Going Mobile:
Managing Transportation Choices

DeWayne Carver, AICP, CNU

HPE
Hall Planning & Engineering, Inc.

Going Mobile
MANAGING TRANSPORTATION CHOICES

Introduction

- Bicyclist and bike commuter (LCI)
- Member AICP, CNU
- Prior work and research on alternative transportation
- Senior Project Manager, HPE
- Focus on New Urbanist/Walkable Communities transportation design

Content

- The Big Picture: Connectivity
- Street Level: Streets for People
- Transit
- Parking

What can transportation planning influence?

- Manage Traffic Congestion
- Increased viability for other modes of transportation
  - Walking
  - Biking
  - Transit
- Health and Fitness
- Main Street's economic health

The Big Picture: Connectivity

Going Mobile
MANAGING TRANSPORTATION CHOICES

Connectivity takes many forms

- Street network
- Bike lane network
- Sidewalk network
- Transit network
- Paths and trails
- Thoroughfares

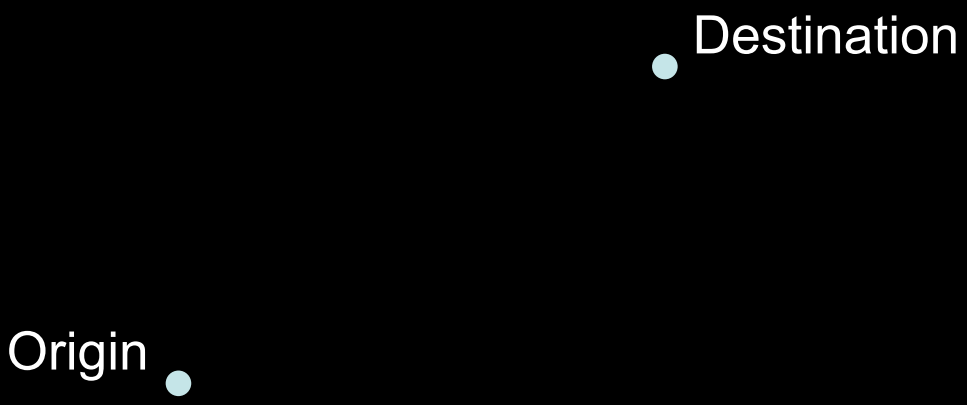
Intersections/Sq. Mi.

- Decatur, Georgia *80 intersections/sq. mi.*
- LEED ND standard *150 intersections/sq. mi.*
- Desirable conditions *300-400 intersections/sq. mi.*
- HPE *100 intersections/sq. mi.*

Key points

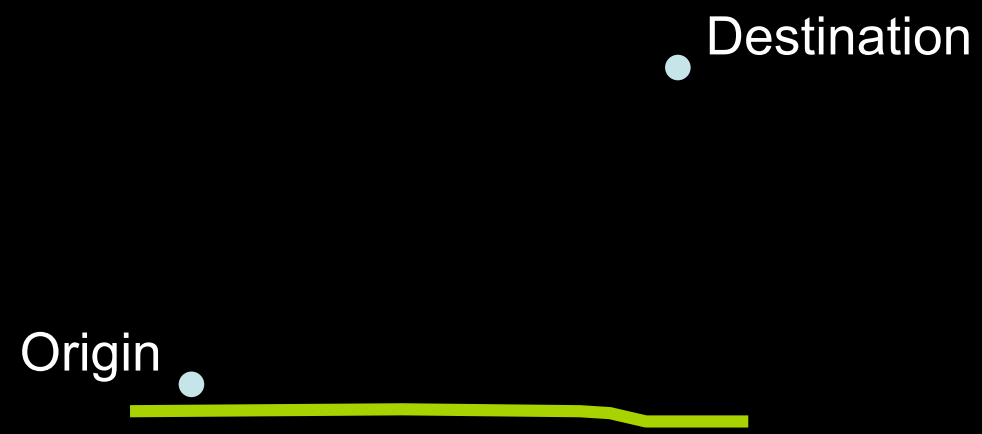
- Americans are getting sedentary and obese
- Moderate exercise, such as walking, more sustainable than vigorous routines
- Bicycling and walking are the most easily adopted and sustained

The Power of Connected Streets



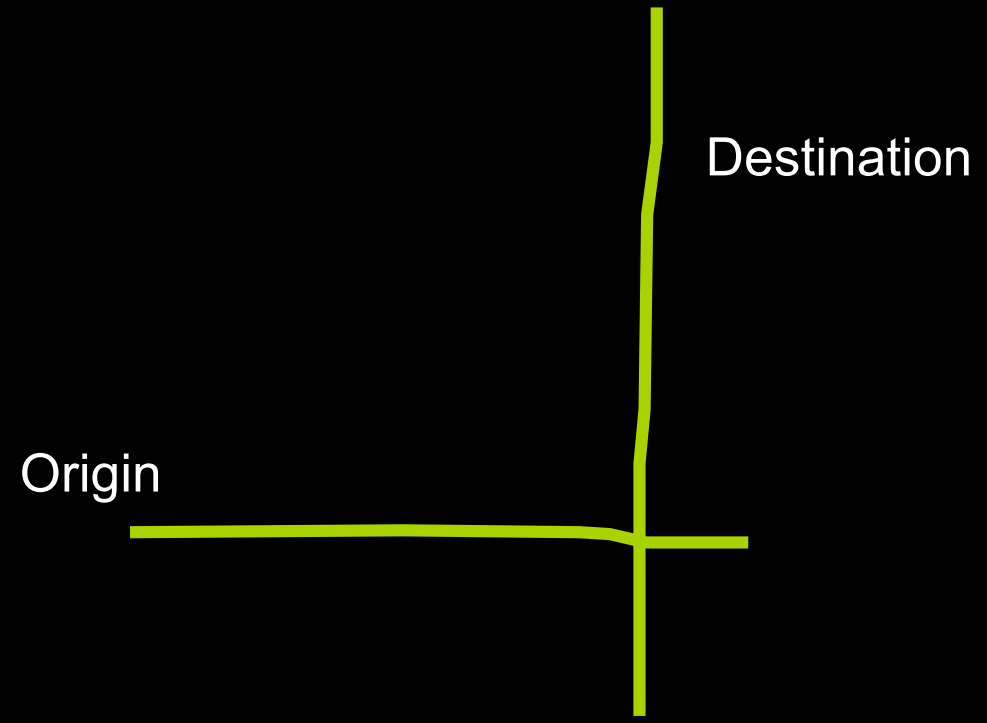
Going Mobile
MANAGING TRANSPORTATION CHOICES

The Power of Connected Streets



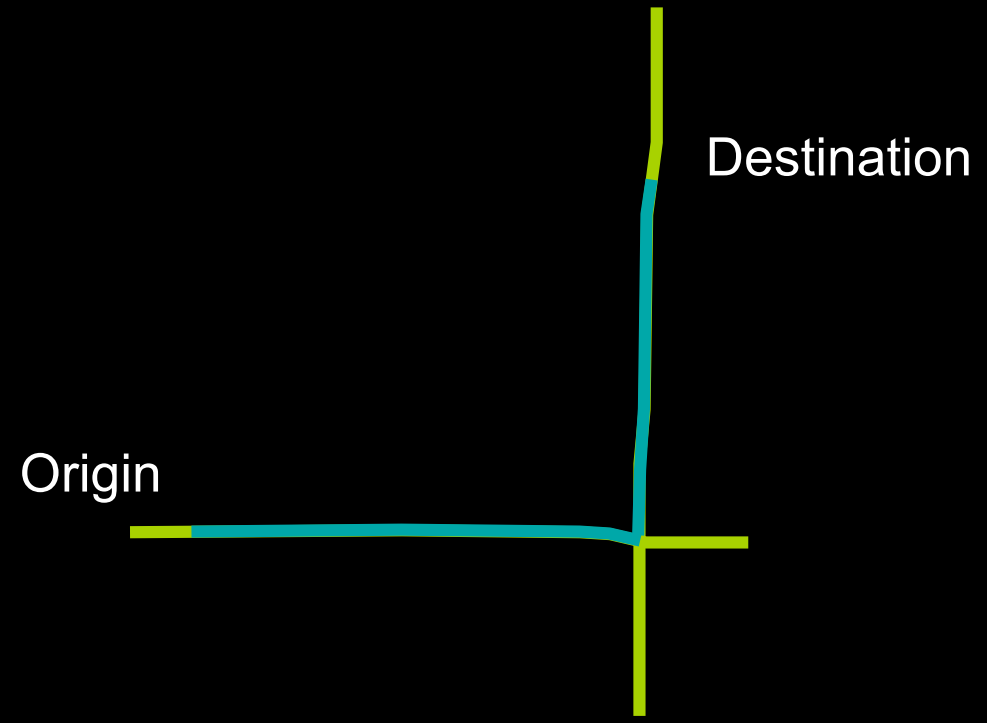
Going Mobile
MANAGING TRANSPORTATION CHOICES

The Power of Connected Streets



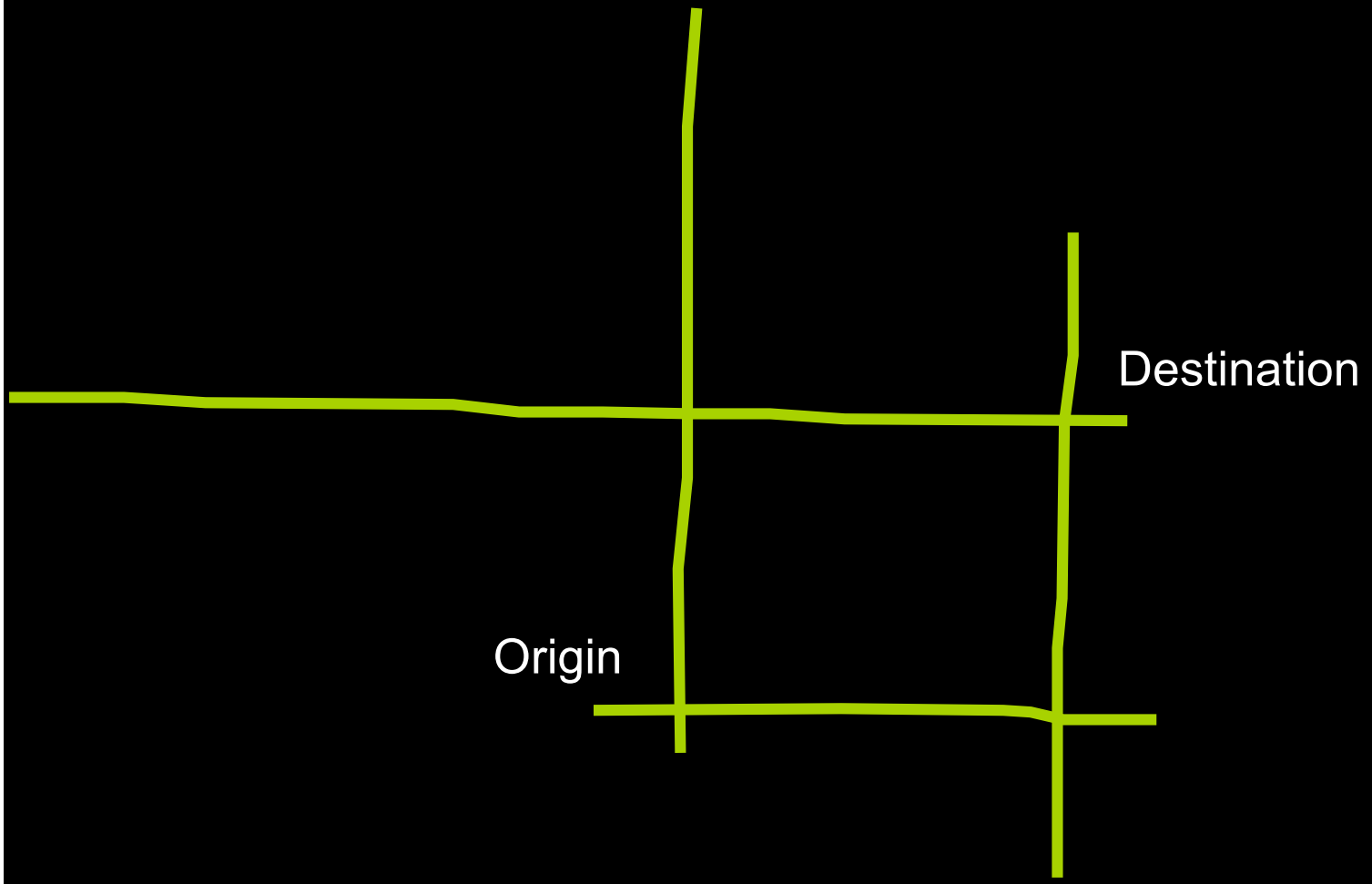
Going Mobile
MANAGING TRANSPORTATION CHOICES

