Aligning Progressive Policy with Proactive Design

Presented by
Zabe Bent
@zabebent
Paul Supawanich
@tweetsupa
Nelson\Nygaard

Policy that aligns street design with community goals.

- How should streets serve our community?
- What is our measure of success?
- Where are we basing our assumptions?
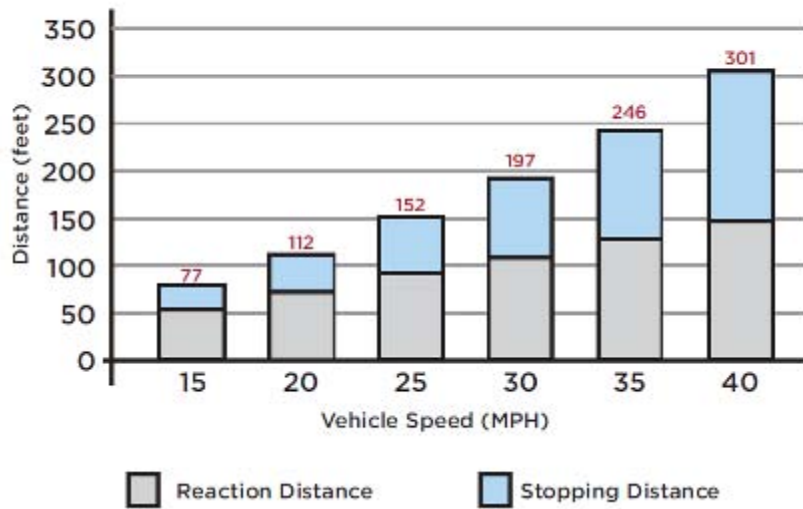- Are those assumptions correct?

Proactive Design

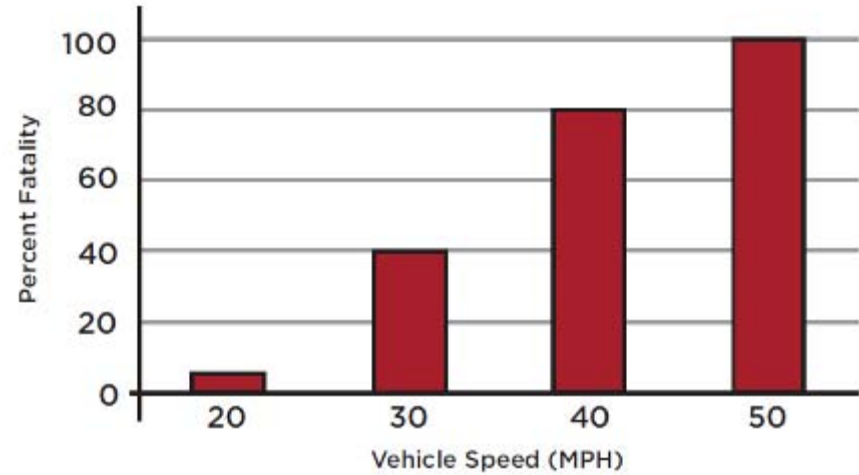# Designing the street to achieve those goals.

- Design proactively: design for the goal, not for the expected outcome
- Utilize a traffic toolbox in space (geometrics) and in time (signalization)

