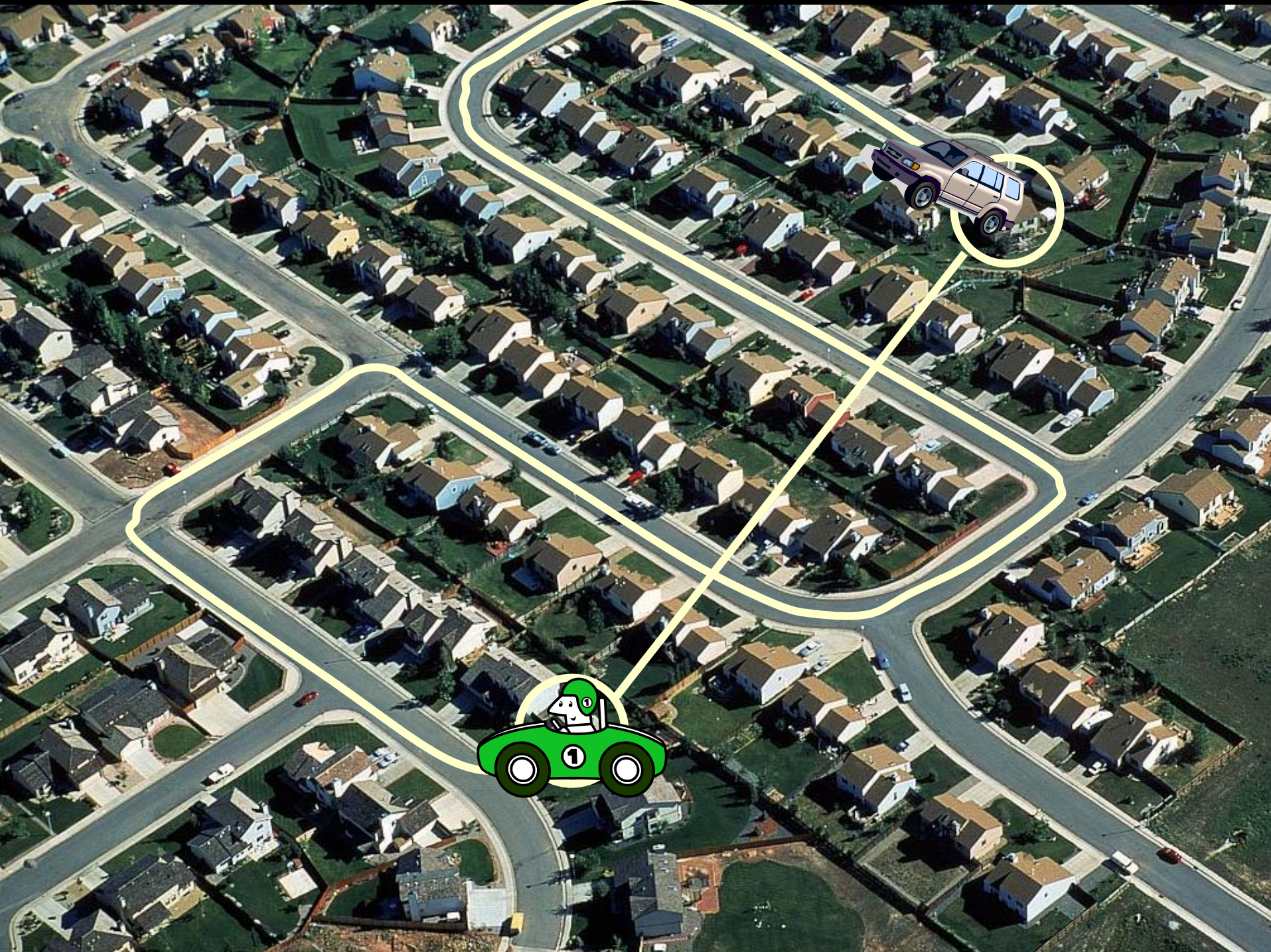
**It's about
connections...**

Conventional



Traditional







Mobility Impacts of Poor Connectivity

- Massive, congested arterials
- Increased VMT/household
- Transit voids
- Inactive living
- Poor emergency service access
- Reduced travel safety