The Power of Connected Streets



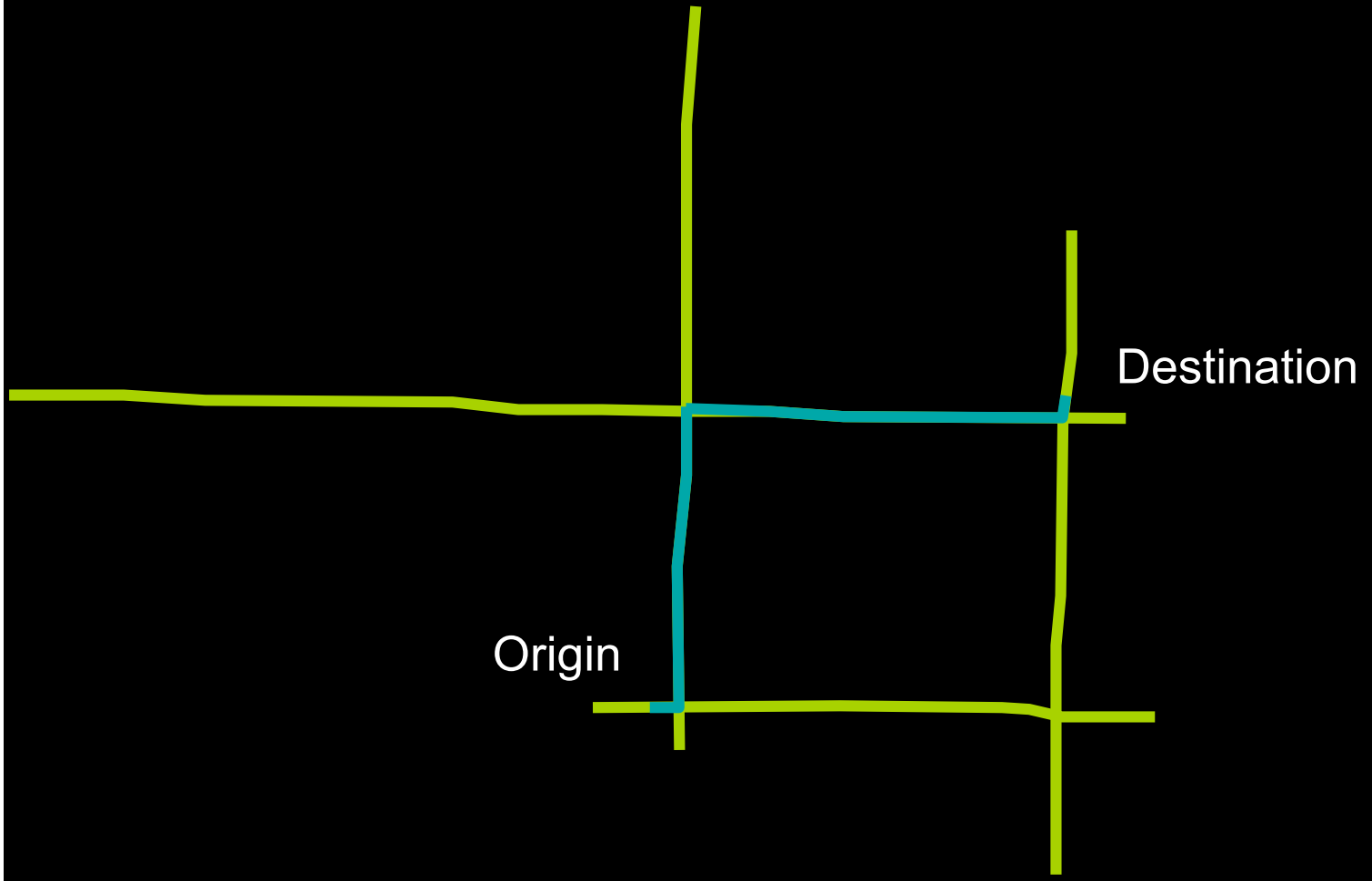
Going Mobile
MANAGING TRANSPORTATION CHOICES

The Power of Connected Streets



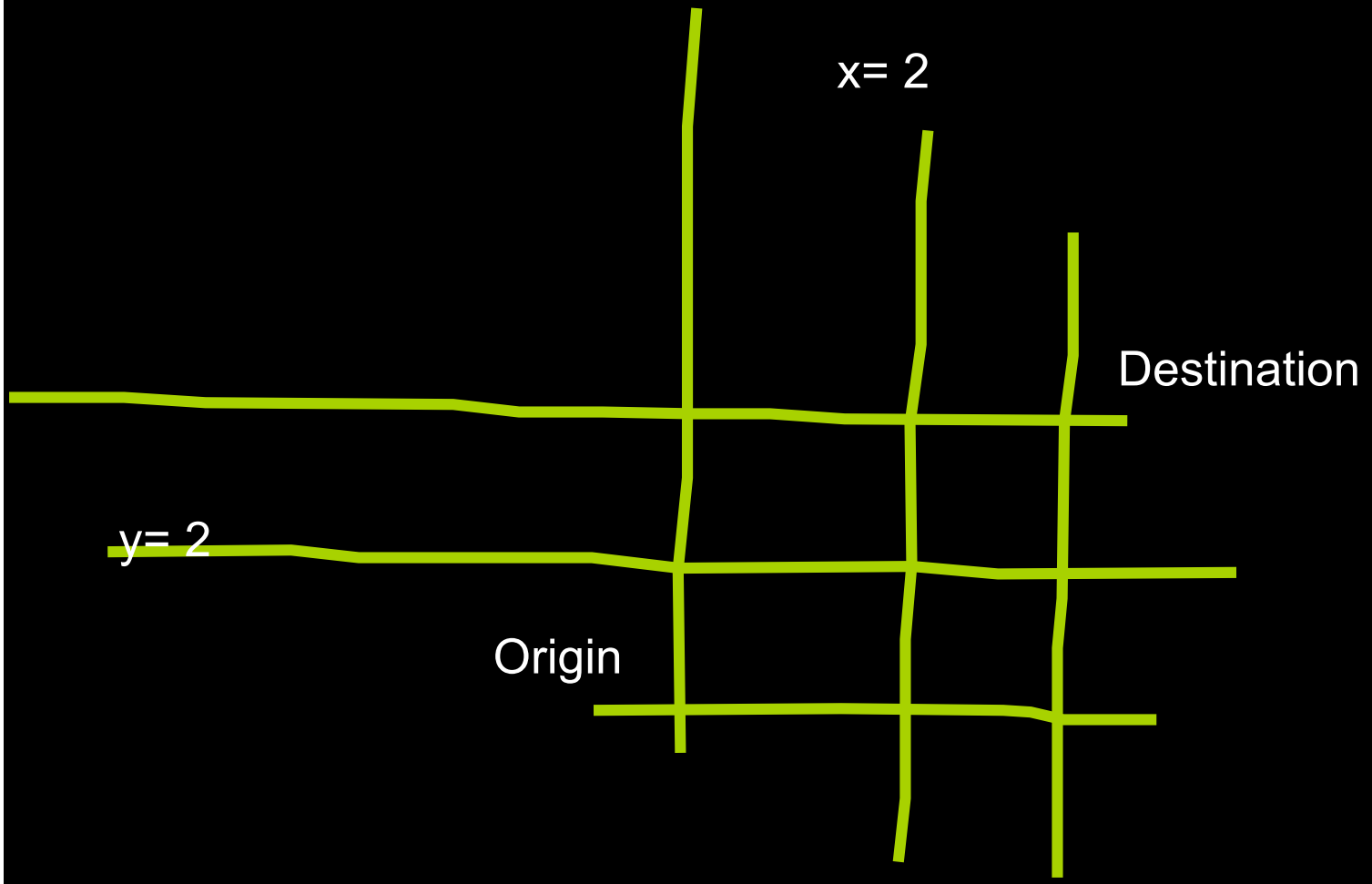
Going Mobile
MANAGING TRANSPORTATION CHOICES