Example – Design Speed
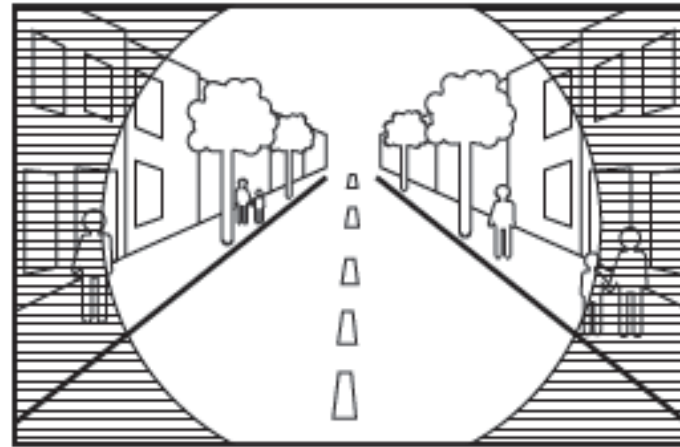

Reaction & Stopping Distance vs. Speed
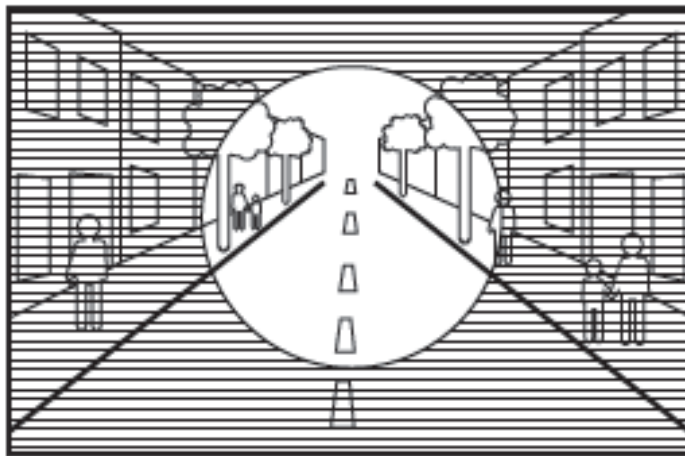
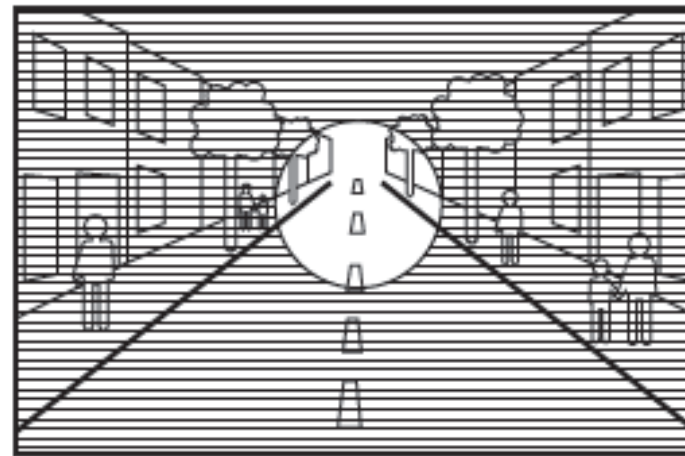Risk of Pedestrian Fatality

Design Speed

15 MPH

20 MPH

25 MPH

30 MPH

With faster speeds, field of vision becomes smaller

Design Speed

- Conventional highway design
  - Operating Speed → Design Speed → Posted Speed
- Proactive urban street design:
  - Target Speed → Design Speed → Posted Speed

Use speed reduction techniques

Chicane

Trees

Mini Roundabout

Design Speed

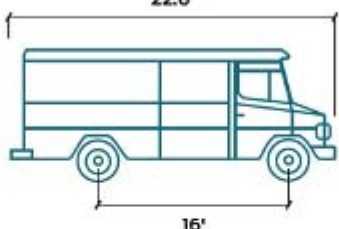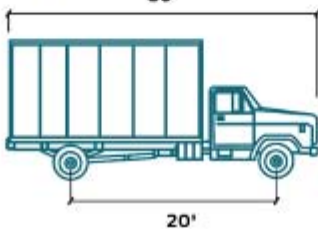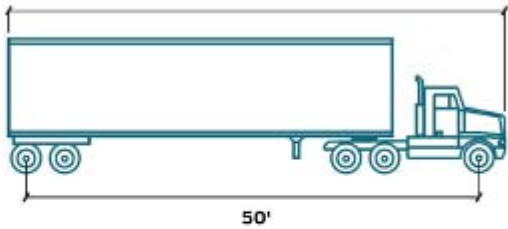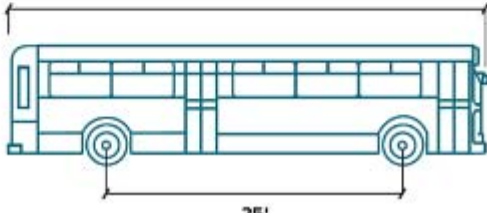
SPEED
3 5

