

Redefining Transportation Excellence

Transportation Excellence

Wyoming





Boston



Bainbridge Island

My 3 Proposals

1. Transportation should be about building communities, not facilities
2. Energy prices will soon change everything we are doing
3. Engineers could be leading the way, but aren't

Proof by assertion

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

Redefining Transportation Excellence

1. Mobility Balance

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...



Seattle



Redmond

...travel

Built for...



Denver

HSST



...travel

Built for...



Flagstaff

...circulation

Redmond

Portland

Built for...



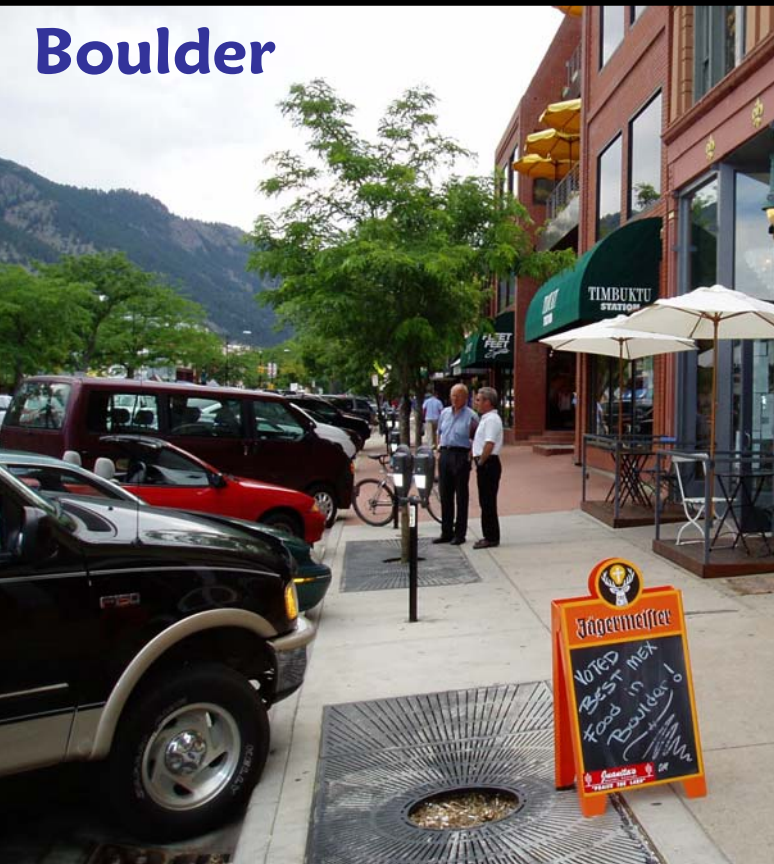
Boulder



...circulation

Built for...

