

Implementing Complete Streets



How do you envision Complete Streets?



More progressive?



Did you envision this?



Implementing Complete Streets:

1. Guiding Principles for Designers
2. How to Get it Done
3. Why Complete Streets are So Important



Baltimore Complete Streets

Guiding Principles for Street Design

System Performance

Address Safety First

Be Accessible by Everyone

Improve Mobility

Community Enhancement

Ensure Equity

Represent Community Culture

Be Sustainable

Baltimore Complete Streets

Guiding Principles for Street Design

System Performance

Address Safety First

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Improve Mobility

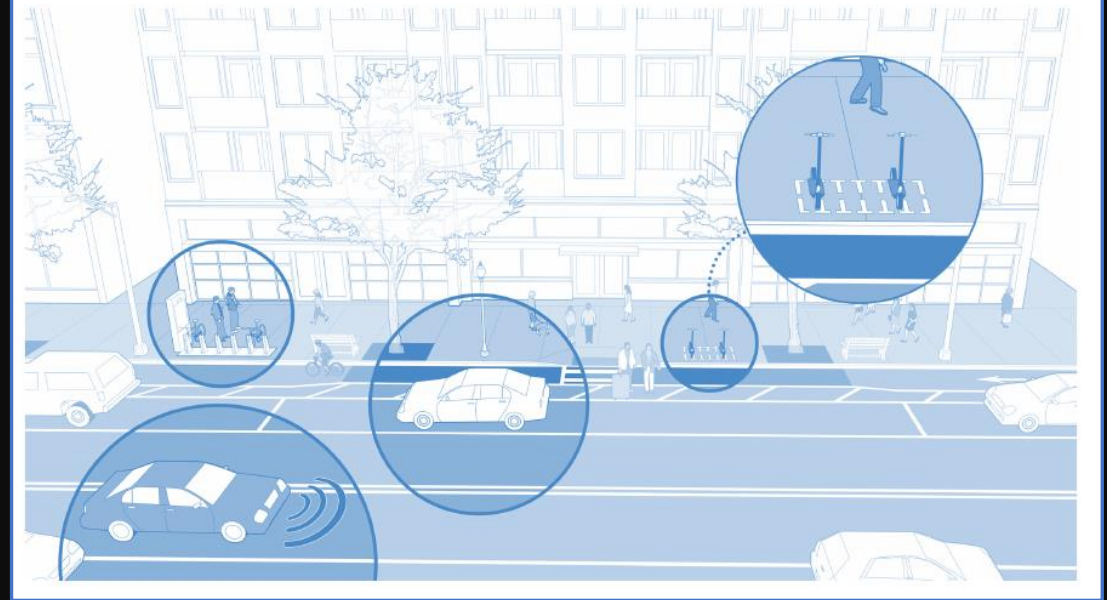
Community Enhancement

Ensure Equity

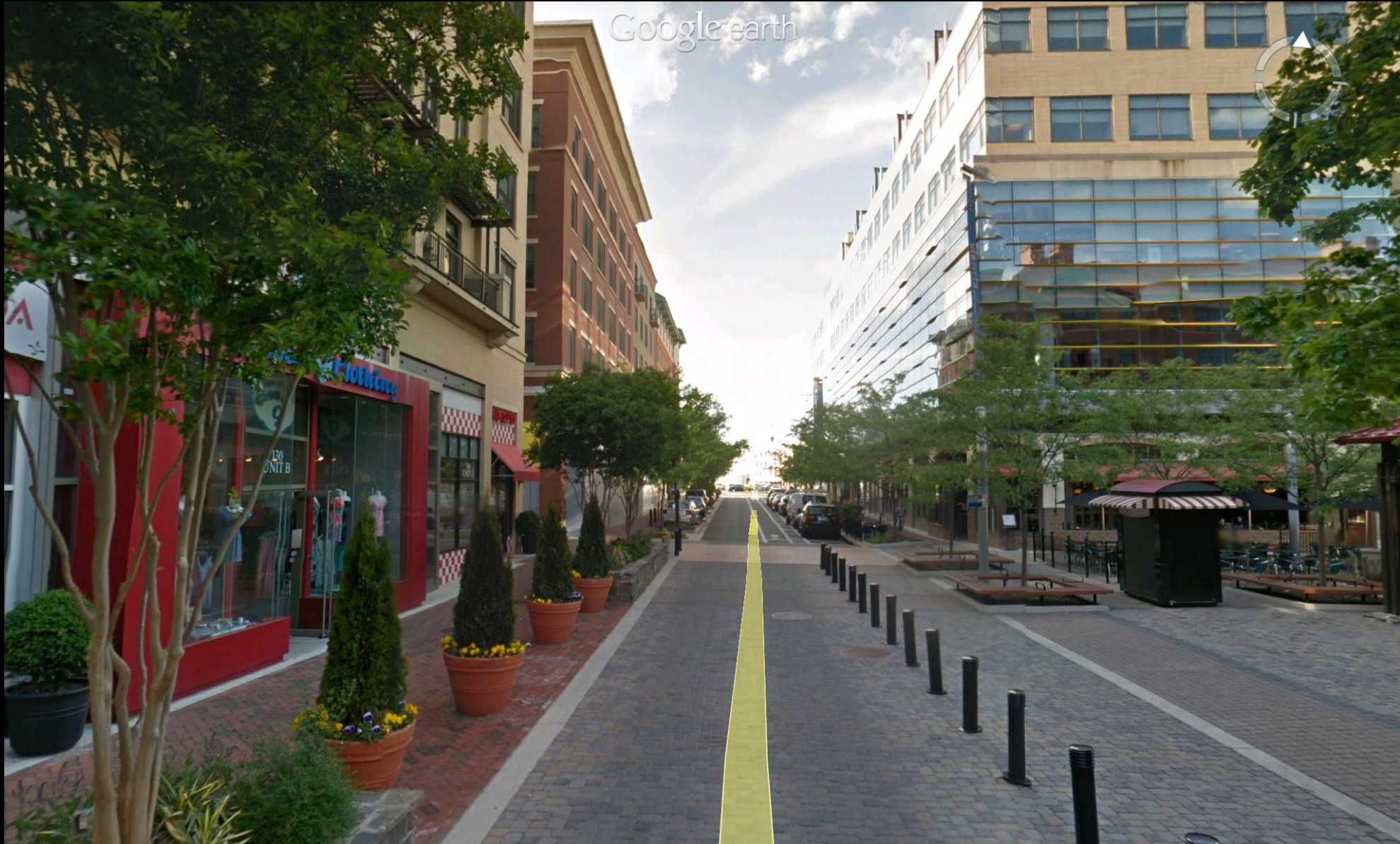
Represent Community Culture

Be Sustainable

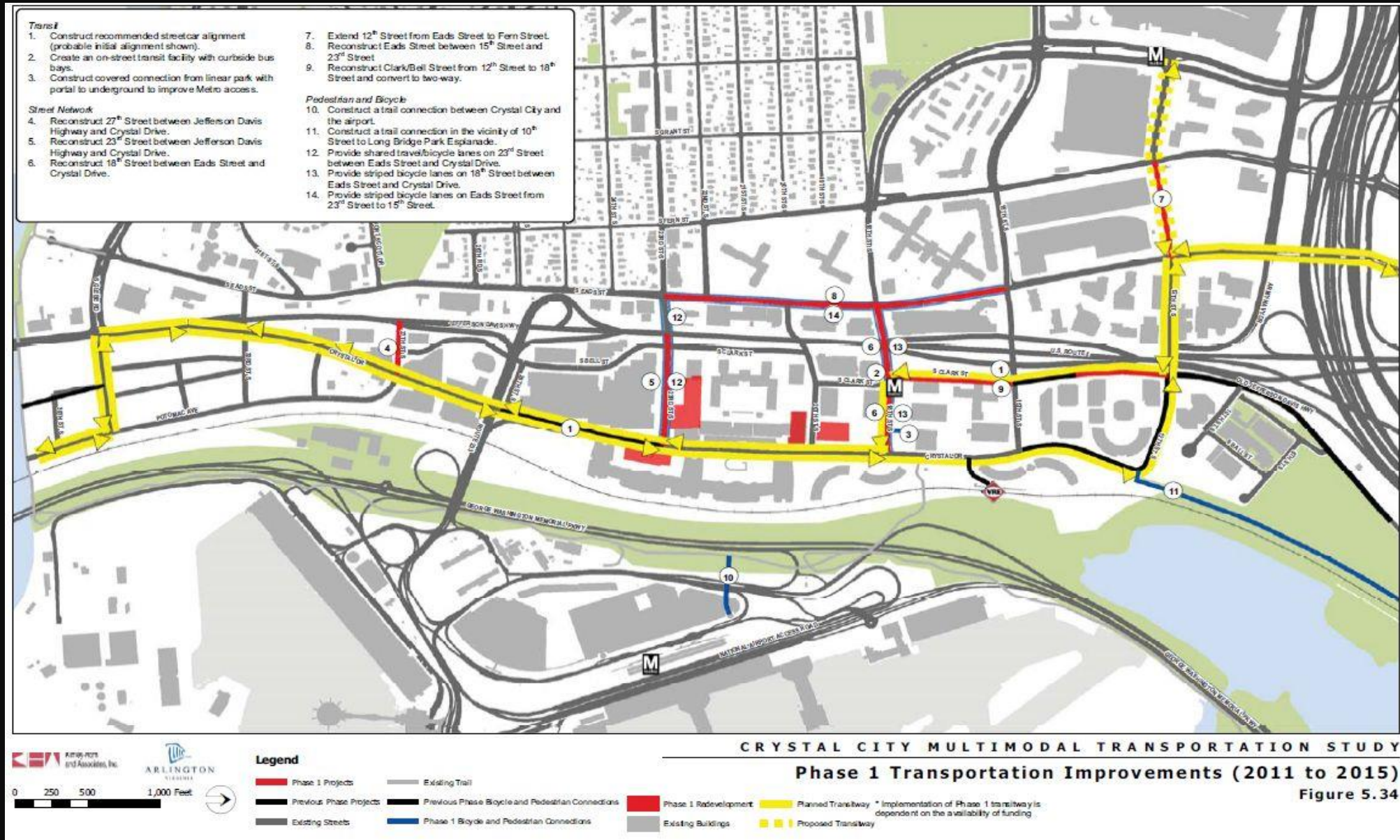
EMERGING TRENDS



Streets Should Reflect a Community's Culture



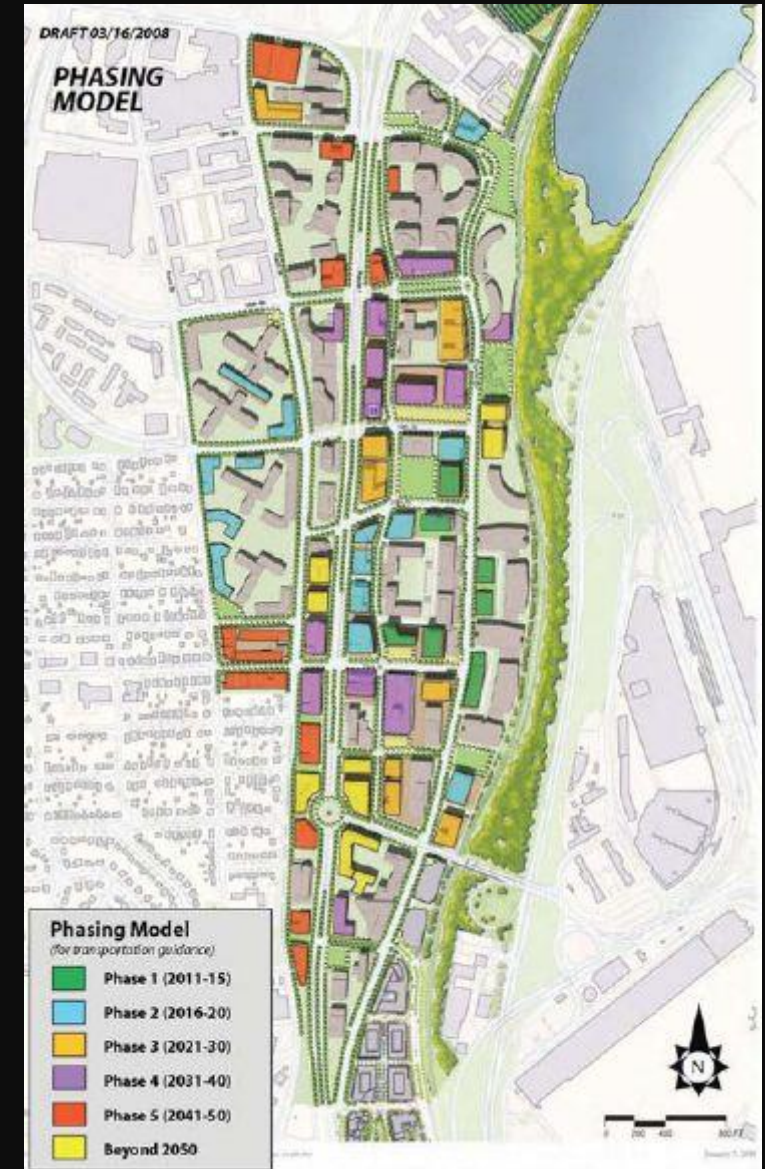