Curbs and sidewalks slow traffic
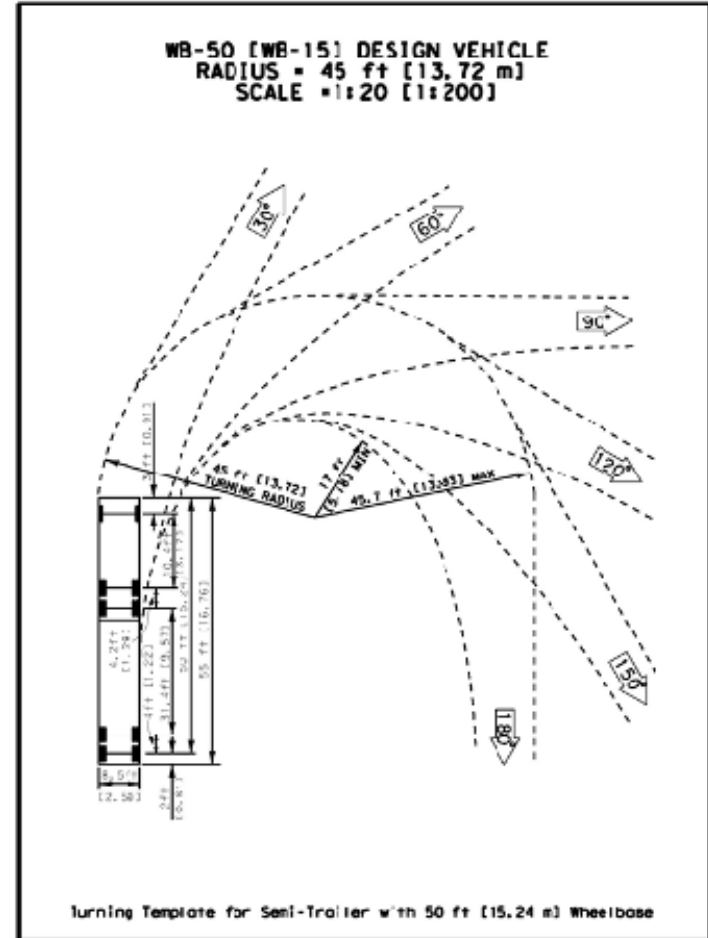more than speed sign
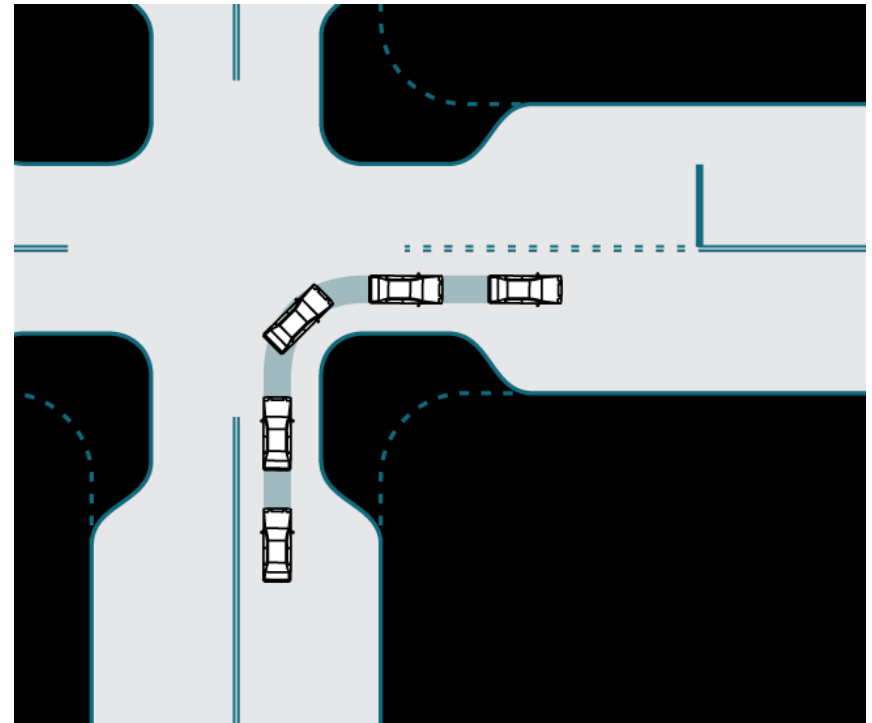
Design Speed