Boulder



Winter Park, FL

...access



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

Going Somewhere

Access

Circulation

Travel

Circulation

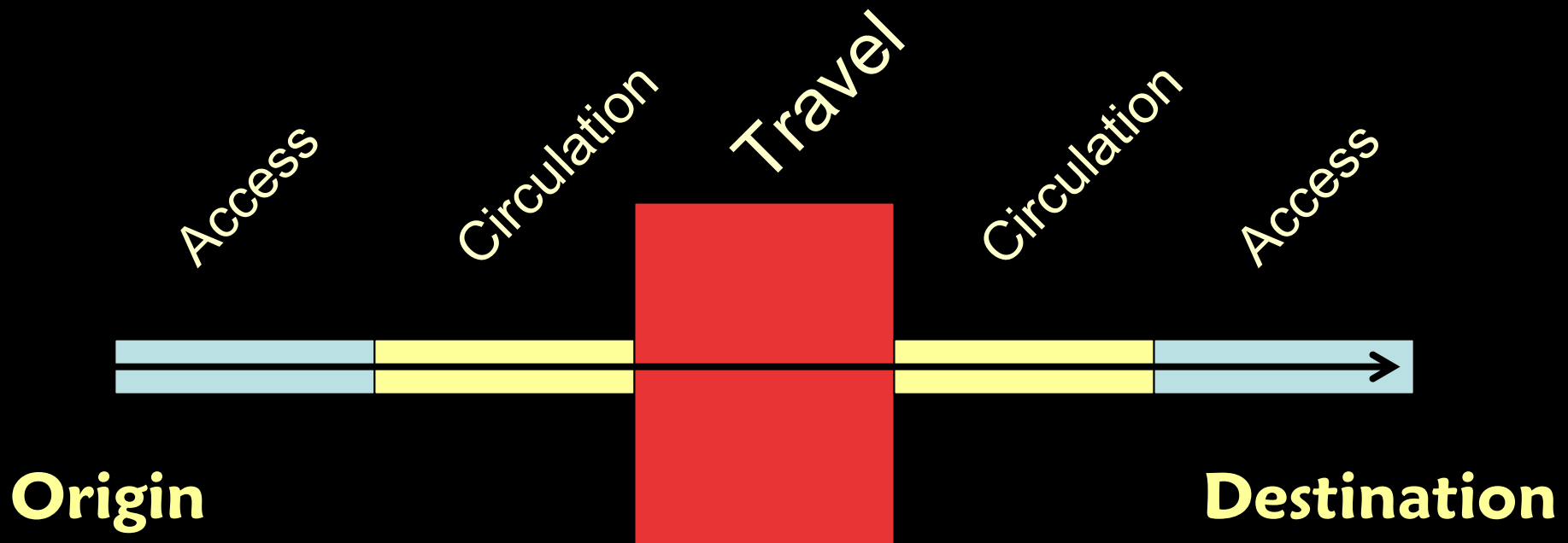
Access



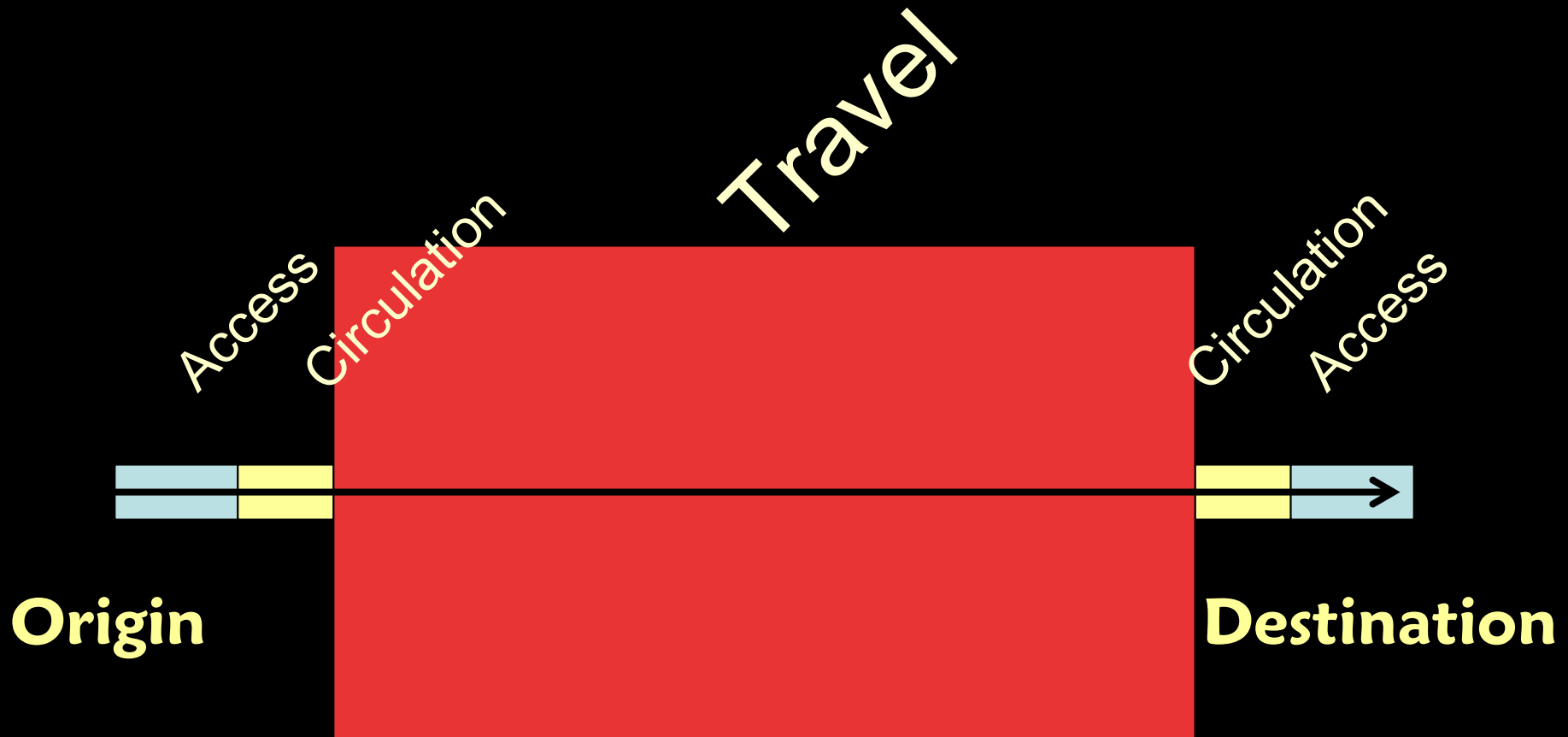
Origin

Destination

Going Somewhere



Going Somewhere



Honolulu





Credit: Richard E. Killingsworth



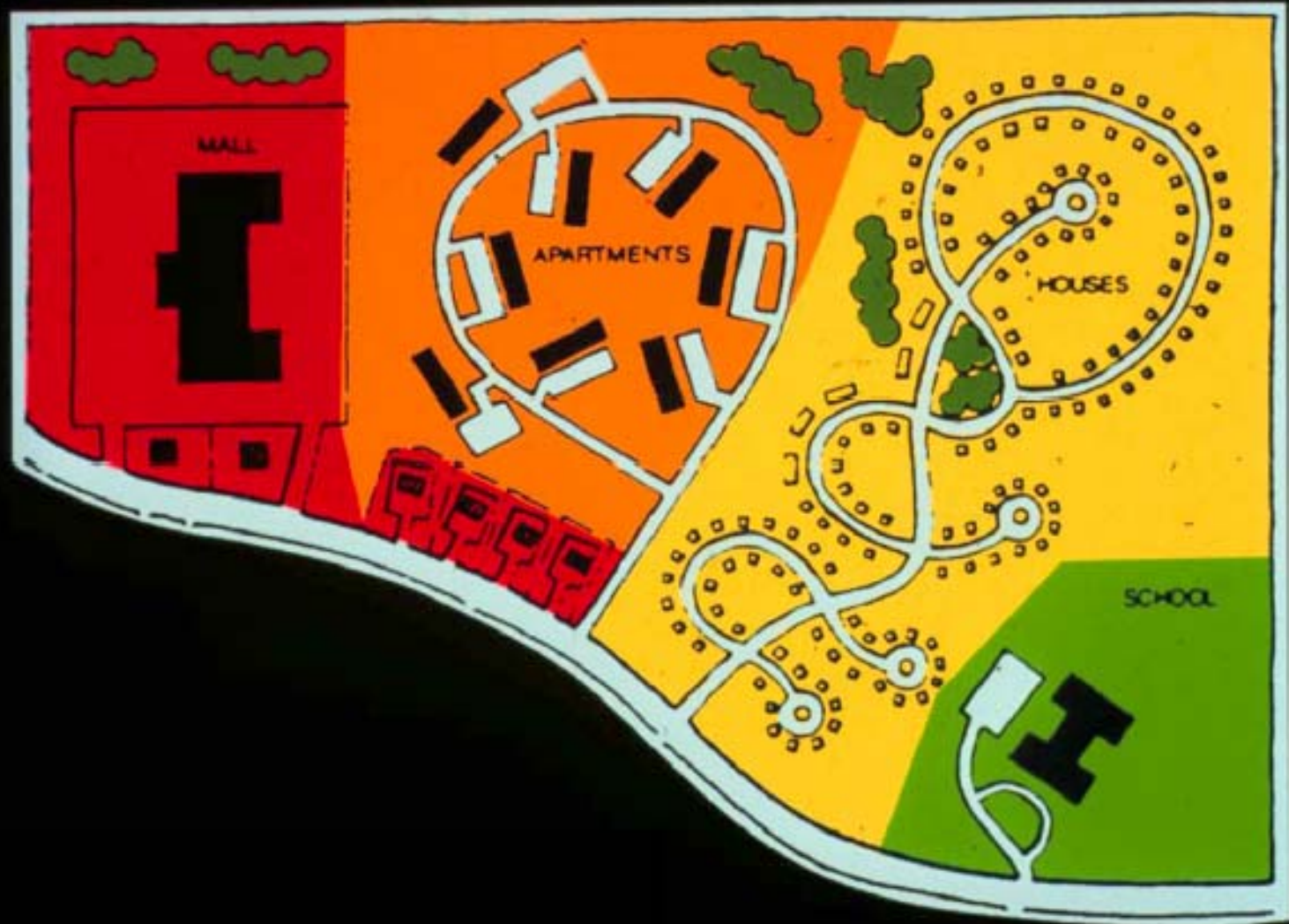
Redmond

**Good circulation and
access are far more
important to cities
and towns than travel
capacity**

Redefining Transportation Excellence

2. Connectivity

Conventional



Traditional







**It's the connectivity,
stupid**

Impacts of Poor Connectivity

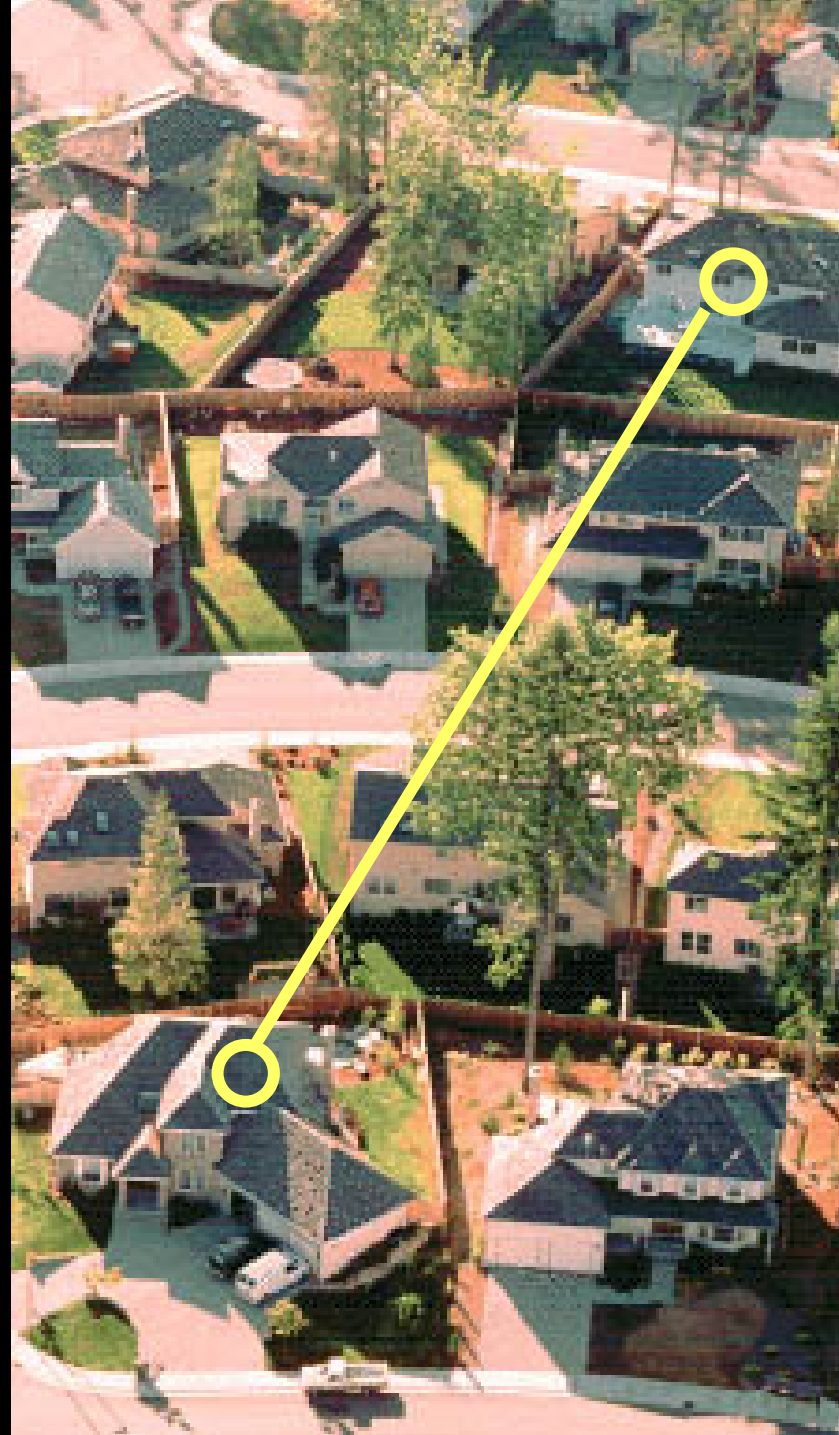
- Massive, congested arterials
- Increased VMT/household
- Transit voids
- Inactive living
- Poor emergency service access
- Reduced travel safety



**Streets are the principal infrastructure
for all modes of travel**

**“You can’t get
there from
here . . .”**

(without driving)





Boulder

Figure No 9

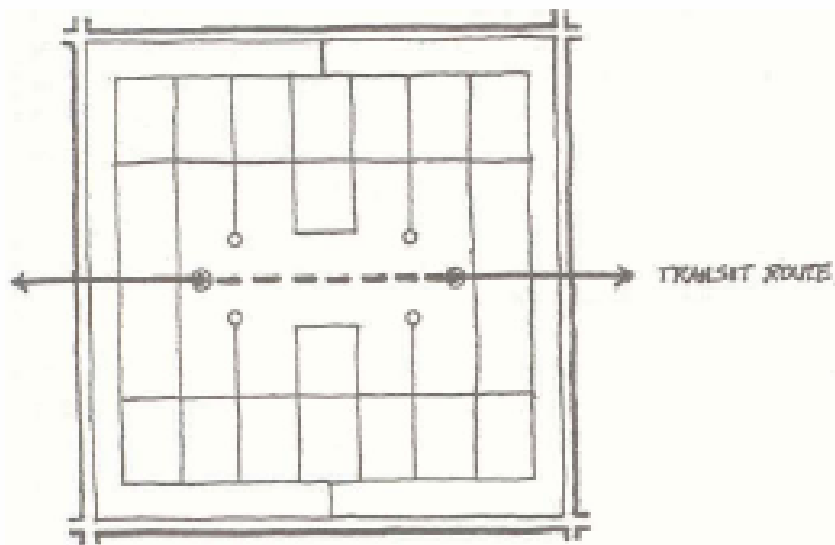


Figure No 10

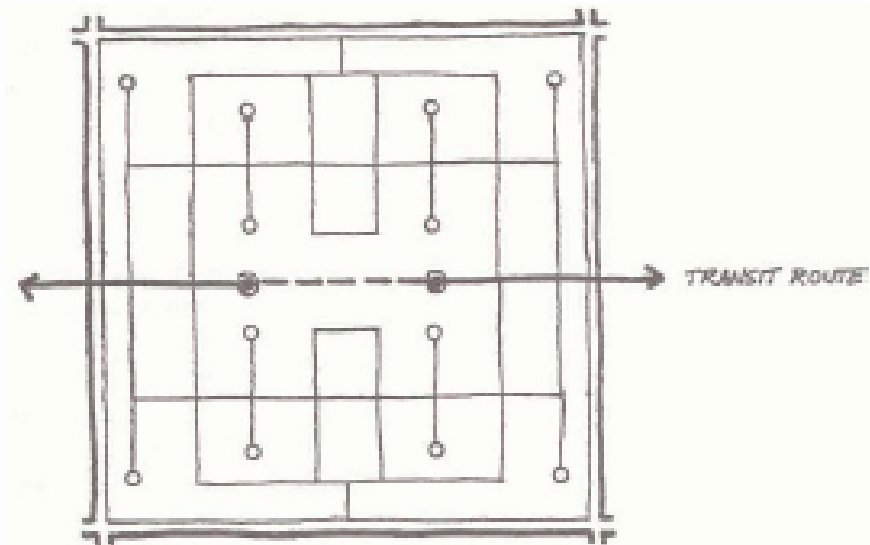


Figure No 11

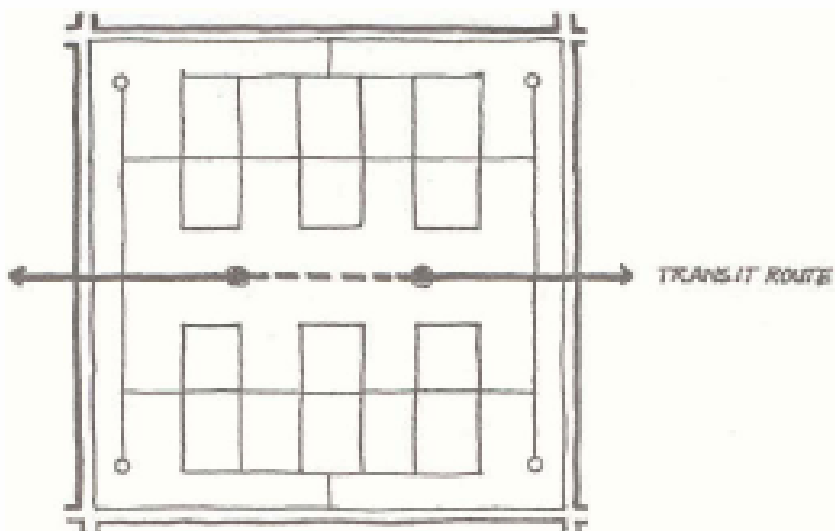


Figure No 12

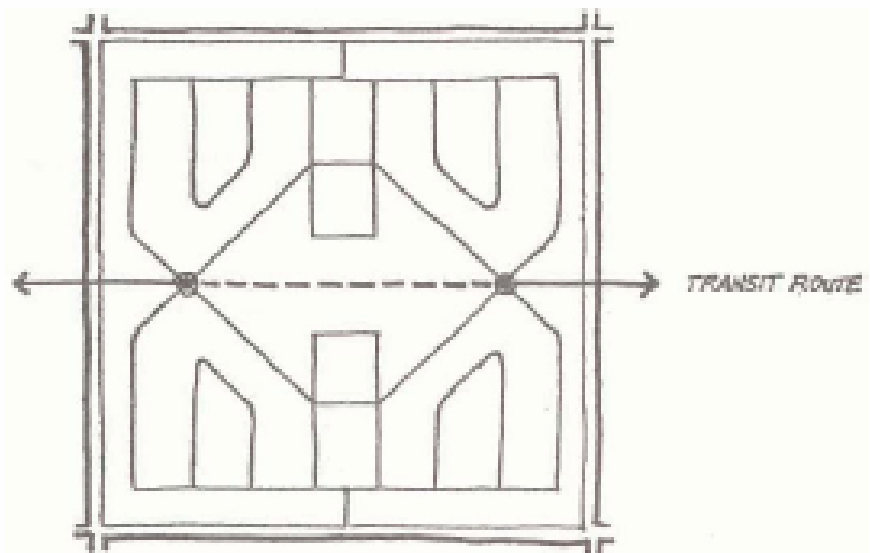
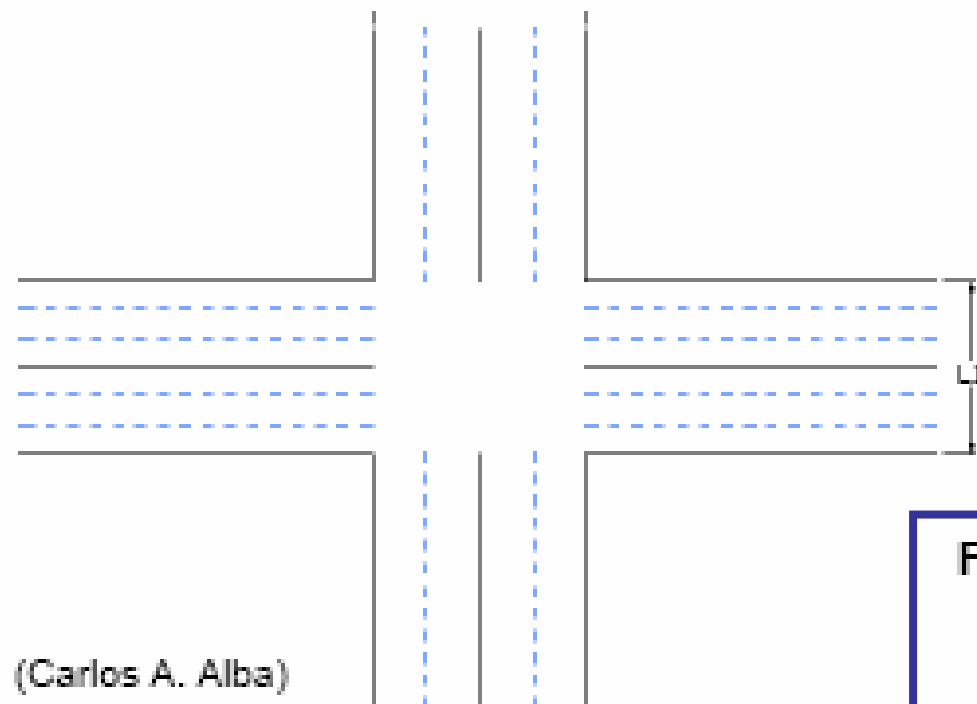
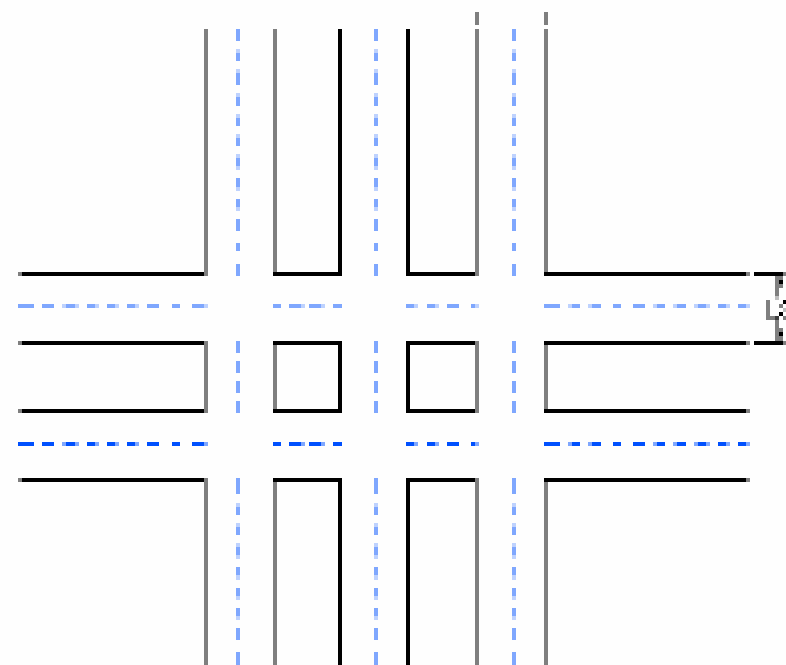