The Power of Connected Streets



Going Mobile
MANAGING TRANSPORTATION CHOICES

The Power of Connected Streets

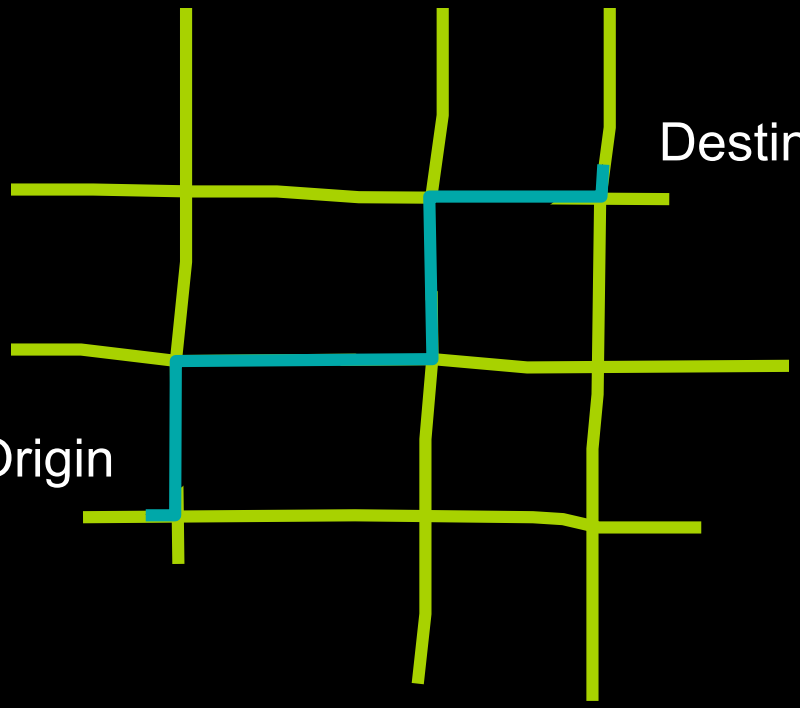


Going Mobile
MANAGING TRANSPORTATION CHOICES

The Power of Connected Streets

x= 2

y= 2

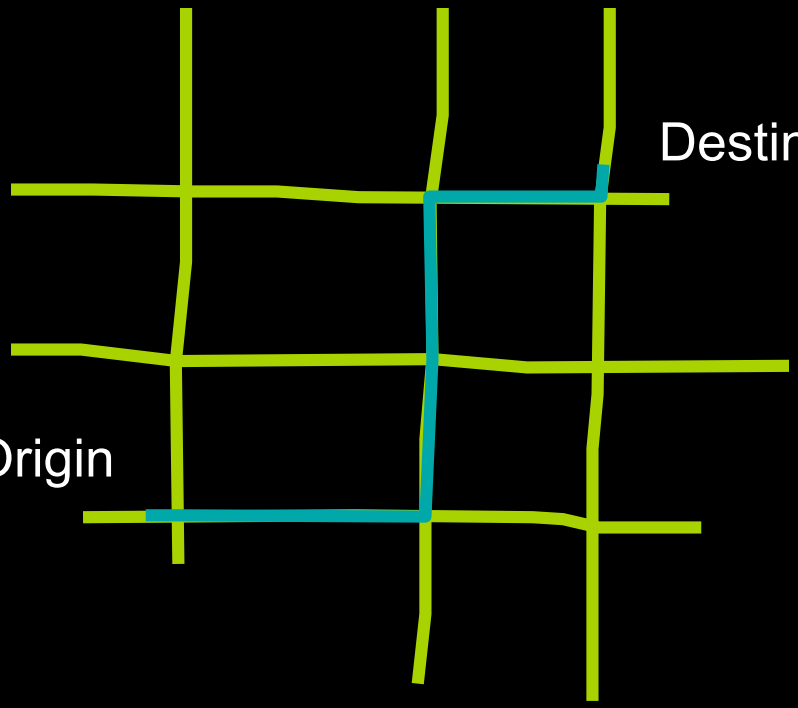


Going Mobile
MANAGING TRANSPORTATION CHOICES

The Power of Connected Streets

x= 2

y= 2

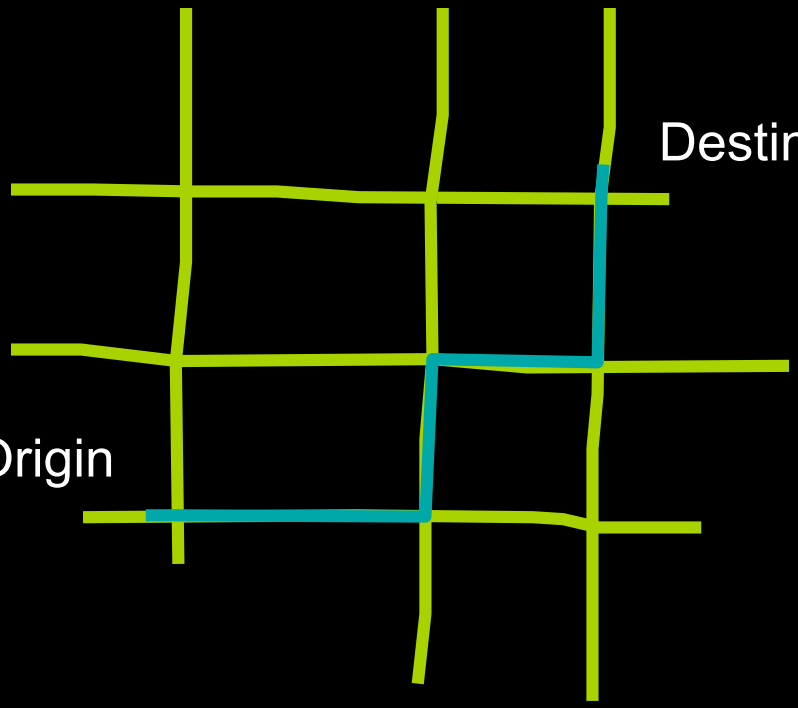


Going Mobile
MANAGING TRANSPORTATION CHOICES

The Power of Connected Streets

x= 2

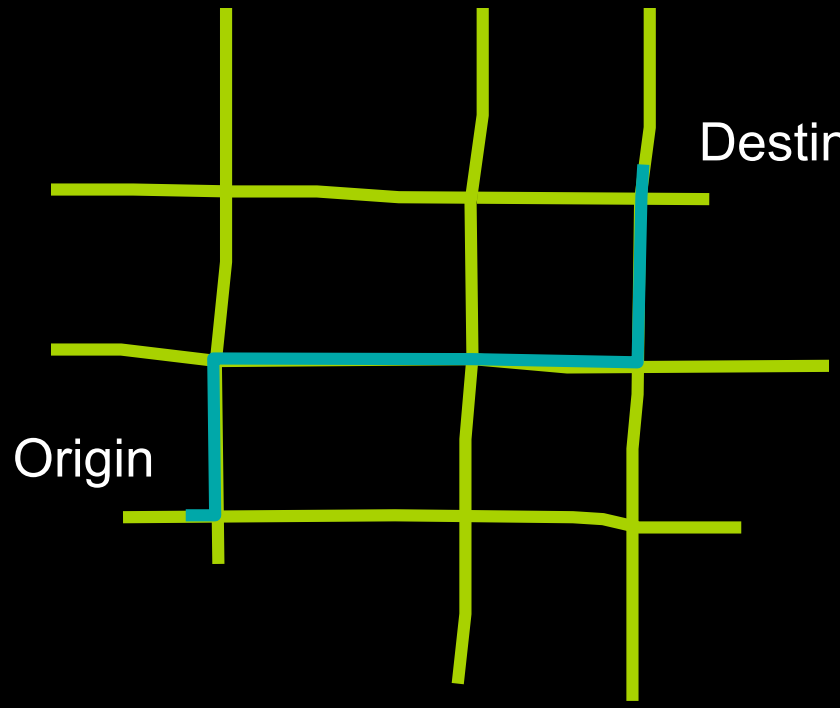
y= 2



Going Mobile
MANAGING TRANSPORTATION CHOICES

The Power of Connected Streets

x= 2



6 in all, without doubling back

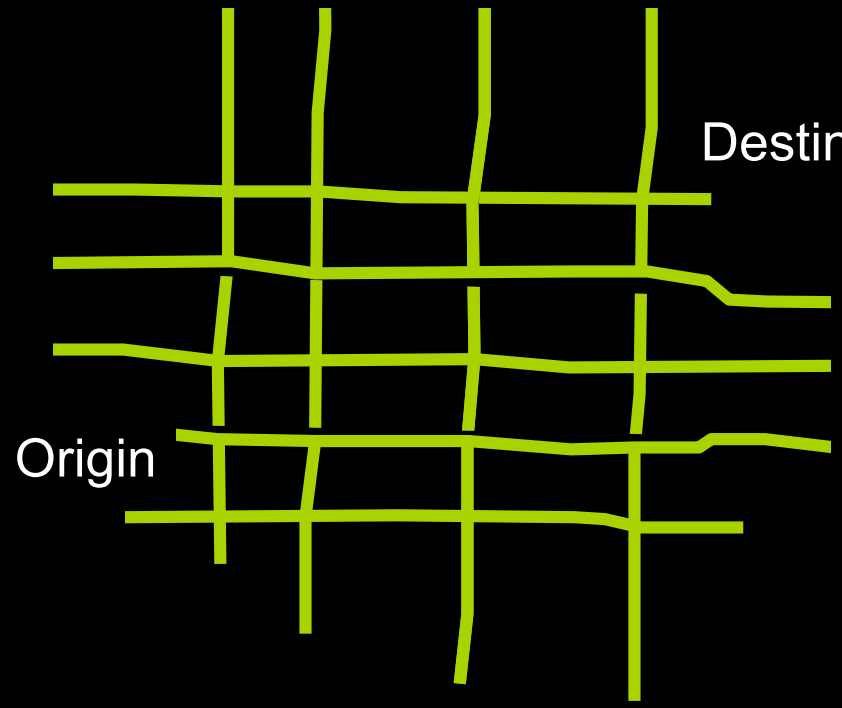
Connected

$$\frac{(x+y)!}{(x!)(y!)} = \text{\# of possible routes}$$

The Power of Connected Streets

x= 3

y= 4



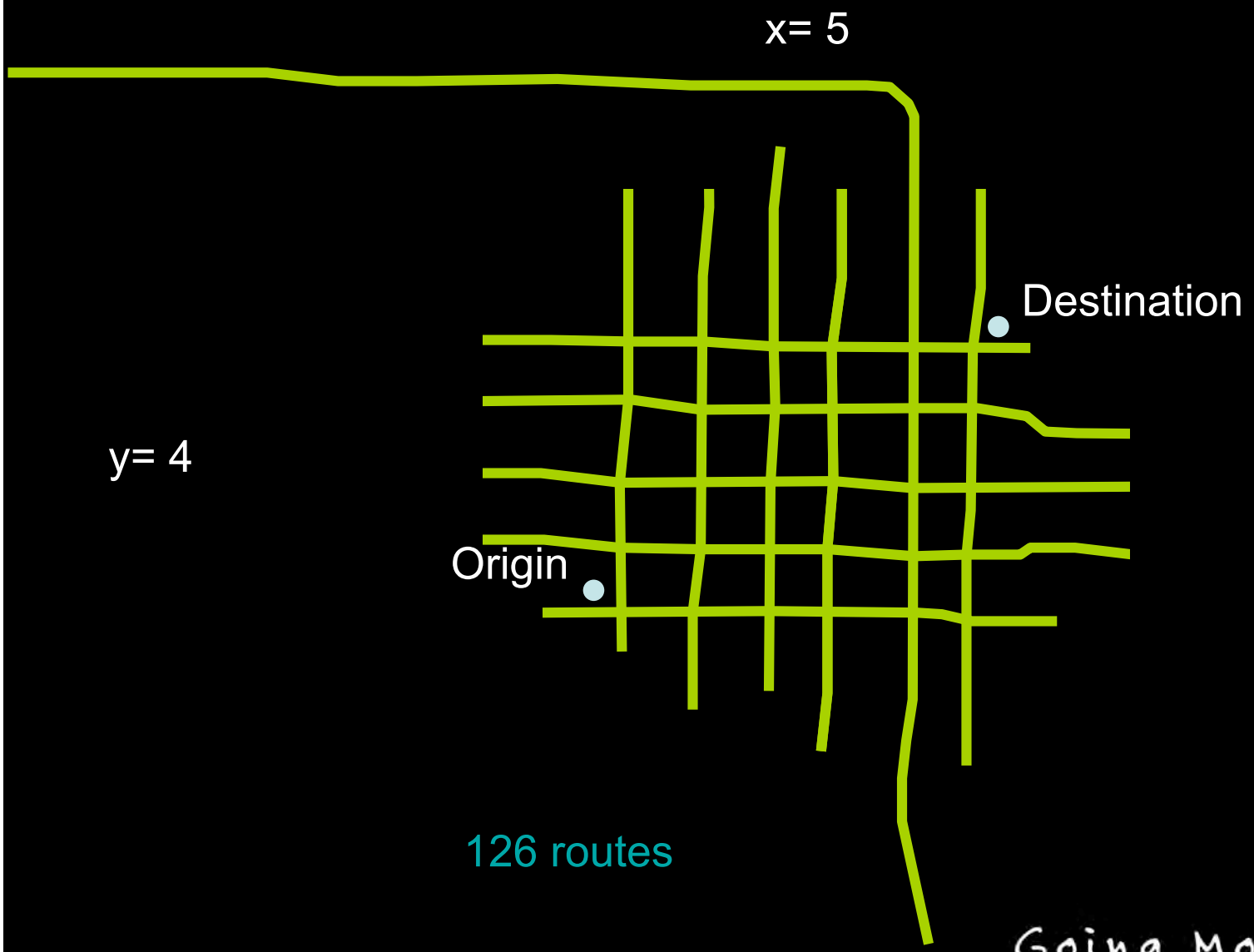
Going Mobile

MANAGING TRANSPORTATION CHOICES

35 routes

Community Academy

The Power of Connected Streets



Going Mobile
MANAGING TRANSPORTATION CHOICES

Community Academy

The Power of Connected Streets

12,870 routes

Going Mobile

MANAGING TRANSPORTATION CHOICES

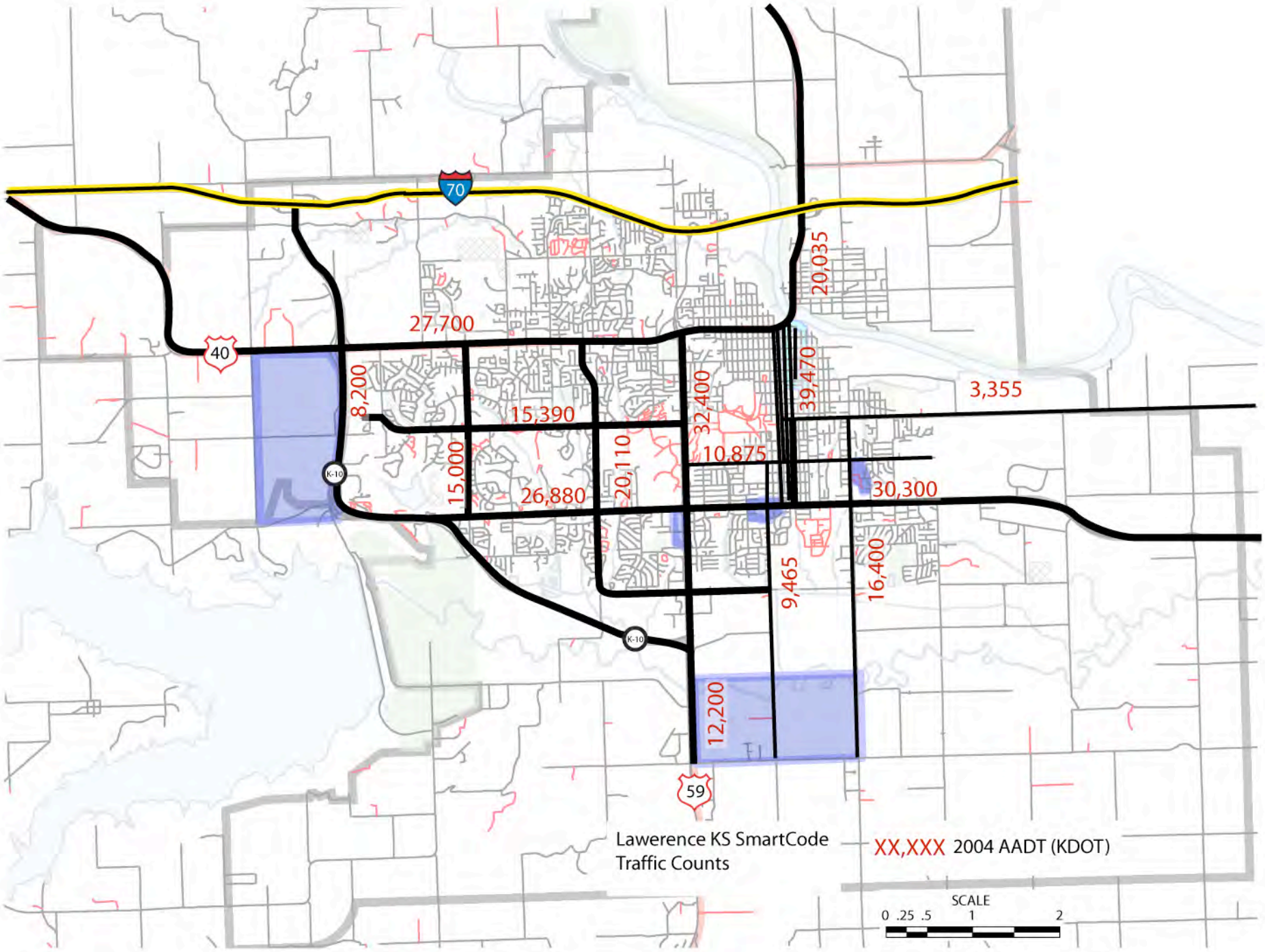
The Power of Connected Streets

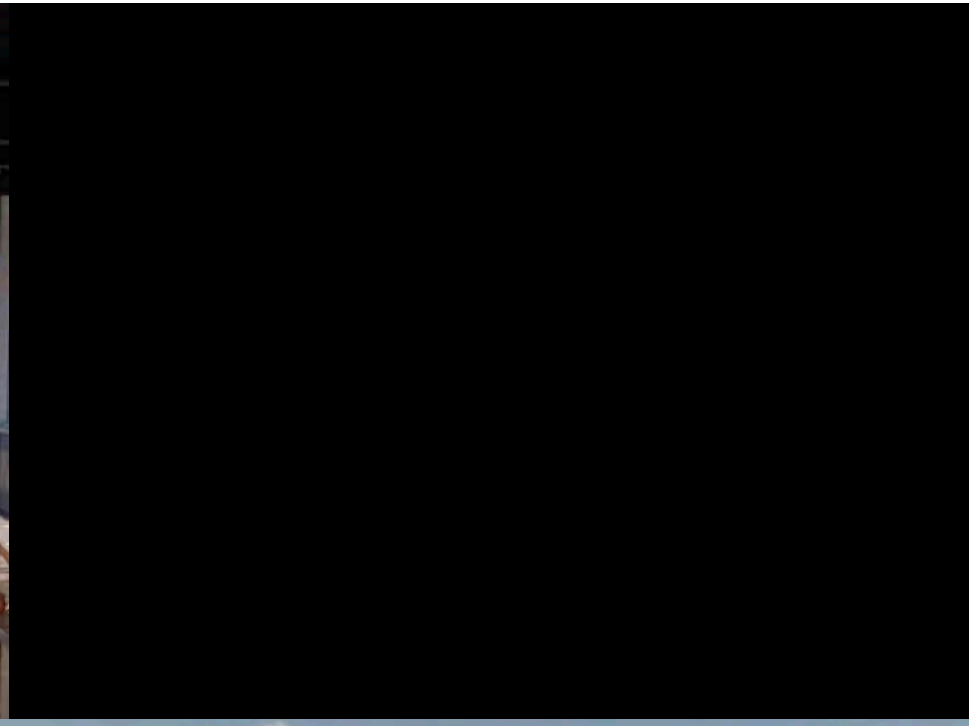