Design Speed

Design Vehicles

STREET TYPE	DESIGN VEHICLE
Neighborhood and Residential Streets	DL-23 — 22.6' / 16'
Downtown and Commercial Streets	SU-30 — 30' / 20'
Designated Truck Routes Note: Trucks are permitted to use the full intersection when making turns onto a receiving street.	WB-50 — 55.5' / 50'
Designated Bus Routes Note: Buses are permitted to use the full intersection when making turns onto a receiving street, but this is not preferable on a full-time bus route if it can be avoided.	BU-40 — 40' / 25'

WB-50 [WB-15] DESIGN VEHICLE
RADIUS = 45 ft [13.72 m]
SCALE =1:20 [1:200]

Turning Template for Semi-Trailer with 50 ft [15.24 m] Wheelbase
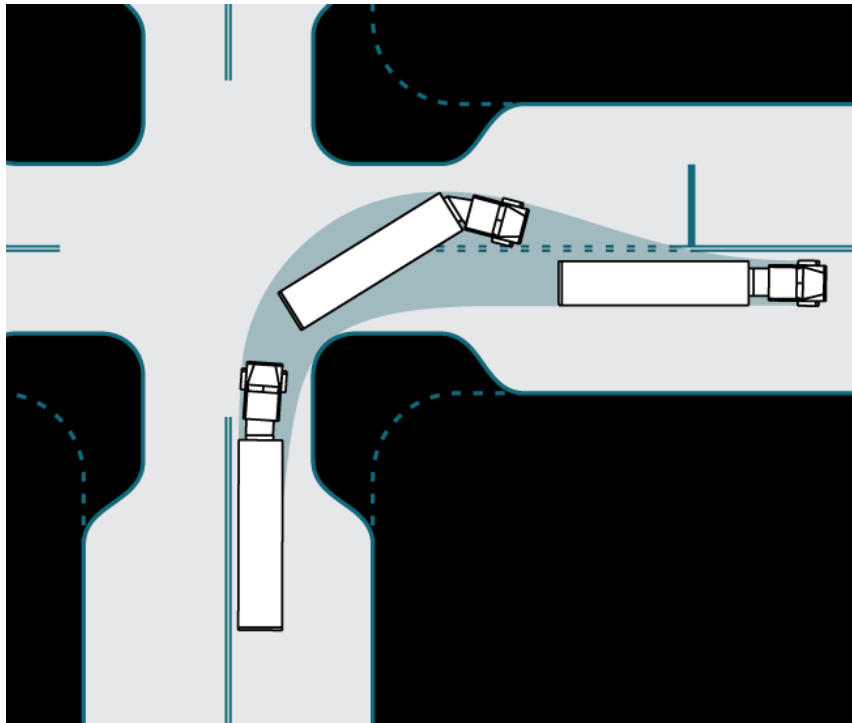
Design Vehicles

