Designing Streets for the Competing Demands in an Urban Environment

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What is the top priority of urban street design guidance?

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Option 1

<u>Improve Mobility</u>:

Urban streets will efficiently and reliably move people and goods to, from, and around the City.

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What is the top priority of urban street design guidance?

Option 2

<u>Be Accessible by Everyone</u>:

Urban streets will be accessible by all modes, for people of all ages and abilities.

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What is the top priority of urban street design guidance?

Option 3

<u>Address Safety First</u>:

Urban streets will be designed to eliminate severe injuries and fatalities.

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Prioritize Safety First

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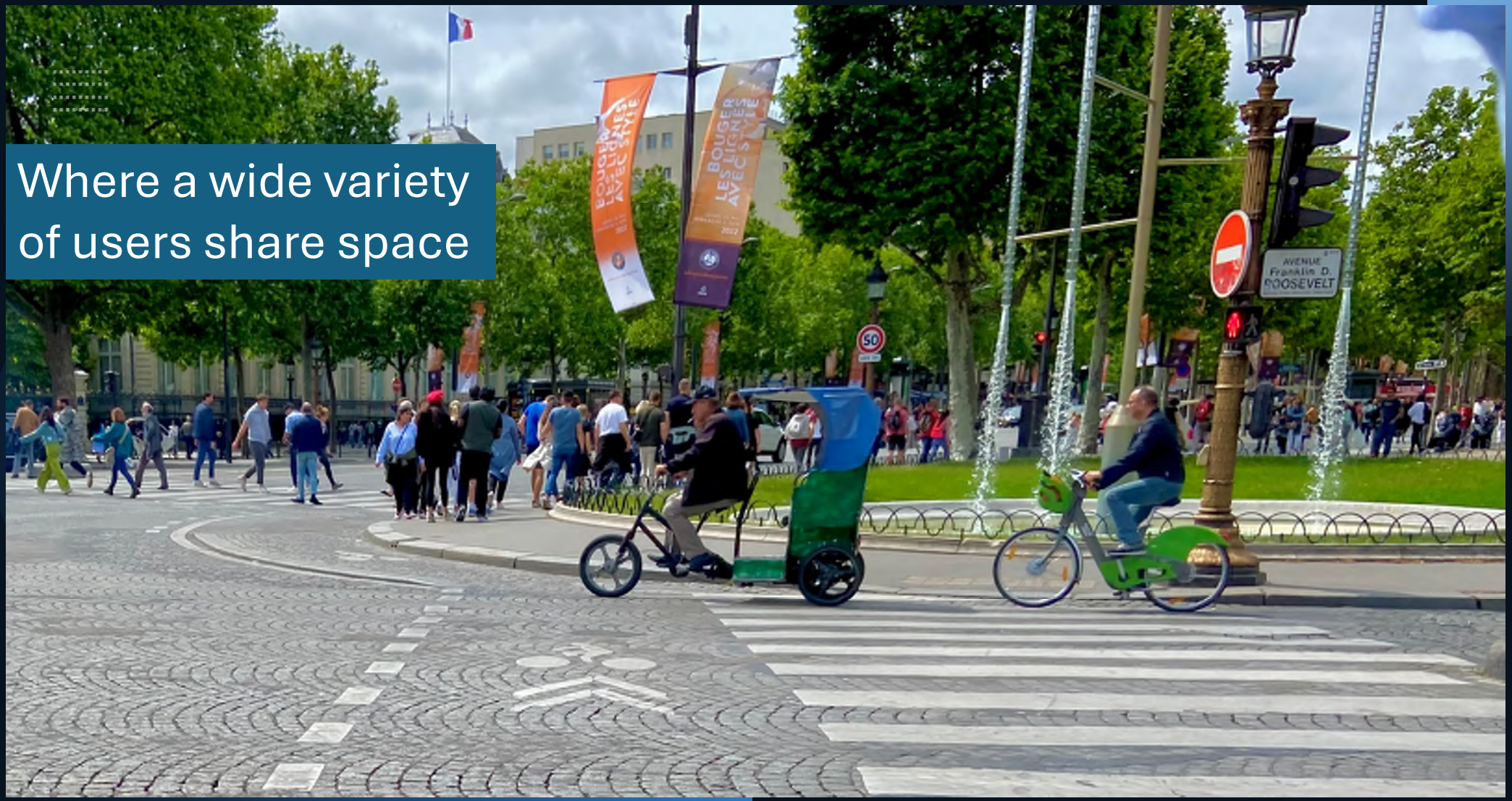
Where do you apply urban street standards?

In community gathering places

To connect communities


Where a city
highlights its culture



Where a wide variety of users share space

In town centers: suburban becoming urban

In communities that seek flexible space


OPEN
RIGHT LANE
ONLY

Creative urban street design elements pop up in small towns across the globe

Torres Vedras, Portugal


Torres Vedras, Portugal


Restaurante
Molha o Bico
VENHA
PROVAR
OS NOSSOS
PETISCOS
P
Torres Vedras, Portugal

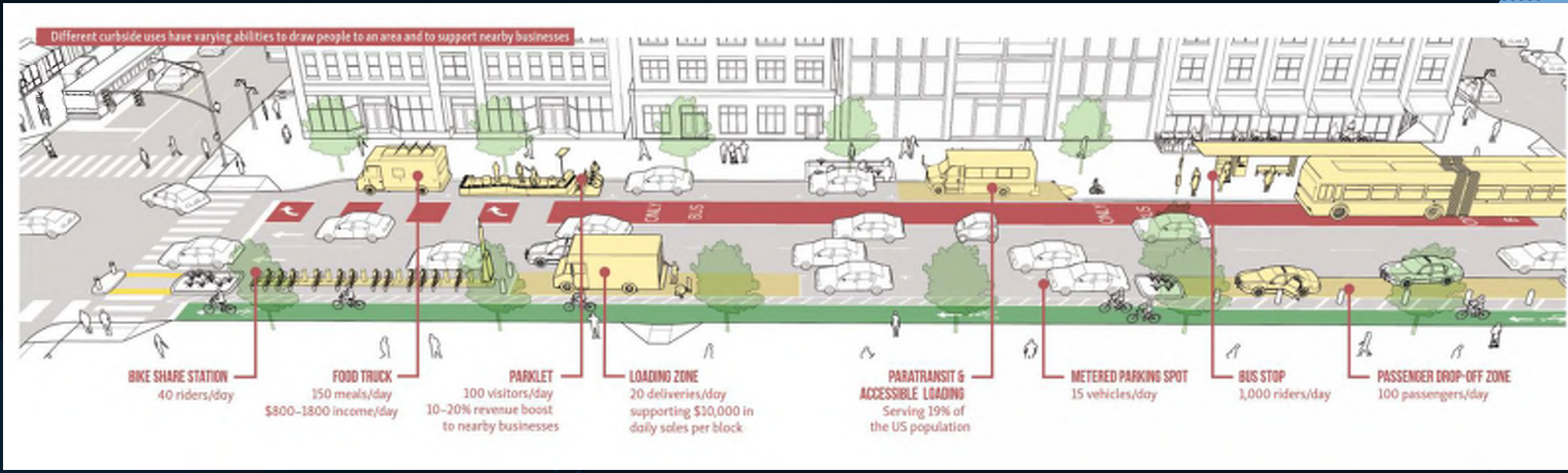

Torres Vedras, Portugal


Torres Vedras, Portugal

Treatments continue to evolve, even in these small towns

These evolving demands require attention to progressive design specifications

Your design decisions matter



The changing demands for our streets requires creative thinking to safely and efficiently move people on urban streets

