

COMPLETE STREETS IMPLEMENTATION

CREATING WALKABLE PIEDMONT COMMUNITIES WORKSHOP, MARCH 31, 2023

ALIA ANDERSON, AICP

T'OOLE
DESIGN



@TOOLEDESIGN



ALIA ANDERSON, AICP

AT WORK, I LEAD TOOLE DESIGN'S PLANNING PRACTICE AND HELP CITIES ADAPT THEIR TRANSPORTATION SYSTEMS TO TODAY'S NEEDS. MY WORK FOCUSES ON CREATING SAFER STREETS THAT PUT PEOPLE FIRST.



TOOLE
DESIGN

INTRODUCTION

HIGHWAYS

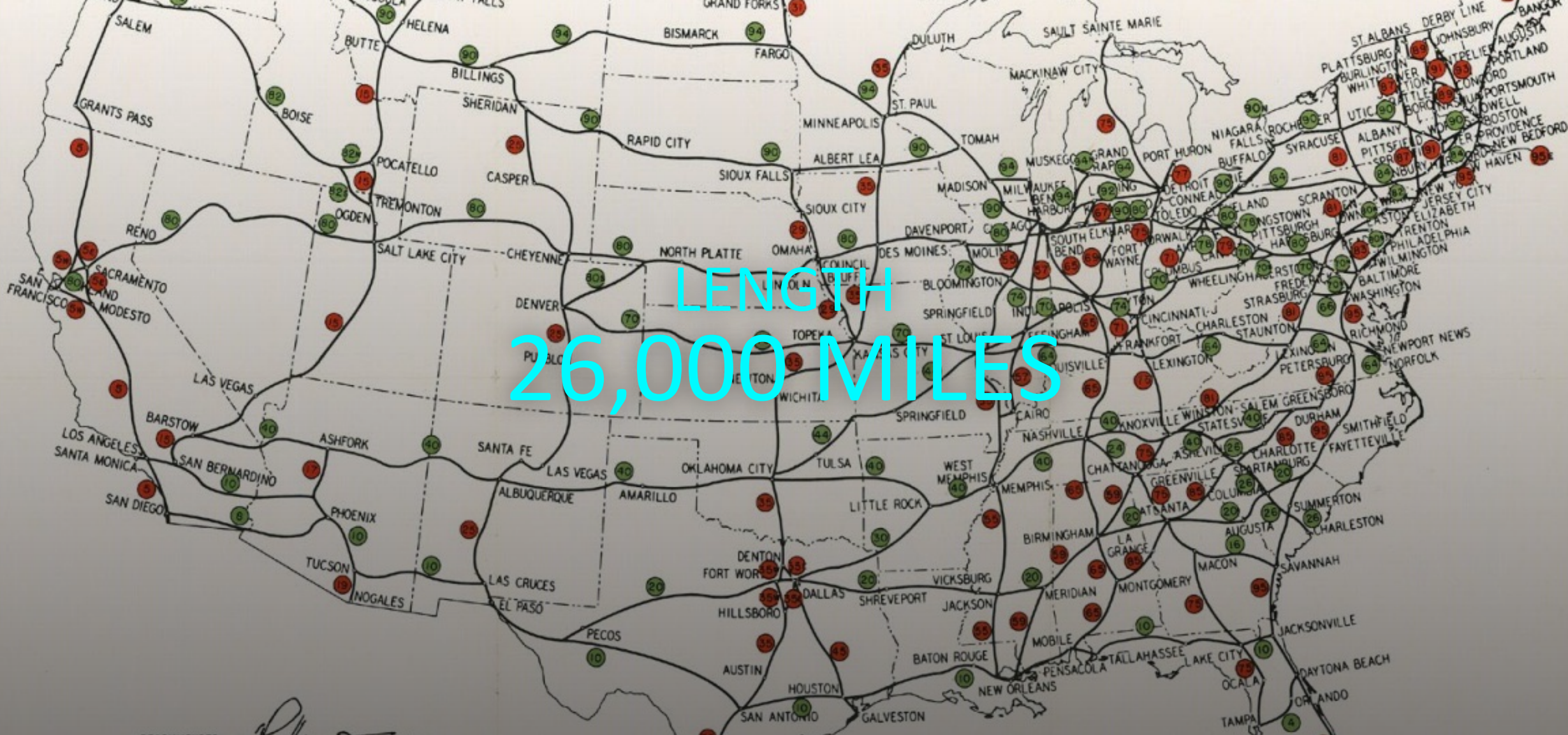
Roads originally intended to link but not intrude into cities