Design Hour
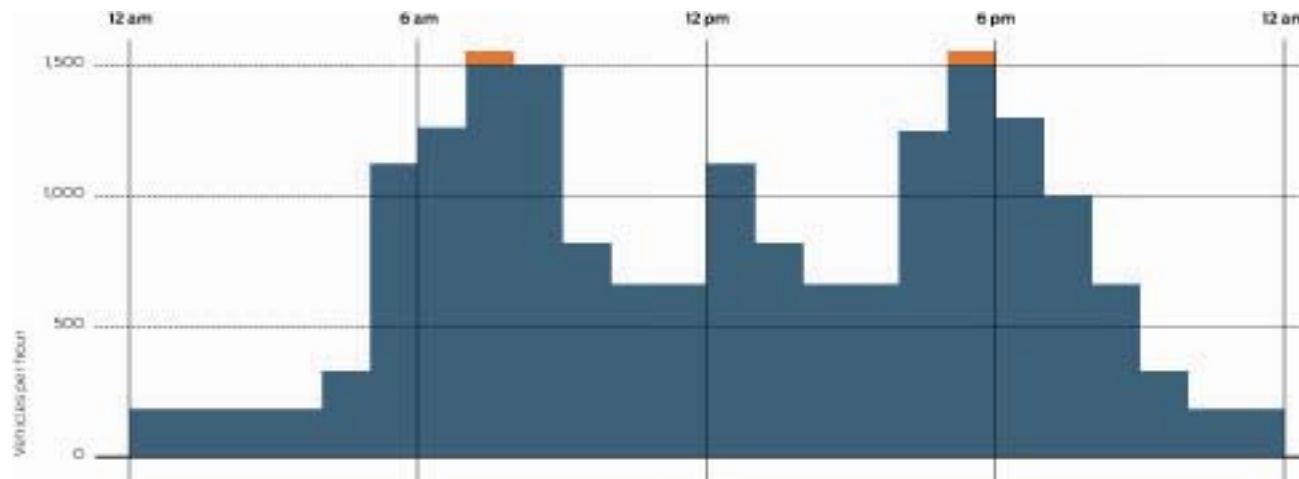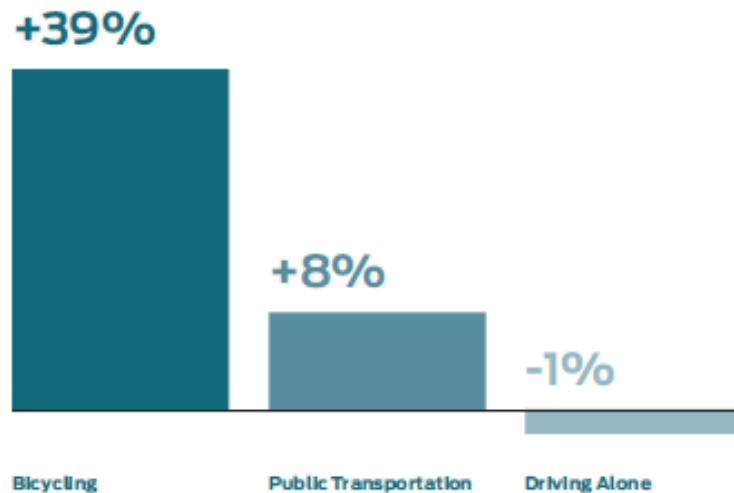
A Day in the Life of a Street

Design Hour

Imagine the possibilities

Estimating Vehicle Growth
Changing trends?