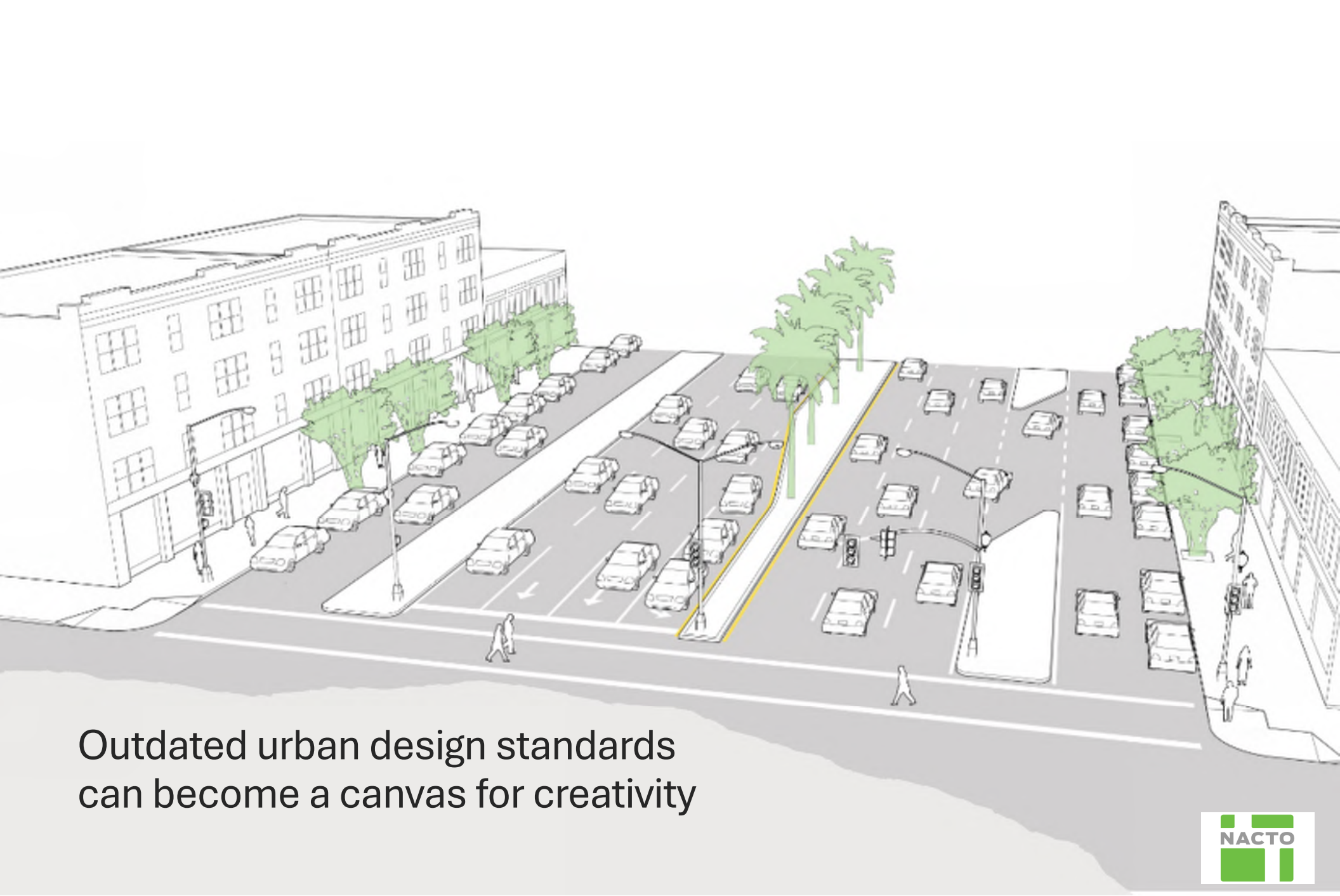
NACTO

How do you accommodate all these competing demands?

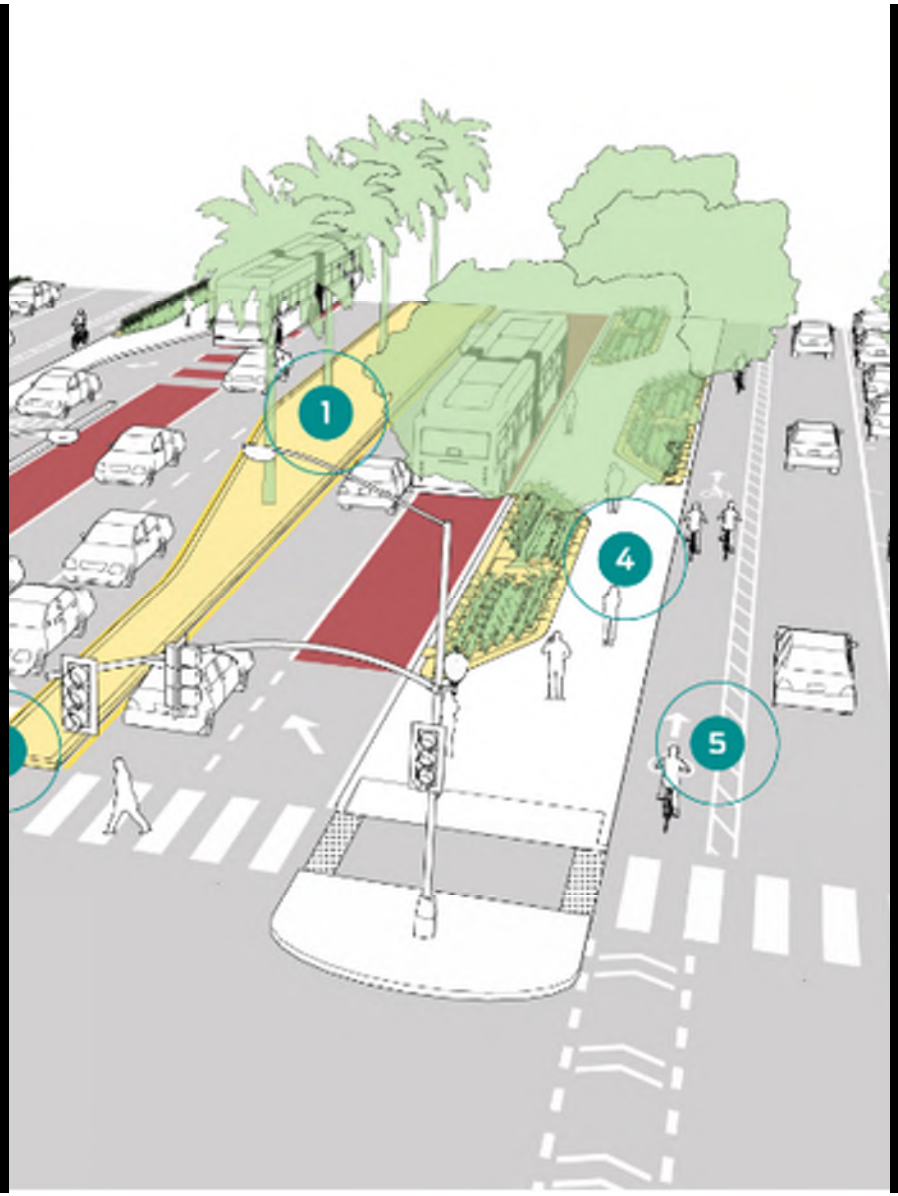

Does this cross section accommodate all users of all abilities in a safe manner?
PARK
10’-11’
SCHOOL BUS
5-6’
7-9’
NACTO

How about this cross section?

Better?
Why?