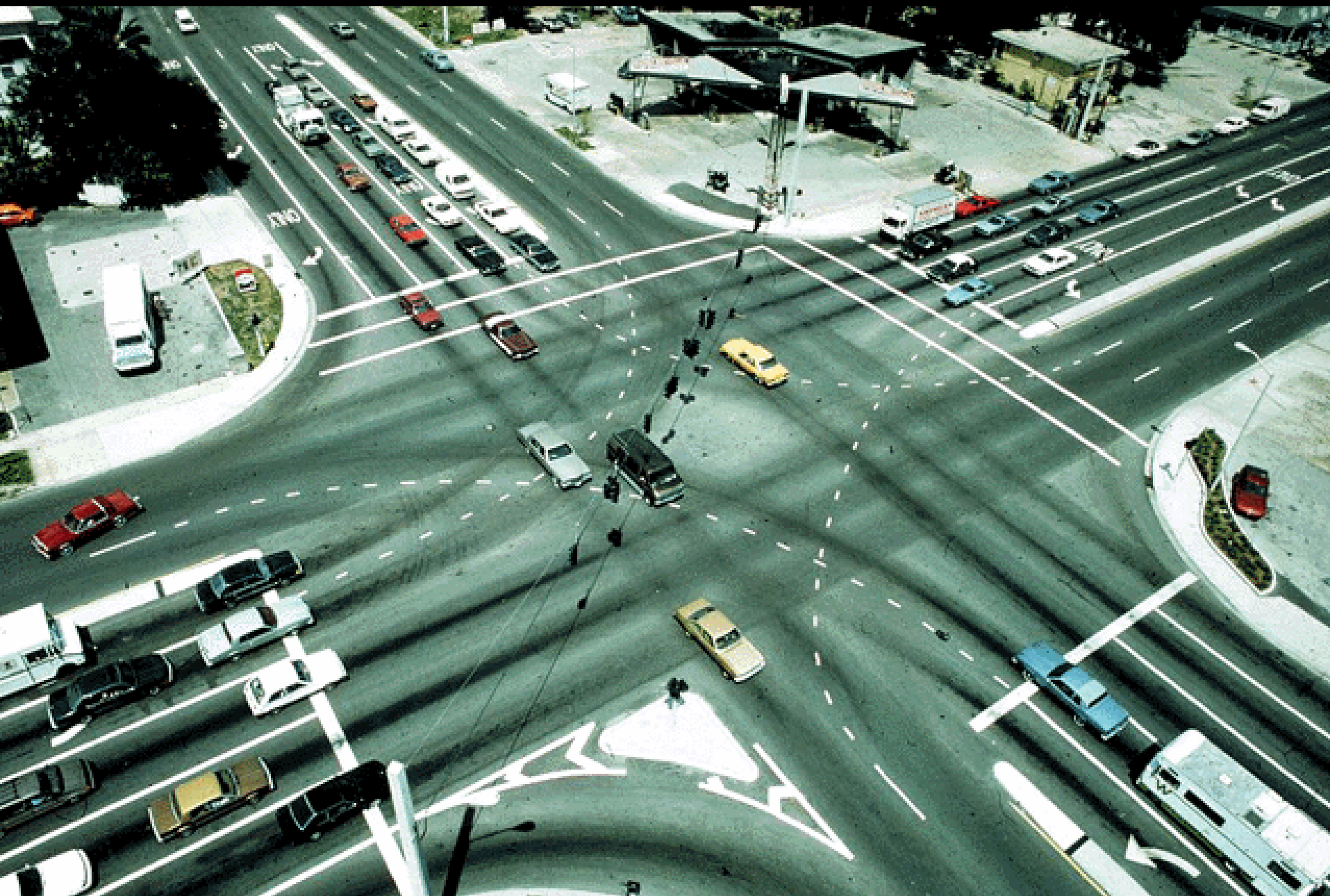


**We are forcing
bad design with
public policy**



To achieve a higher rate of
traffic flow, you plan
corridors

To achieve better
connectivity, you plan
networks



THE URBAN NETWORK: A NEW FRAMEWORK FOR GROWTH

By Peter Calthorpe

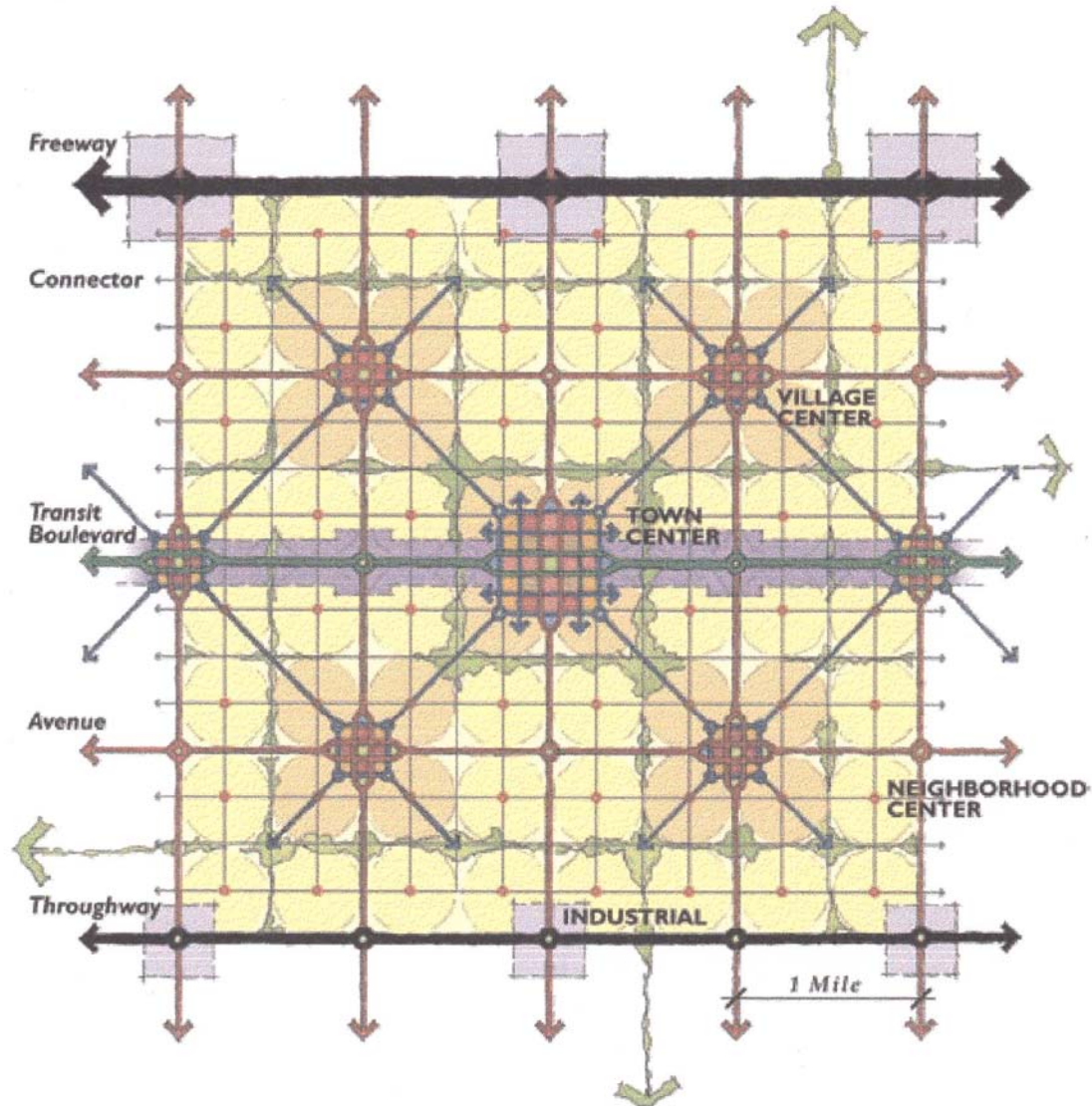


Illustration 1: The Urban Network

Other Impacts of Poor Connectivity

- Disassociation from community
- Reduced economic activity
- Lowered social cohesion

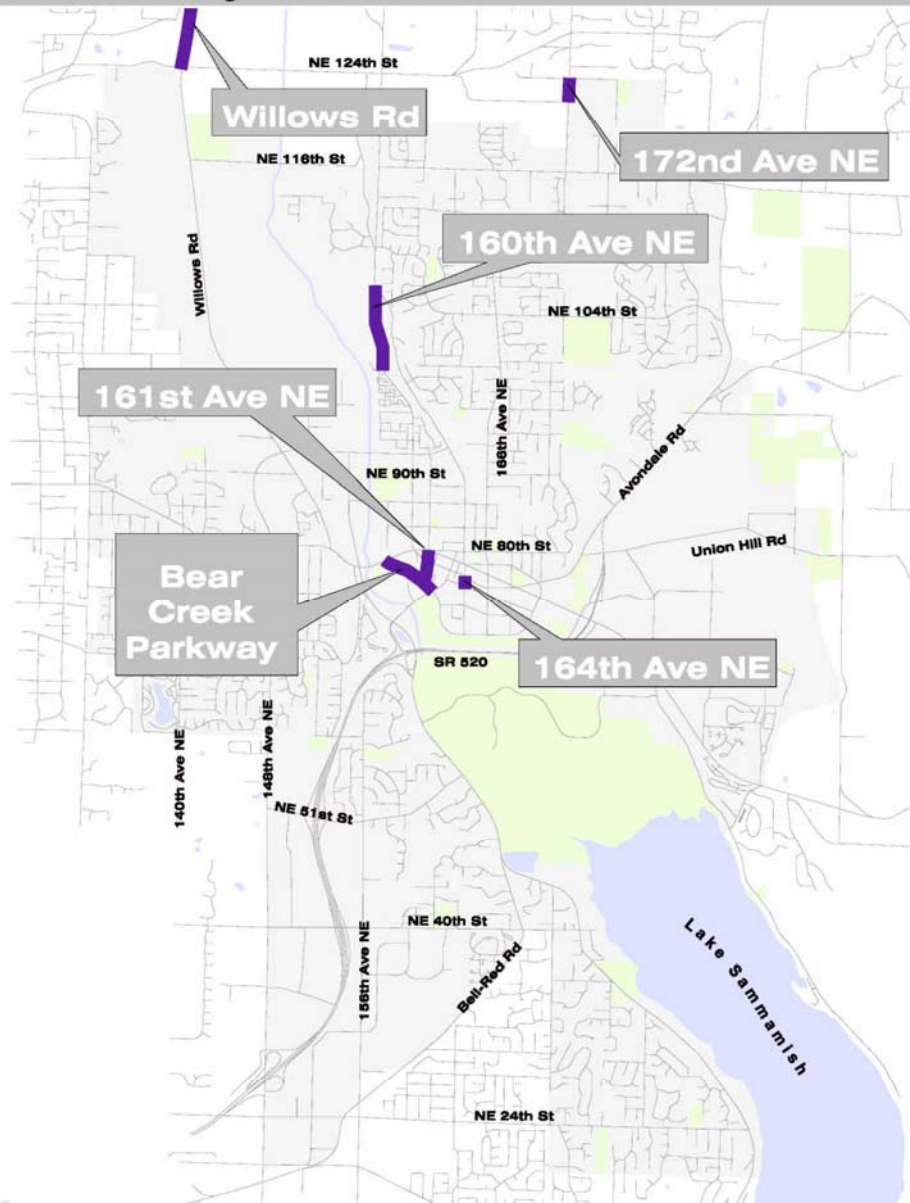
“The Geography of Nowhere”



connecting
REDMOND



Roadway Connections



Other Impacts of Poor Connectivity

- **Disassociation from community**
- **Reduced economic activity**
- **Lowered social cohesion**

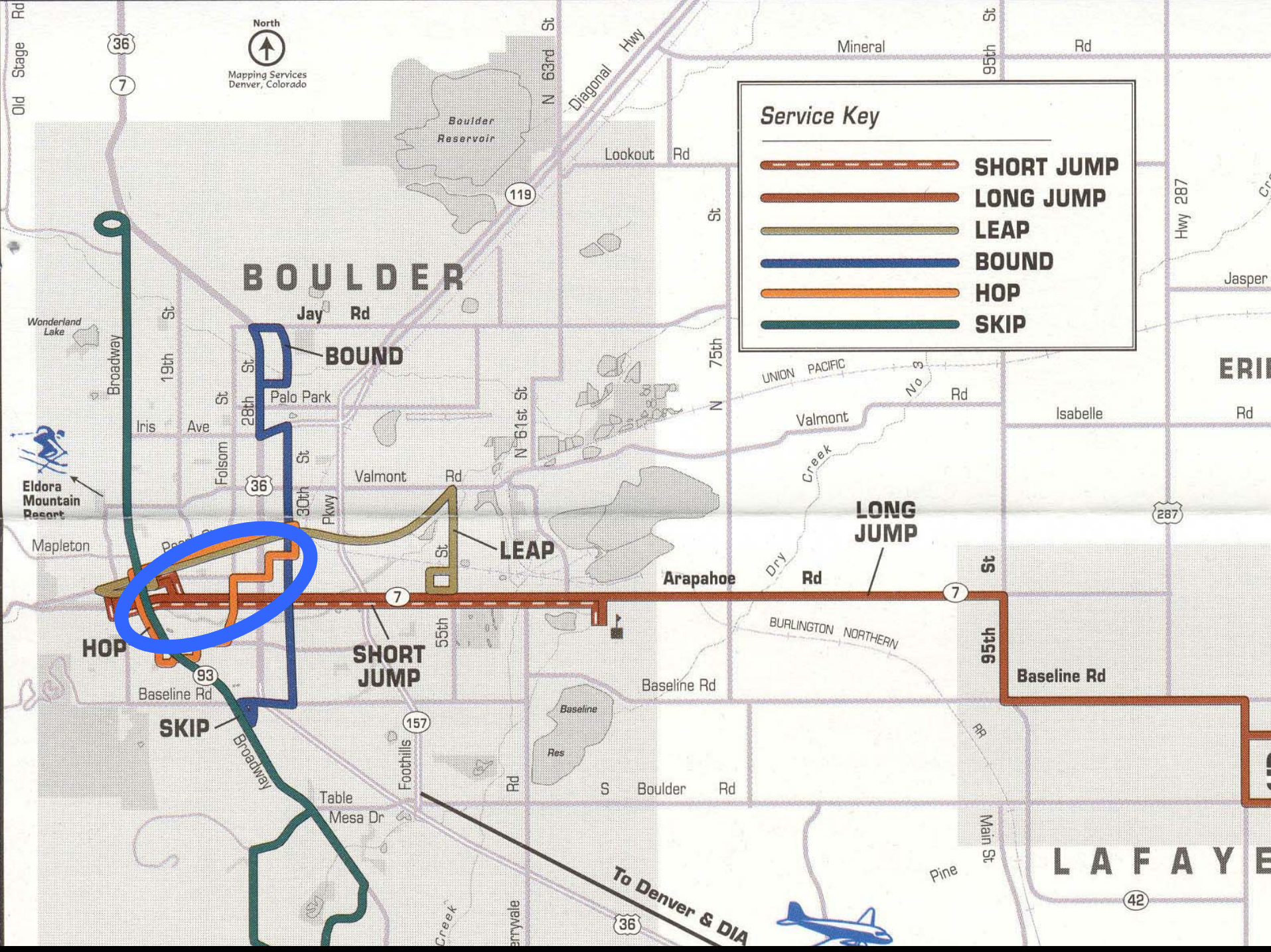
“The Geography of Nowhere”