Figure No 3 (Conventional Design)



(Carlos A. Alba)

Figure No 4 (Neotraditional Design)

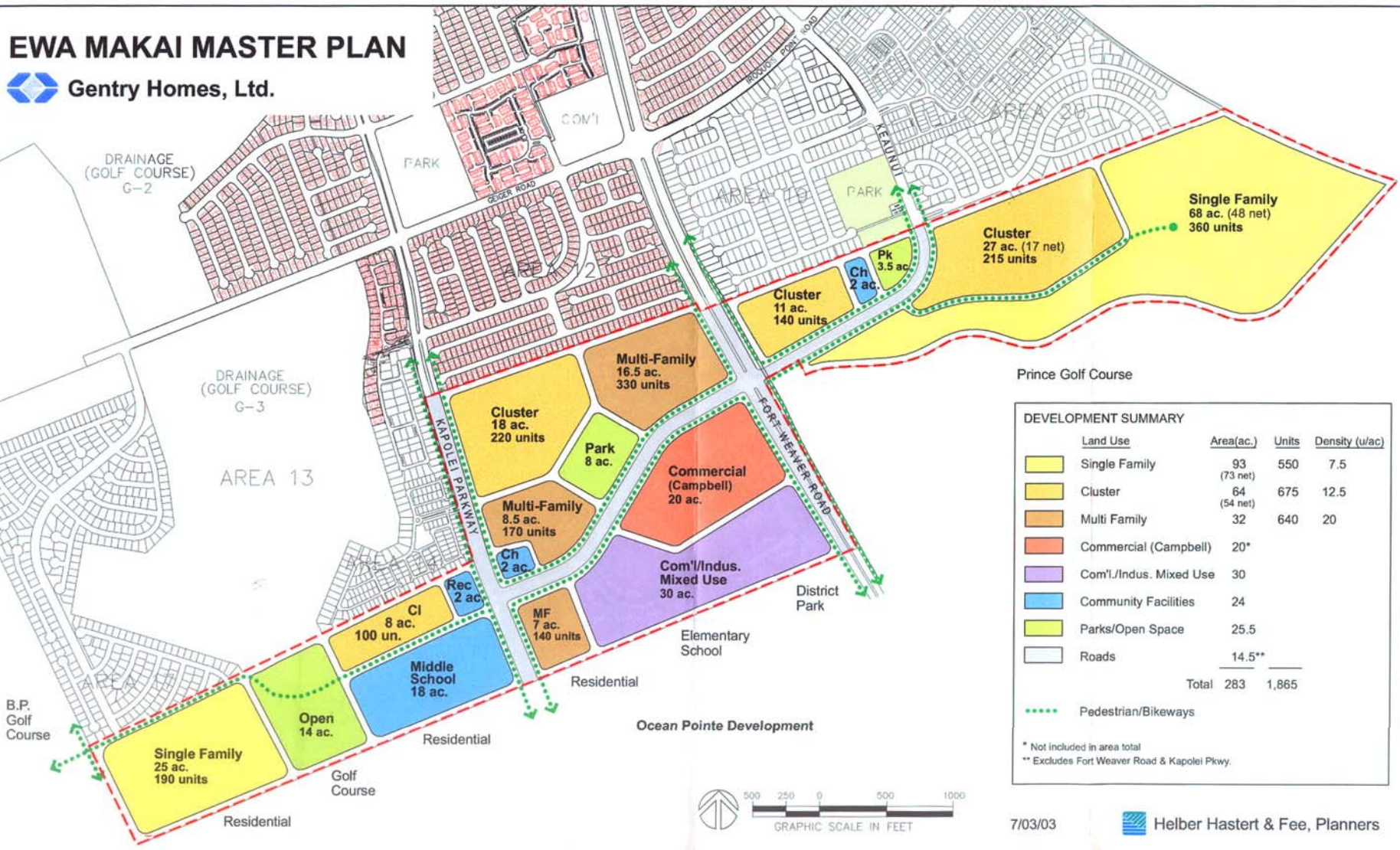
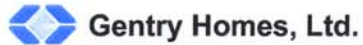


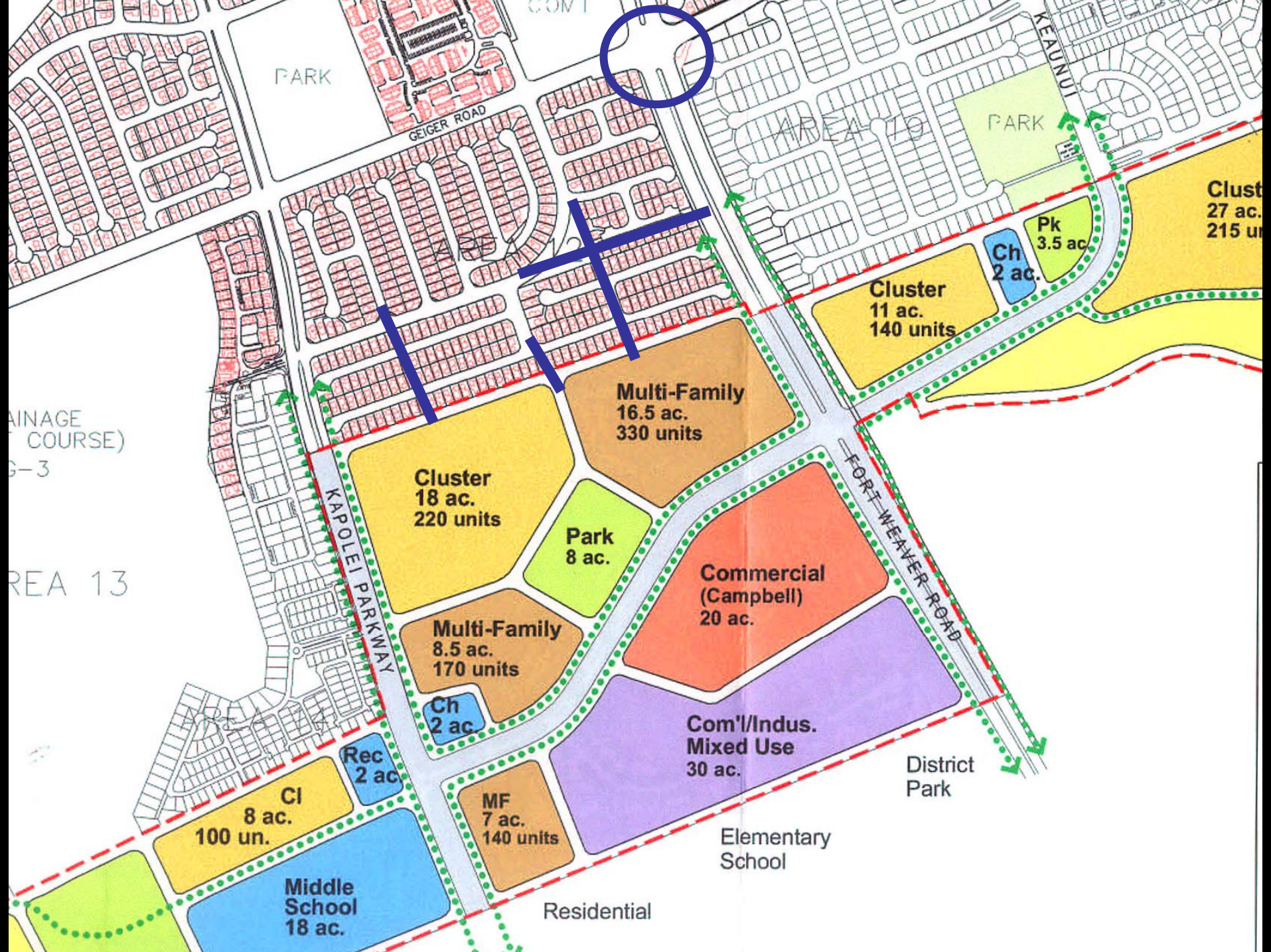
(Carlos A. Alba)

**A well-connected
network of small streets
provides better mobility,
is safer and is more
efficient than a poorly-
connected network of
wide streets**

Missed Opportunities (permanent)