Outdated urban design standards
can become a canvas for creativity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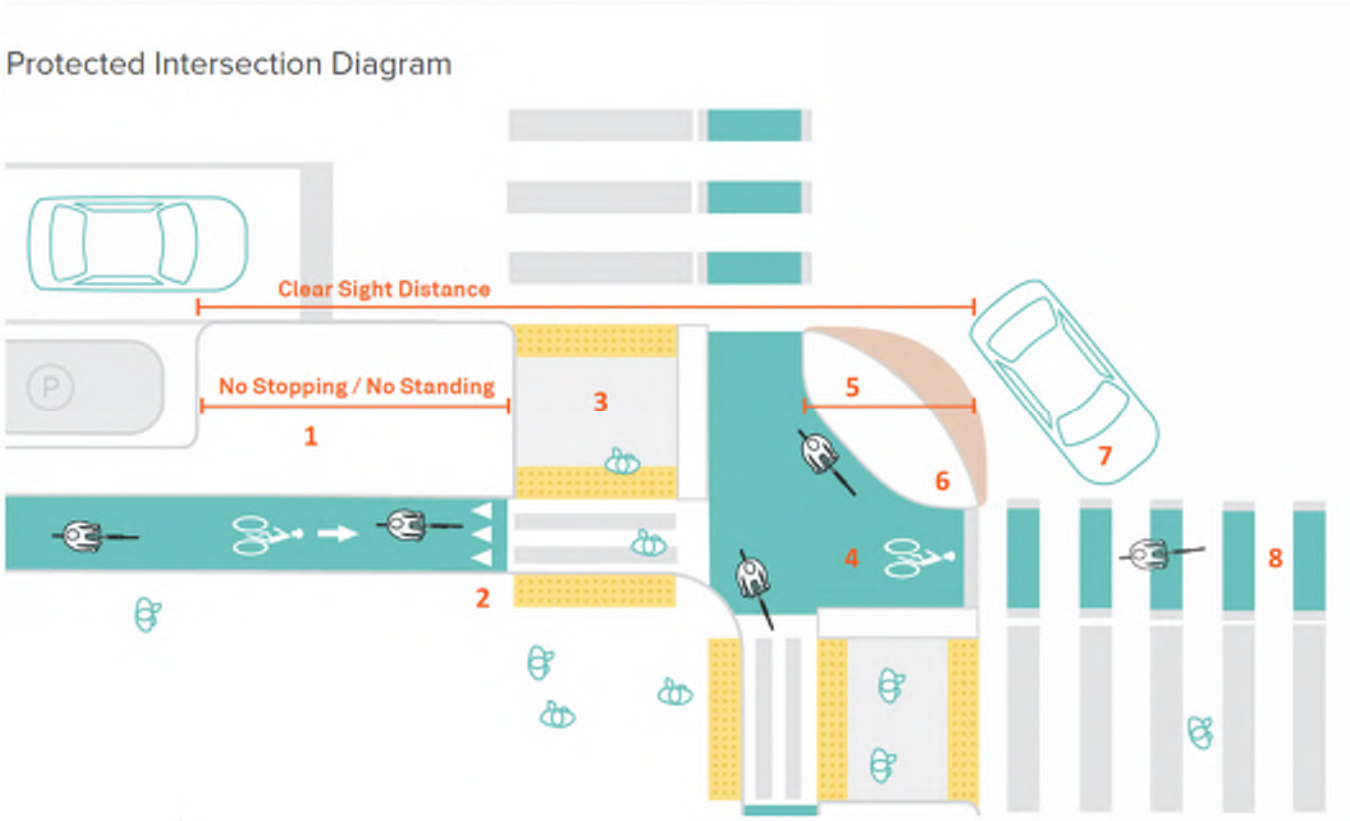
Attention to the entire right-of-way matters, especially at intersections

What are the new trends in urban street design guidance?

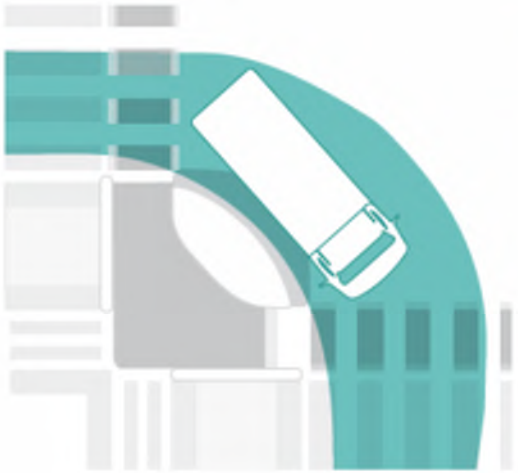
Protected Intersections



"Don't Give Up at the Intersection"

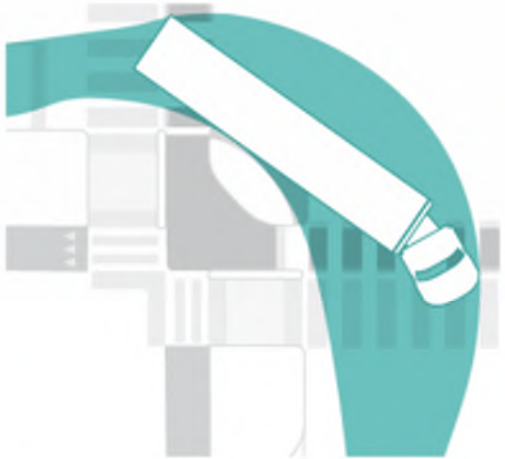
Design guidance is reassessing vehicle accommodation

Design Vehicle



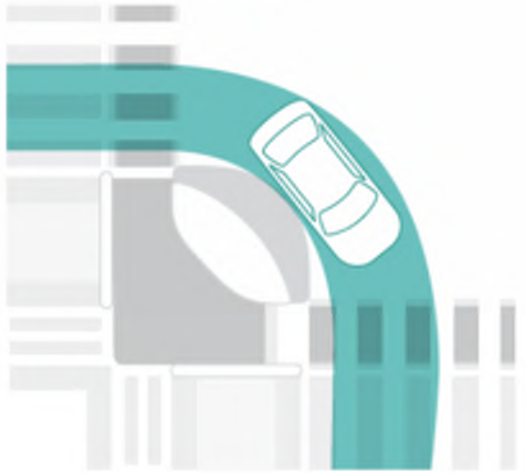
The **Design Vehicle** is the largest typical vehicle that will frequently use the street. For major streets and downtown settings, a DL-23 delivery truck is a

Control Vehicle



The **Control Vehicle** or accommodated vehicle is the largest vehicle that will infrequently use the street. For major streets and downtown settings, a WB-50

Managed Vehicle



The **Managed Vehicle** is the most common vehicle to use the street. It is typically smaller than the design vehicle which means it is capable of higher,

Tools to help designers made decisions

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Understand the City's default Modal Hierarchy

§ 40-37. MODAL HIERARCHY

City-wide

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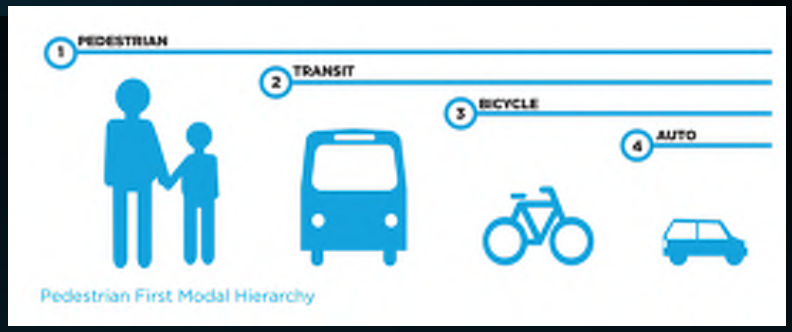
Establish a City-wide Modal Hierarchy



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Urban street design standards take into account street function and land use context

Designate Street Types to address land use context

- Downtown Commercial
- Downtown Mixed-Use
- Urban Village Main
- Urban Village Neighborhood
- Urban Village Shared Street
- Urban Center Connector
- Neighborhood Corridor
- Industrial Access
- Parkway
- Boulevard

Prioritize portions of a street's cross section

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Table 1. Limited Right-of-Way Priorities

	Sidewalk Zone		Roadway Zone			
Street Type	**Pedestrian Subzone**	**Furnishing Subzone**	**Curbspace**	**Curbside Lane Subzone**	**Travelway Subzone**	**Median Subzone**
Downtown Commercial	1	2	3	6	4	5
On Bicycle Network	1	2	4	3	5	6
On Transit Network	1	2	4	3	5	6
On Truck Route	1	2	4	6	3	5
Downtown Mixed-Use	1	2	3	6	4	5
On Bicycle Network	1	2	4	3	5	6
On Transit Network	1	2	3	4	5	6
On Truck Route	1	2	4	6	3	5
Urban Village Main	1	2	3	6	4	5
On Bicycle Network	1	2	4	3	5	6
On Transit Network	1	2	3	5	4	6
On Truck Route	1	2	4	6	3	5
Urban Village Neighborhood	1	2	3	5	4	6
On Bicycle Network	1	2	4	3	5	6
On Transit Network	1	2	3	5	4	6
On Truck Route	N/A	N/A	N/A	N/A	N/A	N/A
Urban Village Shared Street	1	3	4	N/A	2	N/A
On Bicycle Network	1	3	4	N/A	2	N/A
On Transit Network	1	3	4	N/A	2	N/A
On Truck Route	N/A	N/A	N/A	N/A	N/A	N/A

Follow guiding principles

System Performance

- **Address Safety First: Baltimore streets will be designed to eliminate severe injuries and fatalities.**
- **Be Accessible by Everyone: Baltimore streets will be accessible by all modes, for people of all ages and abilities.**
- **Improve Mobility: Baltimore streets will efficiently and reliably move people and goods to, from and around the City.**