DOWNTOWN
UNIVERSITY - CROSSROADS

447.8282

384-FMH
COLORADO



North
Mapping Services
Denver, Colorado

Service Key

- SHORT JUMP
- LONG JUMP
- LEAP
- BOUND
- HOP
- SKIP

BOULDER

BOUND

LEAP

LONG JUMP

HOP

SHORT JUMP

SKIP

LAFAYETTE

To Denver & DIA

Economic Independence

Impact of Transportation on Economic Independence





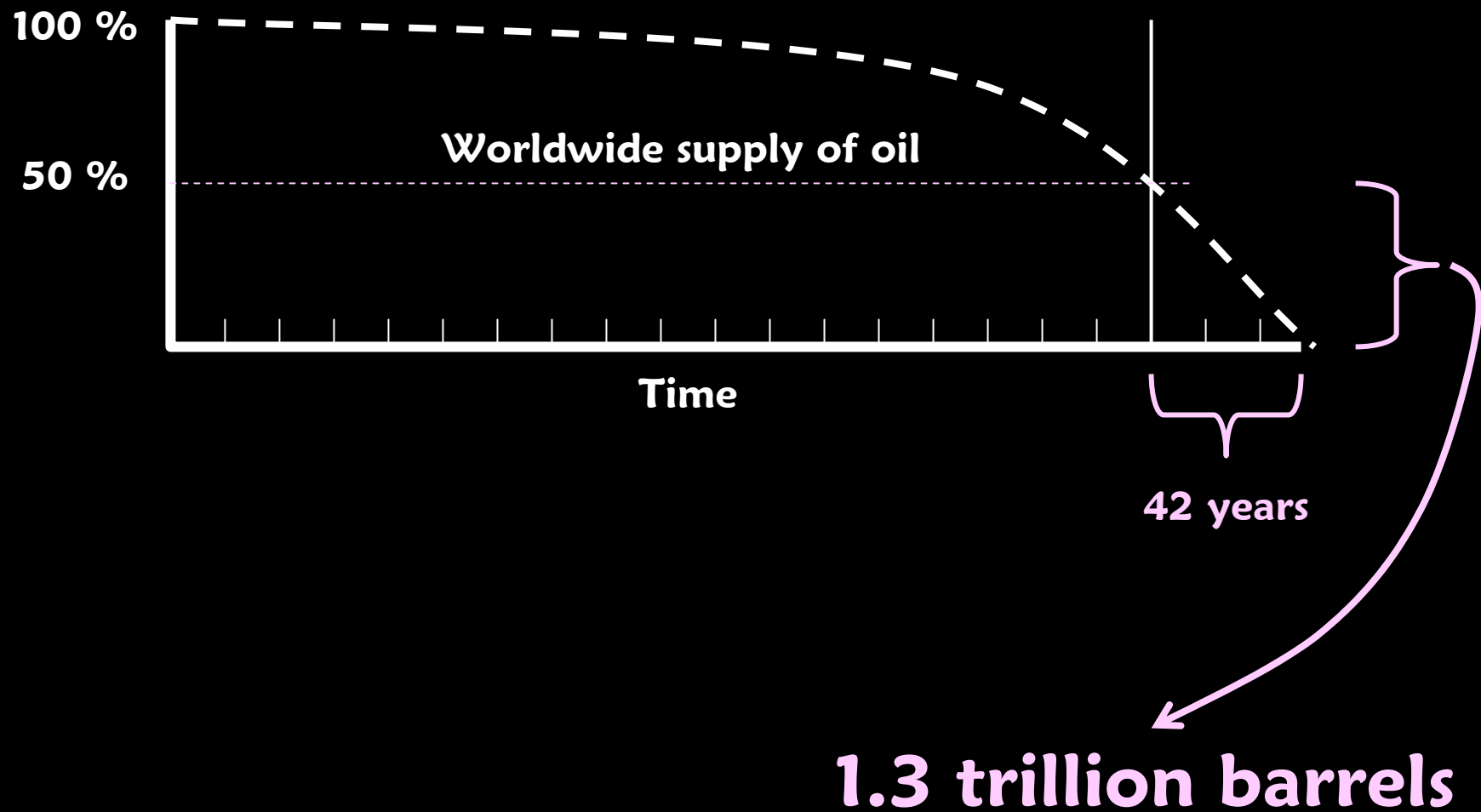


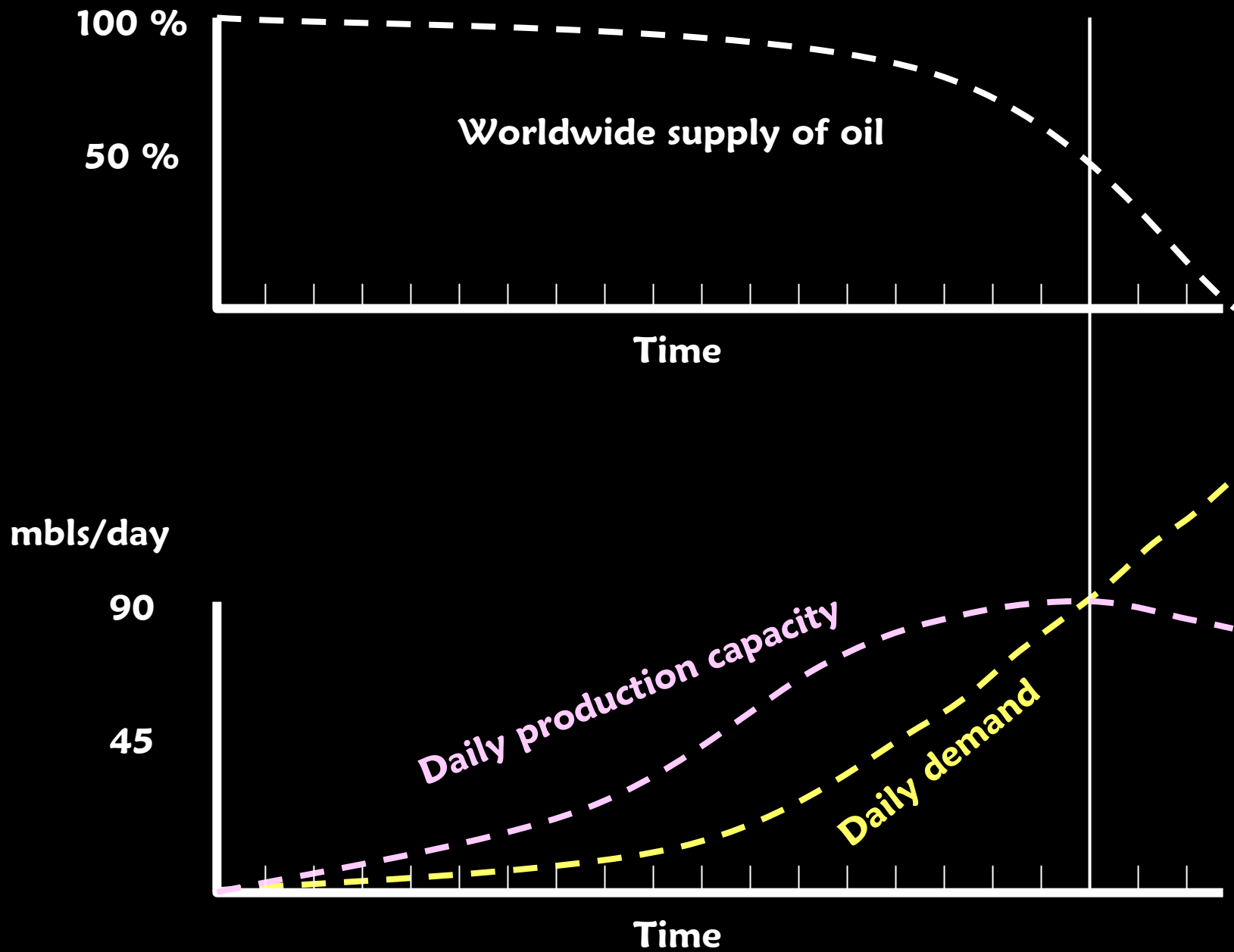
The end of the age of...