Connectivity

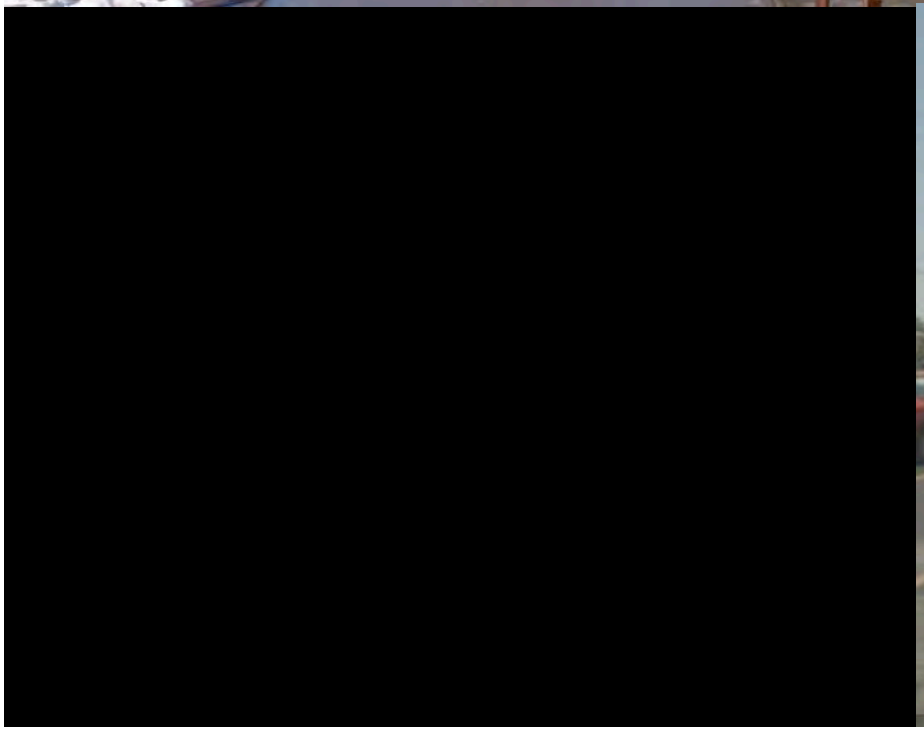
- Traditional street networks can move as much traffic as larger roads, but with fewer lanes per street
- Increased connectivity allows traffic to filter through at lower speeds
- Auto LOS is lower, but walkability and sense of place is much higher

Connectivity

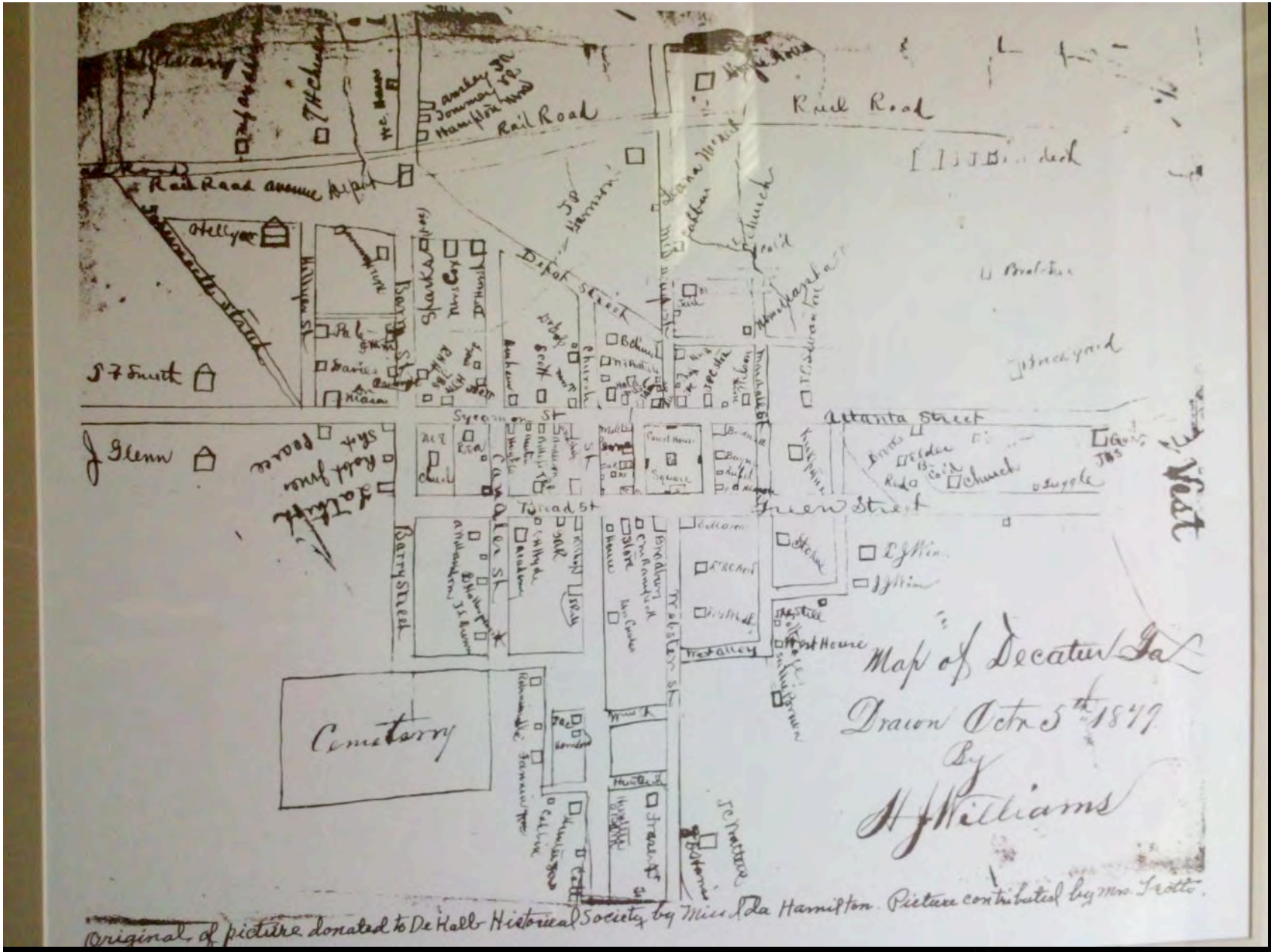
- North-south streets through downtown Lawrence, KS carry as much or more traffic than arterial Iowa Street
- Which street has more walkability – Mass Street downtown or Iowa Street?
- Iowa carried 32,000 trips/day (average in 2004
- Downtown streets combined carried 39,000 trips/day


70
40
K-10
K-10
59
27,700
8,200
15,390
15,000
26,880
20,110
32,400
10,875
39,470
20,035
3,355
30,300
9,465
16,400
12,200
Lawerence KS SmartCode
Traffic Counts
XX,XXX 2004 AADT (KDOT)
SCALE
0 .25 .5 1 2






Iowa Street / Vale Road
©2010 Google


Rail Road
Rail Road avenue
Depot Street
Atlanta Street
Green Street
Barry Street
Cemetarry
Map of Decatur Ga
Drawn Octr 5th 1847
By
H J Williams
Original of picture donated to DeKalb Historical Society by Miss Ida Hamilton. Picture contributed by Mrs. Scott.

Street Level:
Streets for People

Going Mobile

MANAGING TRANSPORTATION CHOICES

What is good “walkability”?