Community Enhancement

- **Ensure Equity: Baltimore streets will reflect equal opportunities for travel regardless of race, income, age, disability, health, English language proficiency, and vehicular access.**
- **Represent Baltimore's Culture: Baltimore streets will reflect neighborhood values and promote economic vitality.**
- **Be Sustainable: Baltimore street design methods will align with the City's broader goals of urban sustainability and protecting the environment.**

Urban street design is complicated

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Prioritizing / designing urban curb space is really complicated

Fairfax County
Curbside Management Plan

Fairfax County Curbside Management

Today's Discussion:

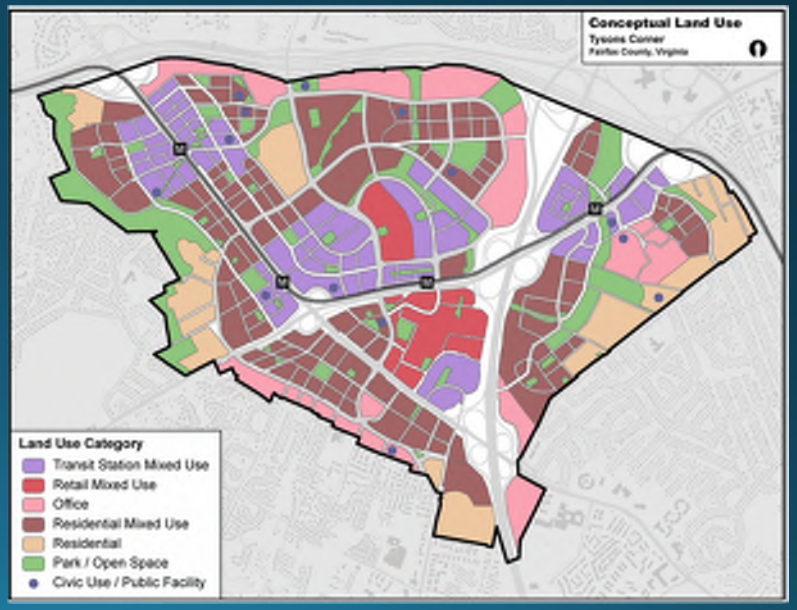
1. Current Challenges
2. Need for a Progressive Program: Tysons
3. Solution: Countywide CMP and Tysons Launch
4. Approach:
    1. Create a digitized curb space inventory
    2. Determine a default curb space hierarchy
    3. Apply the hierarchy to prioritize curb space
5. Next Steps: Implementation / Technology Applications

Fairfax County's Challenges

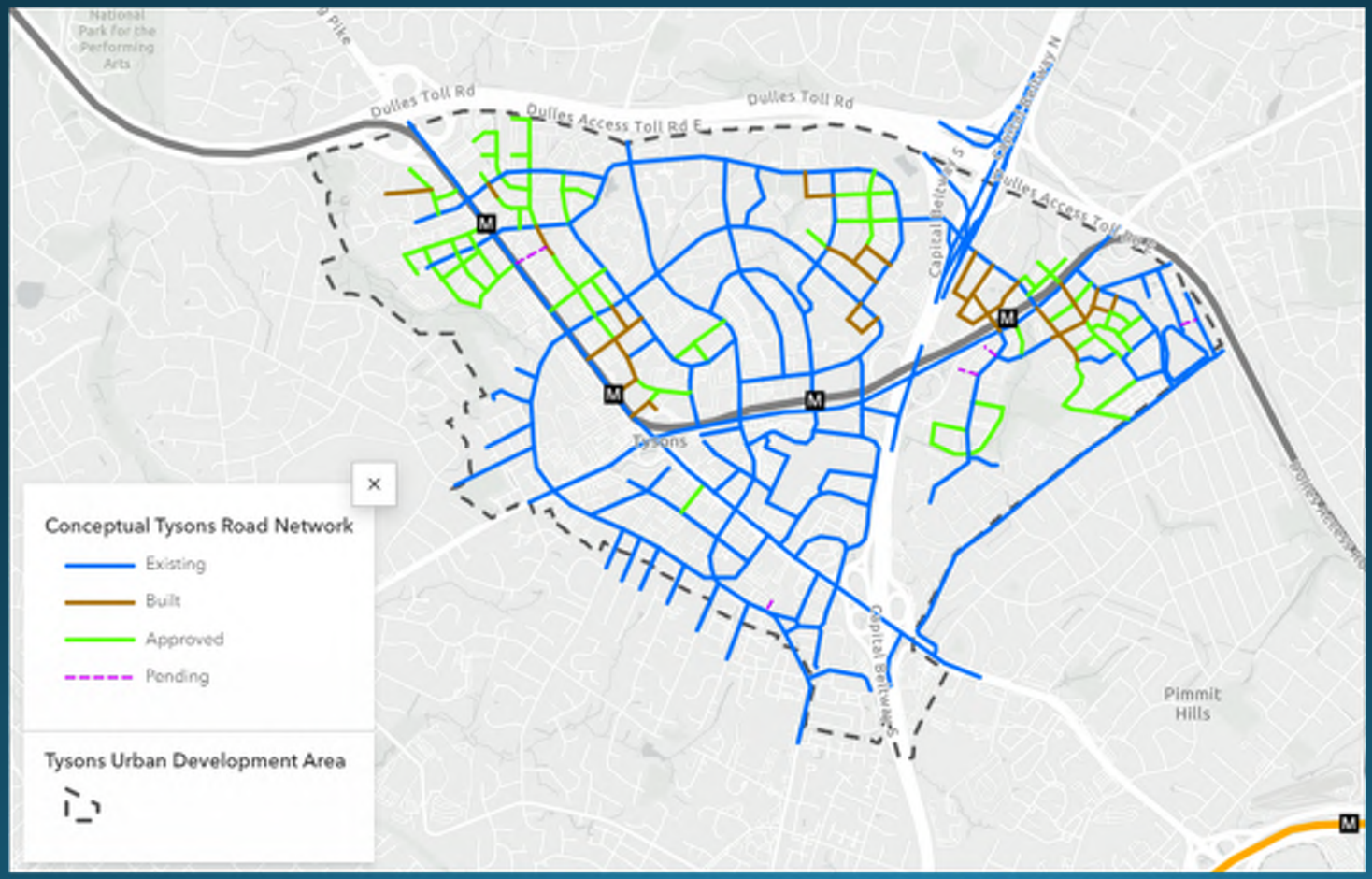
- Suburban becoming urban: limited street design flexibility
- VDOT oversight of public streets
- Limited parking program offerings
- No timed or paid parking program
- Limited County enforcement staff