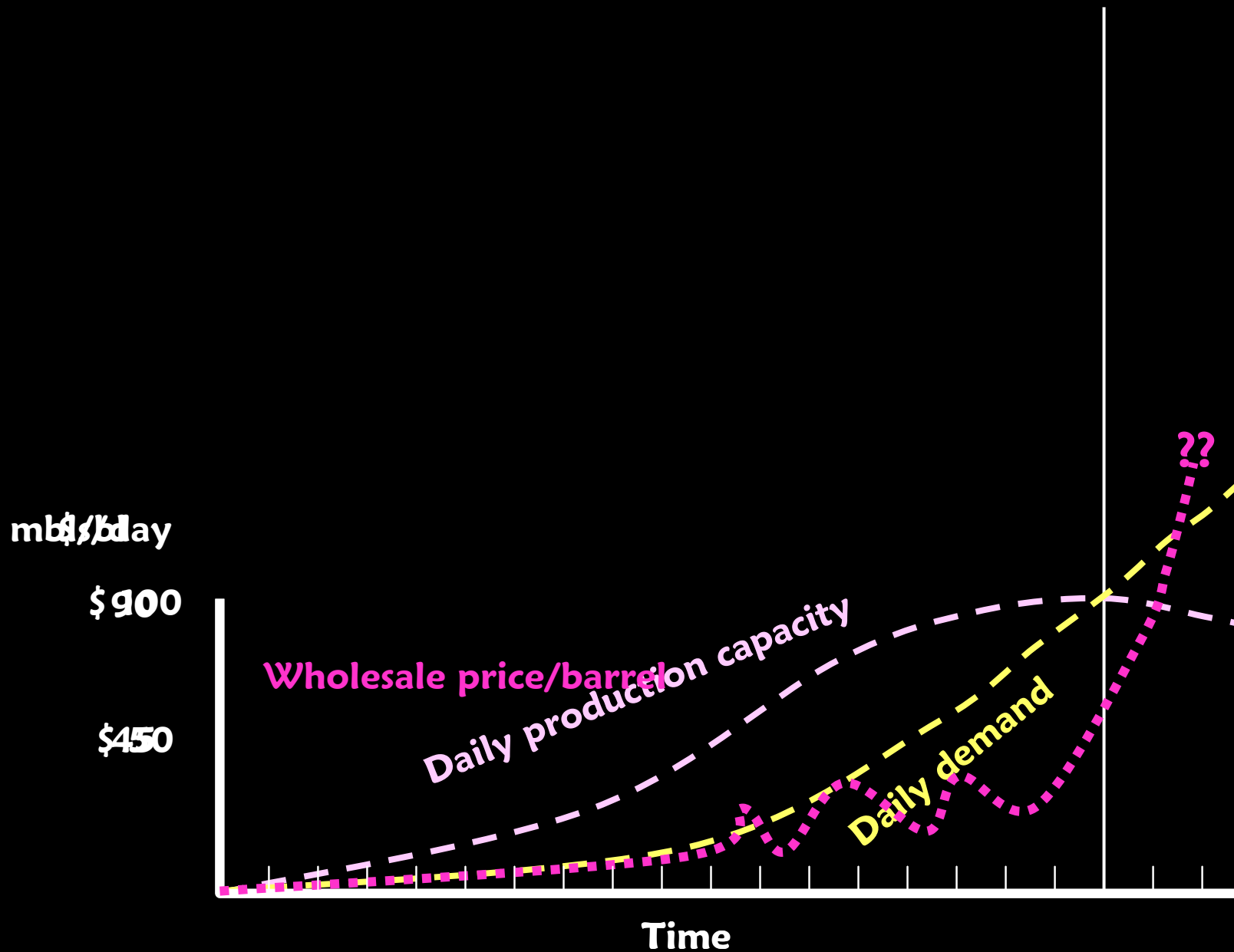
...cheap oil

The stone age did not end...

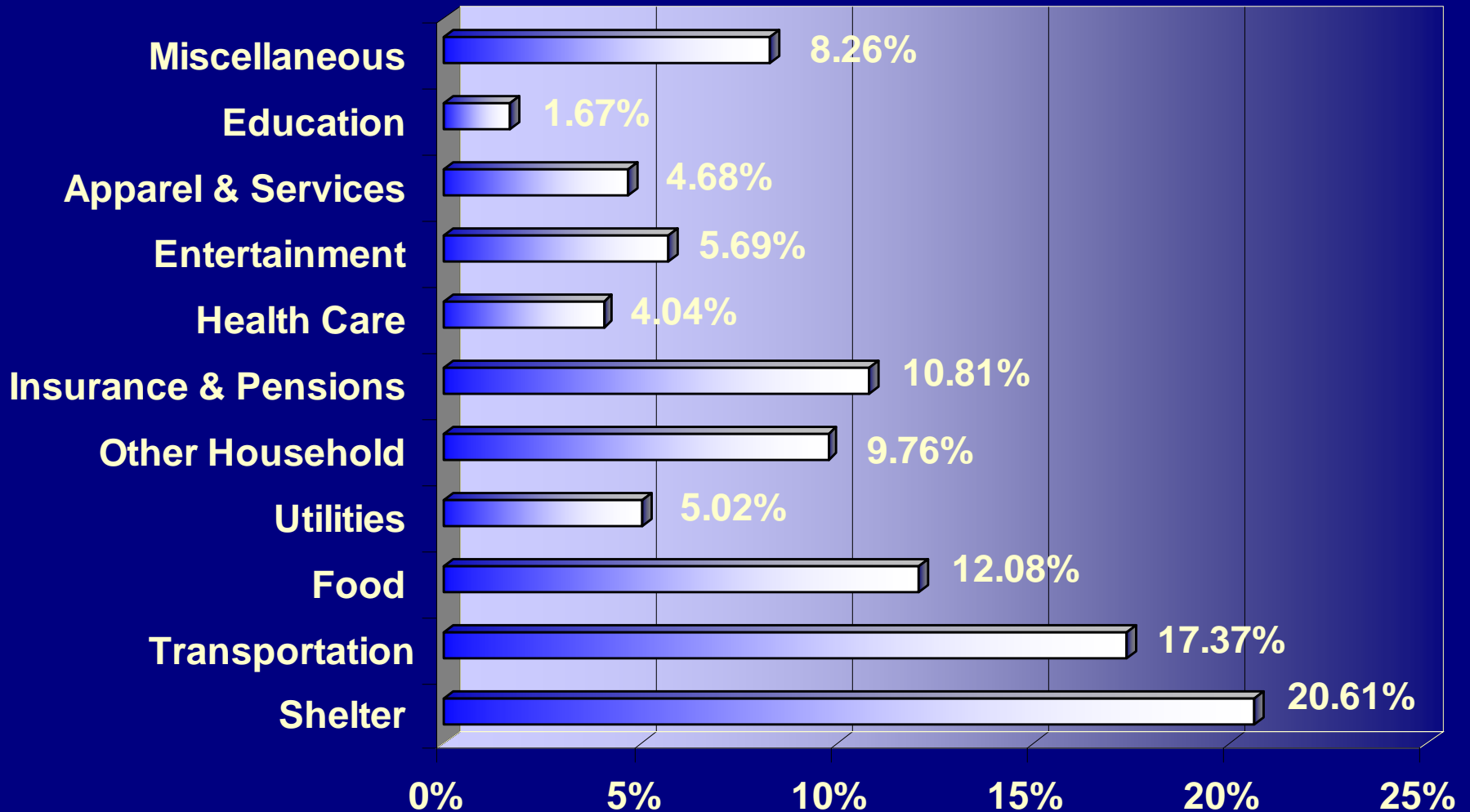
...because we ran out of
stones







Colorado's Family Budgets – 2000



**Total Direct Household
Expenditures on Transportation
in 2000
in Colorado's Front Range:**

\$8.0 billion

Money Leaving the Colorado Economy

- Cost of \$1/gal price increase for motor fuel consumed in Colorado :
≥ \$38 million / week
- Annual cost to Colorado:
≥ \$2 billion

Sustainable Transportation Systems:

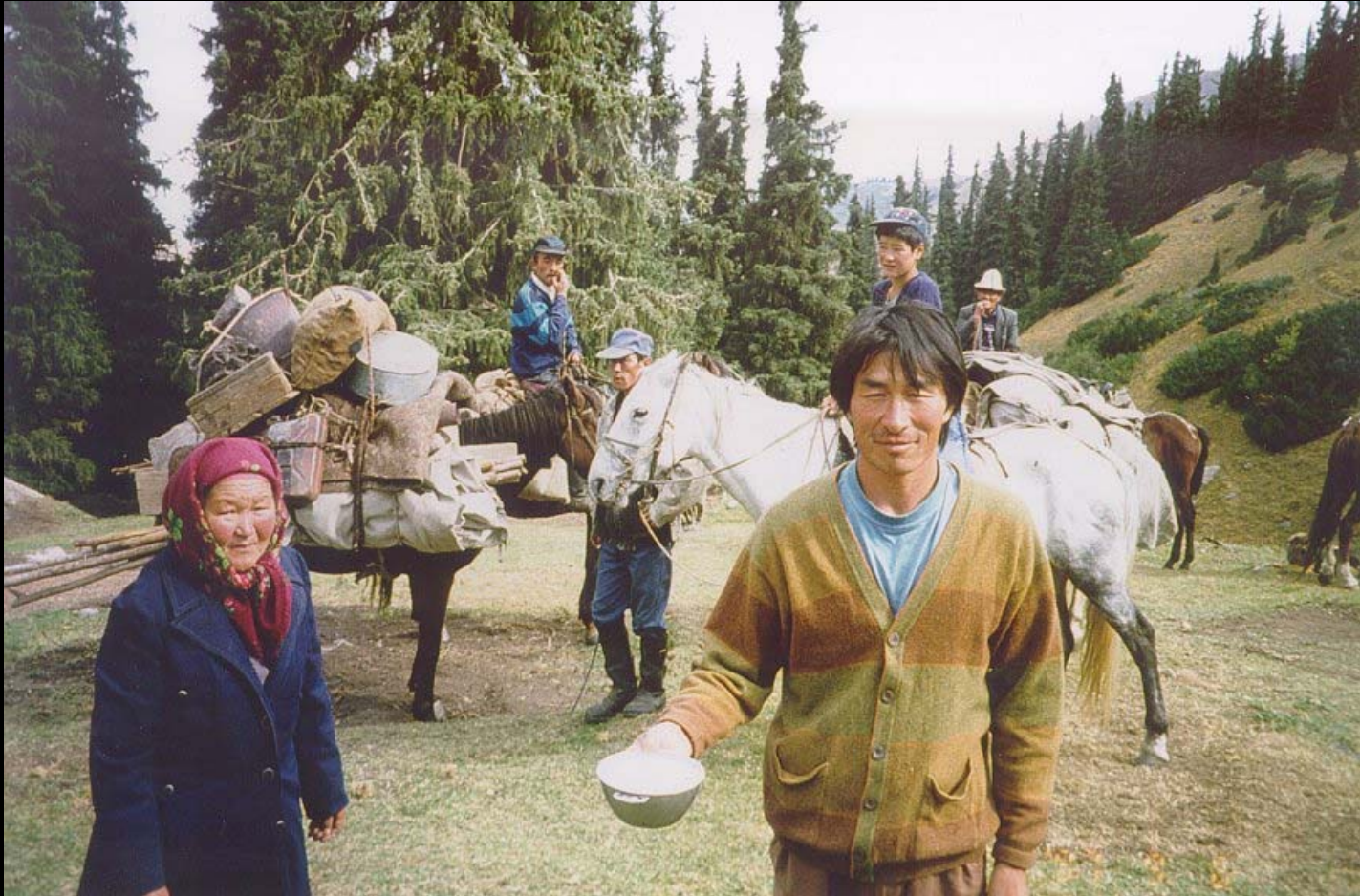
- Enable families to reduce daily VMT without sacrificing income
- Provide a high degree of choice and flexibility in mode of travel
- Are resilient to economic fluctuations

Things We Are Not Doing to Ensure Future Resiliency

- Providing a collector/connector street network for bus transit & bikes
- Building pedestrian environments into residential & commercial development
- Planning for dense, mixed-use areas as part of local land use planning
- Providing rail envelopes in freeway & major arterial corridors
- Building multimodal streets

Mobility

Impact of Transportation on Mobility



Mobility Elements

Travel – Moving over distances

Circulation – Moving within areas

Access – Getting in the door

Built for...



Seattle



Redmond

...travel

Built for...



Denver

HSST



...travel

Built for...



Flagstaff

...circulation

Redmond

Portland

Built for...



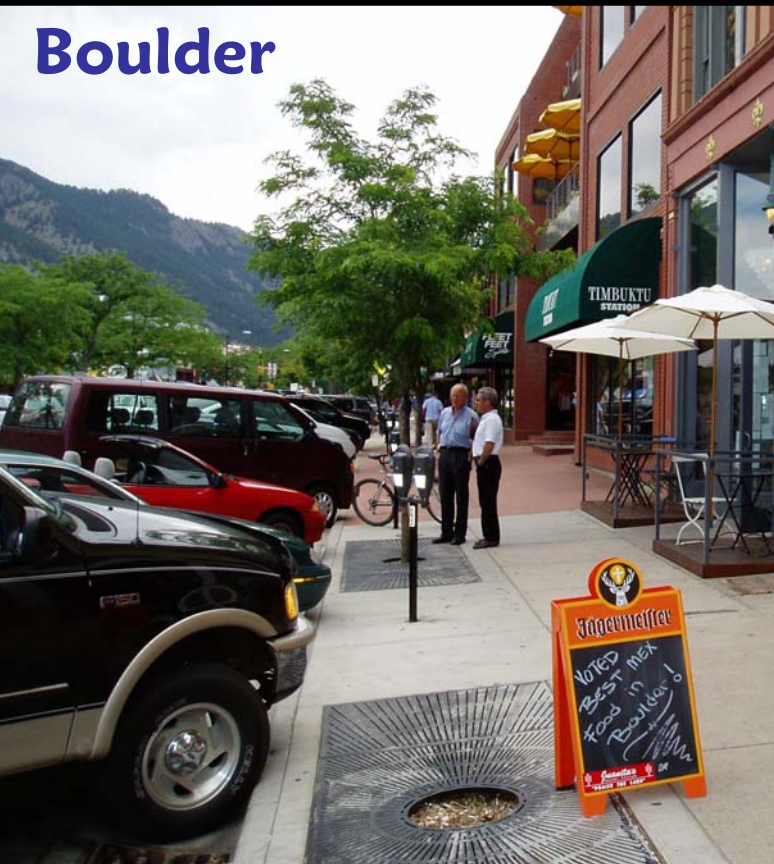
Boulder



...circulation

Built for...

Boulder



Winter Park, FL

...access



**We build
too much for travel
and
too little for circulation and
access**





Impact of Transportation on:

- Thriving Family
- Personal Freedom
- Physical & Mental Health
- Community Engagement
- Economic Independence
- Mobility

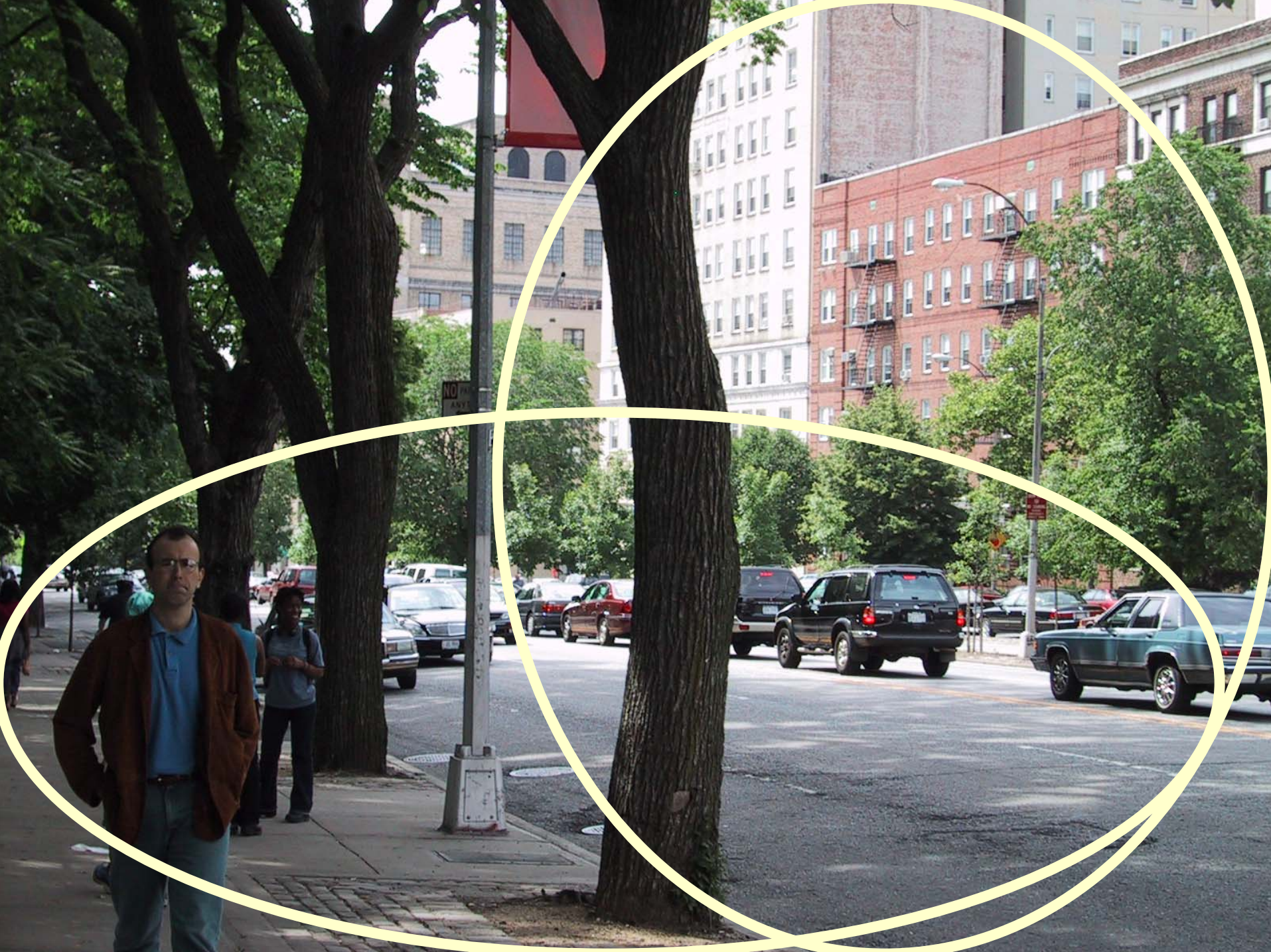
So...