2% compound growth rate doubles traffic in 35 years

Alternate methods

- Comparative projections
- Mode targets
- Revised growth projections
- GHG reductions
- Induced demand projection
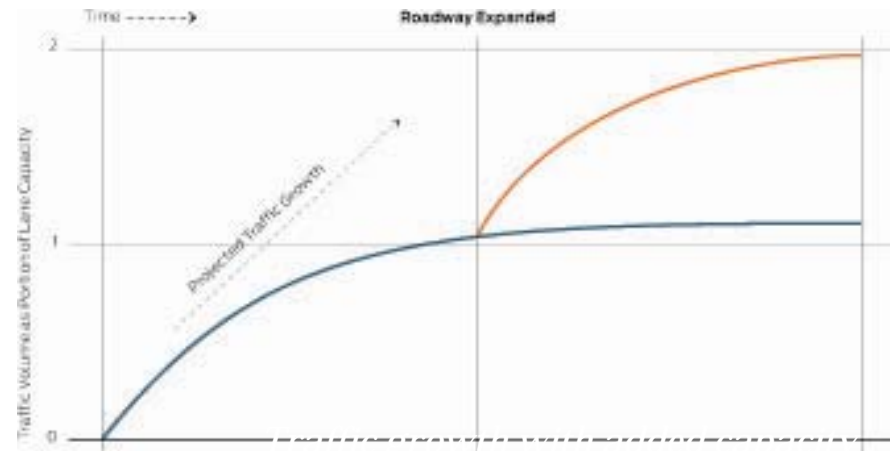
Estimating Vehicle Growth
Changing trends?
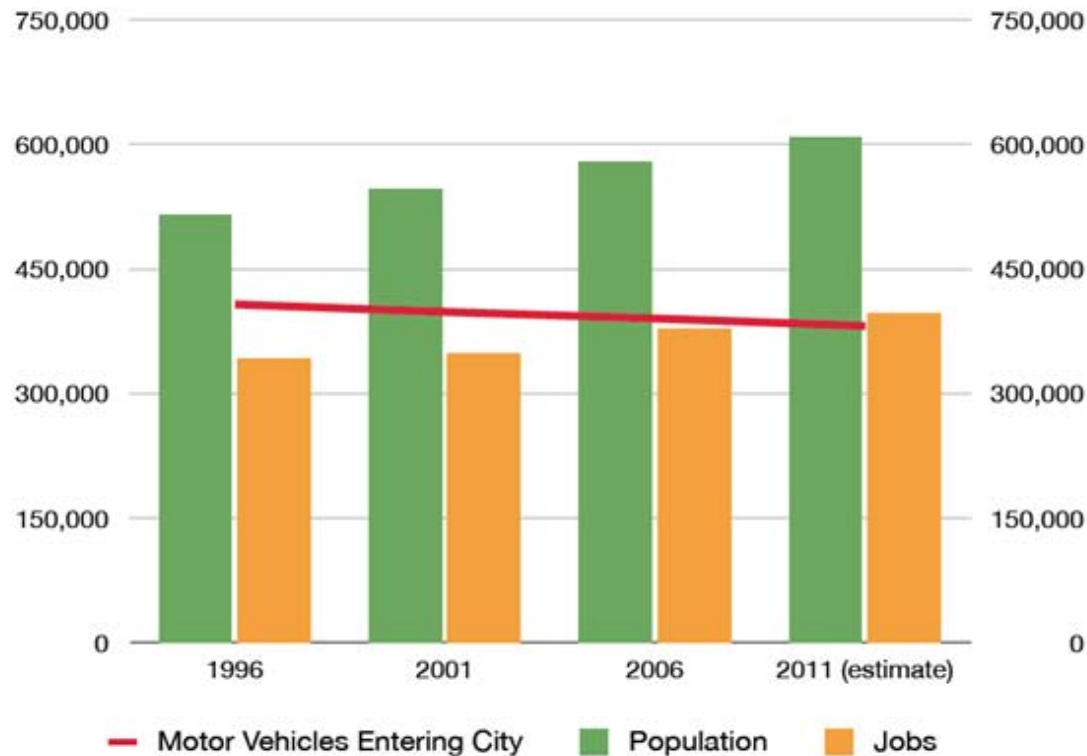
Estimating Vehicle Growth
Changing trends?