Going Mobile
MANAGING TRANSPORTATION CHOICES

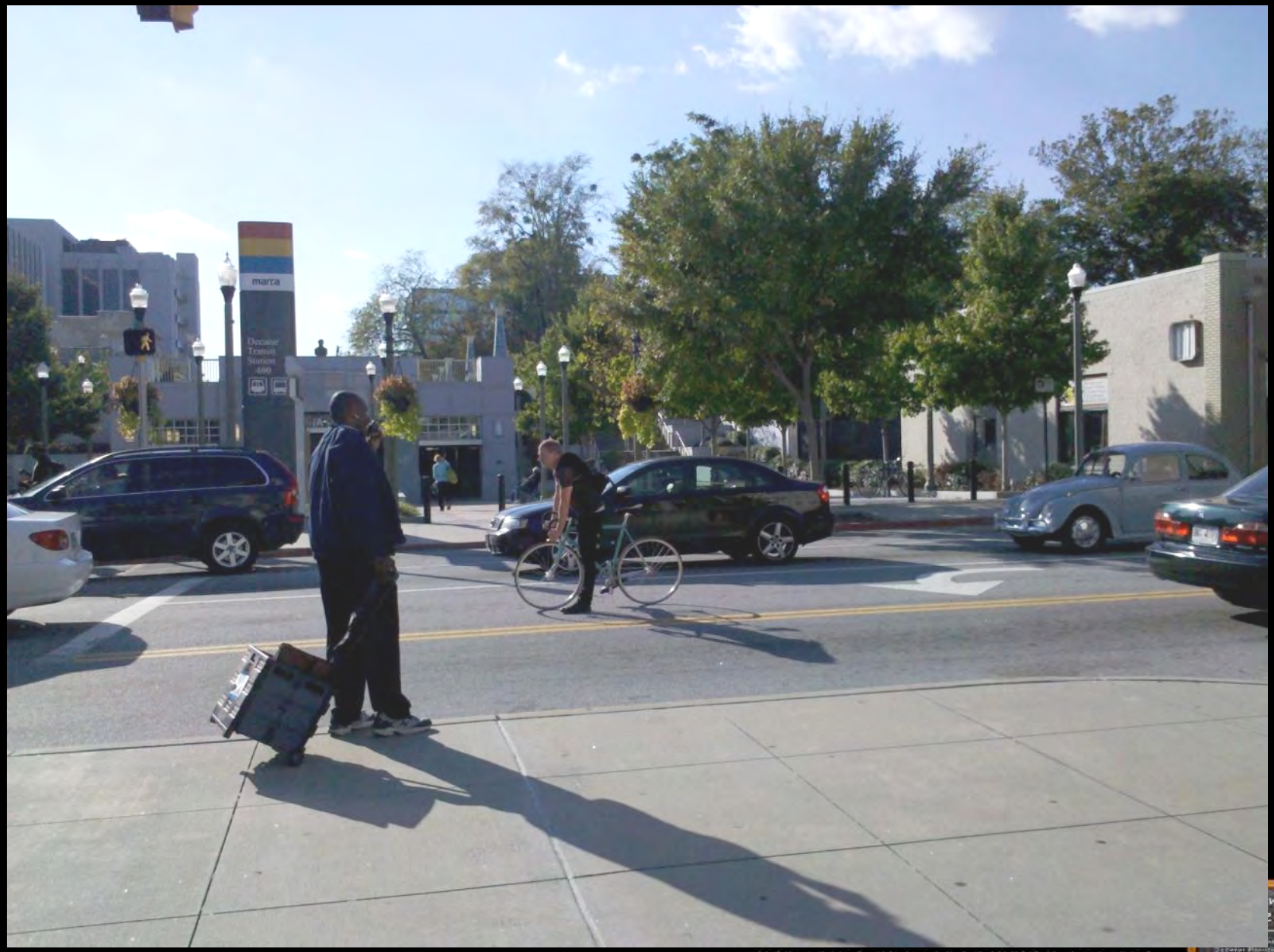

Recreation Walking
vs.
Destination Walking

MANAGING TRANSPORTATION CHOICES

Going Mobile

MANAGING TRANSPORTATION CHOICES

Community Academy



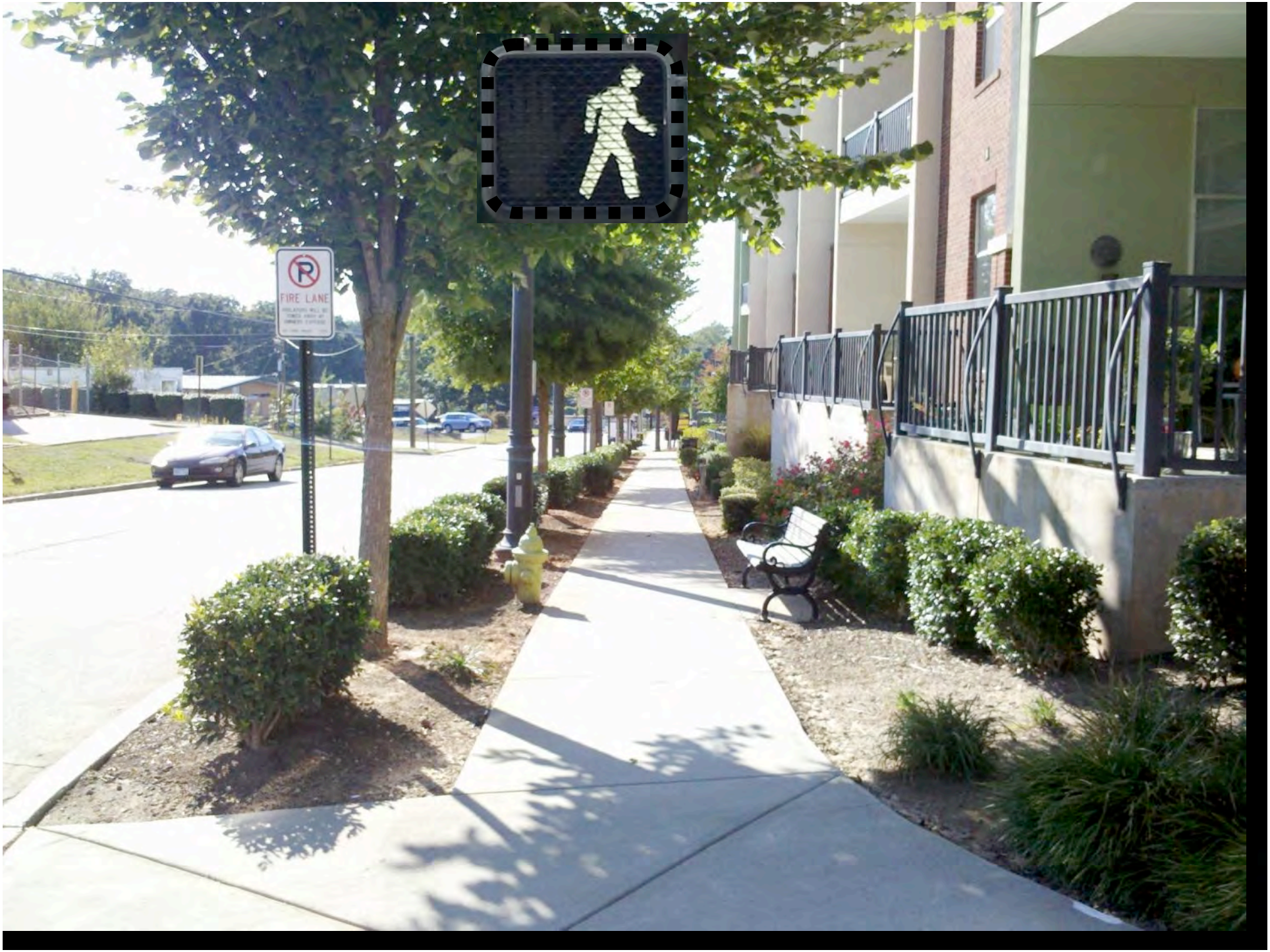
MANAGING TRANSPORTATION CHOICES

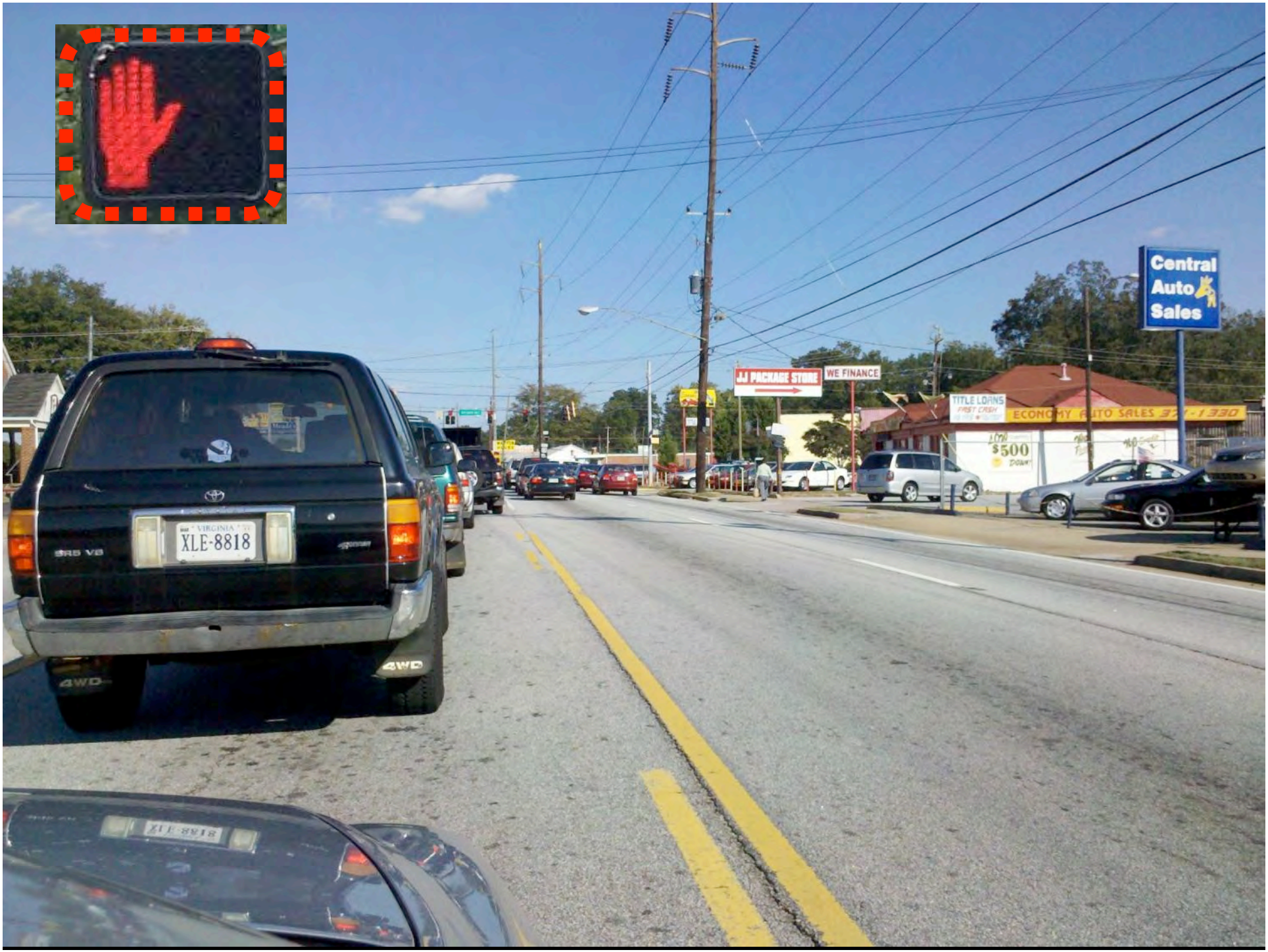

Faïence
ONE WAY


Quimper
Faïence
Yves Delorme
PARIS


SAN'WICH
99¢
99 5PC CHICK
AutoZone
Discount Auto Parts
BEACHFRONT HOTEL
Cayo Grande
LOUNGE