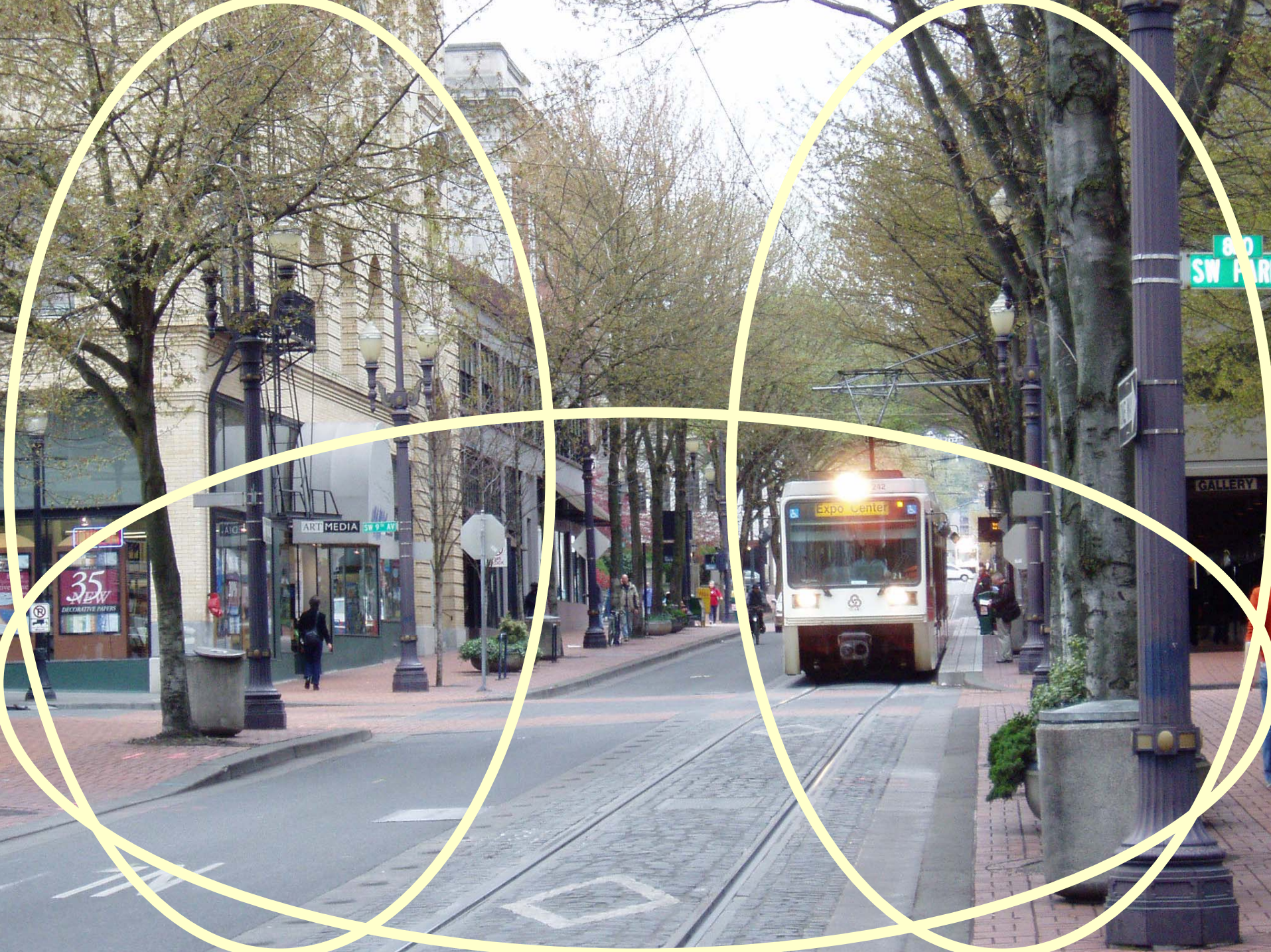
**What if we approached
transportation planning
& design as
tools
to be used in building
“livable communities”**