CHANGE IN MODE SHARE
All Trips by Boulder Residents

Single Occupant Vehicle 15% Decline

Multiple Occupant Auto Slight Decline

Walk No Significant Change

Bike 75% Increase

Bus 300% Increase
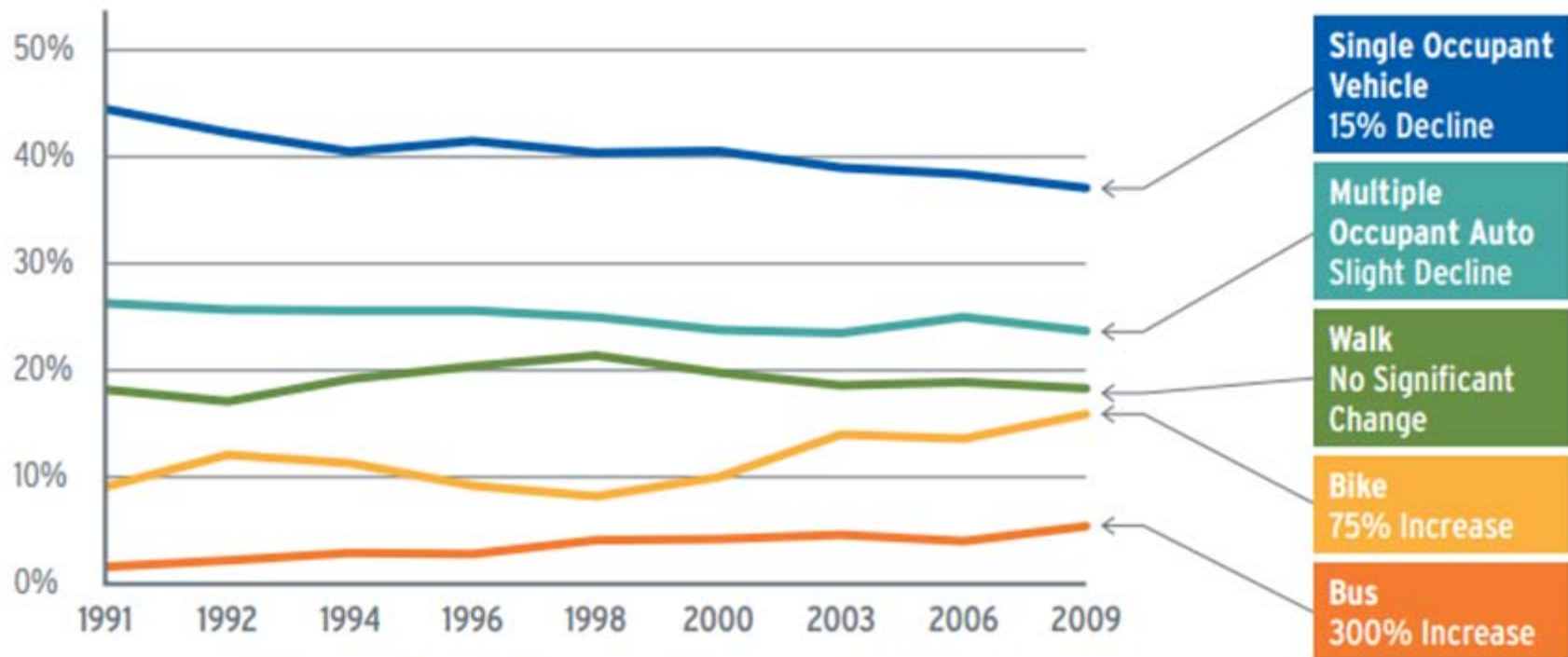
Source: City of Boulder Modal Shift Reports (Travel Diary of Boulder Residents)

Estimating Vehicle Growth
Changing trends?
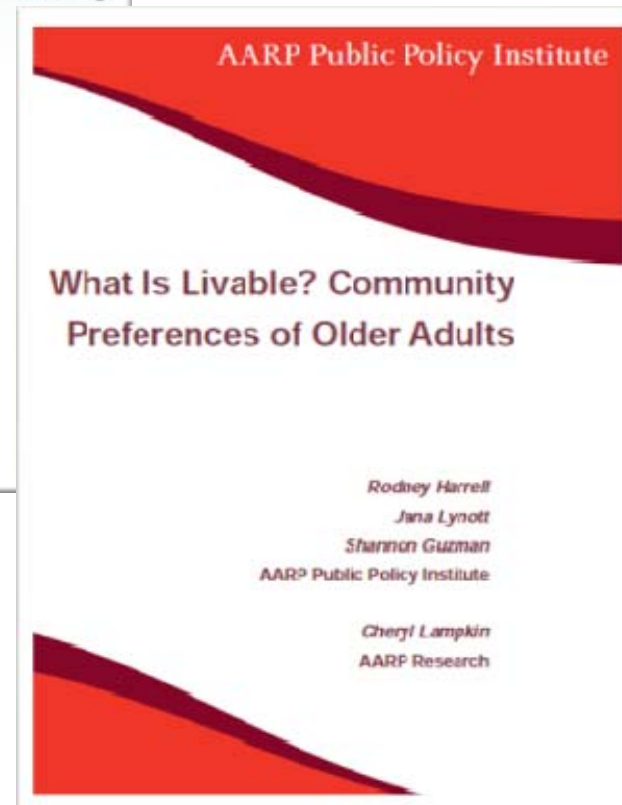
"Respondents indicated that while the size of a home or yard does matter, most are willing to compromise size for a preferred neighborhood and less commuting."

"The AARP interviewed 4500 people 50 years and older and found that the single most important requirement for a livable city is a nearby bus stop."