Need for a Progressive Program: Tysons, Virginia

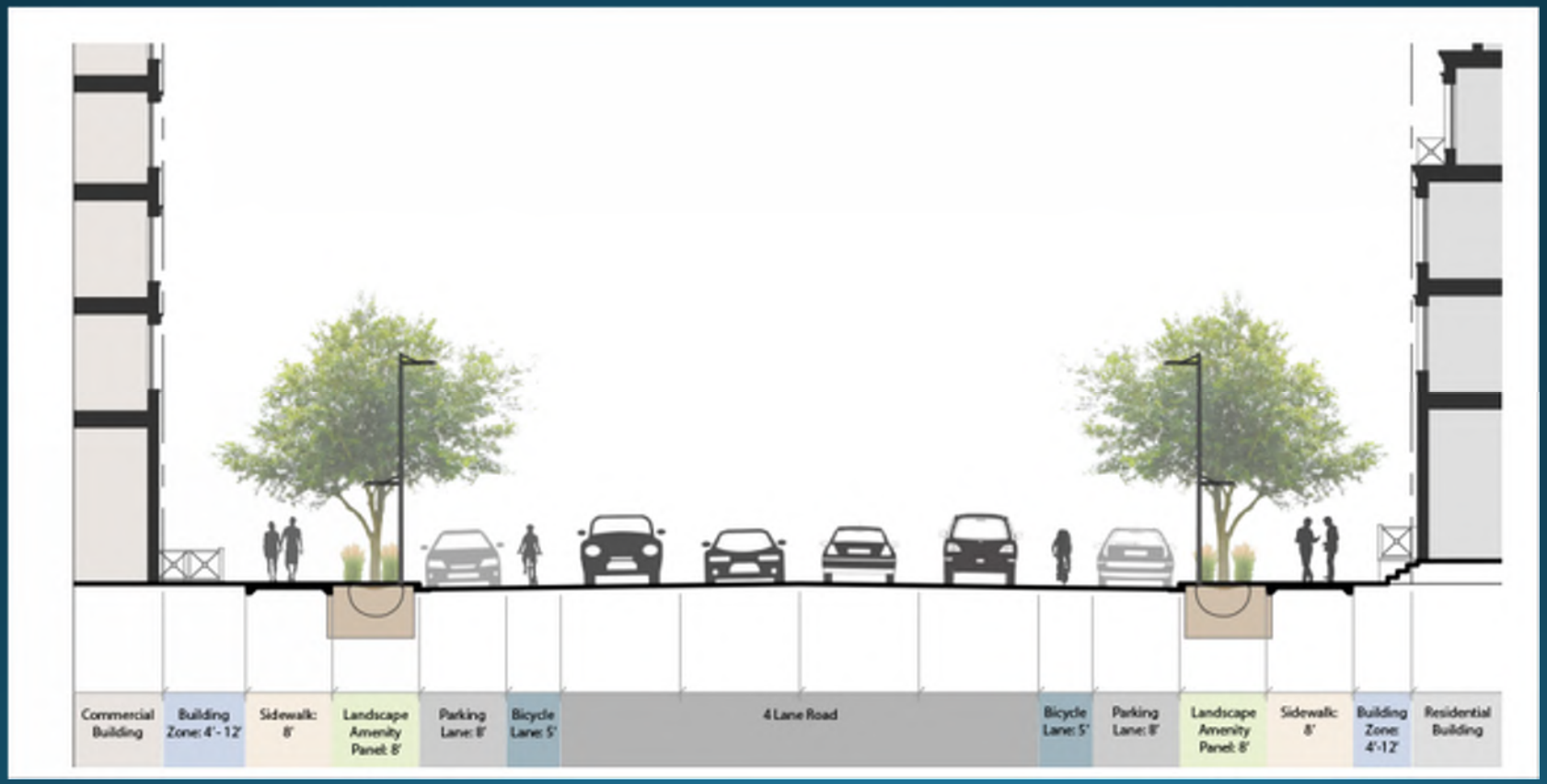
- Suburban Office Center to Vibrant Urban Center
- Comprehensive Plan updates in 2010
- Four new Metro stations in 2014
- New streetscape and street grid
- Goal for 2050:
  - ❖ Population of 100,000 residents
  - ❖ 200,000 jobs



Tysons Conceptual Street Grid



Tysons Streetscape Design Guidelines



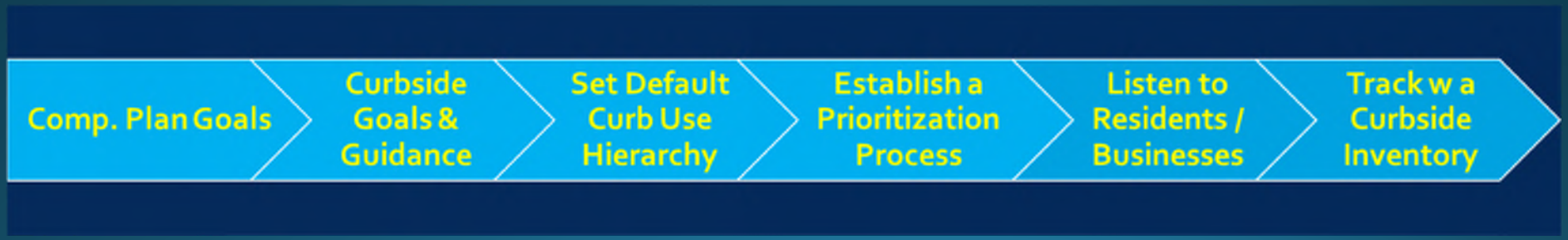
Planning for the Future: Transforming Tysons into a Vibrant Urban Center

2024+

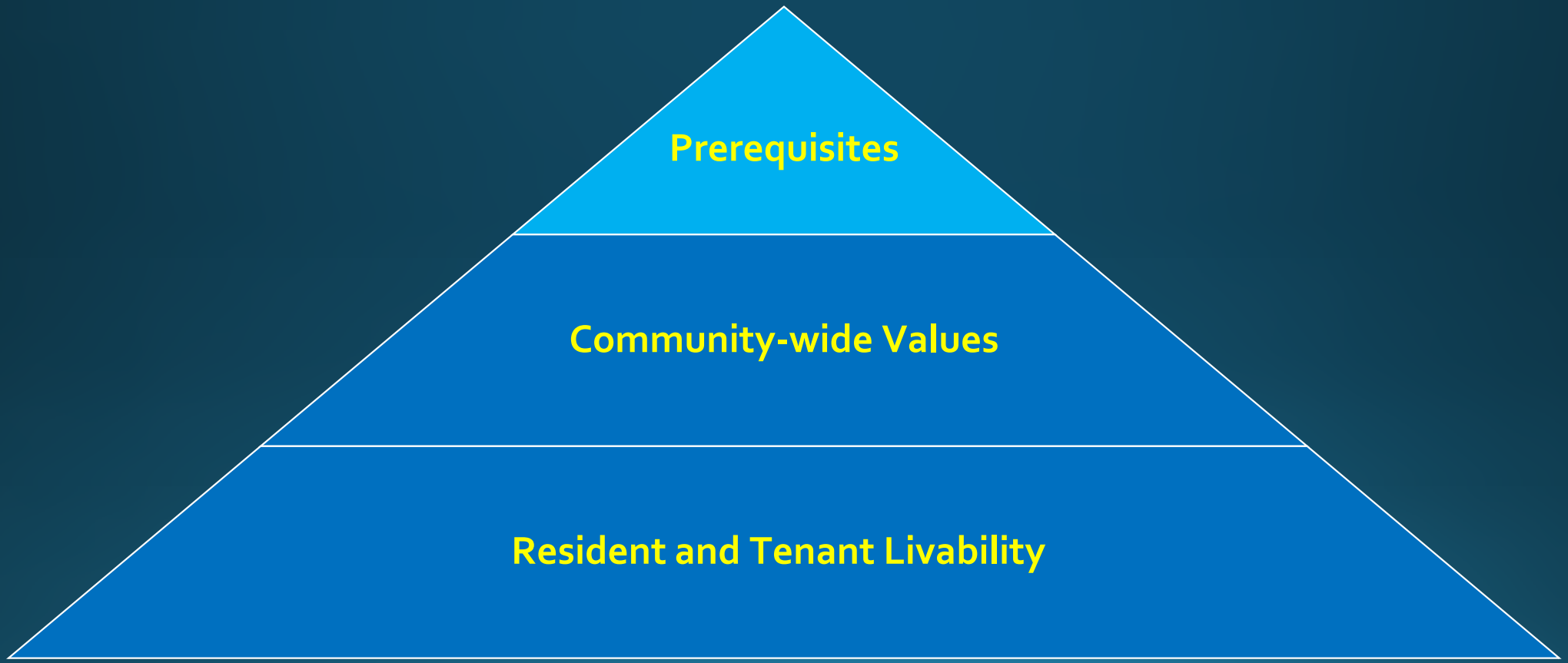
- How do we get there?

Solution:
Countywide CMP and Tysons Pilot

- Curbside Goals & Guidance
- Curbside Inventory Requirements
- Default Hierarchy for Curb Space Use
- Prioritization Process to Optimize Curb Space Use
- Applications for Informed Decision-making