Market
Square
JWX 295

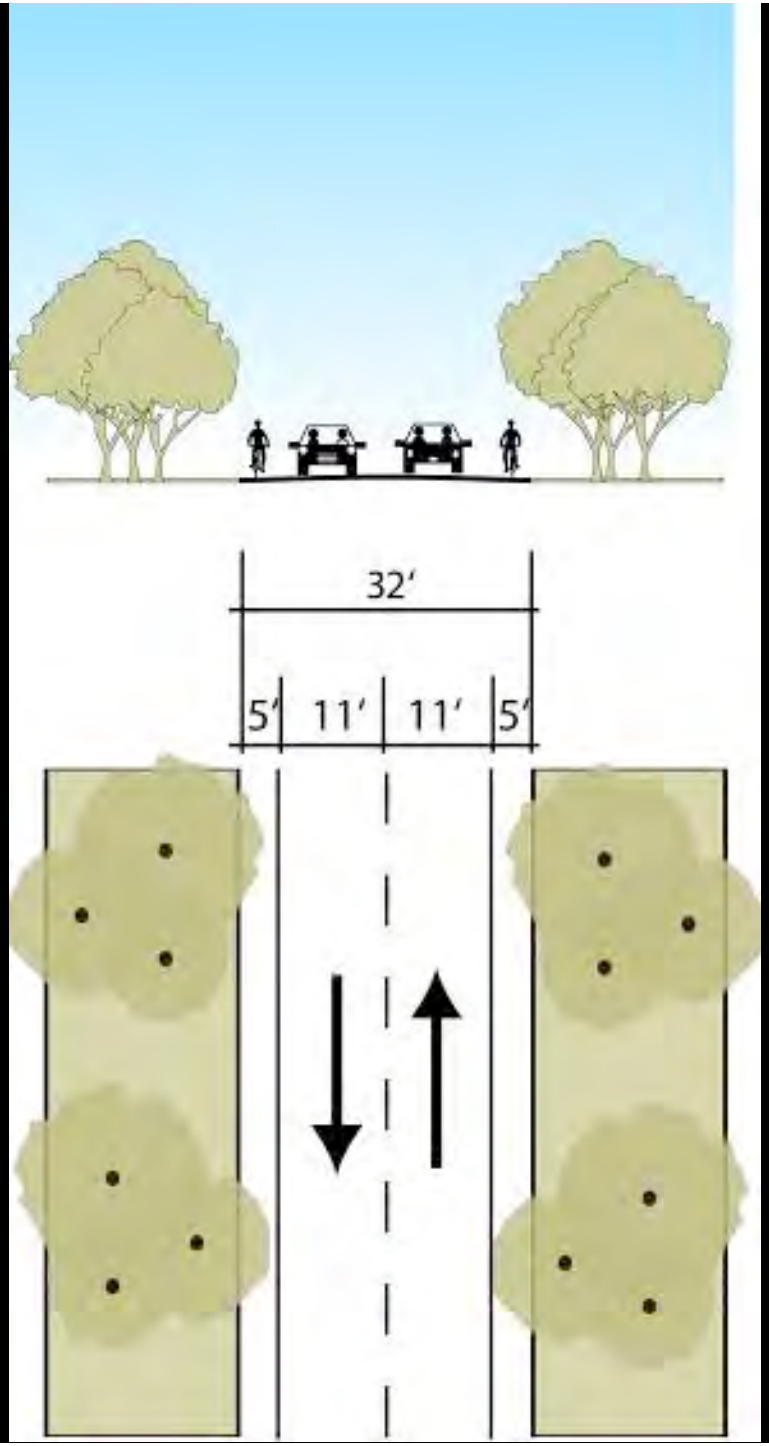

FIRE LANE

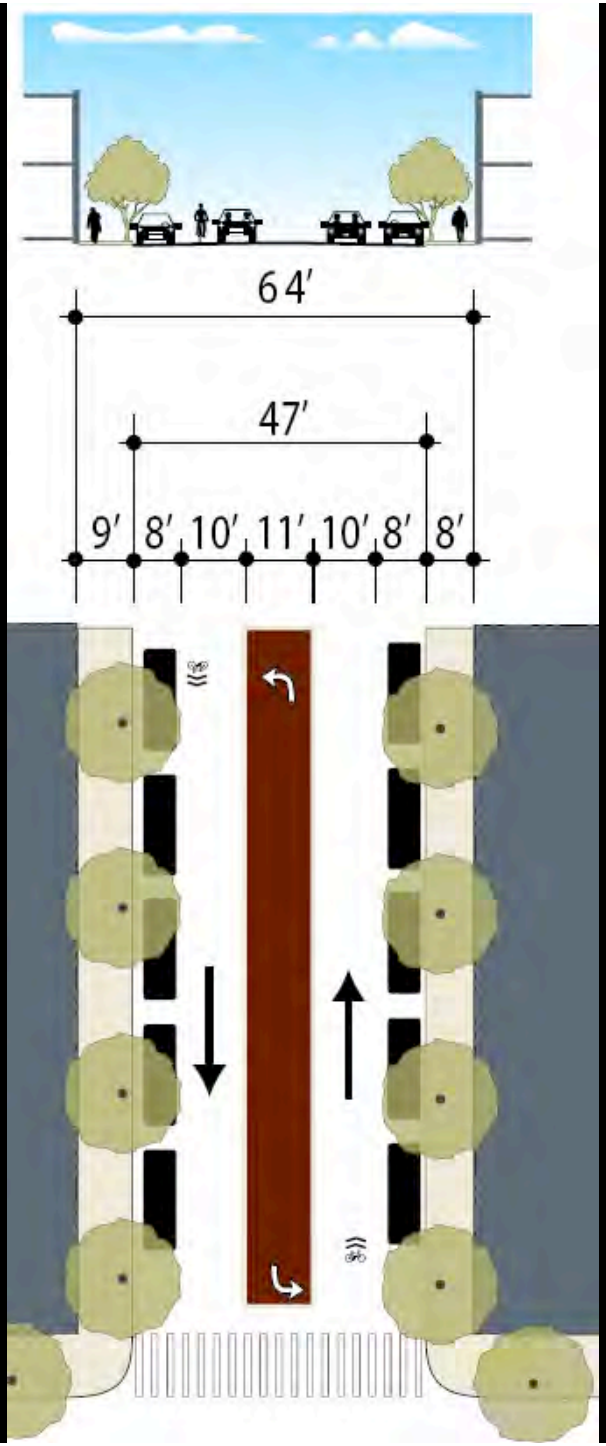

Central
Auto
Sales
JJ PACKAGE STORE
WE FINANCE
TITLE LOANS
$500
VIRGINIA
XLE-8818
4WD

Organizing by context

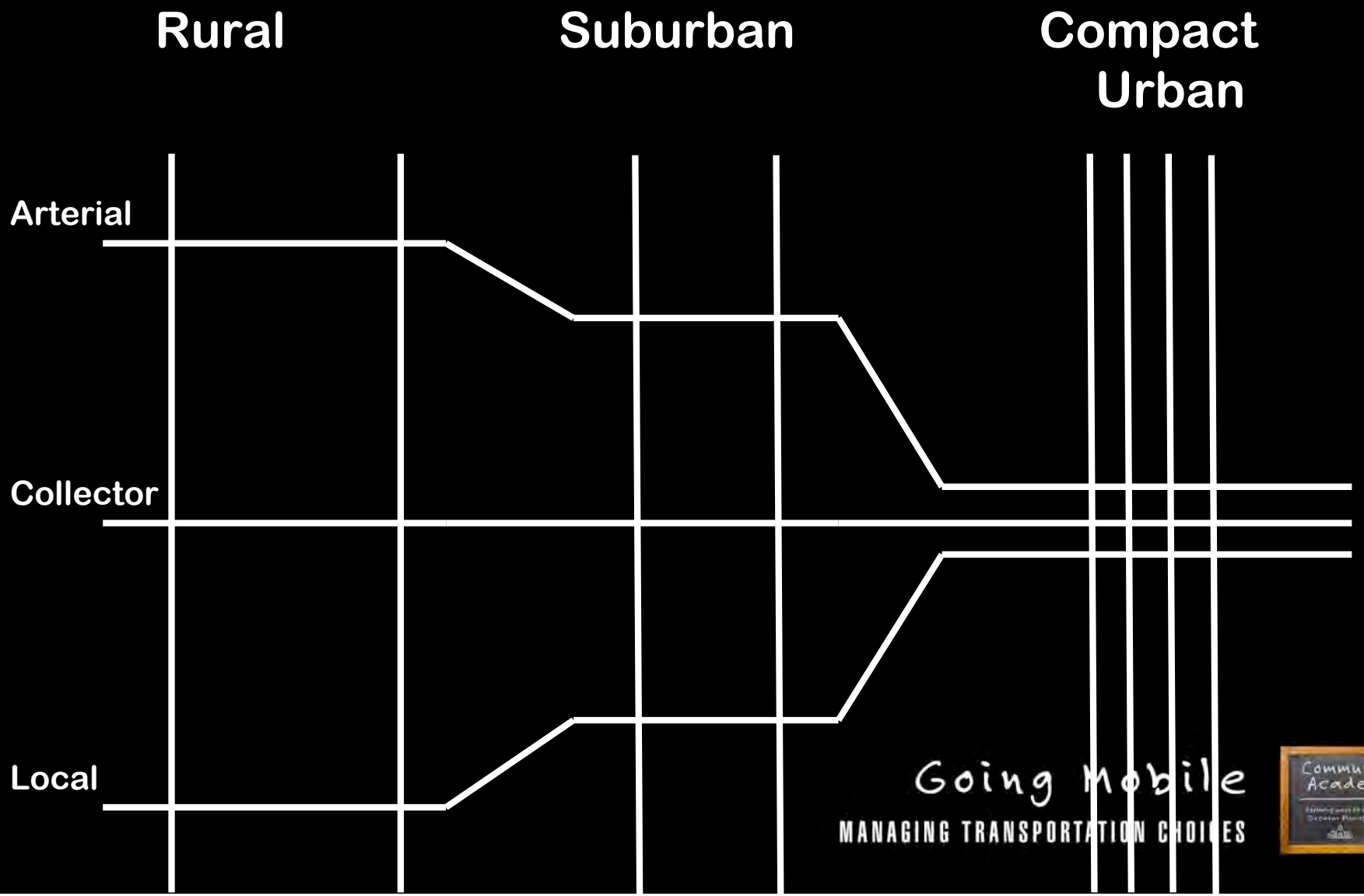
Dover, Kohl & Partners

Going Mobile
MANAGING TRANSPORTATION CHOICES


32′
5′
11′
11′
5′


64′
47′
9′
8′
10′
11′
10′
8′
8′

Functional classification



Going Mobile
MANAGING TRANSPORTATION CHOICES

Community Academy

Context Determines Design

- Streets must reflect, not define, land use
- Walkable streets are inherently bike-able
- What does walkability mean for street design?
- Ex. Commerce Ave street trees

More Population, but Fewer Trips

In spite of increased development, traffic counts in Decatur have remained relatively unchanged. We have worked to discourage through traffic and encouraged the use of MARTA, bicycling and walking as alternatives to driving. Our efforts to increase downtown residential opportunities and develop more local retail and restaurant businesses have helped reduce the number of necessary auto trips and encouraged a "park once" opportunity within downtown Decatur. The addition of the free CLIFF shuttle system between downtown Decatur, Emory and Clifton Corridor employee centers has also reduced automobile trips.

Year	PDL*	WPDL	EPDL	Scott	Clairemont
1992	33,449	10,921	17,810	32,432	22,561
1999	42,471	11,415	13,013	33,664	17,814
2004	32,100	10,960	11,870	30,300	18,940

*PDL = Ponce de Leon Avenue (measurement taken at East Lake Drive); WPDL = W. Ponce de Leon; EPDL = E. Ponce de Leon.

Source – Georgia DOT website

Top 10 Walkability Factors – Urban Form

- 10. Narrow Streets
- 9. Street Trees
- 8. Traffic Volumes
- 7. Sidewalks
- 6. Interconnected Streets
- 5. On Street Parking
- 4. Lower Traffic Speeds
- 3. Mixed Land Use
- 2. Buildings Fronting St.
- 1. Small Block Size!