90% FEDERALLY FUNDED



Image Credit: Washington Post

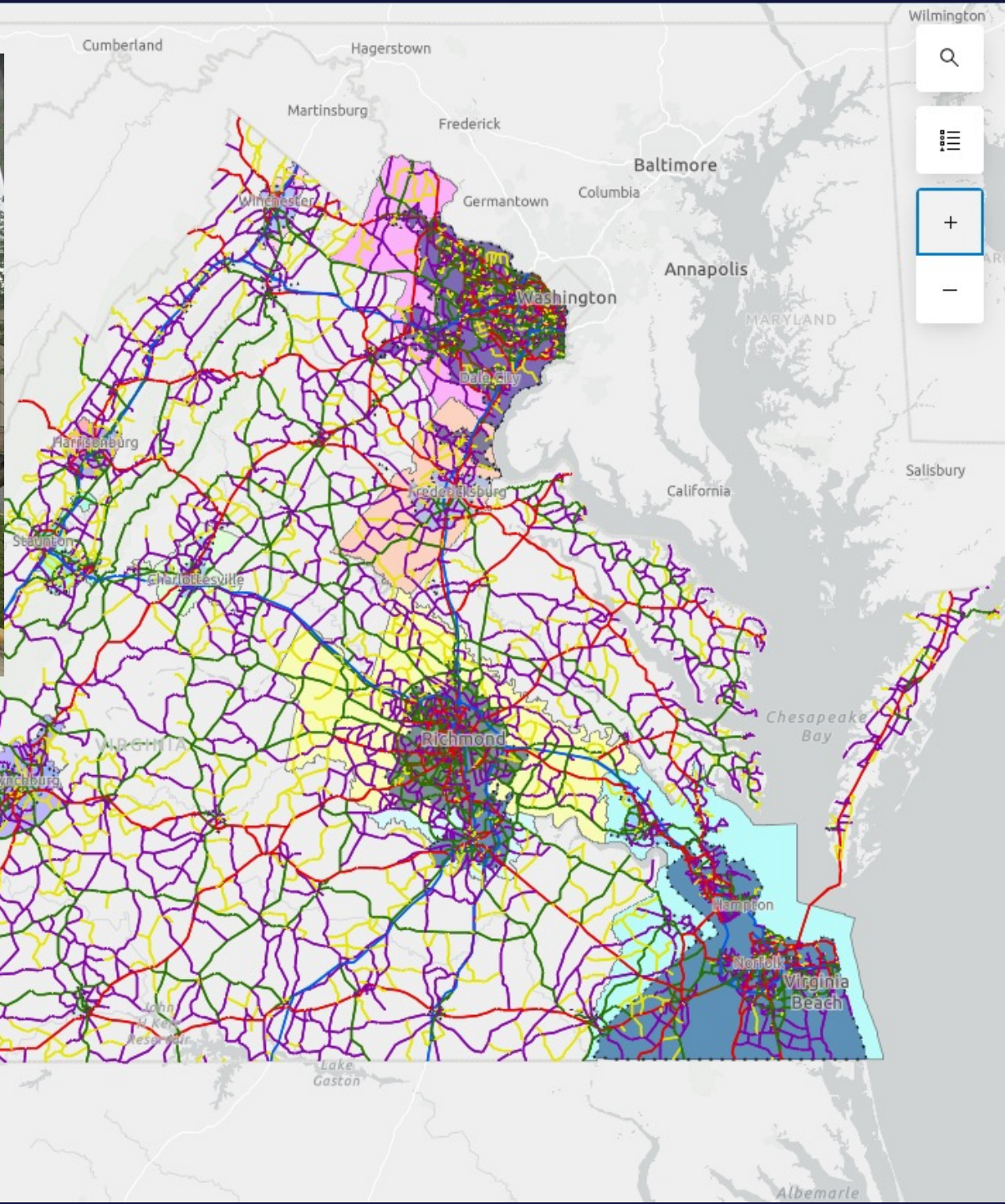


Interstate highway system

We built 26 thousand miles of highways in 15 years.



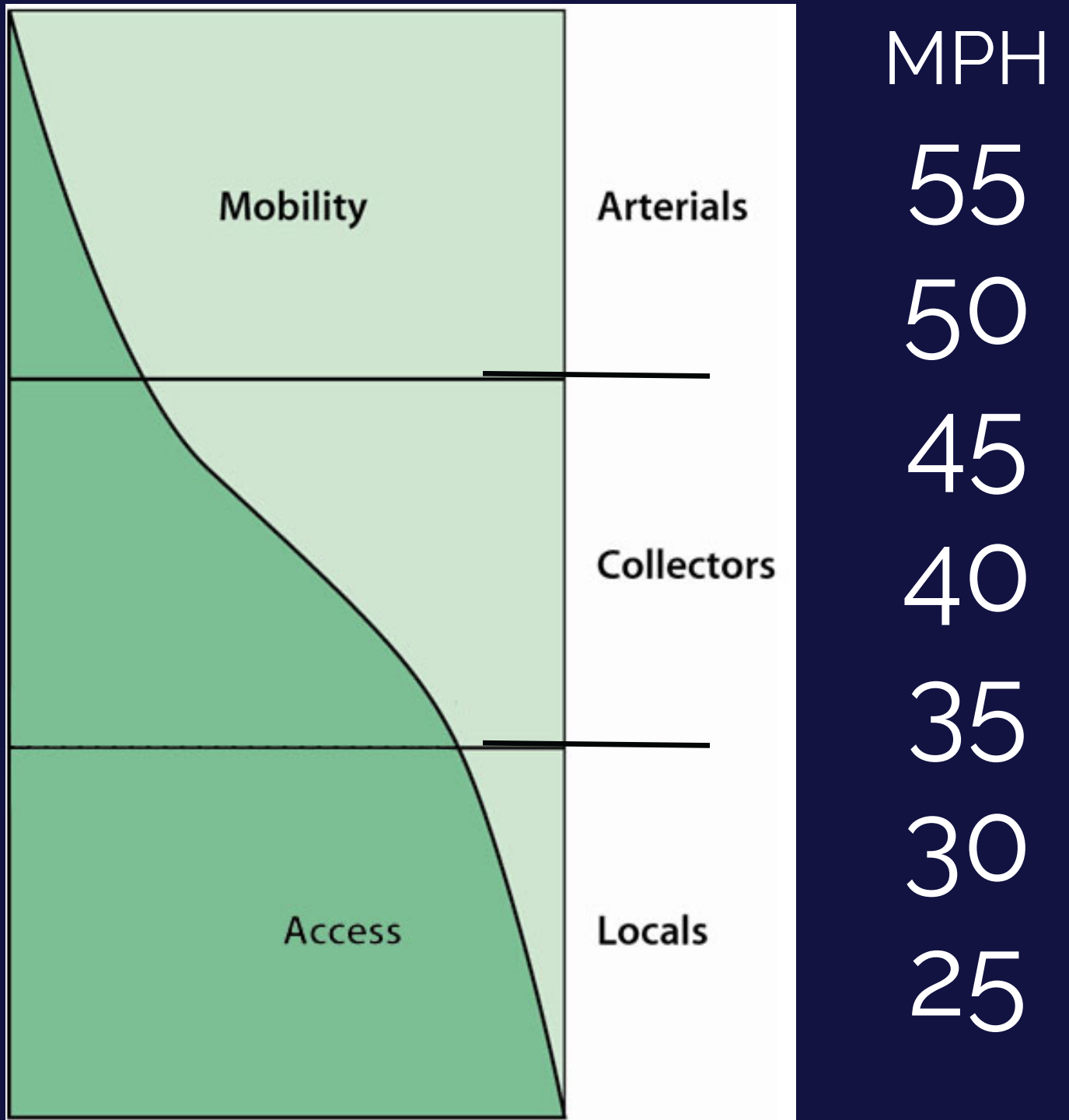
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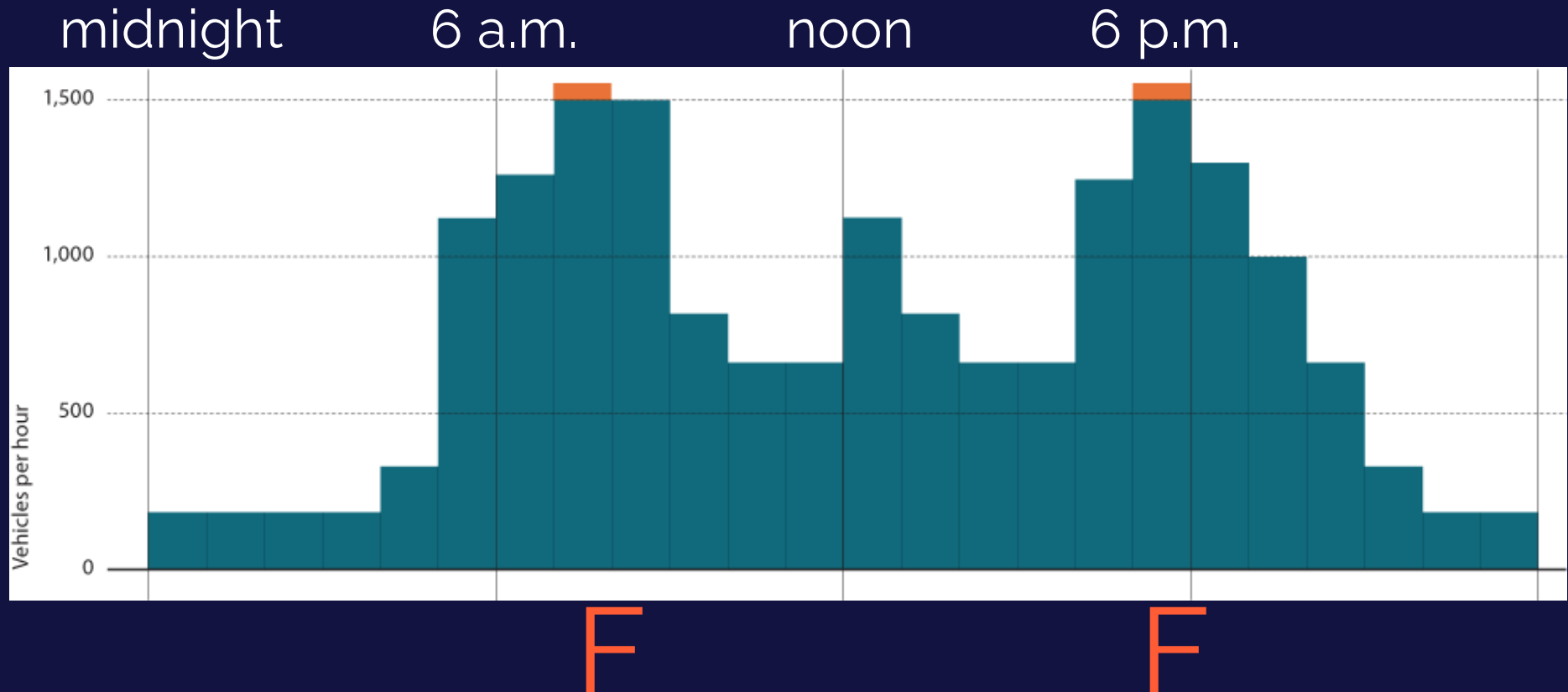
A POLICY
on
DESIGN
of
URBAN HIGHWAYS
and
ARTERIAL STREETS
1973