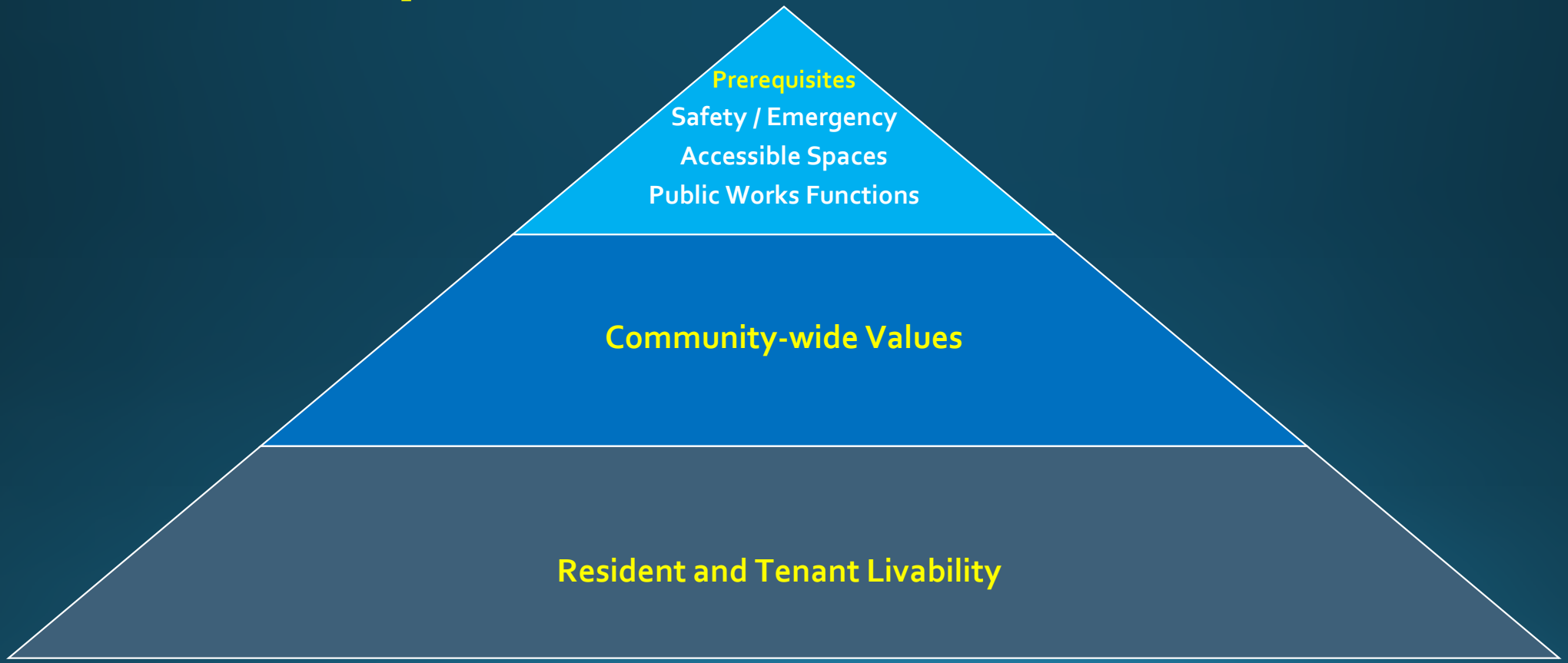


Establish a Default Curb Space Use Hierarchy
WHAT IS THE MOST IMPORTANT USE OF CURB SPACE?