EWA MAKAI MASTER PLAN



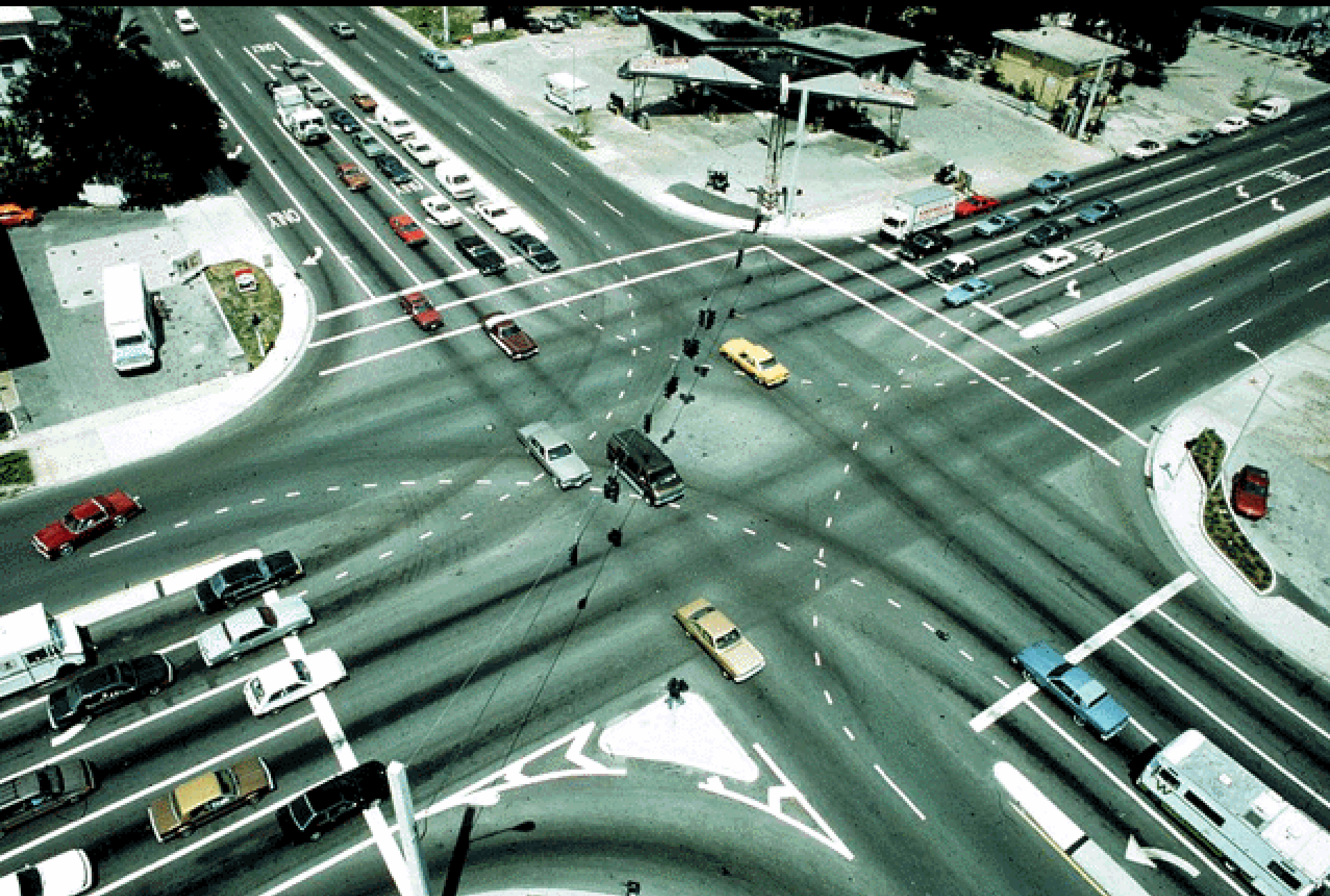






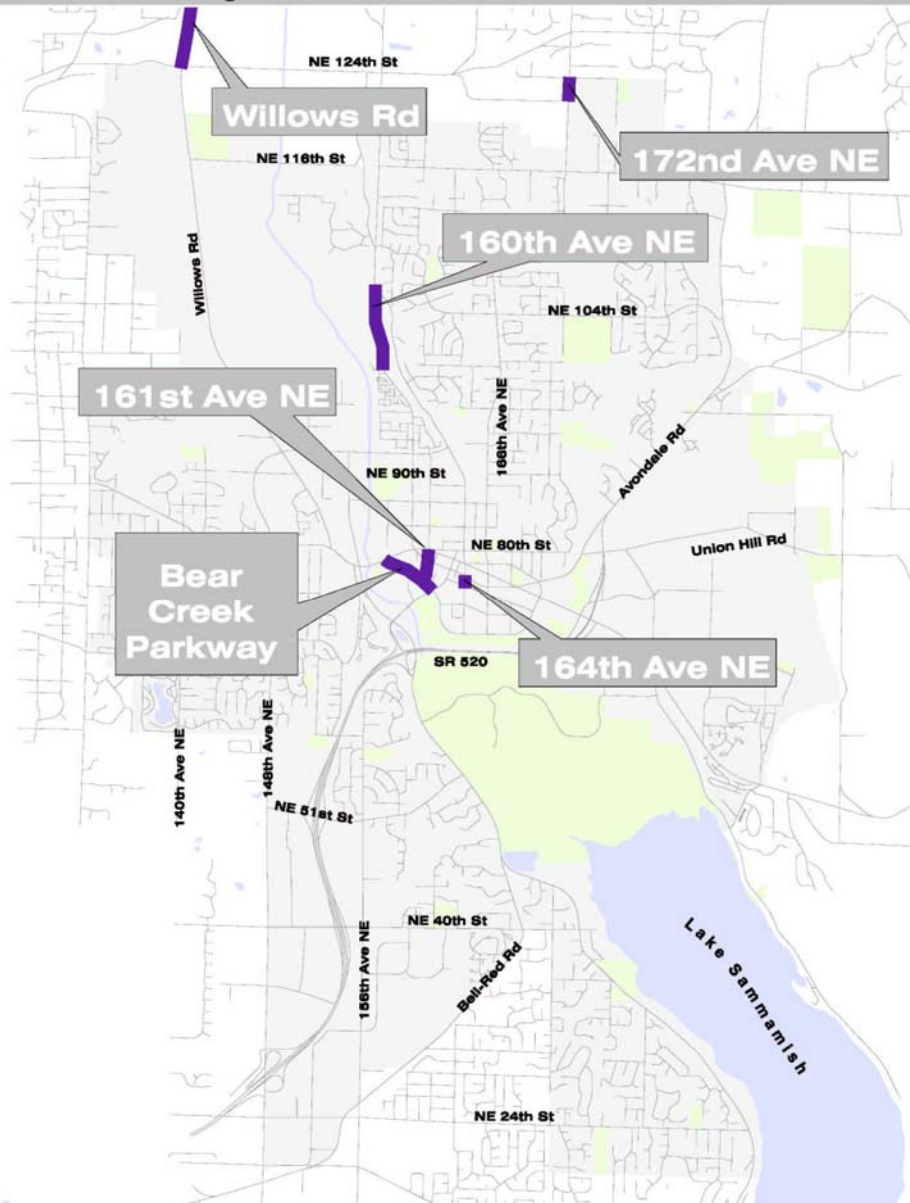
**We are forcing
bad design with
public policy**







Roadway Connections



Functional Classification

- **Freeway**
- **Major Arterial**
- **Minor Arterial**
- **Commercial Collector**
- **Residential Connector**
- **Commercial Local**
- **Residential Local**
- **Alley**



**Nothing useful is
achieved by the
inexorable widening
of community streets**

THE URBAN NETWORK: A NEW FRAMEWORK FOR GROWTH

By Peter Calthorpe

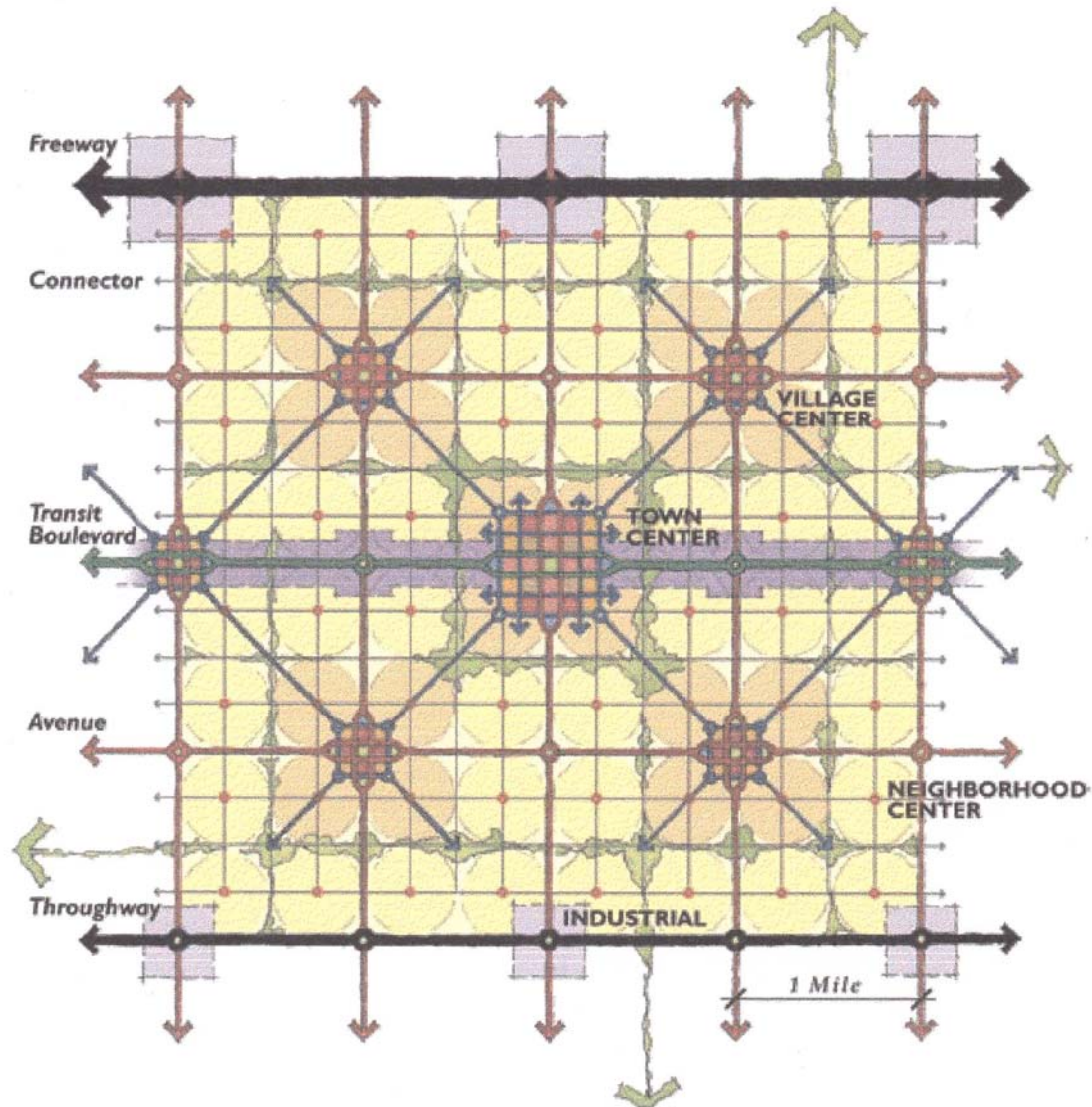


Illustration 1: The Urban Network

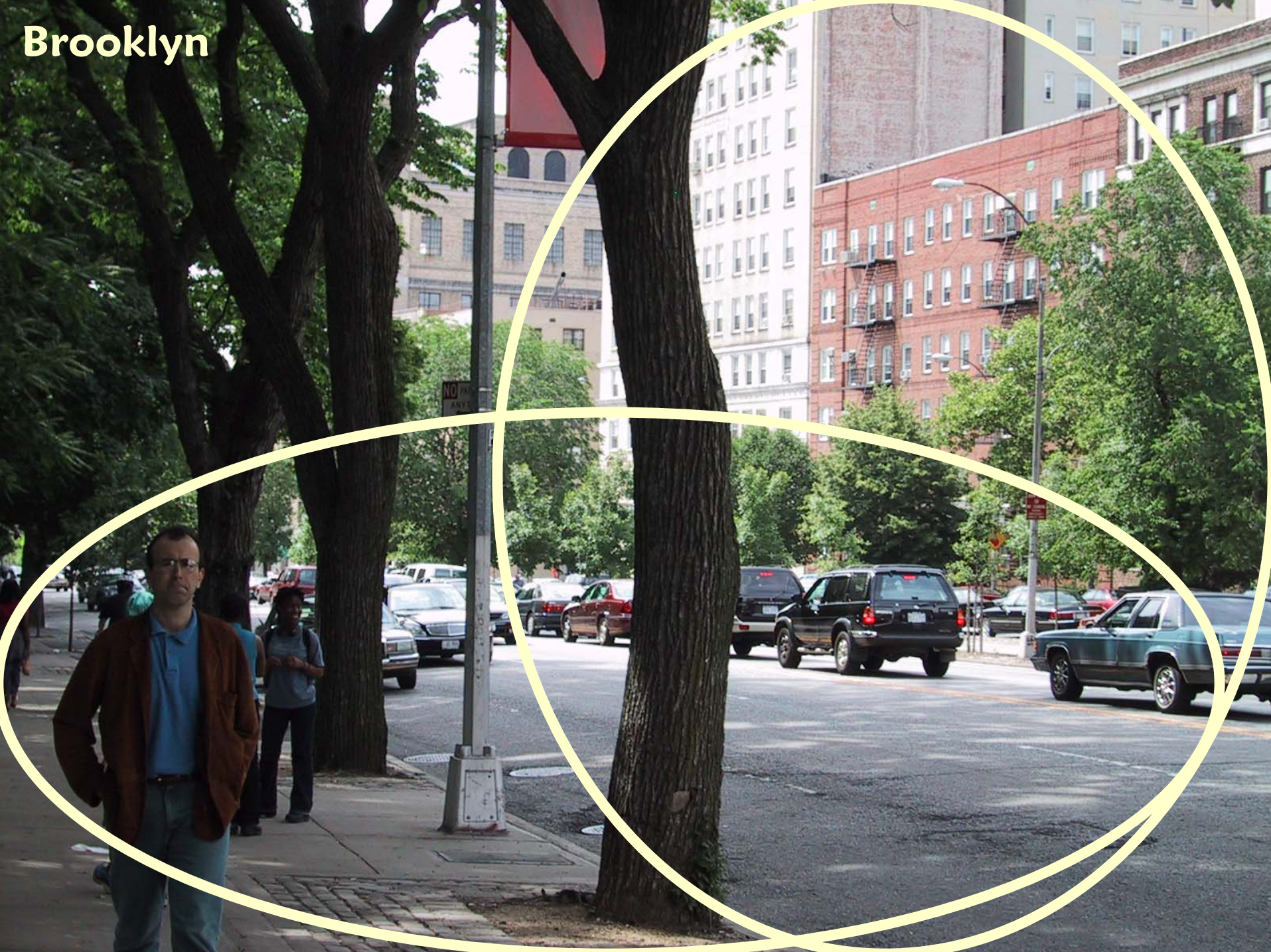
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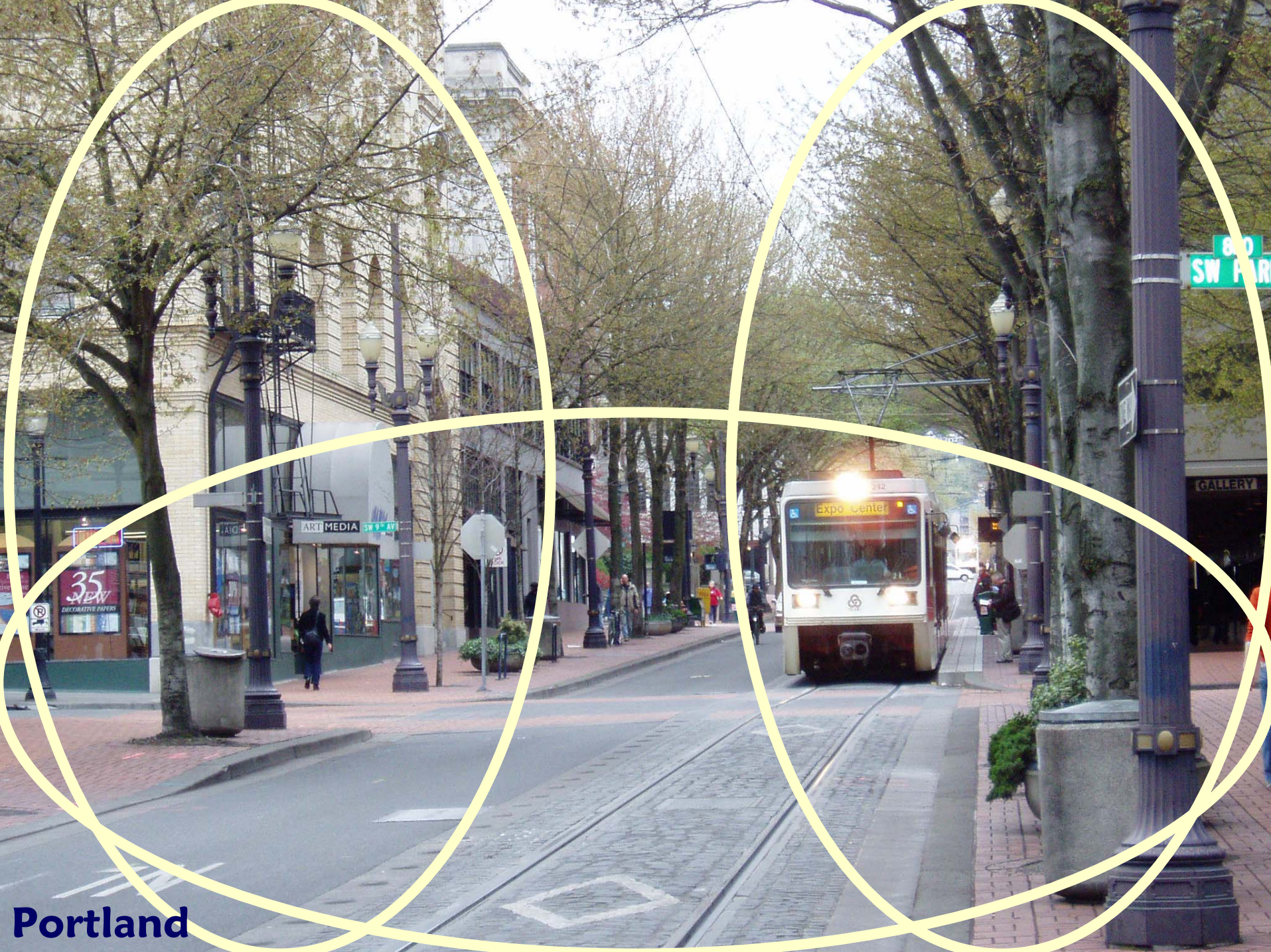
3. Community Building



Boulder

Brooklyn





800
SW PARK

ART MEDIA SW 9th Ave

35
NEW
DECOMBATIVE PAPERS

GALLERY

Portland



Credit: Walter Kulash



Boston



Flagstaff



Boulder



Aurora







Credit: Kulash



Winter Park, FL

We can't build a street that looks like this...