A Policy on
**Geometric
Design of
Highways
and Streets**

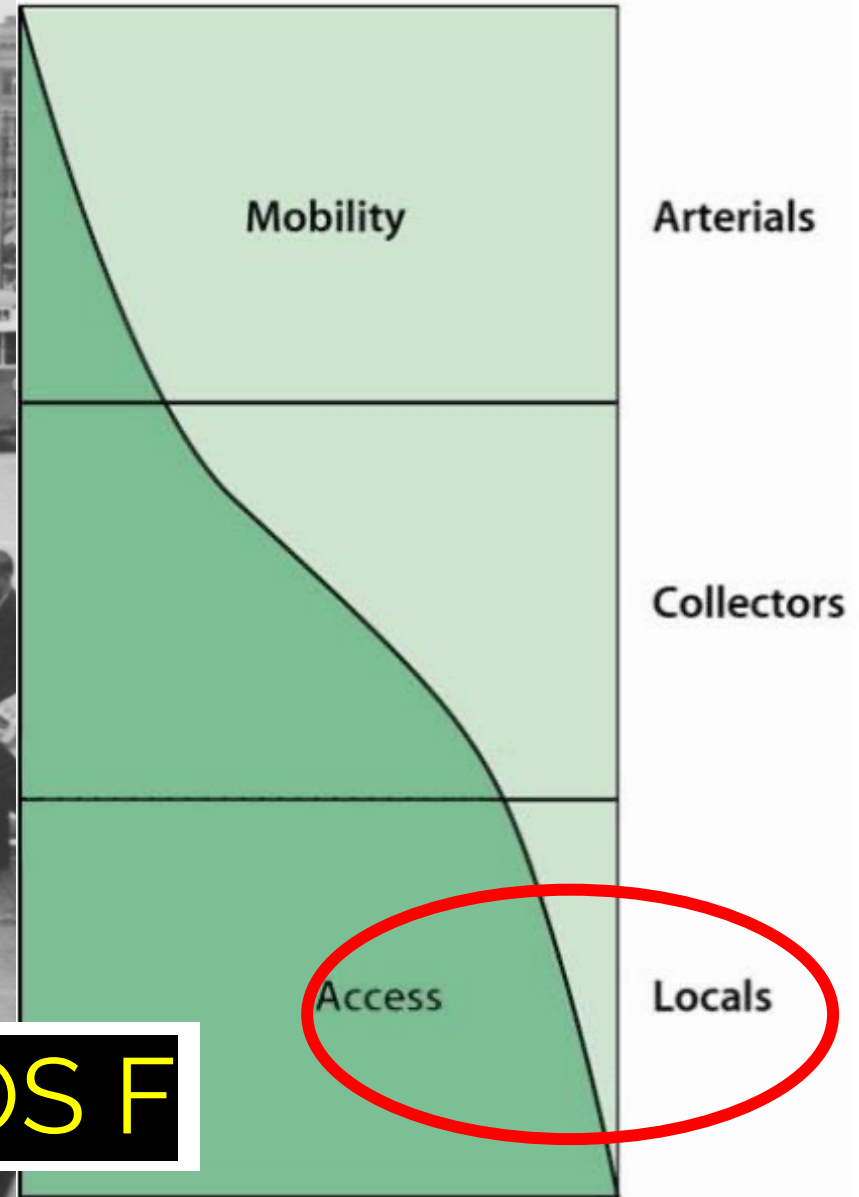
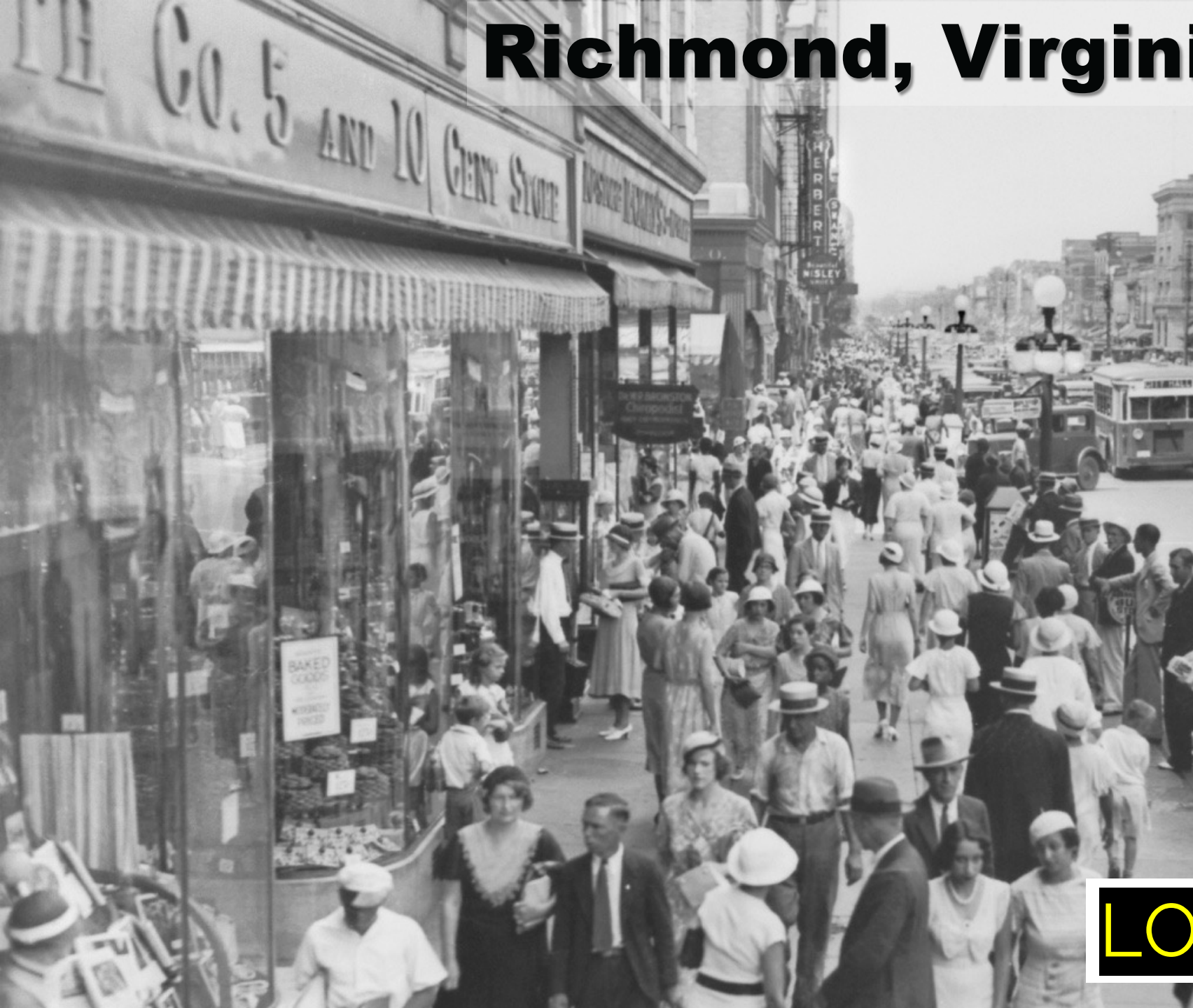
2011
6th Edition