**The central problem in
Colorado transportation
today is we are building
“facilities”
rather than
“communities”**









Credit: Walter Kulash









Credit: Kulash



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**Predict
Growth**

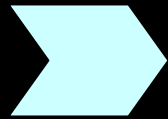
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graph TD; A[Predict Growth] --> B[Forecast Traffic]; B --> C[Widen Streets]; C --> A;
```

Widen Streets

**Forecast
Traffic**

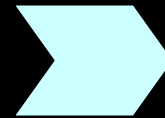
1.

What do
we
want?



2.

How
much
traffic
will
there be?

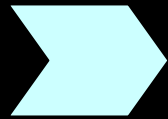


3.

What
should
we do?

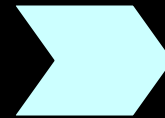
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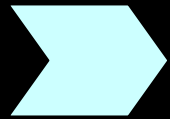


3.

What
should
we do?

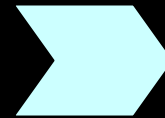
1.

How
much
traffic
will
there be?



2.

What
should
we do?



3.

What do
we get?



Credit: Dan Burden

“Induced Traffic”

Def.

The additional traffic that results directly and indirectly from transportation capacity or travel time improvements – traffic that would not otherwise have occurred at that location.

Types of Induced Traffic

Changes in travel route Immediate

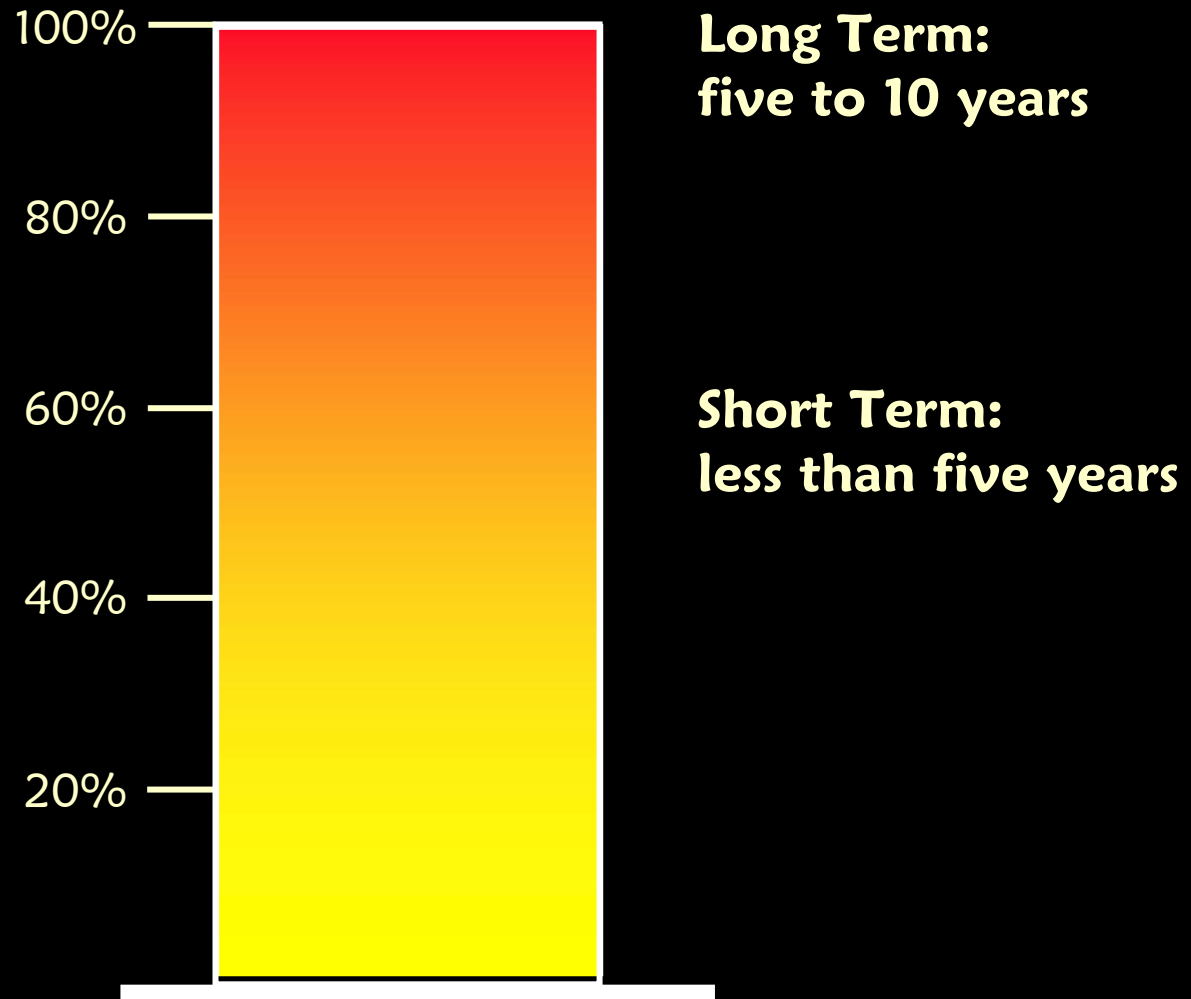
Changes in mode of travel < 6 months

Changes in time of travel < 6 months

Changes in amount of travel < 6 months

Changes in origins & destinations < 10 years

% of new capacity consumed by induced traffic...





If you build it . . .

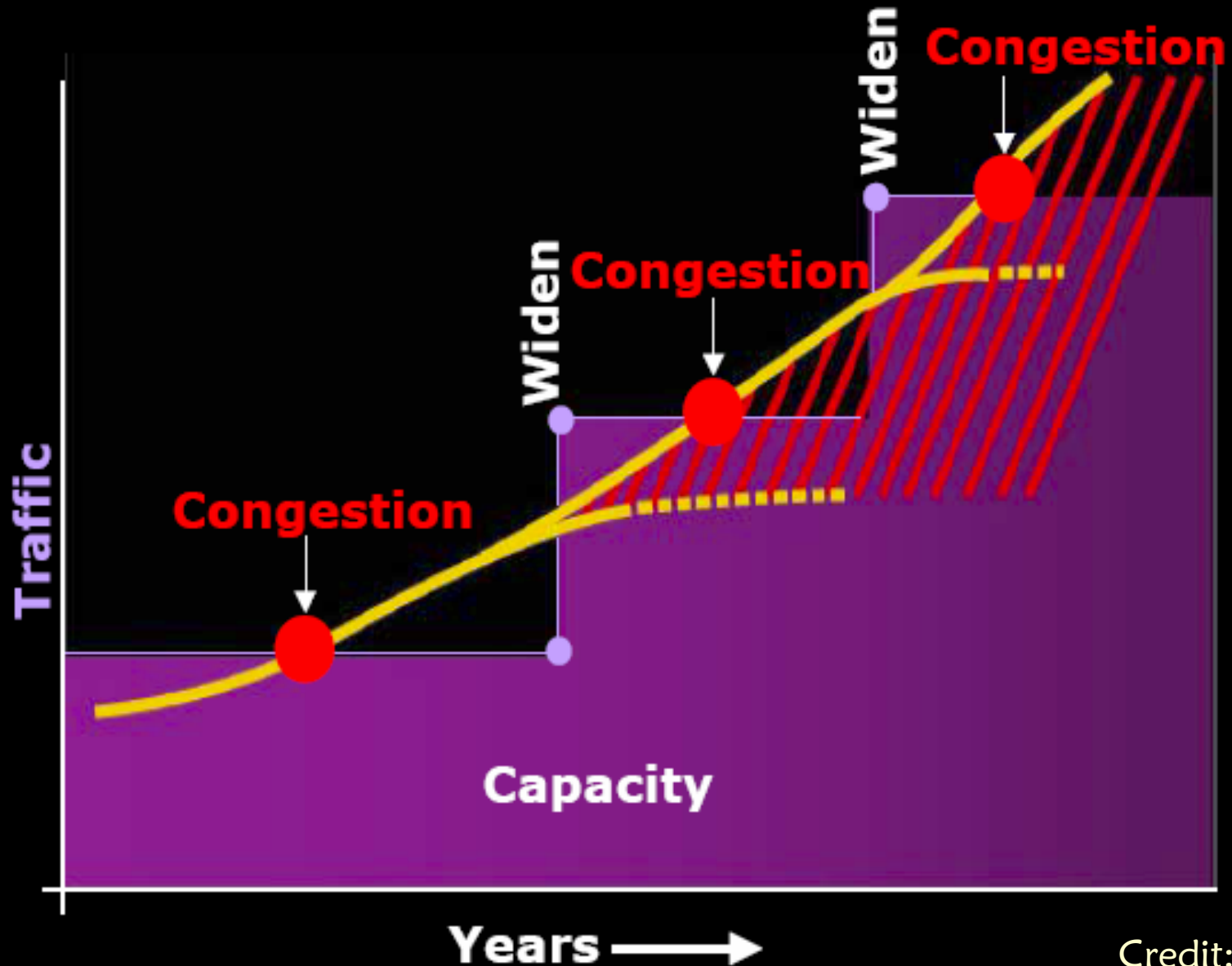
. . . they will come



If you build it . . .

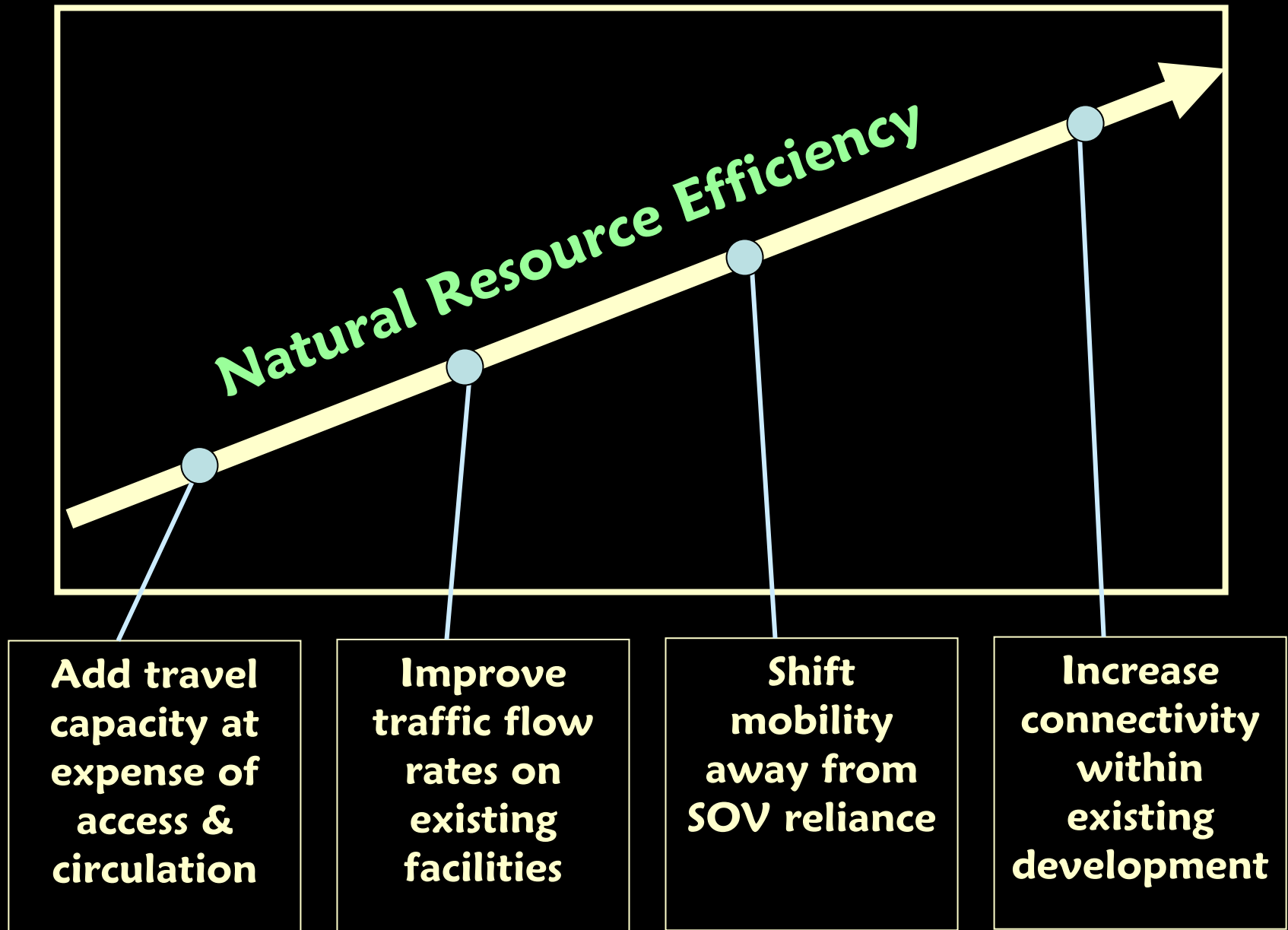
. . . they will come

Road Size, Not Congestion is the Choice

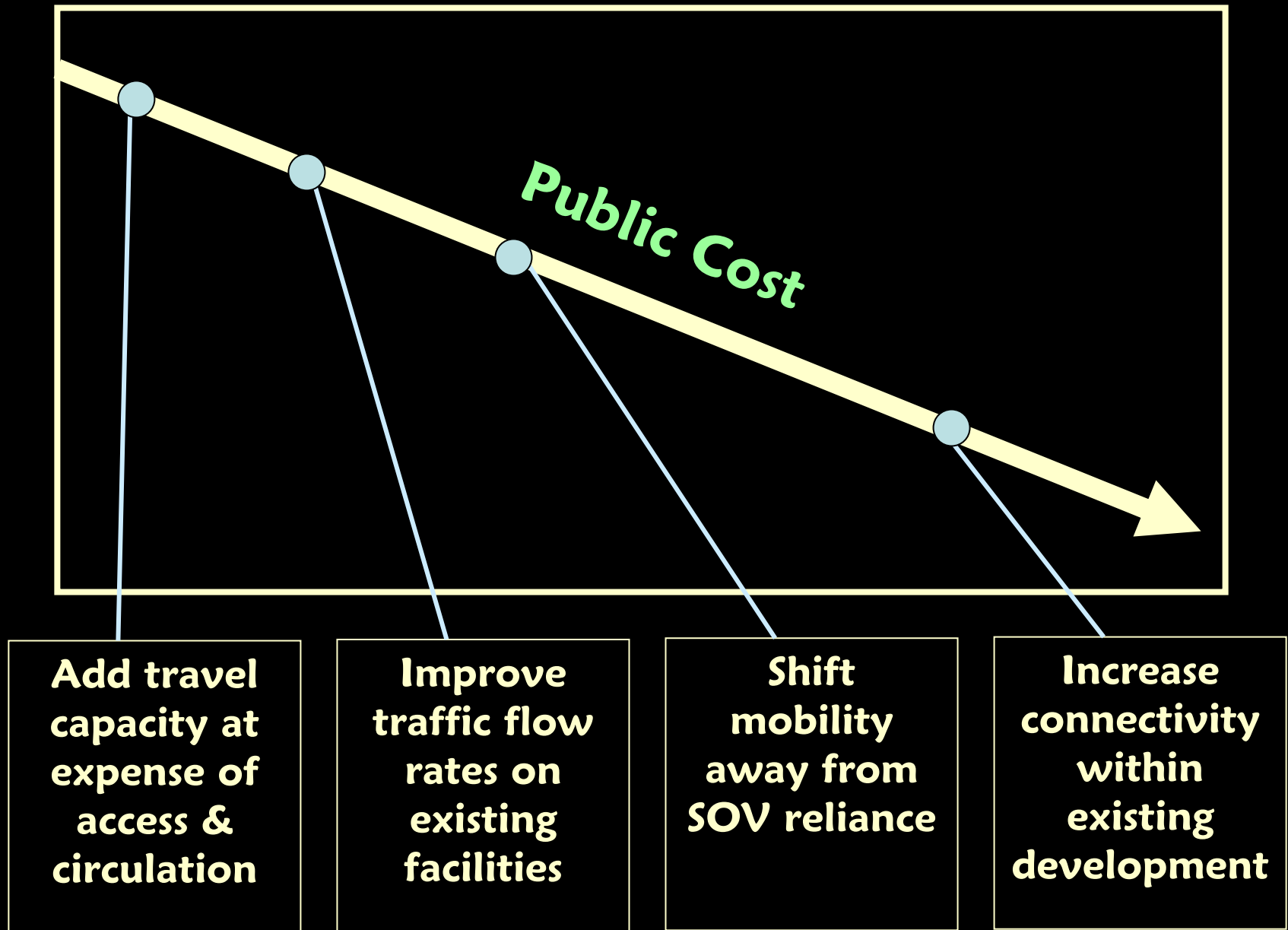


**Expanding streets to
accommodate traffic
growth is self-fulfilling
and self-defeating at
the same time**

Sustainability of Transportation Strategies 1



Sustainability of Transportation Strategies 2



Hundreds of Years:

200

400

600

800

1000

Transportation Corridors

Major Roads

Rail

Pathways

Architecture

Civic

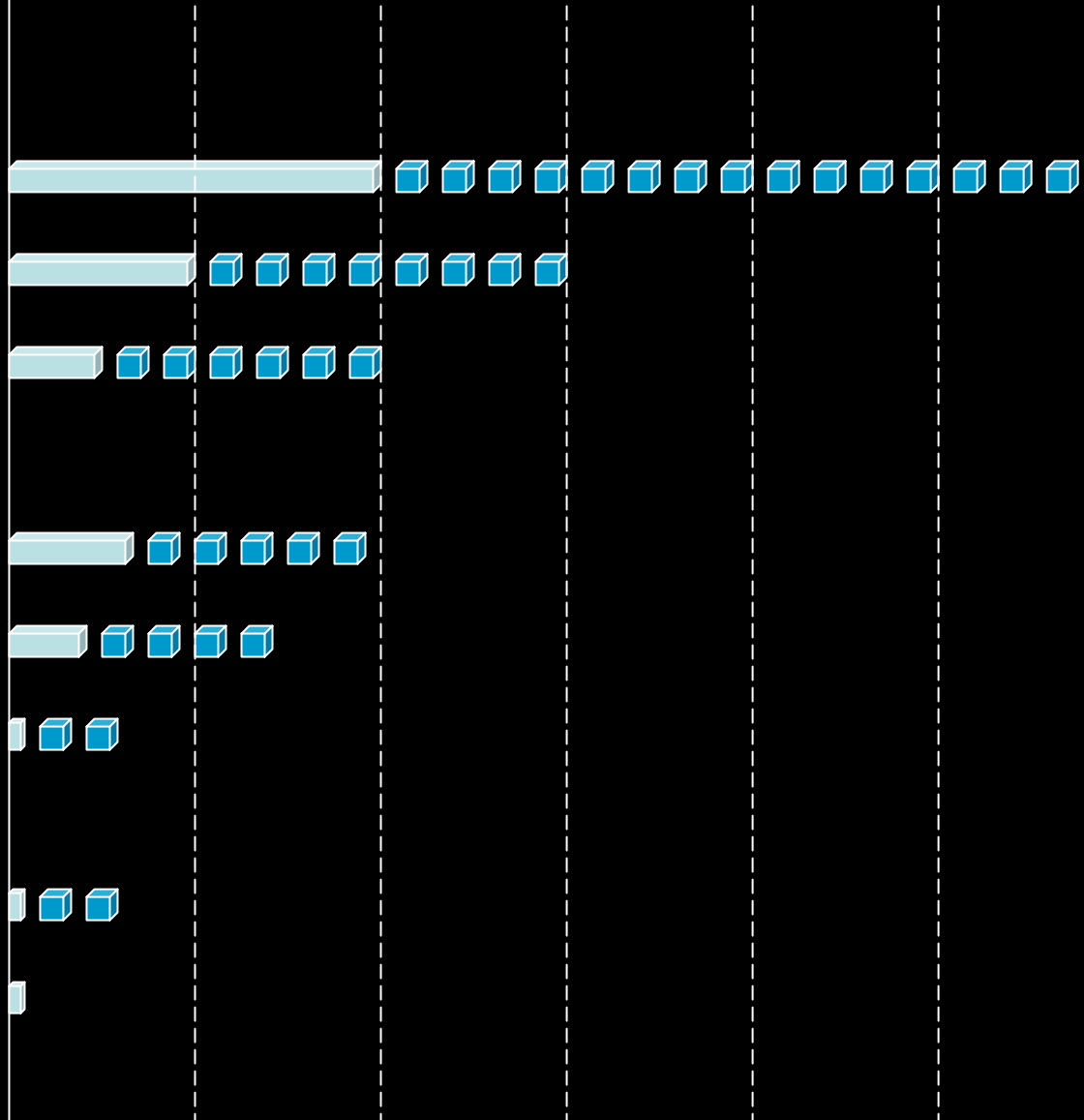
Residential

Commercial

Landscaping

Trees

Other Plantings



Thank You

www.charlier.org