Oahu

...and expect this to result.



Boulder

**The design of
transportation
corridors has a
profound effect on
the character of
abutting land uses**

4. Forecasting is not Planning

**Predict
Growth**

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

**Forecast
Traffic**

Widen Streets



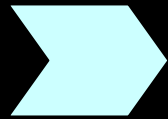
Boulder



Tusayan

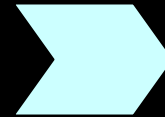
1.

What do
we
want?



2.

How
much
traffic
will
there be?

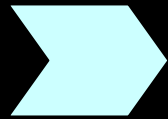


3.

What
should
we do?

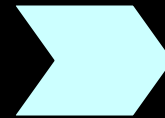
1.

What do
we
want?



2.

How
much
traffic
will
there be?

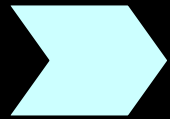


3.

What
should
we do?

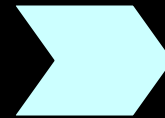
1.

How
much
traffic
will
there be?



2.

What
should
we do?



3.

What do
we get?



Credit: Dan Burden

Induced Traffic

“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

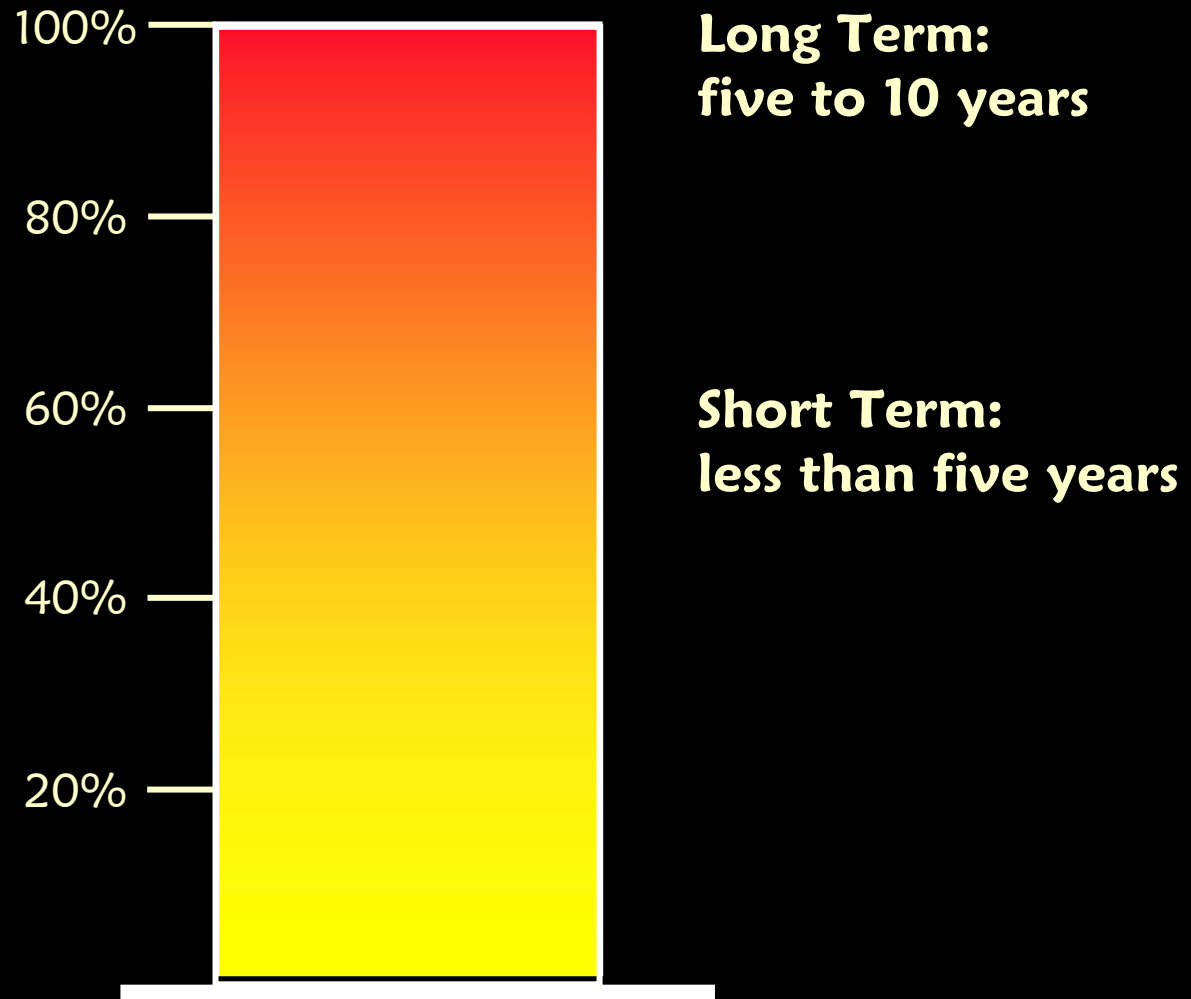
Changes in mode of travel < 6 months

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...

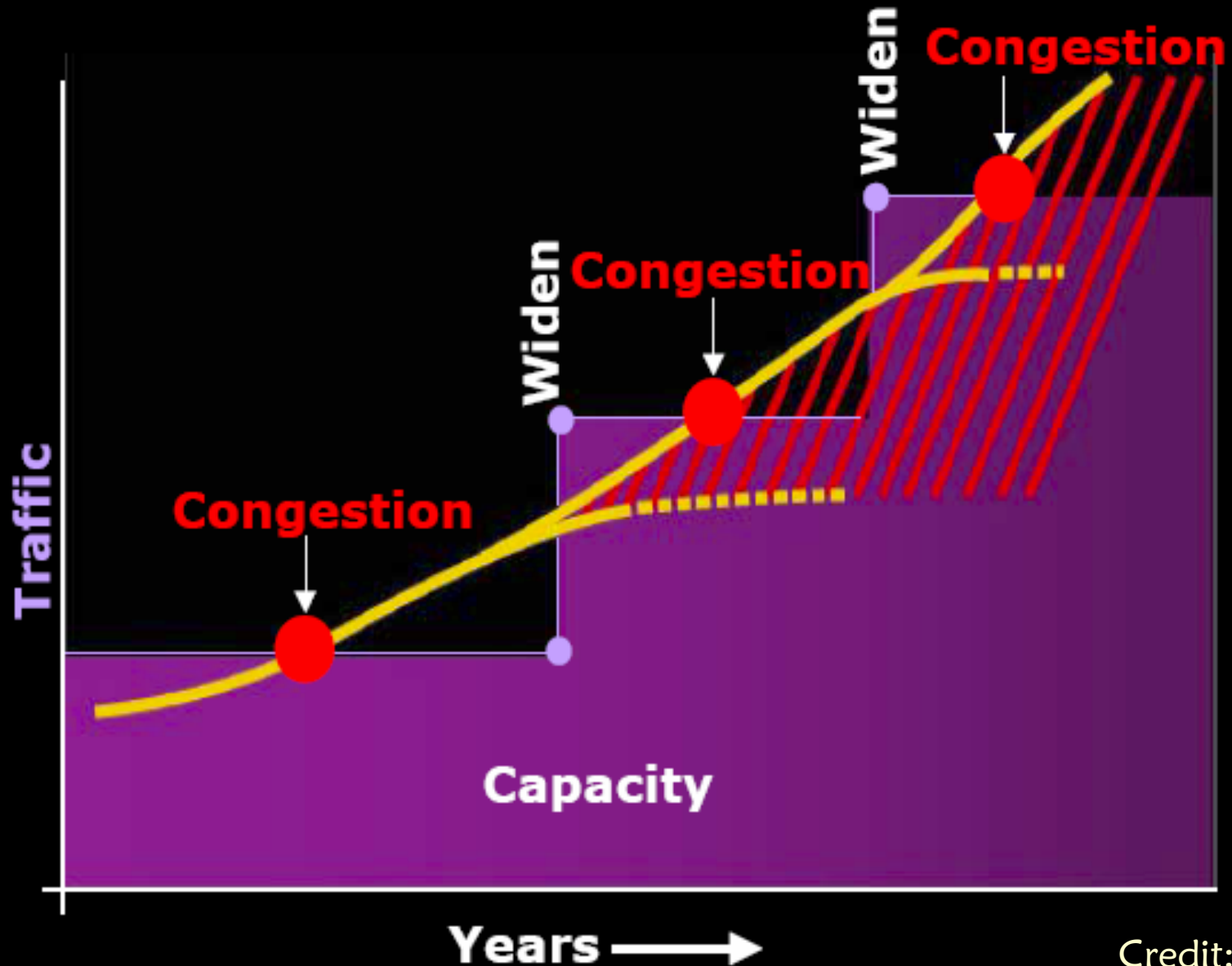




If you build it . . .

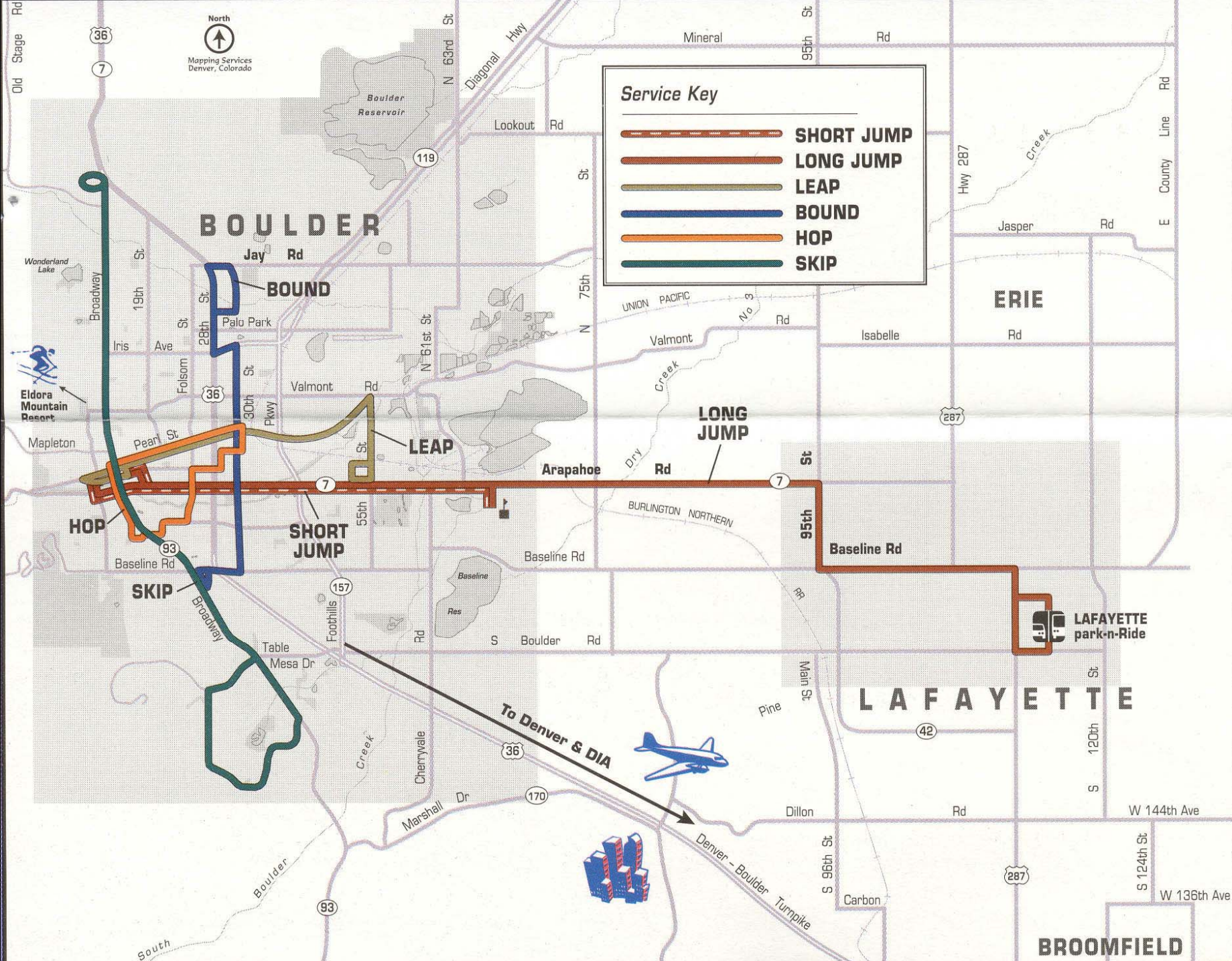
. . . they will come

Road Size, Not Congestion is the Choice



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

5. Transit will not Alleviate Congestion



North
Mapping Services
Denver, Colorado

Service Key

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

BOULDER

ERIE

LAFAYETTE

 **LAFAYETTE
park-n-Ride**

BROOMFIELD

Good Reasons to Invest in Public Transit:

- Improve mobility (travel, circulation and access) in the face of growth.
- Avoid over-building roads and streets and destroying character.
- Improve personal travel choice and family flexibility.
- Maintain economic vitality and viability.