PEAK HOUR DESIGN APPROACH

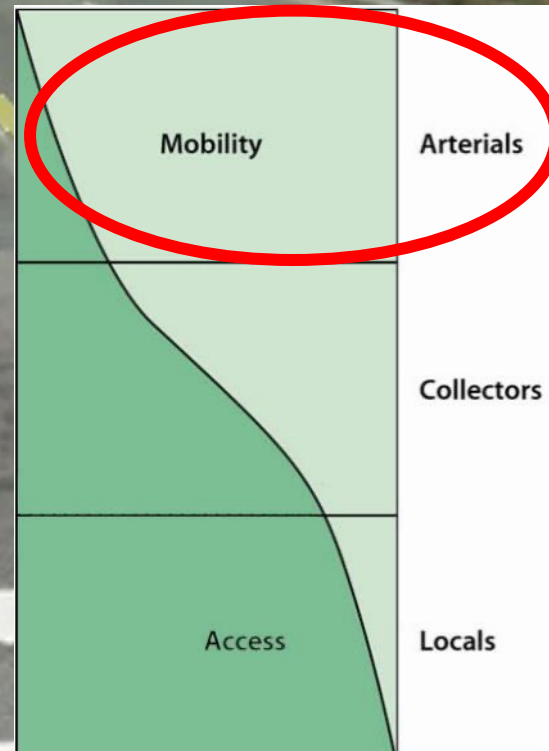
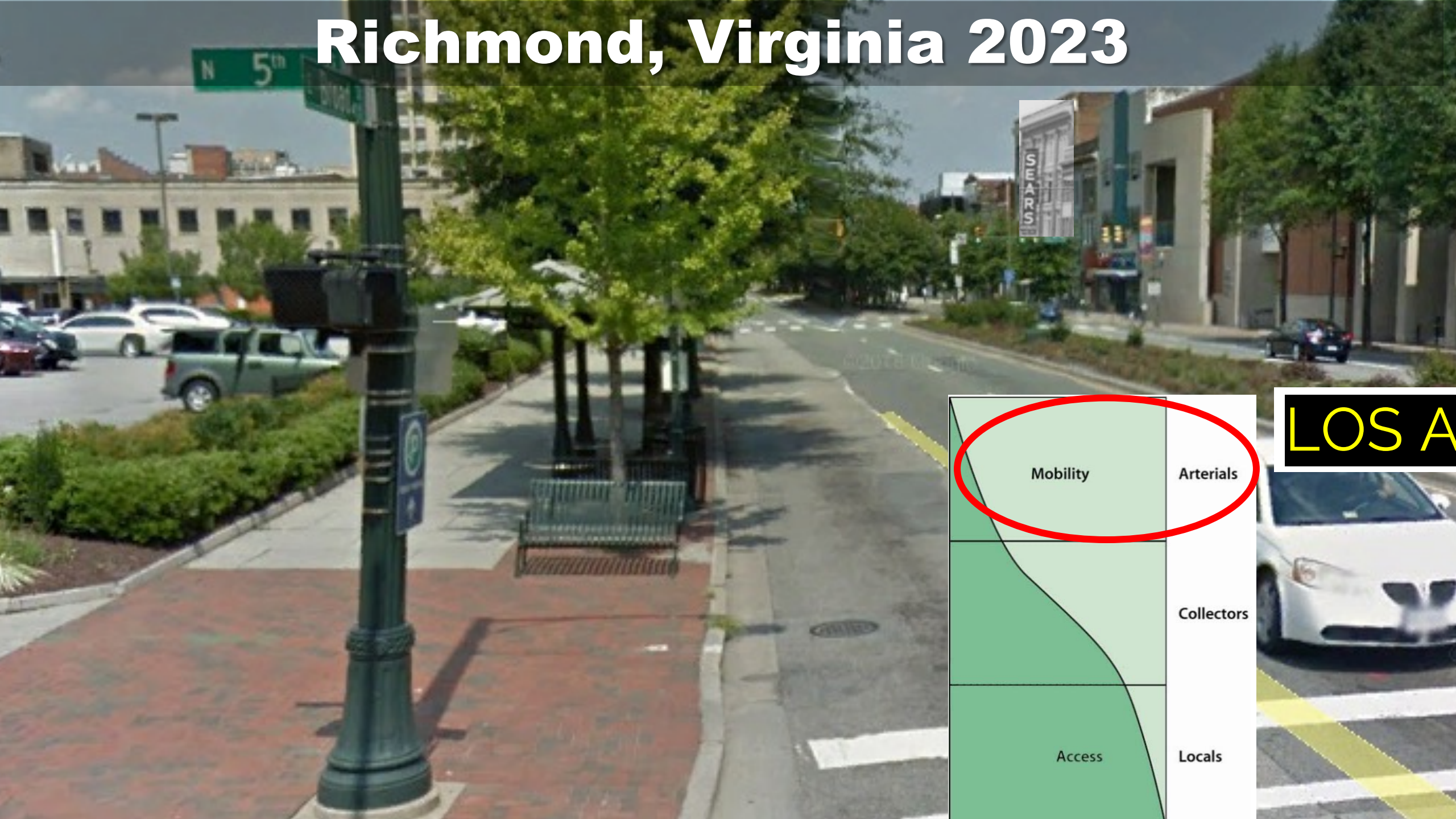


Richmond, Virginia 1920's



LOS F

Richmond, Virginia 2023



LOS A



COMMON COMPLETE STREETS MYTHS

Myth #1:

There's no room to build sidewalks or bikeways.