Default Hierarchy for Curbside Use

Prerequisites



Default Hierarchy for Curbside Use: Prerequisites

Prerequisites: Safety, Accessibility, Public Works Operations

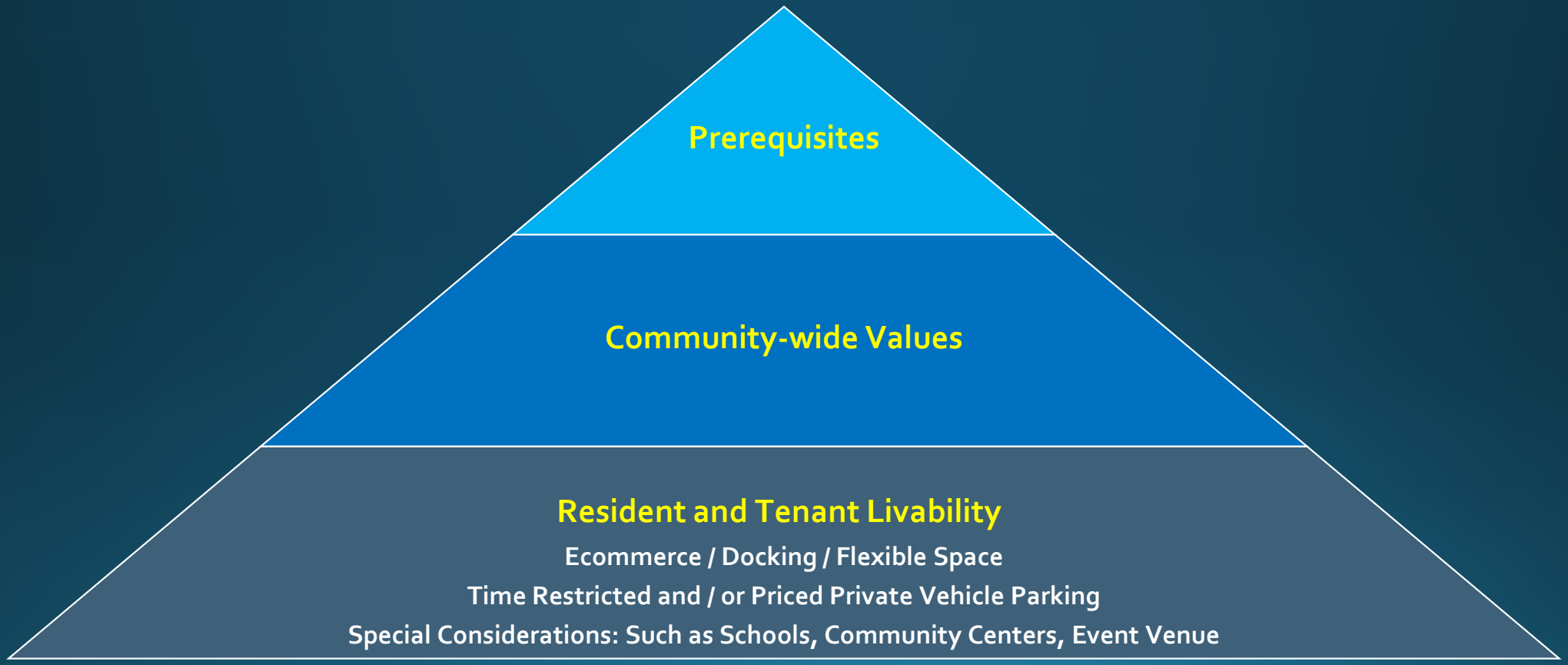
Greensboro Dr. Tysons, VA

Default Hierarchy for Curbside Use

Community-wide Values

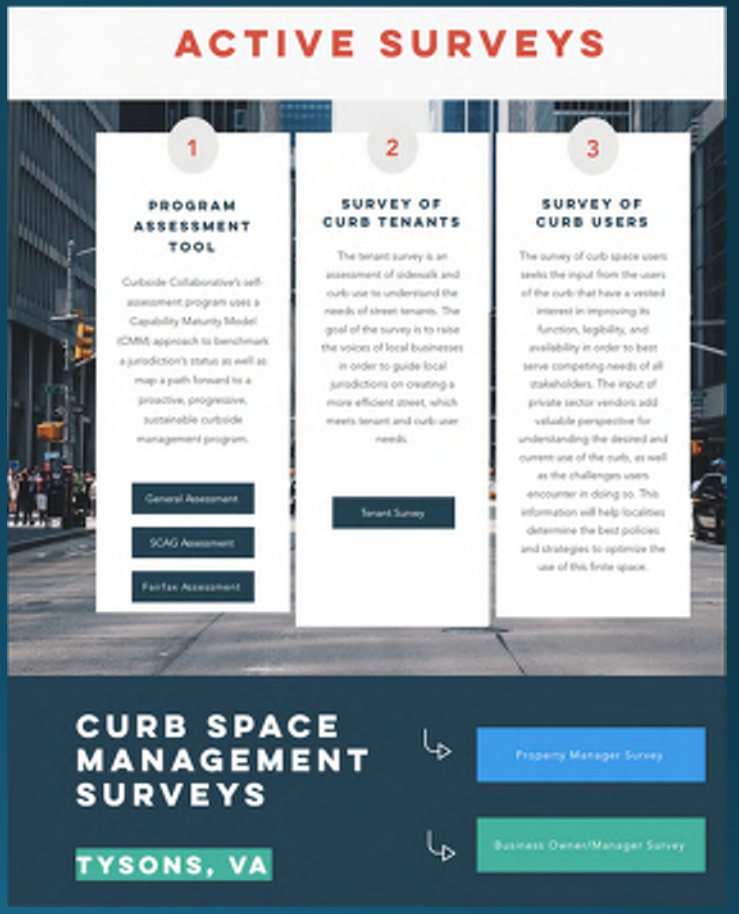
Default Hierarchy for Curbside Use

Resident and Tenant Livability



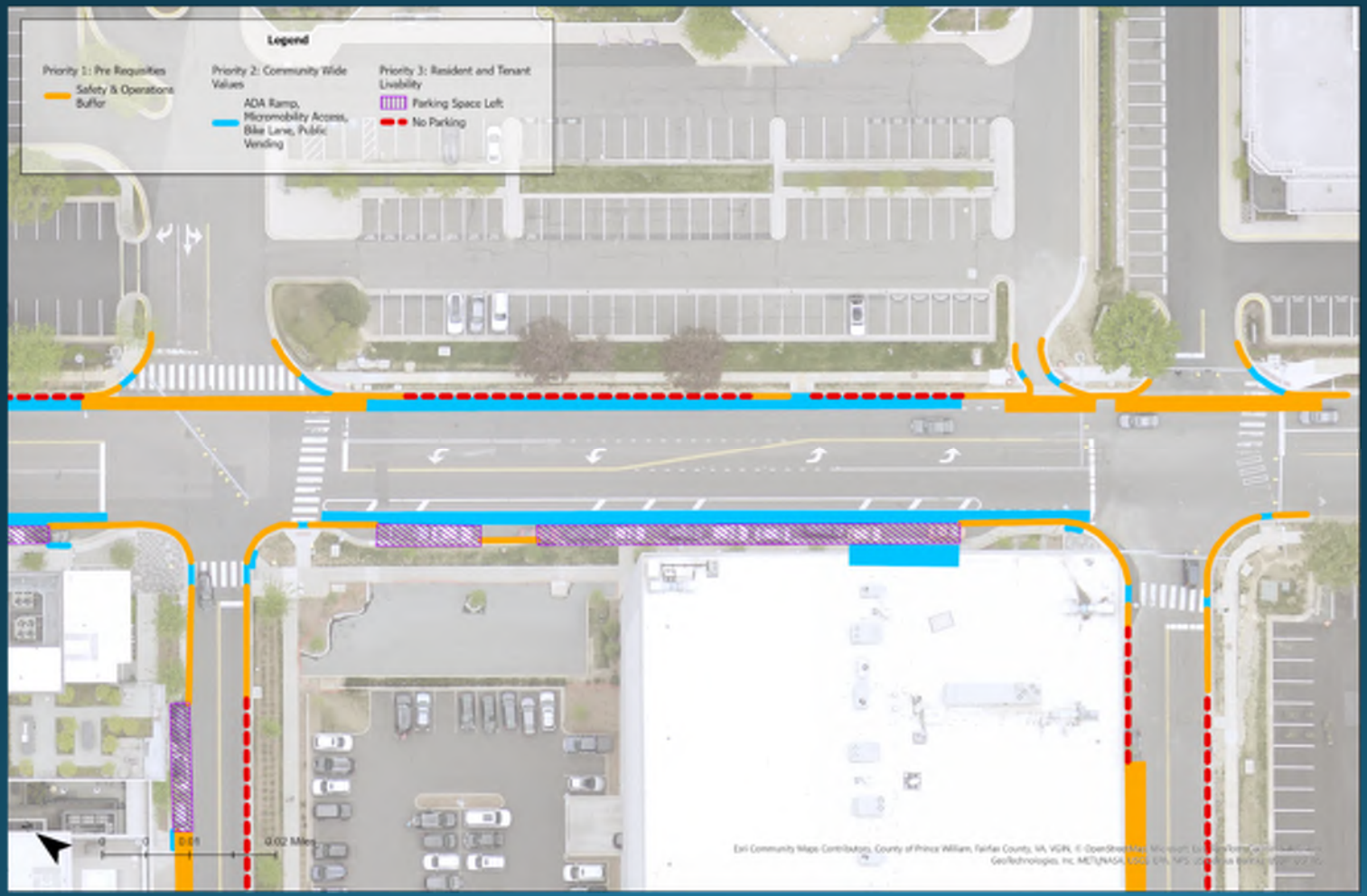
Resident & Tenant Livability: Take the Survey!

Would you recommend any of the following changes to improve conditions in your surrounding area? Select all that apply. (Greensboro)		
Recommendated changes	Count	Percent
Decrease vehicle travel speed	1	9.09%
Improve street lighting	1	9.09%
Improve traffic signal timing	1	9.09%
Add pedestrian facilities (sidewalks or crossings)	3	27.27%
Add or change bicycle or micro mobility facilities	1	9.09%
Add paid on-street parking	1	9.09%
Increase parking enforcement	2	18.18%
Better Tysons Circulator service	1	9.09%
Grand Total	**11**	**100.00%**



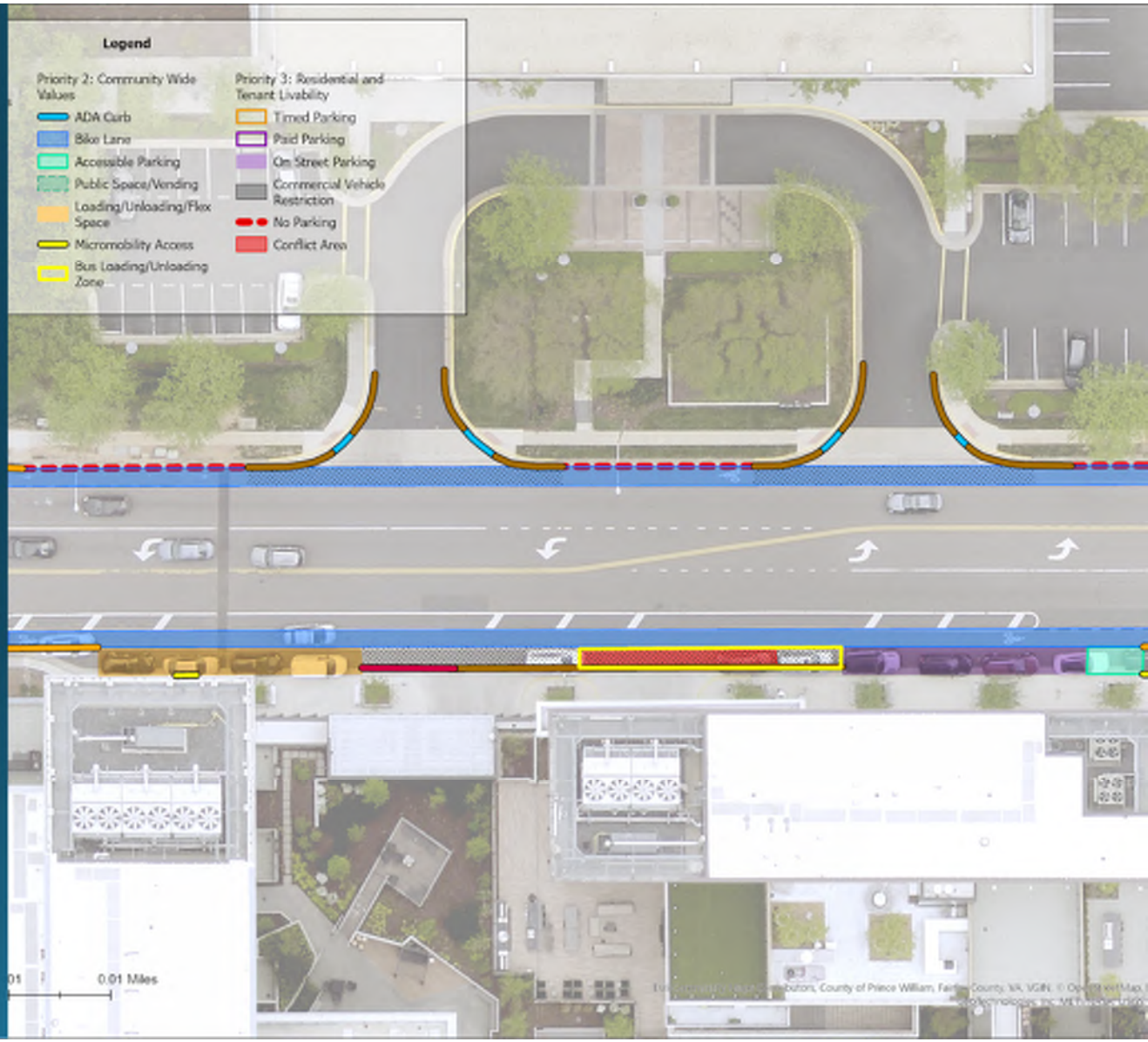
Full Application of Prioritization Process