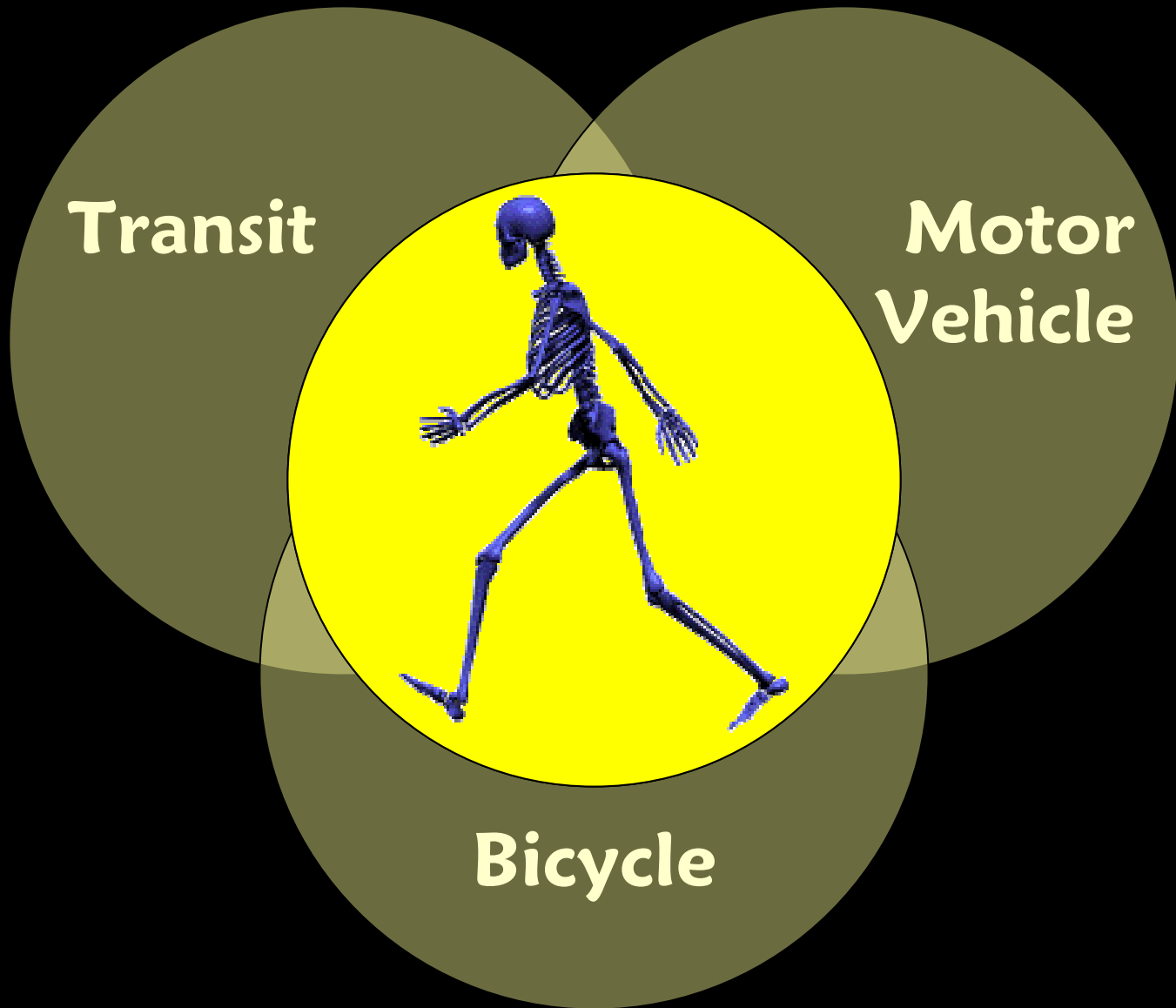
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6. Active Living

Walking

...is not an
“alternate mode”

Walking
...is Human



We Walk Because We are Human



We are Human Because We Walk

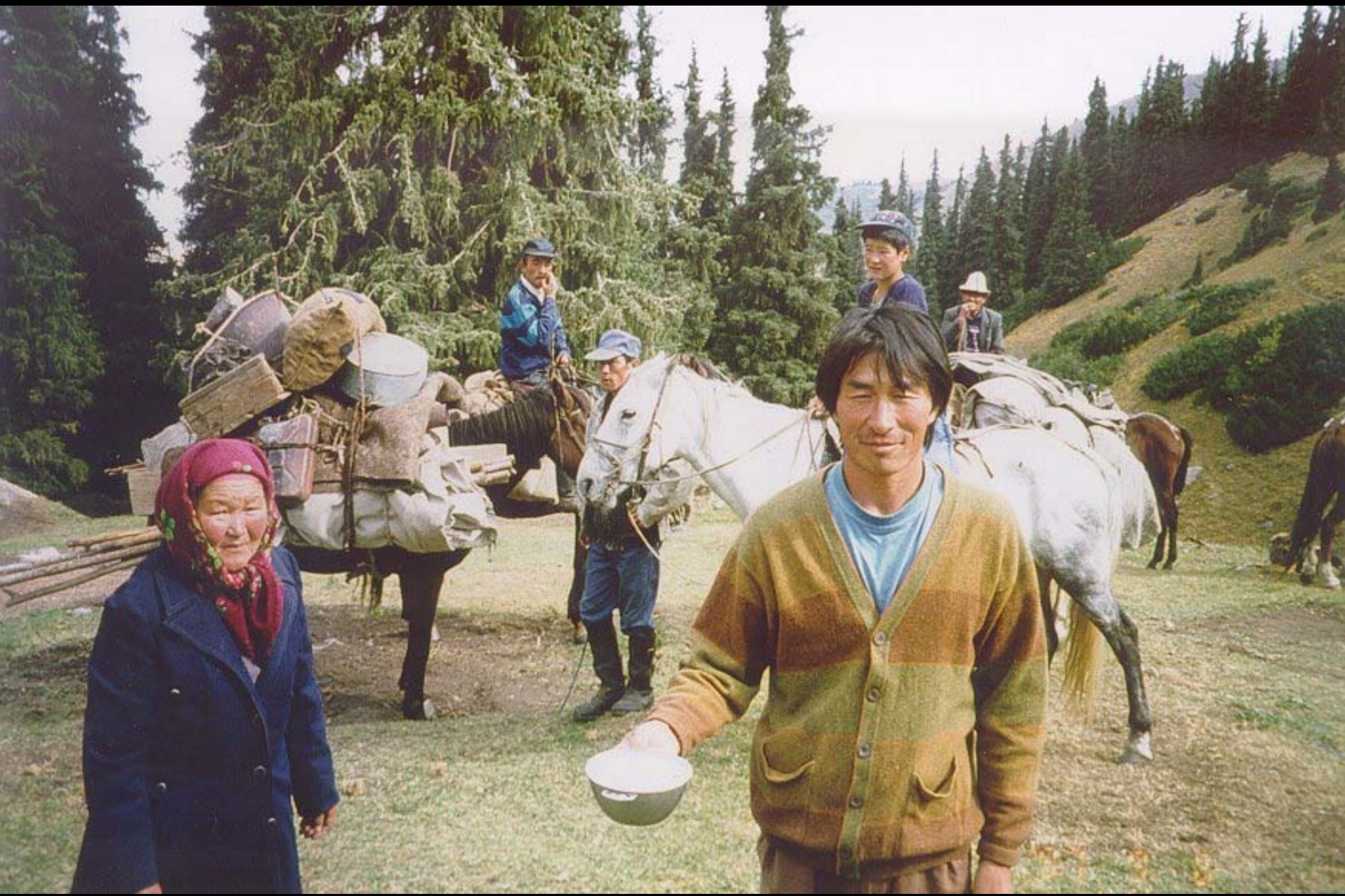
Because We Walk...

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



Human History

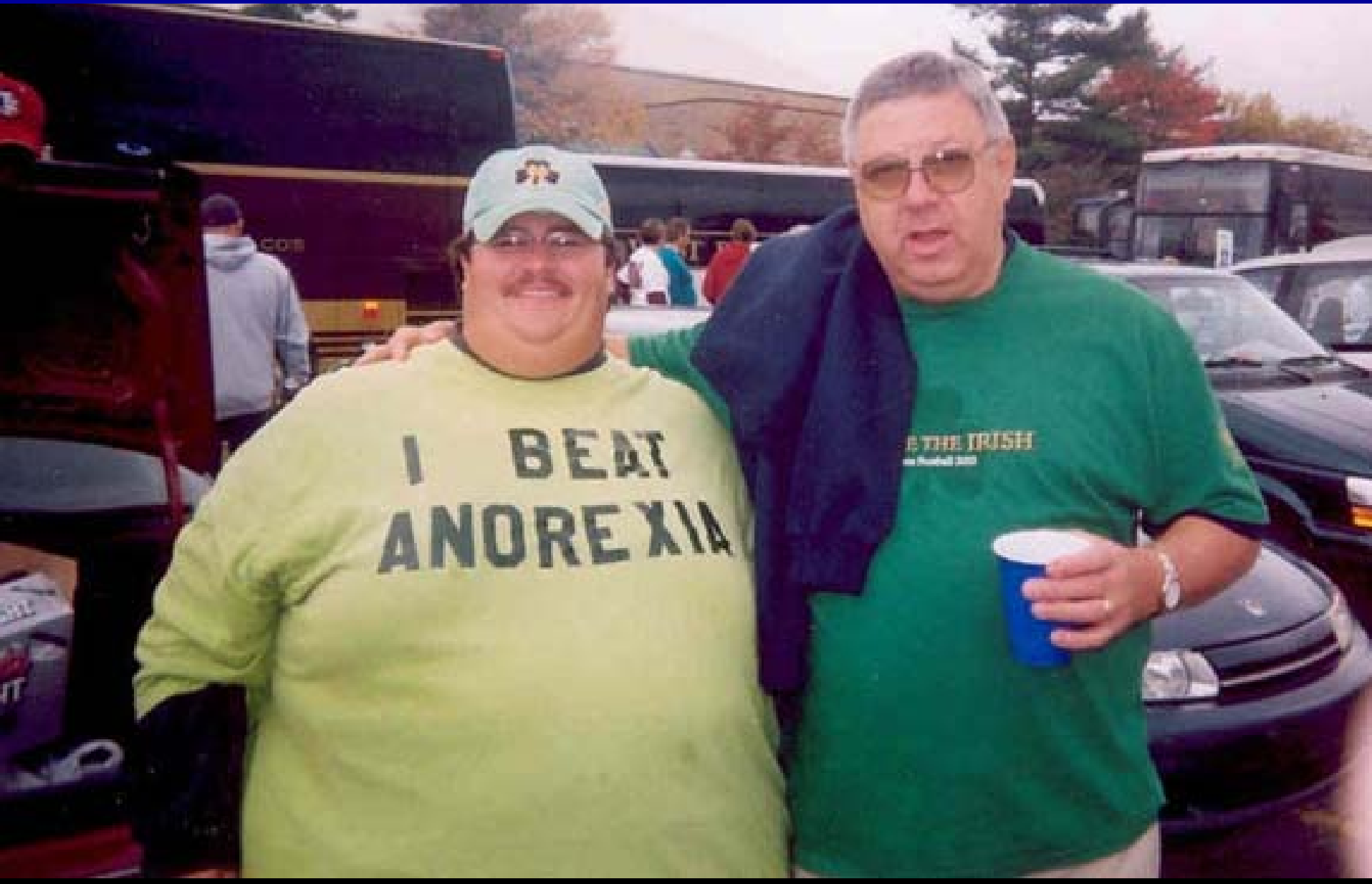






Denver

We cannot escape our DNA...