Inside-Out Design



Inside-Out Design

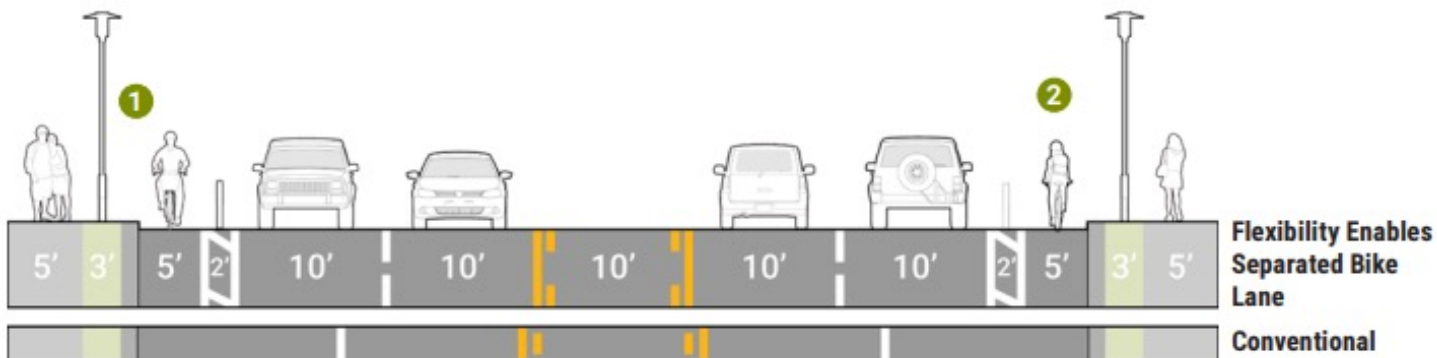
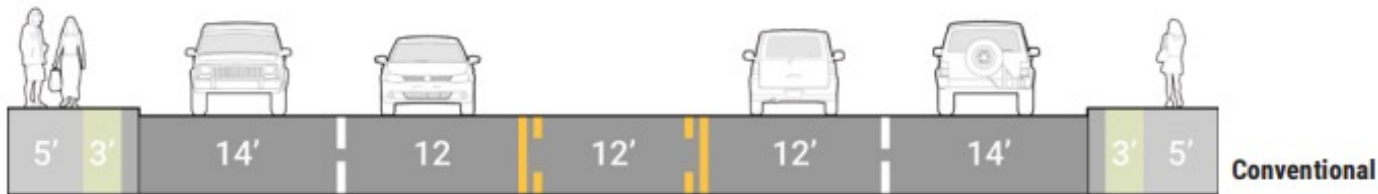


Ian Lockwood PE @IanLockwoodPE · 28 Aug 2014
Upgrade, LOS, delay, capacity, demand, accident: biased expert jargon skews perspectives, culture, decisions & cities

“

Adhering strictly to the most conservative values (lane widths, shoulder widths, and design speeds) leads to wider streets, large curves, and higher operating speeds. ”

– FHWA, Achieving Multimodal Networks (2015)










FLEXIBILITY IN THE GREEN BOOK

The Green Book emphasizes the need for a holistic design approach and the use of engineering judgment, and highlights how the guidelines allow for flexibility:

“The intent of this policy is to provide guidance to the designer by referencing a recommended range of values for critical dimensions. Good highway design involves balancing safety, mobility, and preservation of scenic, aesthetic, historic, cultural, and environmental resources. This policy is therefore not intended to be a detailed design manual that could supersede the need for the application of sound principles by the knowledgeable design professional. Sufficient flexibility is permitted to encourage independent designs tailored to particular situations.”

AASHTO Green Book 2011, p. xii



Adopt Context-Based Street Design Guidance

	Interstate
	Other Freeways or Expressways
	Other Principal Arterial
	Minor Arterial
	Major Collector
	Minor Collector
	Local



Street Type	Left Turn Lane (if required)	Two Way Left Turn Lane ³	Inside Travel Lane ¹
Downtown Boulevard	10' default, 9' min	N/A	10'
Downtown Street	10' default, 9' min	10'	10'
Boulevard	10'	N/A	10'
Town Center Boulevard	10'	N/A	10'
Town Center Street	10'	10'	10'
Neighborhood Connector	10'	10'	10'
Neighborhood Street	N/A	N/A	10'
Neighborhood Yield Street	N/A	N/A	N/A
Industrial Street	11'	11'	11'
Country Connector	11'	N/A	11'
Country Road	10'	N/A	11'
Major Highway	11'	N/A	11'

Adopt Context-Based Street Design Guidance

	Interstate
	Other Freeways or Expressways
	Other Principal Arterial
	Minor Arterial
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	Minor Collector
	Local



Street Type	Maintenance Buffer	Frontage Zone	Sidewalk/Sidepath	Street Buffer
Downtown Boulevard	0'	10' default; 0' min	15' default; 10' min	8' default; 6' min
Downtown Street	0'	10' default; 0' min	10' default; 8' min	6'; 11' if shared w/ street parking
Boulevard	2'	7' default; 0' min	11' default/8' min	8' default; 6' min
Town Center Boulevard	0'	7' default; 0' min	10' default; 8' min	8' default; 6' min
Town Center Street	0'	7' default; 0' min	10' default; 8' min	6'
Neighborhood Connector	2'	0'	6' min for sidewalk or 10' default/8' min for sidepath	6'
Neighborhood Street	2'	0'	6'	6'
Neighborhood Yield Street	2'	0'	6'	6'
Industrial Street	2'	6' default; 0' min	6' min for sidewalk or 10' default/8' min for sidepath	6'
Country Connector	2'	0'	6' min for sidewalk or 10' default/8' min for sidepath	10' (if sidewalk/sidepath are provided)
Country Road	2'	0'	6' min for sidewalk or 10' default/8' min for sidepath	8' default; 6' min
Major Highway	N/A	N/A	11' default/8' min	As wide as feasible (10' min)

Source: Montgomery County Complete Streets Design Guide

Myth #2:

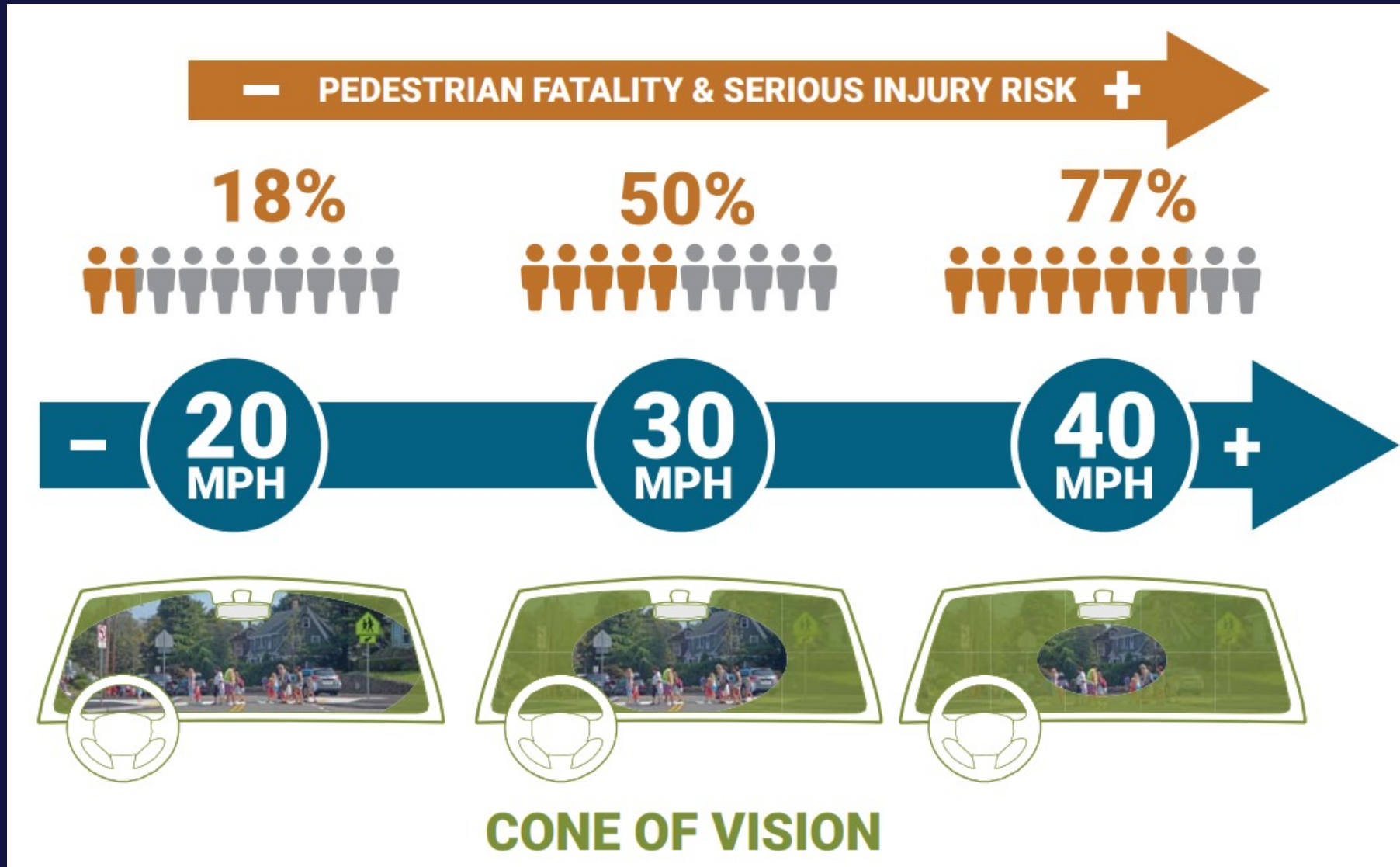
We can't lower the speed limit or driving speeds here.

SPEED CREEP





SPEED MATTERS





DESIGN
SPEED
=
TARGET
SPEED
=
POSTED
SPEED

The **2011 AASHTO Green Book** provides flexibility when it comes to selecting appropriate design speeds given the context of a particular roadway:

“Design speed should be a logical one with respect to the anticipated operating speed, topography, the adjacent land use, and the functional classification of the highway. In selection of design speed every effort should be made to attain a desired combination of safety, mobility, and efficiency within the constraints of environmental quality, economics, aesthetics, and social or political impacts”

AASHTO Green Book 2011, p. 2-54

“ Traffic calming techniques may apply on arterials, collectors, or local streets. ”

- AASHTO Flexibility Guide, (2004, p. 87)

“ Raised measures may not be appropriate on higher speed roads. If raised measures are desired to improve pedestrian or bicyclist safety, designers should consider completing a study and reducing the speed limit to 35 mi/h or lower. ”

- FHWA Achieving Multimodal Networks Guide, (2015, p.23)



Before



After



Myth #3:

No one walks here today,
so we don't need sidewalks and safe crossings.

“

Hold paramount the safety, health, and welfare of the public.”

- National Society of Professional Engineers Code of Ethics

“

Roadways without sidewalks are more than twice as likely to have pedestrian crashes as sites with sidewalks on both sides of the street.”

- FHWA Safety Program

“

Sidewalks are recommended on all but the most low-speed and low-volume roadways.

”

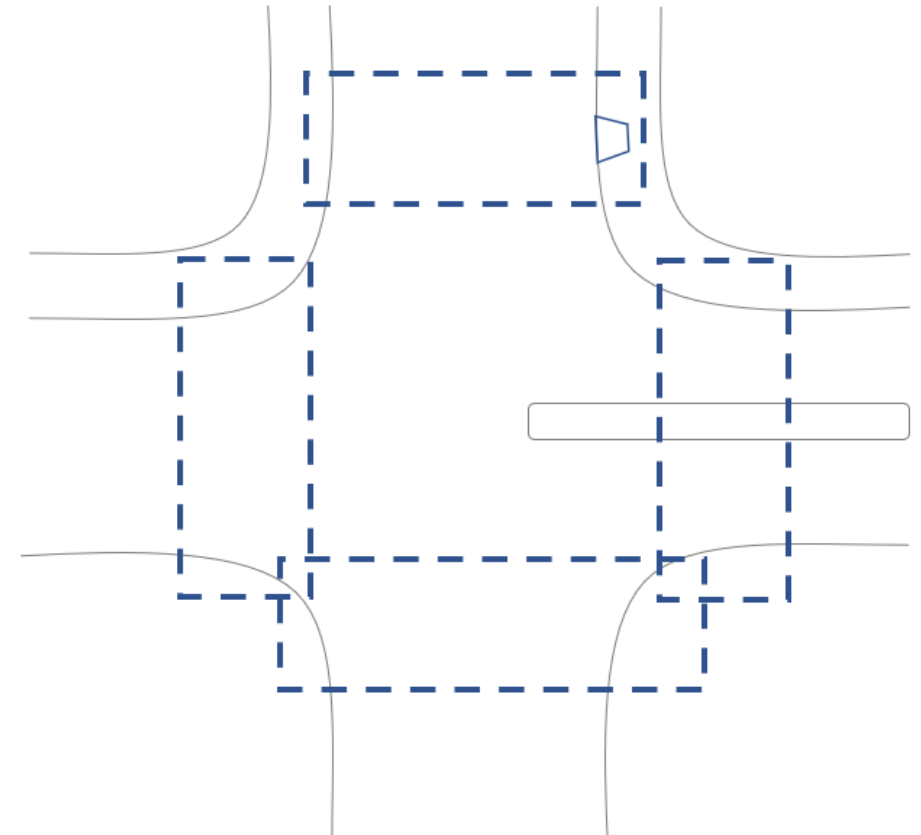
- FHWA Small Towns and Rural Networks Guide, 2019

“

A crosswalk is that part of a roadway at an intersection included within the connections of the lateral lines of the sidewalks on opposite sides of the highway measured from the curbs or, in the absence of curbs, from the edges of the traversable roadway; and in the absence of a sidewalk on one side of the roadway, that part of a roadway included within the extension of the lateral lines of the existing sidewalk at right angles to the centerline.