Visualize Safety and Accessibility Requirements

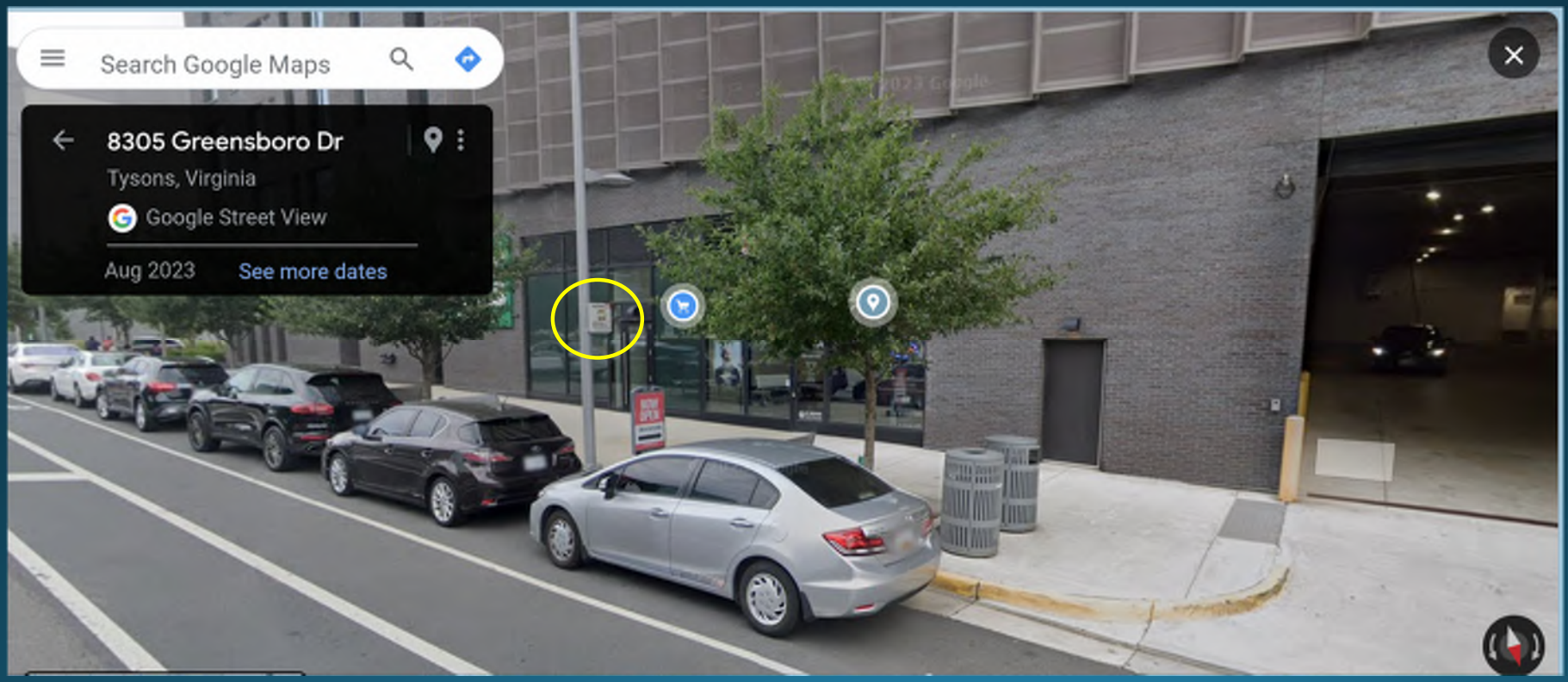


Identify Safety Concerns

- Conflicts between sight distance requirements and obstructions
- Conflicts with regulatory requirements
- Placement of emergency access points
- Transit stop conflicts
- Streetscape design issues

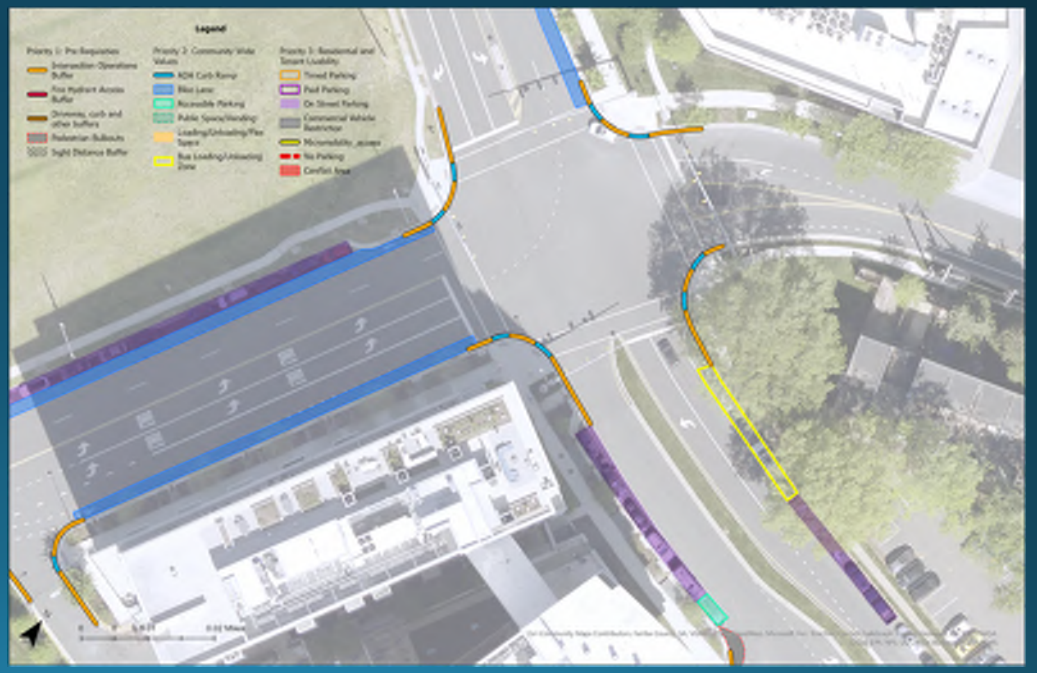


Optimize Safety and Accessibility



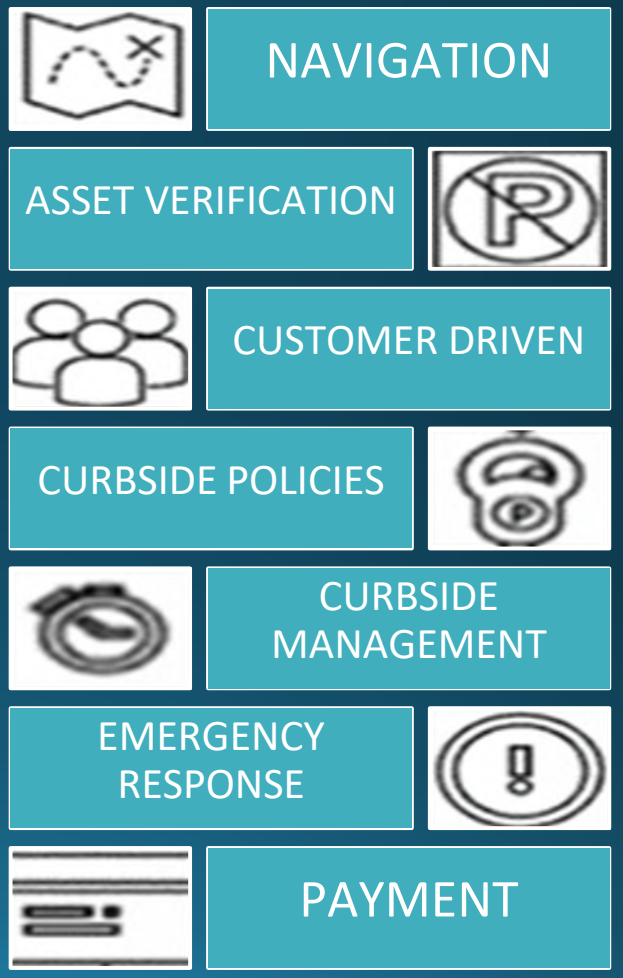
Solution:
Applications for Informed Decision-making

- Existing Conditions Safety Analysis
- Land Development Application Review/Site Analysis
- Project Planning Process
- Small Area / Community Planning



Next Steps:

- Plan to implement priorities
- Explore use of technology



Questions?

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