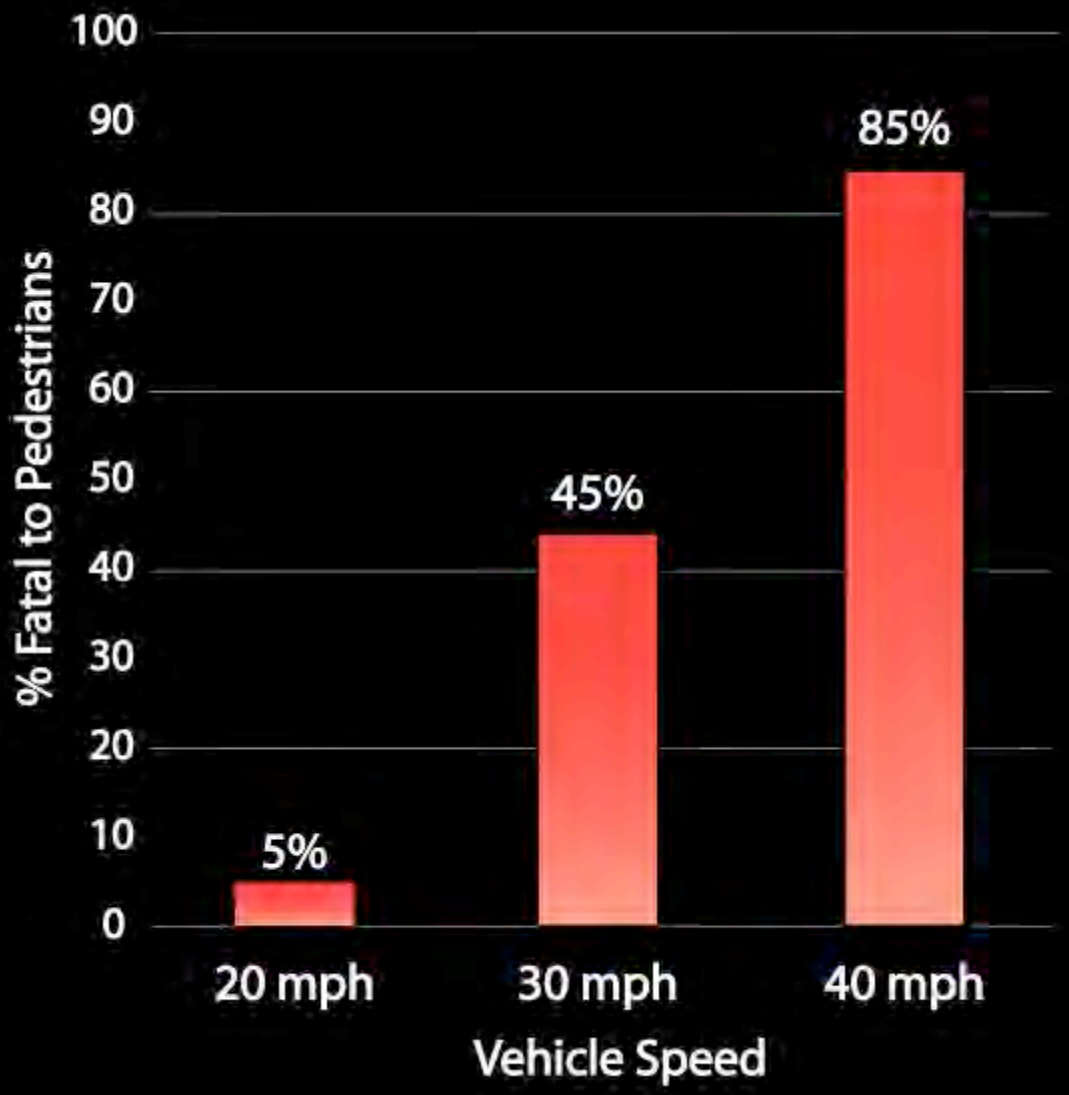
Going Mobile
MANAGING TRANSPORTATION CHOICES

Top 3 Walkability Factors – Pedestrians

- 3. Vehicle Speed
- 2. Vehicle Speed
- 1. Vehicle Speed

Going Mobile
MANAGING TRANSPORTATION CHOICES

Pedestrian Fatalities & Speed

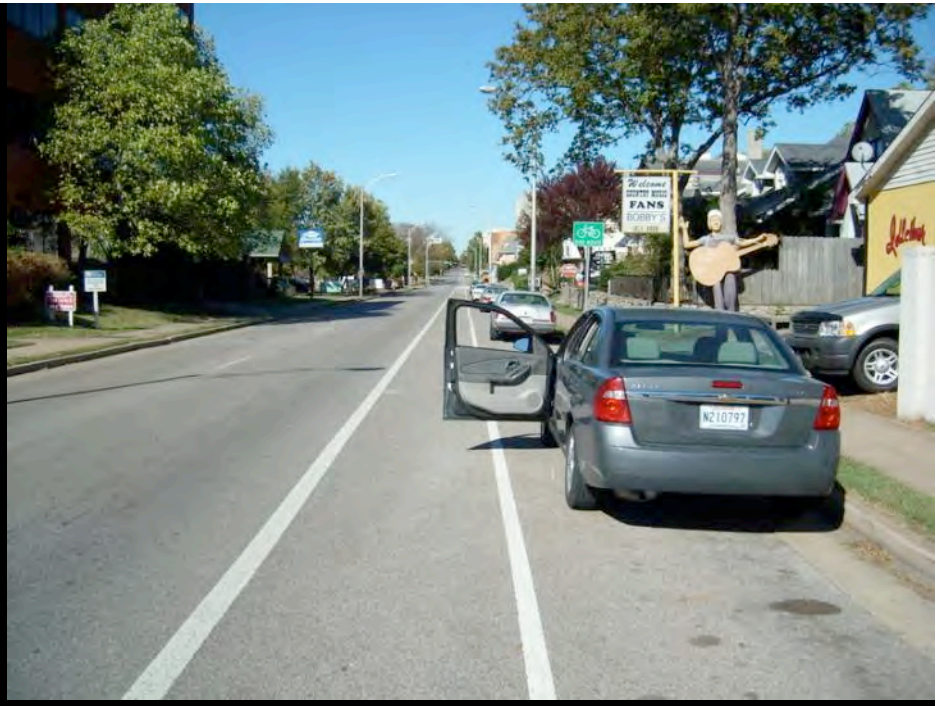


bile
I CHOICES

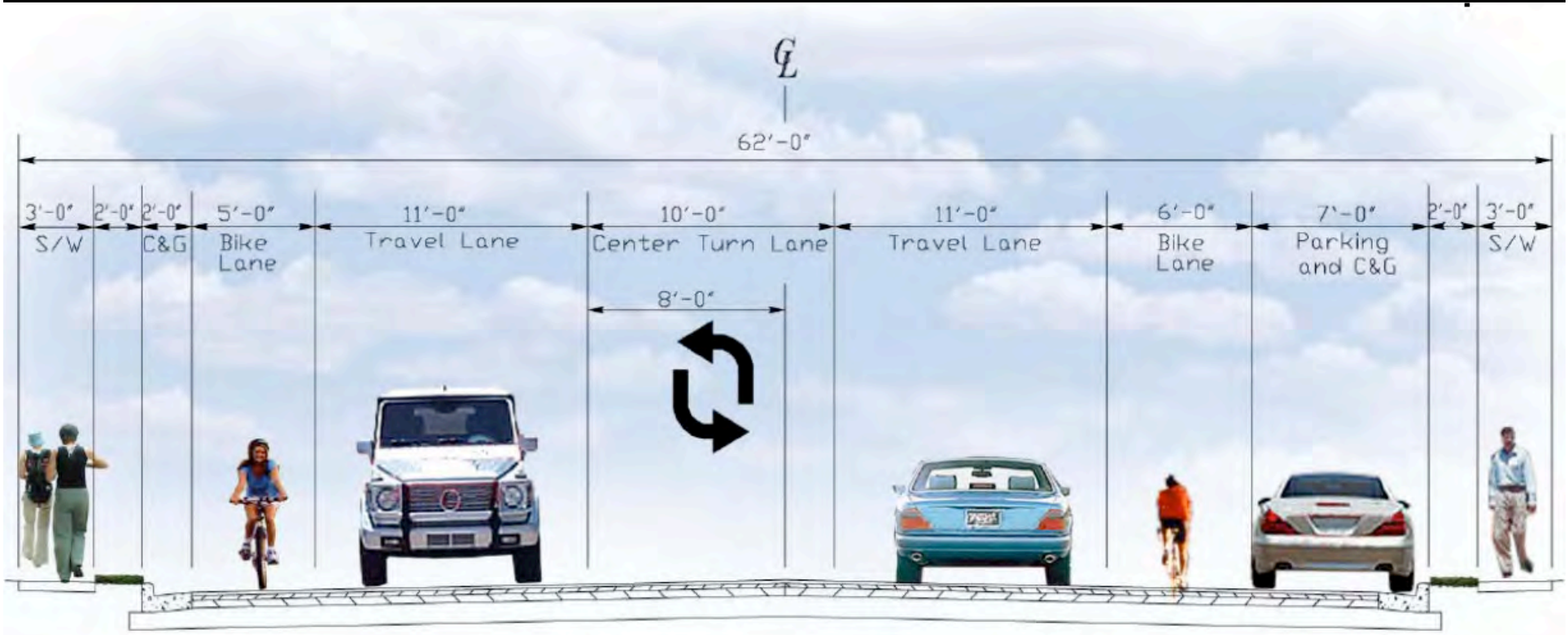
Community Academy

Humane Streets

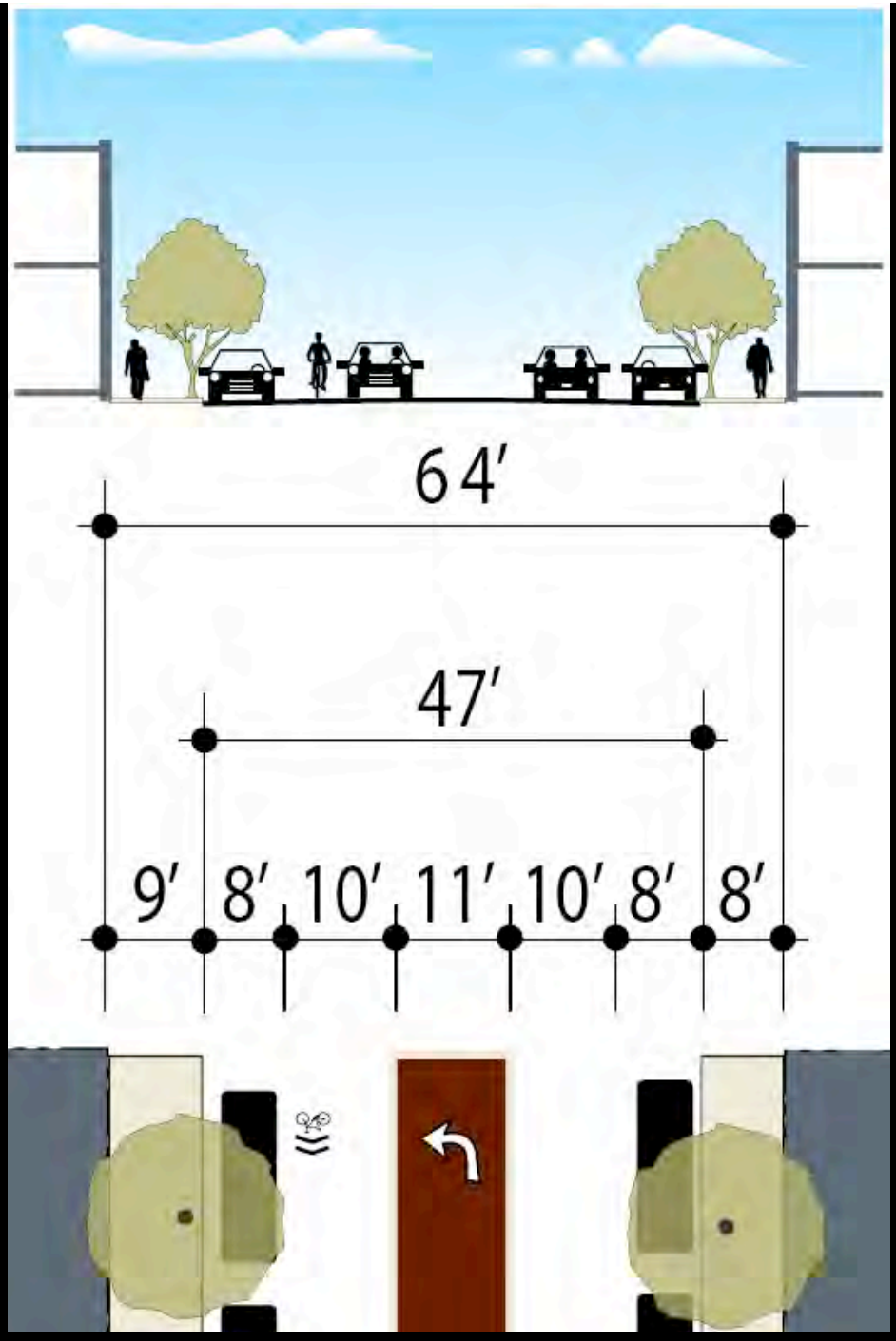

STOP


FANS
BOBBY'S


Law Offices
Douglass Law Firm
Sniffen Law Firm
211
SHARE THE ROAD



Bike Lane Option with Parking on One Side (Looking North)