- National Committee on Uniform Traffic Laws and Ordinances. 2000 Uniform Vehicle Code, Millennium Edition. 2000

”



CRASH REDUCTION FACTORS

- Install Raised Median with Marked Crosswalk (uncontrolled): **46%**
- Install high-visibility crosswalk: **19-40%**
- Install high-visibility yellow, continental type crosswalks at schools: **37%**
- Install pedestrian hybrid beacon (PHB or HAWK) with advanced yield or stop markings and signs: **12-56%**

VDOT'S BIKE/PED POLICY:

3.4 Bicycle and pedestrian accommodations should be provided except where one or more of the following conditions exist:

- scarcity of population, travel, and attractors, **both existing and future**, indicate an absence of need for such accommodations

....

Source: https://www.virginiadot.org/programs/resources/bike_ped_policy.pdf

CASE STUDIES

GALAX, VA (population 6,600)

Sidewalk and crossing improvements. The City of Galax received a Safe Routes to School Infrastructure grant for \$51,000 to add 120 feet of new sidewalk, and add two high visibility crosswalks to a busy intersection near Galax Elementary School, Galax Middle School, and the community center. These improvements will increase the safety of the intersection and help nearly 850 students from the elementary and middle school reach the community center and sports fields.



School Board Chairman Ray Koff shared the award with GES students.

Safe Routes wins national award

GALAX PROGRAM AIMS TO GET KIDS TO AND FROM SCHOOL SAFELY, WHILE PROMOTING HEALTH

By SHANNON WATSON

Walking to work or to school might not seem like a healthy and safe way to get to and from school, but it can be. At the intersection of...



...and your teachers, and...

Safe Routes to School Director Linda Mark leads GES students on a "Walk Walk," one of the many activities that make Galax's program stand out when being considered for the national award.



GALAX, VA
(population 6,600)

Grant Type	Amount	2022-2023 Due Dates
<p><u>QuickStart Mini-grants</u> QuickStart Mini-grants are \$1,000 grants for schools that are interested in funding a small (or large) Safe Routes to School activity.</p>	\$1,000	August 25 September 29 March 2 April 6
<p><u>Walkabout Mini-grants</u> Walkabout Mini-grant recipients receive a hands-on walking and bicycling infrastructure survey and written report about the walking and bicycling conditions in the area around their school coordinated by the LTAC serving their region.</p>	Varies	September 29 February 2
<p><u>Program Grants</u> These grants can be used to fund education, encouragement, evaluation and enforcement programs related to Safe Routes to School. The Non-Infrastructure Grant can also be used to fund a SRTS coordinator.</p>	Varies	Once every two years Anticipated dates for next round: Pre-Application due June 30, 2023 Full Application due October 2, 2023
<p><u>Infrastructure Grants</u> The VDOT Local Assistance Division (LAD) manages the application and award process for all Transportation Alternative Program (TAP) for infrastructure projects, including SRTS-designated projects.</p>	Varies	Once every two years Anticipated dates for next round: Pre-Application due June 30, 2023 Full Application due October 2, 2023

GALAX, VA

(population 6,600)

“ If a community desires to re-establish neighborhoods, inject downtown areas with energy, and teach its citizens life-saving health habits, then Safe Routes to School is a good place to start. ”

- Linda Mock, Galax Safe Routes to School Coordinator

HALIFAX COUNTY, VA

(population 33,738)

VDOT nearing completion of interim improvements on Sinai Road

ASHLEY HODGE Nov 29, 2020



Bollards or delineators align Sinai Road separating a section of the road from traffic to allow for a pedestrian walking area. The speed limit also has been reduced to 35 miles per hour on the same stretch of road.

Ashley Hodge/Gazette-Virginian



HALIFAX COUNTY, VA

(population 33,738)

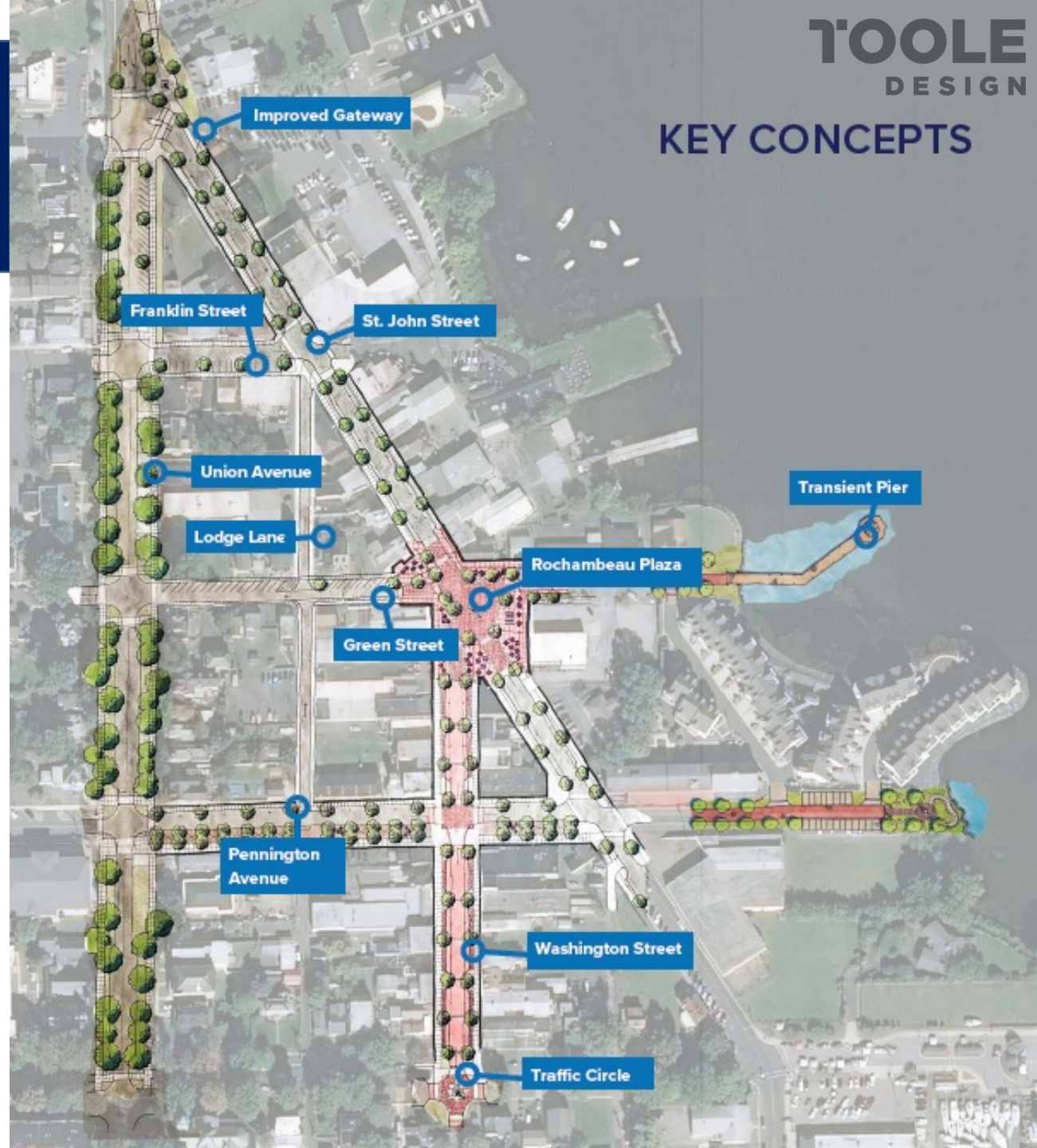
“ I look forward to the day when it’s not normal to feel a sense of fear while walking, and I think it’s coming. Mr. Simpson (County Administrator) has been a man of his word, and I appreciate that. ”