Estimating Vehicle Growth
Changing trends?

Measuring the Street:
New Metrics for 21st Century Streets

Goals

Design for **safety**

Design for **all users of the street**

Design **great public spaces**

Strategies

Designing safer streets, to provide safe and attractive options for all street users ....

Building great public spaces to create economic value and neighborhood vitality ....

Improving bus service to bring rapid transit beyond the subway ....

Reducing delay and speeding to allow for faster, safer travel............

Efficiency in parking and loading to improve access to businesses and .... neighborhoods

Metrics

- **Crashes and injuries** for motorists, pedestrians, and cyclists
- **Volume** of vehicles, bus passengers, bicycle riders, and users of public space
- **Traffic speed**, aiming to move traffic not too slowly, but also not too fast
- **Economic vitality**, including growth in retail activity
- **User satisfaction**
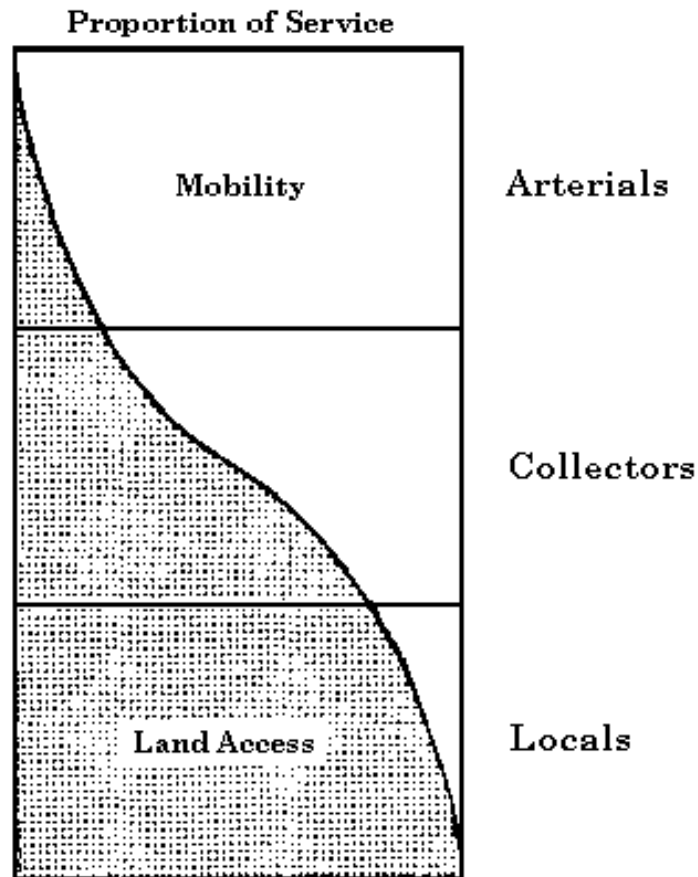- **Environmental** and **public health** benefits

Image: NYC New Metrics of Success

Functional Classification

Figure II-4

Relationship of functionally Classified Systems
in Serving Traffic Mobility and Land Access

Proportion of Service

Mobility — Arterials

Collectors

Land Access — Locals

Functional Classification

STREET	CONTEXT	OVERLAY
Avenue	Commercial	Country Route
Boulevard	Industrial	State Route
Street	Residential	
Arterial	City	Sanitation Route
Collector	Town	Snow Route
Local	Village	Truck Route
Alley	Campus	Ceremonial
Lane	Cultural	Economic
Main	Institutional	Historic
		Scenic
Connector	Center	Bicycle Priority
Major	Corridor	Driving Priority
Multi-Way	District	Pedestrian Priority
Thoroughfare	Downtown	Transit Priority
Transit		
Auto-Oriented	Low-Density	Home Zone
General	Marketplace	Pedestrian District
Multi-modal	Mixed-Use	Transit-Oriented
Parkway	Neighborhood	
Paseo	Park	
Pedestrian	Urban	
Shared	Workplace	
Slow		

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Zabe Bent
zbent@nelsonnygaard.com

Paul Supawanich
psupawanich@nelsonnygaard.com