C-





D



D



D -





D-

D-



F



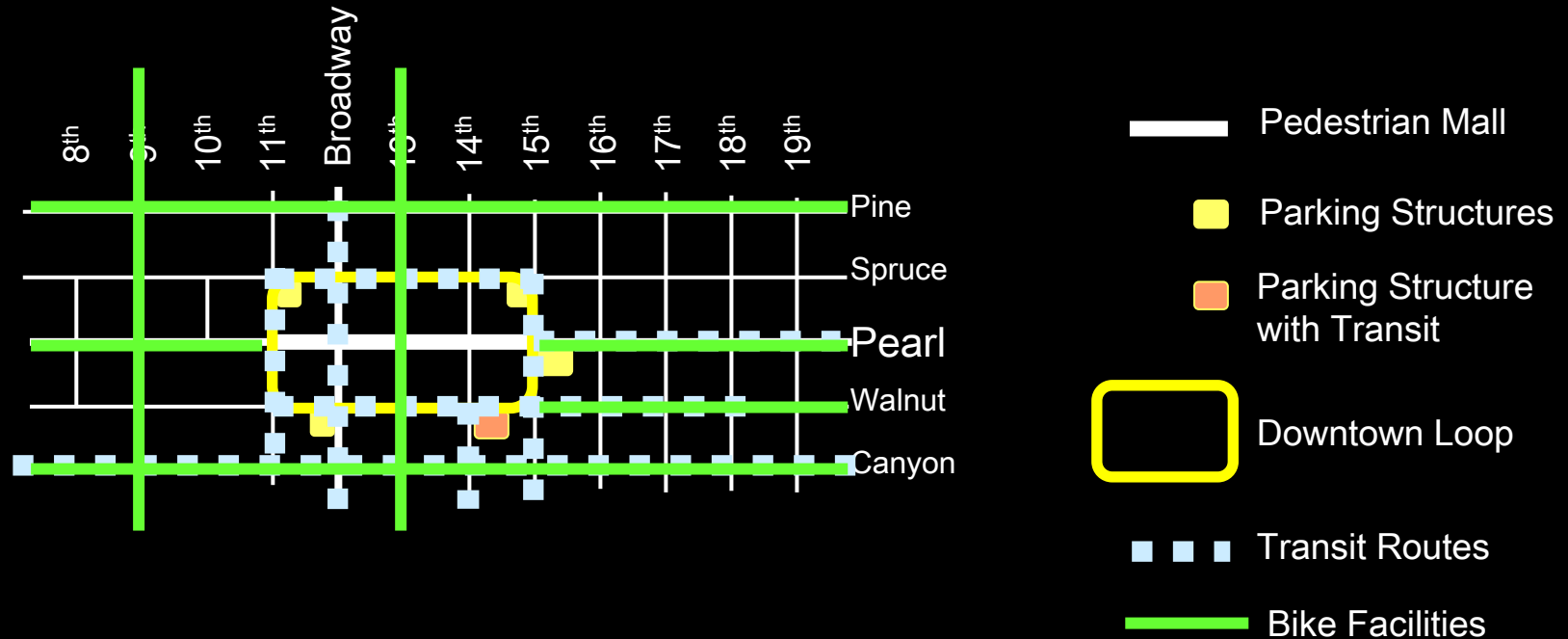
Pedestrian Science

- Types of Walkers
- Types of Pedestrian Environments
- Practical Strategies



Boulder

Pearl Street Pedestrian Mall





1500 PEARL
P

East
Stair

BOULDER COUNTY

3990P

1500 PEARL

NO
Left
Turn

Boulder



PUBLIC PARKING

FREE PARKING SAT. & SUN.



Boulder



Boulder



NO
TRUCK
PARKING



Boulder



Boulder



Boulder



Boulder

**Boulder's pedestrian
mall works because ...**

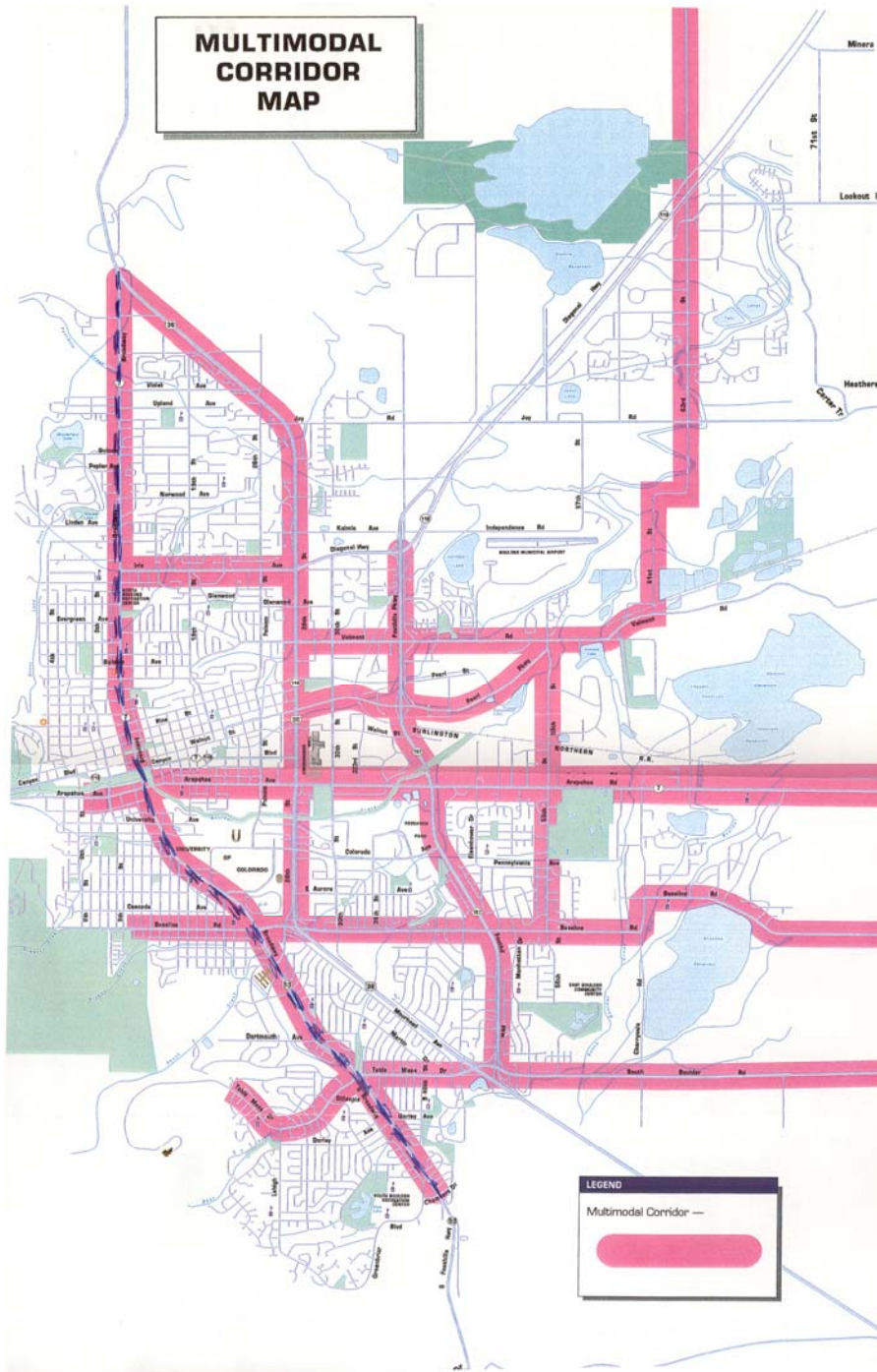
**... it is supported by a
multimodal
transportation system**





7. Multimodal Streets

MULTIMODAL CORRIDOR MAP



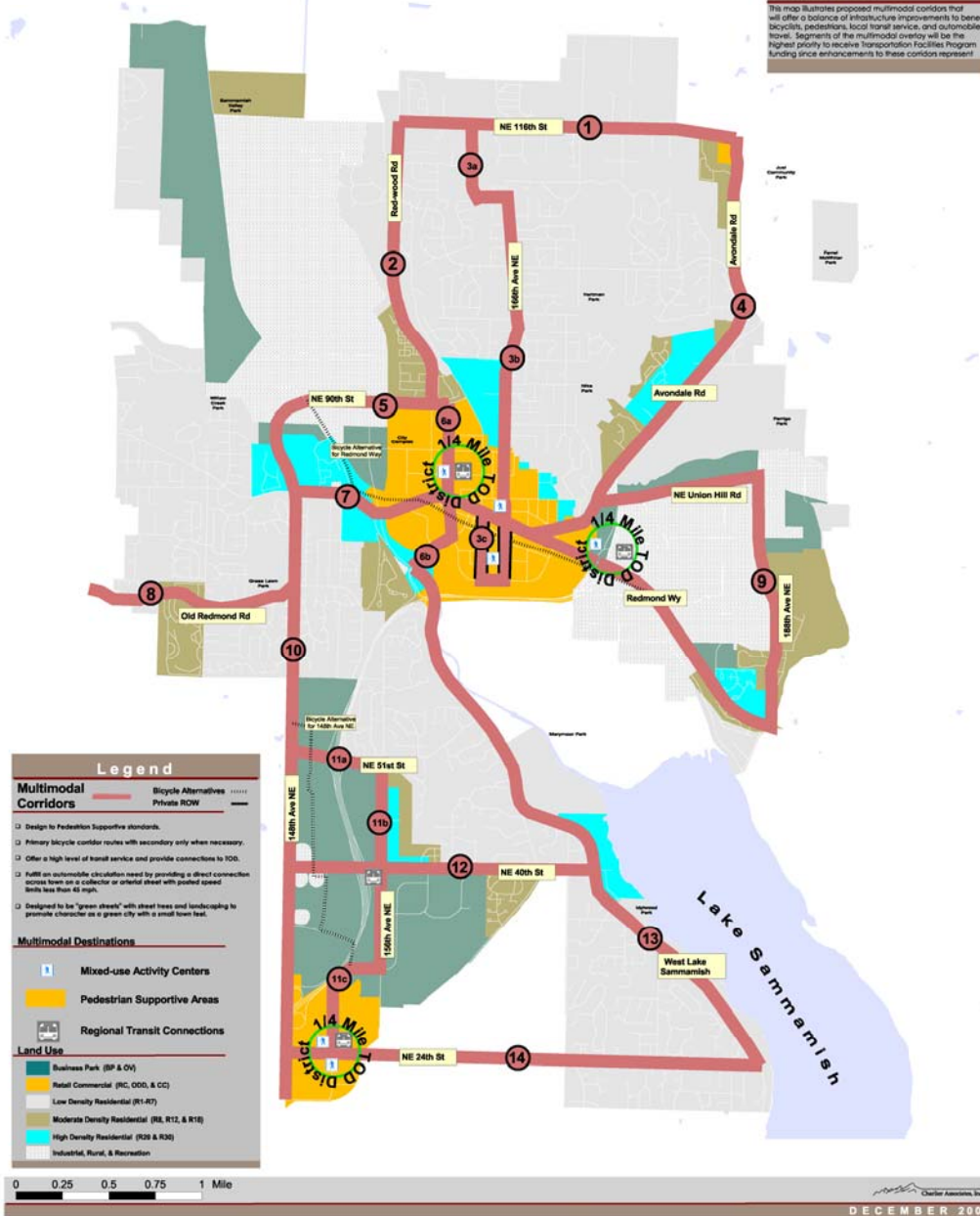
Boulder



Proposed Multimodal Overlay


Figure 5E.7

The map illustrates proposed multimodal corridors that will offer a balance of infrastructure improvements to benefit bicyclists, pedestrians, local transit service, and automobile travel. Segments of the multimodal overlay will be the highest priority to receive Transportation Facilities Program funding since enhancements to these corridors represent



Redefining Transportation Excellence

8. Sustainable Mobility

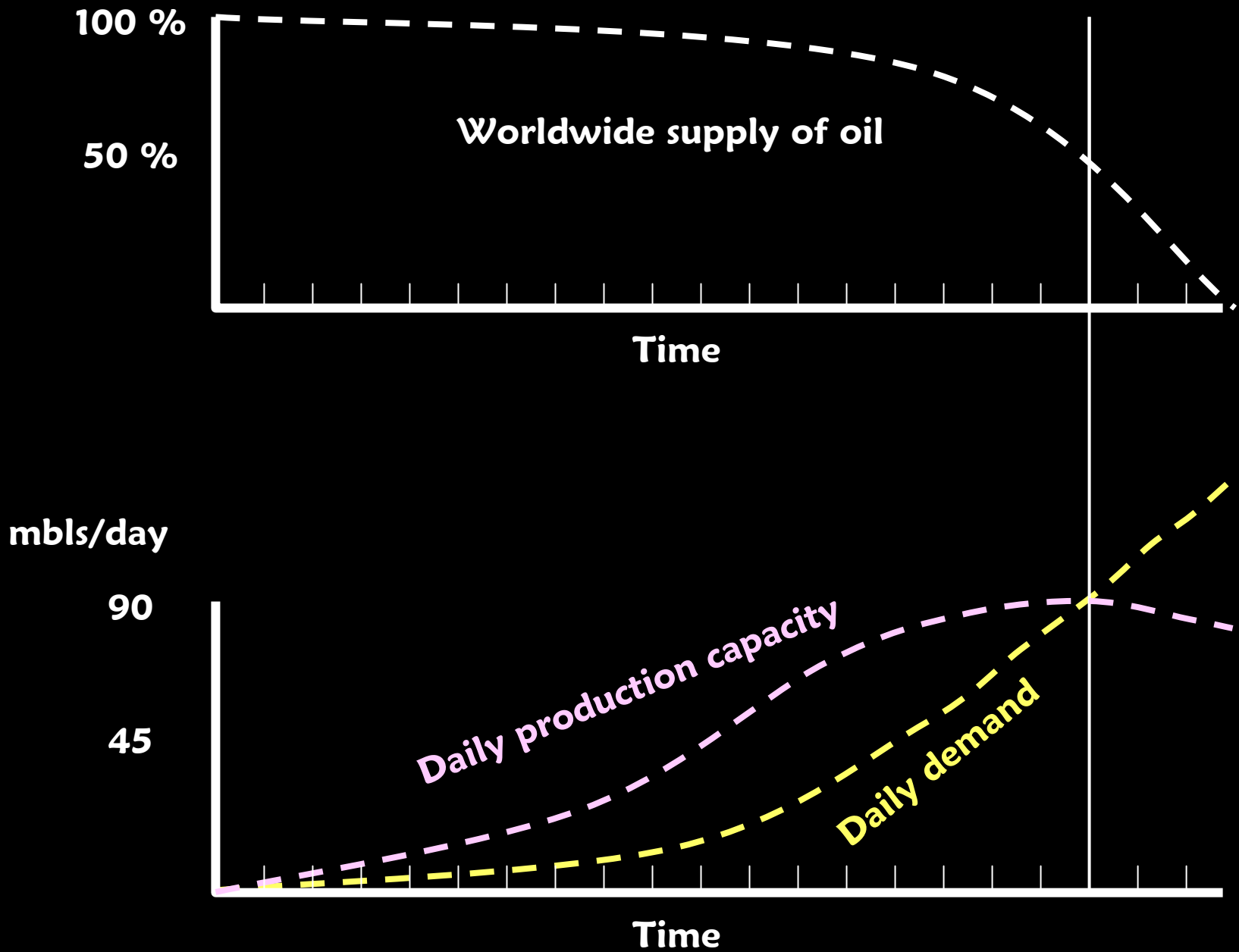
Annual Household Spending

Minneapolis-St. Paul

(Percent of Total Household Expenditures)