- Anthony Womack, community member



HAVRE DE GRACE, MD

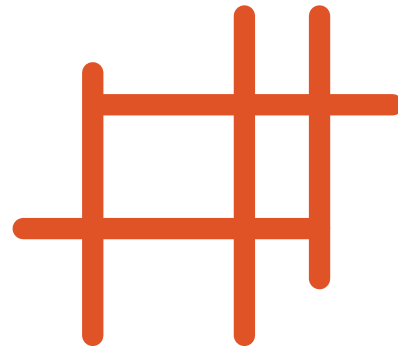
(population 6,600)



PROCESS



MAINTAIN
CHAMPIONS

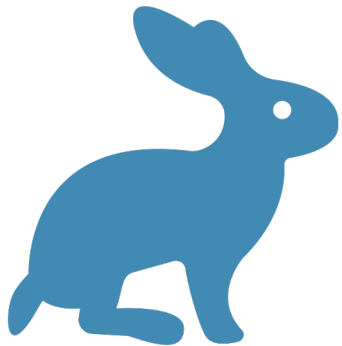


EMPHASIZE the GOALS in
PUBLIC ENGAGEMENT



ENSURE FACILITIES are HIGH
COMFORT (inc.
intersections)

INGREDIENTS FOR SUCCESS



FOCUS ON PROJECTS that
SHOW RESULTS QUICKLY



LEARN & TEACH
AS YOU GO



EXPLORE CREATIVE FUNDING
STRATEGIES

CHAMPIONS

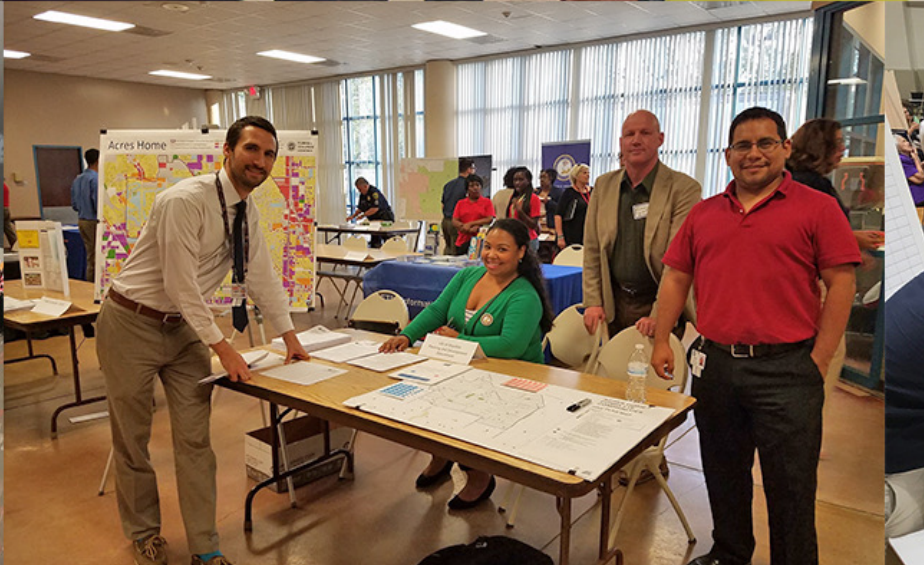
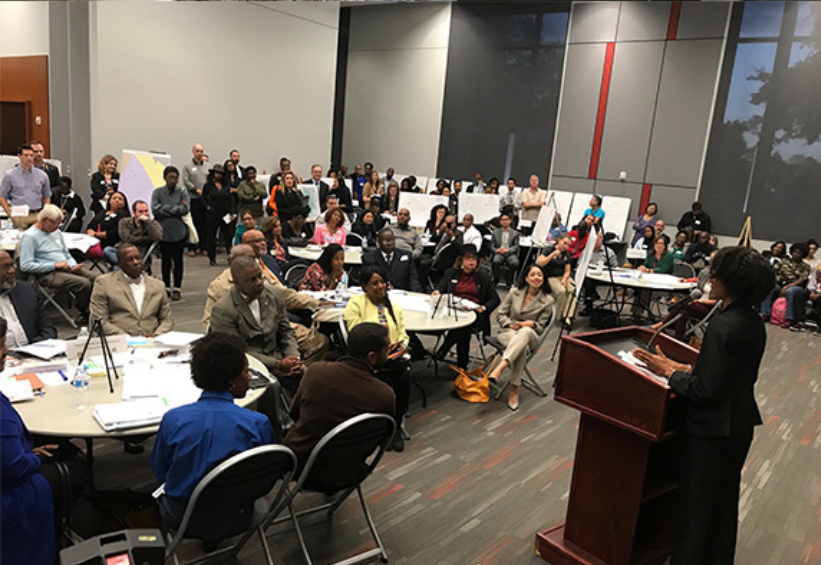
TOOLE
DESIGN



EMPHASIZE THE GOALS

TOOLE
DESIGN

SOURCE: CITY OF HOUSTON



BUILD COMFORTABLE FACILITIES



BUILD COMFORTABLE FACILITIES



SHOW THE PUBLIC

TOOLE
DESIGN



ACHIEVING MULTIMODAL NETWORKS

APPLYING DESIGN FLEXIBILITY
& REDUCING CONFLICTS



U.S. Department of Transportation
Federal Highway Administration

AUGUST 2016



DECEMBER 2016

Small Town *and* Rural Multimodal Networks



U.S. Department of Transportation
Federal Highway Administration



Federal:

Safe Streets and Roads for All (SS4A) Grant Program

<https://www.transportation.gov/grants/SS4A>

FY22 awards announced: \$800 million for 510 communities across the United States



Through VDOT:

- Transportation Alternatives (TA)
- Congestion Mitigation and Air Quality (CMAQ) allocations
- Smart Scale (VDOT District Grant Program & High-Priority Projects)
- VA Highway Safety Improvement Program (VHSIP)

MAKE IT HAPPEN!

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