Going Mobile

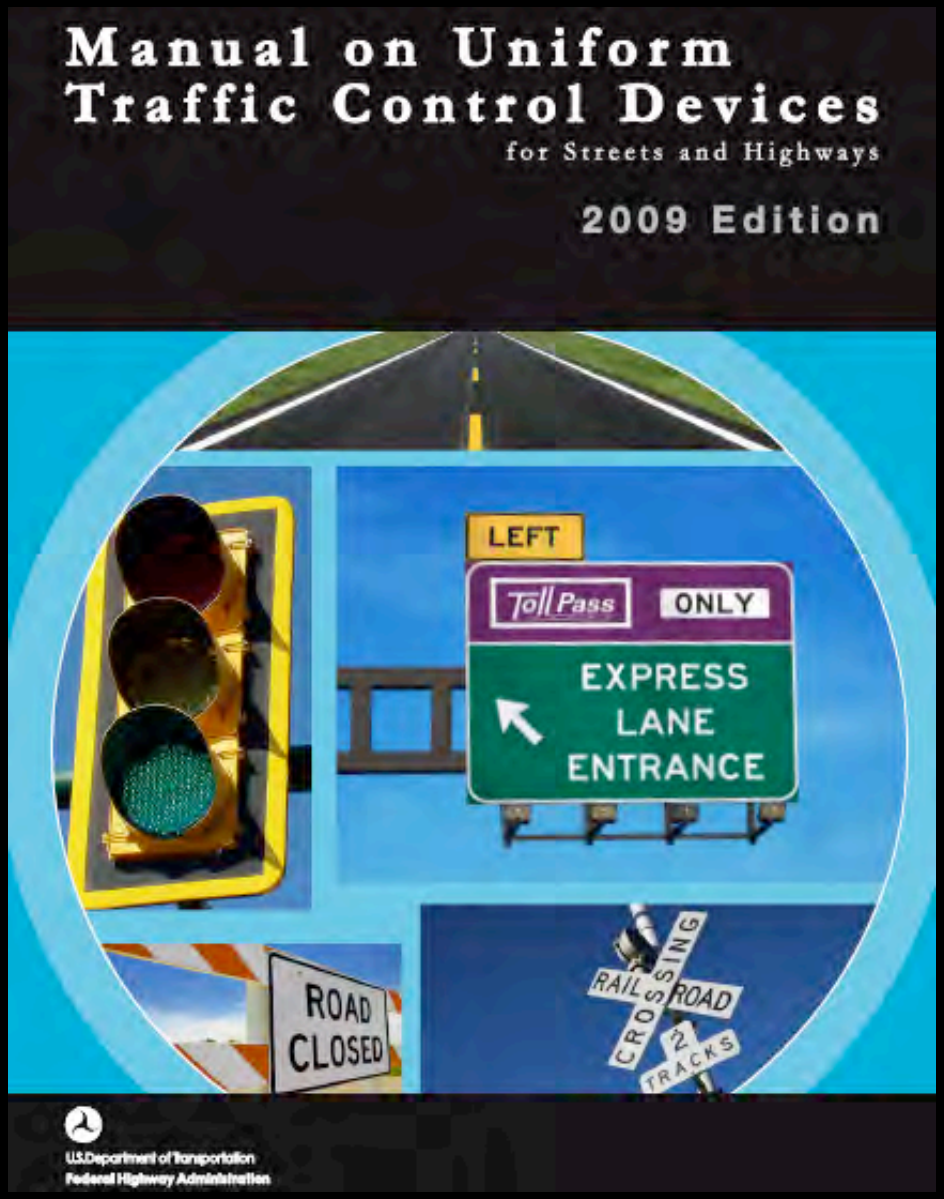
MANAGING TRANSPORTATION CHOICES

Community Academy

Going Mobile

MANAGING TRANSPORTATION CHOICES

Community Academy



Going Mobile

MANAGING TRANSPORTATION CHOICES

Transit

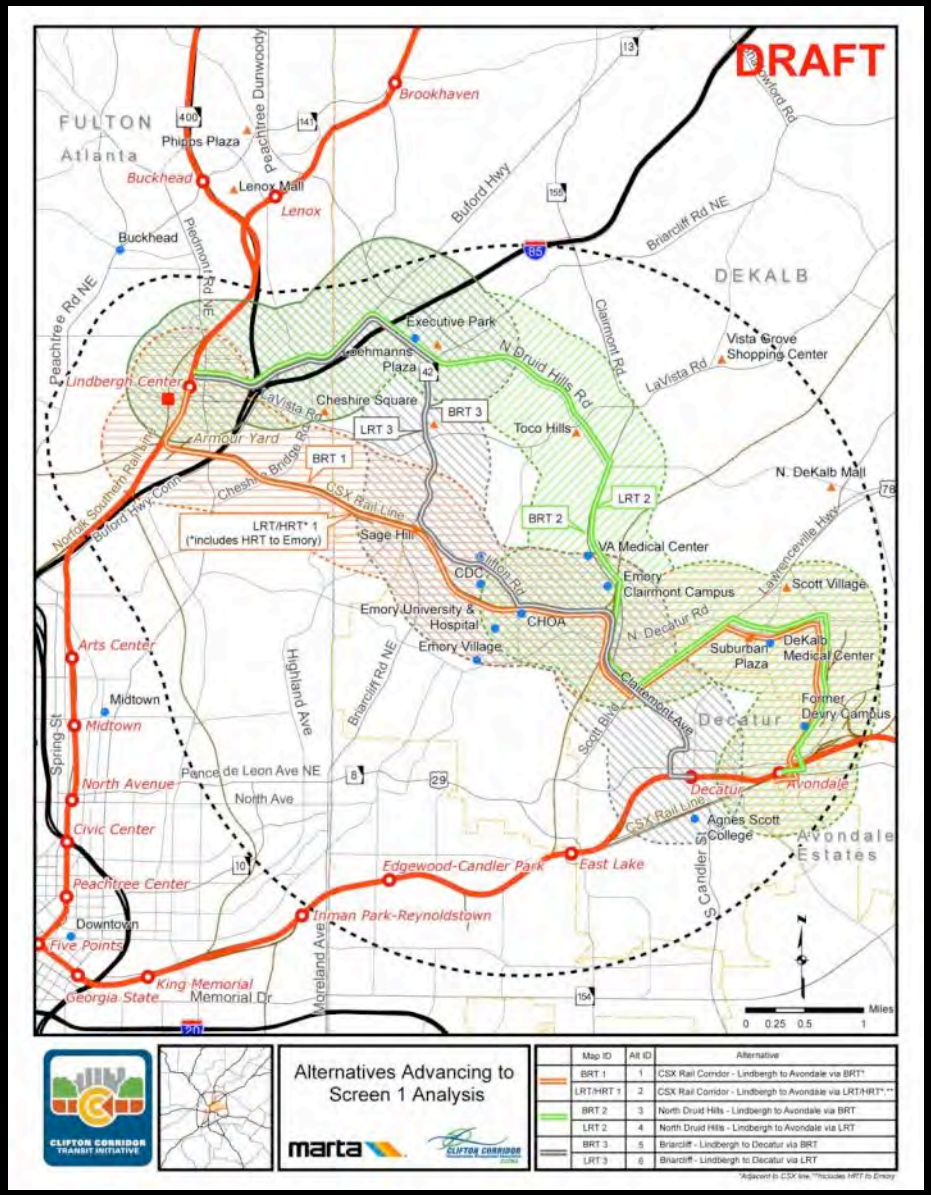
Going Mobile

MANAGING TRANSPORTATION CHOICES

Transit

- Can also be organized by context
- Decatur has more options than most similarly-sized towns

On Marta's Drawing Board



Going Mobile

MANAGING TRANSPORTATION CHOICES

Community Academy

Identifying the Characteristics of Successful Local Transit Circulator Systems in Residential Areas of Southeast Florida

Marlo Chavarria
Principal Investigator

Joel Volinski
Co-Principal Investigator

NCTR at CUTR

December 2004

Going Mobile
MANAGING TRANSPORTATION CHOICES

- 8 community bus programs in Broward CO Florida
- Found high correlation to population density
- Operated in support of regional transit system

Table 5.1

City	Population Density	Household Median Income	Owner HH without car	Renter HH without car	Service Frequency	Fare	Service Span	Days of Service	Contract	Pass. Per Hour	# of Connect-ing Routes
Dania Beach	3,272	$32,043	5.4%	19.6%	40 Minutes	Free	9 am – 5 pm	M-F	Yes	7.05	7
Cooper City	3,317	$69,995	2.1%	8.3%	60 Minutes	Free	8 am – 4 pm	M-S	No	5.48	4
Coral Springs	5,548	$52,946	3.9%	11.5%	60 Minutes	Free	8 am – 6 pm	M-F	Yes	12.38	6
Lauderdale Manors	6,542	$29,417	8.0%	32.9%	60 Minutes	Free	6:30 am-6:30pm	M-F	Yes	16.0	2
Margate	5,773	$45,697	8.0%	12.7%	60 Minutes	$.25	7 am – 7 pm	M-S	No	11.54	9
Plantation	4,920	$45,272	7.0%	12.0%	45 Minutes	Free	7 am – 4:30 pm	M-F	Yes	6.47	13
Miramar	4,434	$44,786	6.8%	12.4%	60 Minutes	$.25	6:45 am - 6:55 pm	M-F	No	7.2	8
Lauderhill	8,179	$32,070	15.0%	20.0%	45 Minutes	Free	6:30am-6:55 pm	M-F	Yes	22.0	13

- .833 correlation between population density and pass. per hour

- Average cost of $2.18/trip
- $1.98 trip for regular service
- $17/trip for paratransit
- -.58 correlation between income and ridership

Parking

Going Mobile

MANAGING TRANSPORTATION CHOICES

Parking

- Estimated value of one adjacent on-street space: $200,000/year in retail sales (Bob Gibbs)
- 85% full, is full
- Use parking pricing to control turnover
- See “High Cost of Free Parking” Donald Shoup


P
PARK, PAY & DISPLAY
2 HOURS MAXIMUM
WEST SIDE STORY 5

Table 1: Minimum Parking Requirements for the City of Decatur

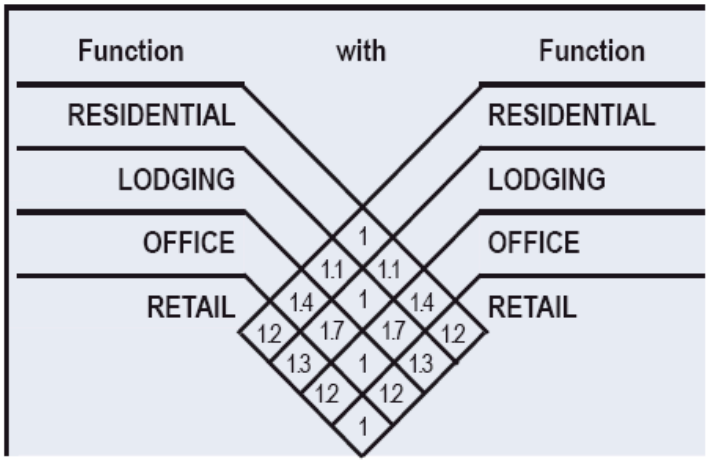
Single-family dwellings	1 space per dwelling unit
Townhouses / high-density single-family dwellings	1.5 spaces per unit
High-rise residential / RMH district	1 space per unit
Senior housing	1 space per 2.25 units
General retail	1 space per 200 square feet
General office including government	1 space per 400 square feet
Restaurants	1 space per 100 square feet
Hotels and motels	1 space per 1.25 guestrooms

Source: Decatur Zoning Ordinance, Decatur Community Transportation Plan

REQUIRED PARKING (See Table 10)

	T2 T3	T4	T5 T6
RESIDENTIAL	2.0 / dwelling	1.5 / dwelling	1.0 / dwelling
LODGING	1.0 / bedroom	1.0 / bedroom	1.0 / bedroom
OFFICE	3.0 / 1000 sq. ft.	3.0 / 1000 sq. ft.	2.0 / 1000 sq. ft.
RETAIL	4.0 / 1000 sq. ft.	4.0 / 1000 sq. ft.	3.0 / 1000 sq. ft.
CIVIC	To be determined by Warrant		
OTHER	To be determined by Warrant		

SHARED PARKING FACTOR



from each building served (Section 8.1.4). Restaurants, theatres, nightclubs and similar uses can share up to 50% of their required spaces with office and retail uses not normally open during the same hours (8.1.5). Places of worship can share up to 100% of their spaces with uses that have a different peak parking demand.

Going Mobile

MANAGING TRANSPORTATION CHOICES

Community Academy

Going Mobile

MANAGING TRANSPORTATION CHOICES

Community Academy