Transportation	\$8,683	18.4%	31.3%
Shelter	\$8,135	17.2%	
Food	\$5,607	11.9%	
Utilities	\$2,292	4.9%	
Other Household	\$4,338	9.2%	
Insurance & Pensions	\$6,075	12.9%	
Health Care	\$2,184	4.6%	
Entertainment	\$2,404	5.1%	
Apparel & Services	\$1,927	4.1%	
Education	\$985	2.1%	
Miscellaneous	\$4,121	8.7%	

**Total Household Expenditures on
Transportation in 2000 in
Minneapolis-St. Paul:
\$10.9 billion**



mbbl/day

\$900

\$450

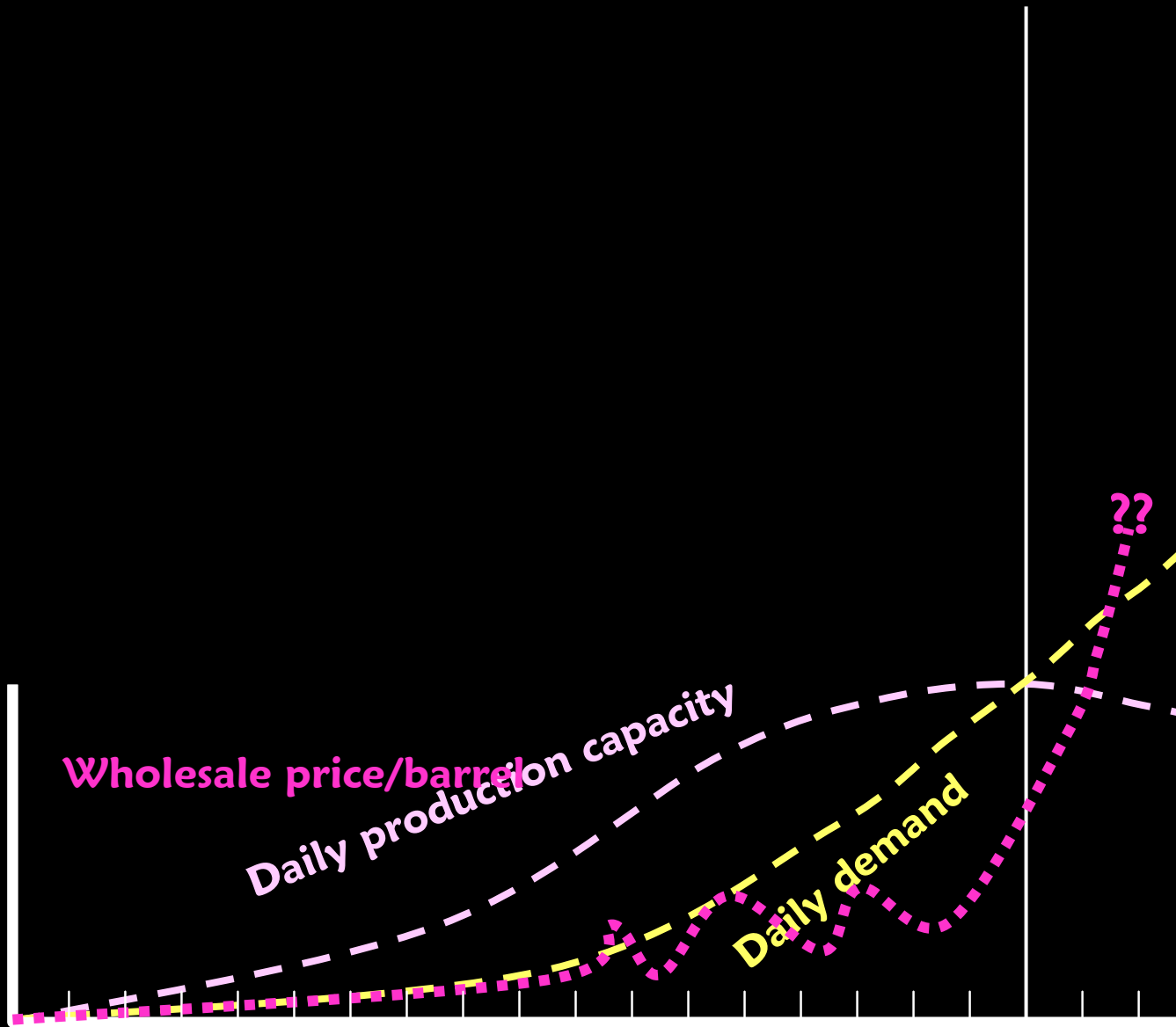
Wholesale price/barrel

Daily production capacity

Daily demand

??

Time



my car







Sustainable Transportation Systems:

- Enable families to reduce daily VMT without sacrificing income
- Provide a high degree of choice 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 and bike
- Preserving rail envelopes in freeway and major arterial corridors
- Planning for dense, mixed-use areas as part of our land use planning
- Requiring walkable pedestrian environments in all new residential and commercial development

9. Empowerment



Breckenridge

Bainbridge Island



The public is empowered when...

...they have access to the information they want, not just the information **we think** they need



The public is NOT empowered when...

...the project schedule cannot be revised



The public is NOT empowered when...

...standards
prevent creative
design solutions



The public is NOT empowered when...

...the project must fit within or fully spend a predetermined budget



The Tools of Power

- Budgets
- Schedules
- Standards

Most public process in transportation planning and design today strives to obtain consent rather than to enlist the public in creative development of their own communities

10. Monitoring & Reporting

Reporting Tools

- Annual Transportation Performance
- Mobility Report Card
- Transportation Chapter in City Report

Continuing public and political support for transportation programs requires accurate, honest monitoring and reporting of trends and outcomes

Summary

3 Proposals

1. Transportation should be about community building
2. Energy prices will soon change everything
3. Engineers could be leading the way



Colorado

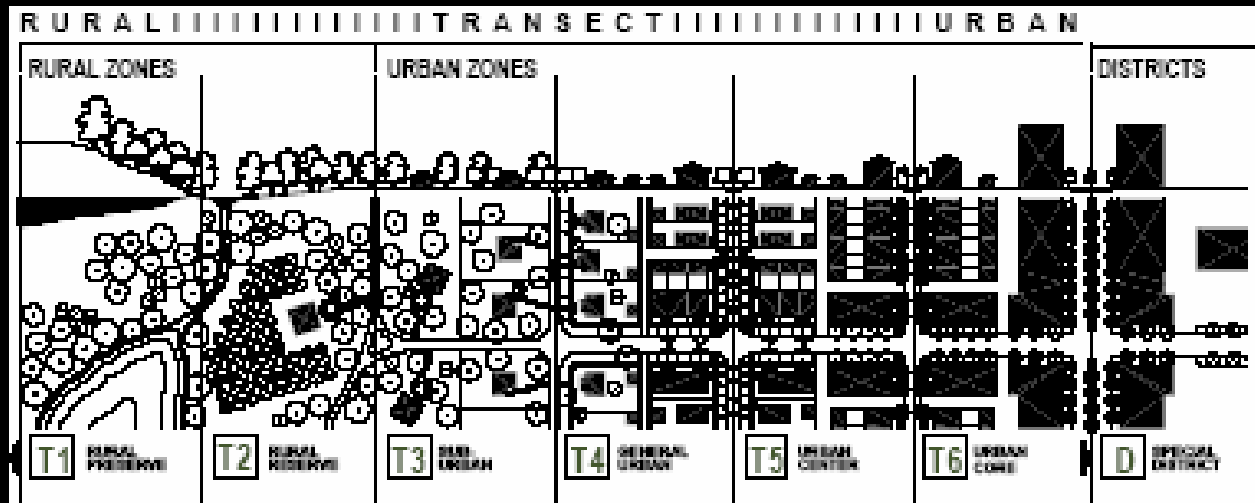
Challenge to Engineers:

- Do you what a multi-way boulevard is?
- Would you know how to handle intersections on one?



Challenge to Engineers:

- Do you know what the CNU urban “transect” is?
- Could you adapt your local design standards to this format?



Challenge to Engineers:

- Do you know what “TOD” is?
- Would you know how to handle access and circulation in and around a rail station?



Hundreds of Years:

200

400

600

800

1000

Transportation Corridors

Major Roads

Rail

Pathways

Architecture

Civic

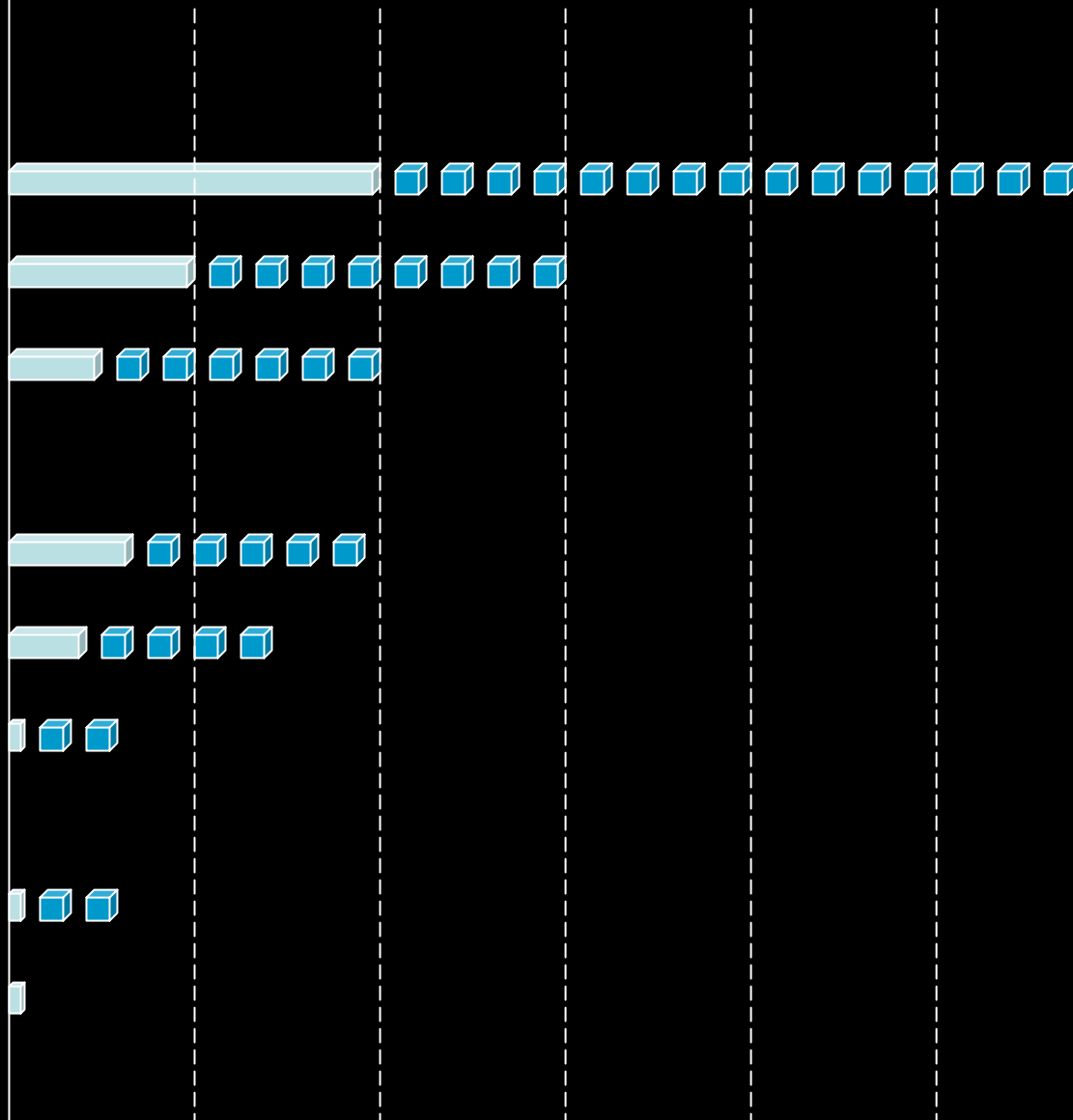
Residential

Commercial

Landscaping

Trees

Other Plantings



Thank You

www.charlier.org