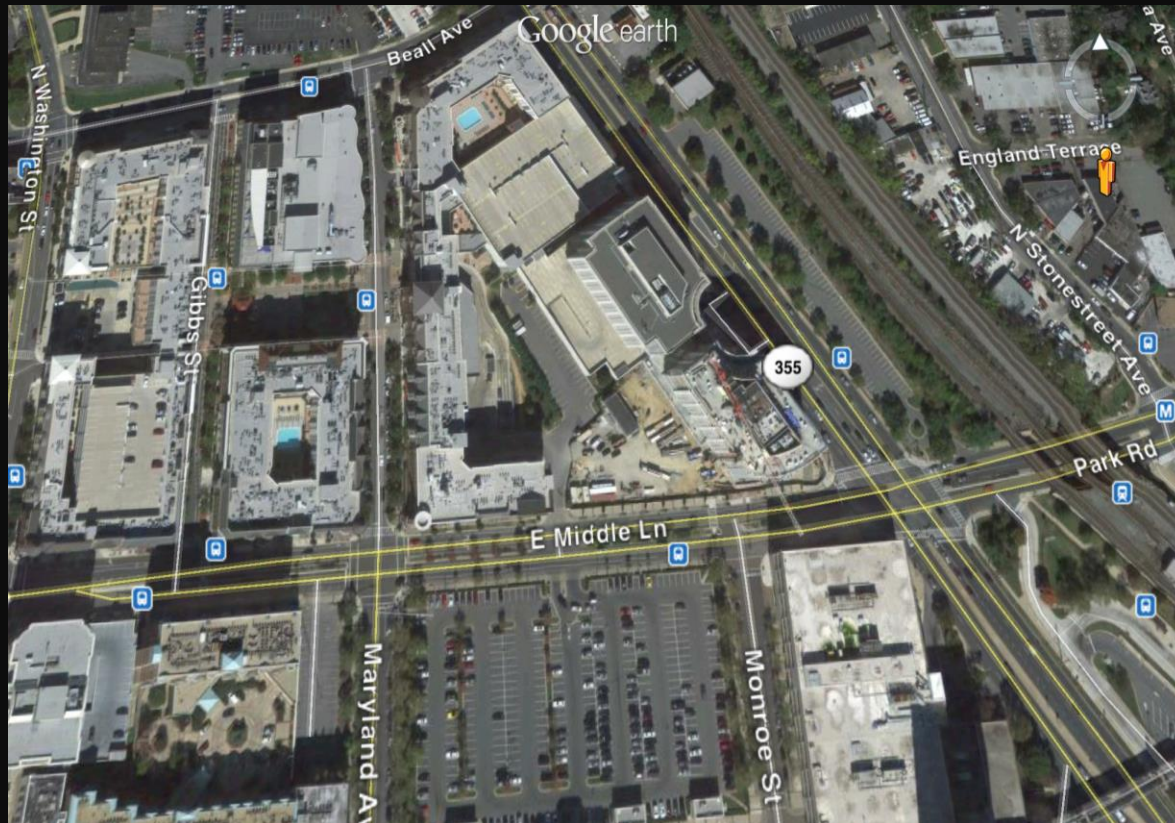
Communities Should Have a Vision



The Plan Needs to Include a Complete Streets Network with Modal Priorities

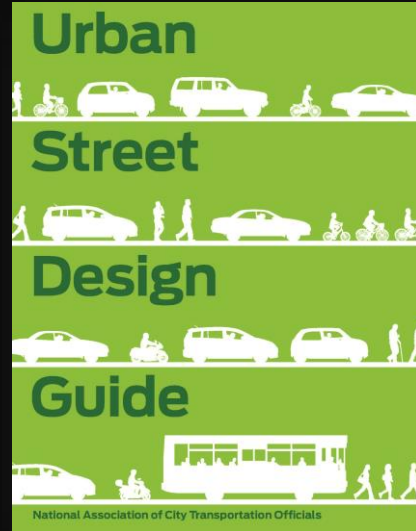


Understand the Purpose of a Street within a Complete Streets Network

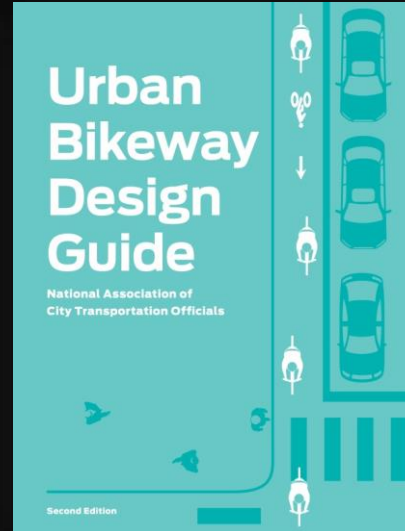


NACTO Design Guides:

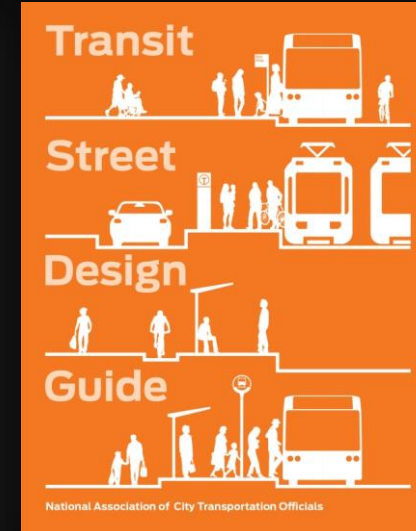
Planning Needs to Catch-up



Urban Street
Design Guide
Published Fall
2013



Urban Bikeway
Design Guide
Published Spring
2011
2nd Edition Fall
2012

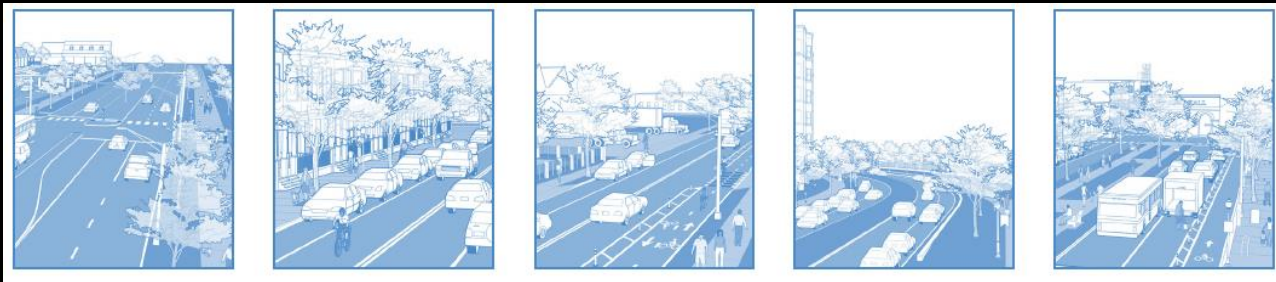
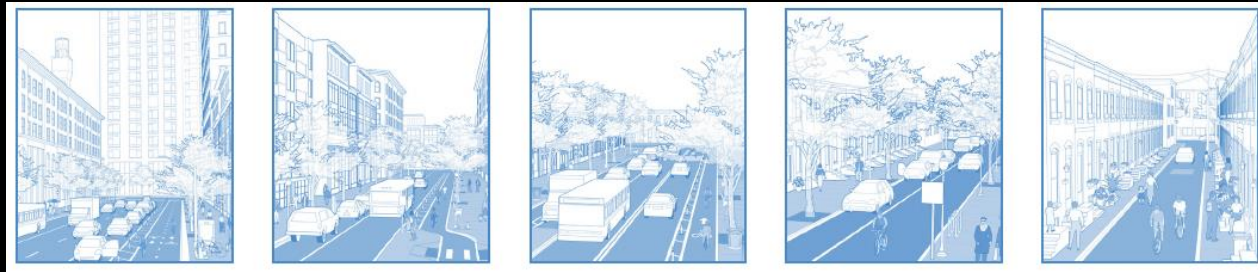


Transit Street
Design Guide
Published April
2016

Design Streets to be Accessible for All Users of All Abilities



Community & Moving People: Complete Streets Design Manuals Define Street Types



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

Complete Streets Design Manuals

Define Street Types

Identifying Street Types

- Align Street Function with Community Environment
- Possess Specific Design Specifications
- Cross Section Element Priorities Reflect Modal Hierarchy
- Priorities Include Curbside Management Elements

Urban Village Neighborhood

Urban Village Neighborhood Streets play a supporting role to Urban Village Main Streets by serving a variety of land uses, with more emphasis on residential and curbside uses that provide amenity and activation. These streets may also accommodate high turnover parking and loading, as well as other curbside uses. Urban Village Neighborhood Streets may function as a meeting space for the neighborhood by accommodating events such as farmer's markets and festivals. Urban Village Neighborhood Streets also provide a transition to low-volume and low-speed Neighborhood Streets and should communicate this change in street function through the use of signage, traffic calming devices, and lighting. This Street Type should have a target speed ranging from 15–20 mph, depending on the modal priority of the street.

Examples of Urban Village Neighborhood Streets in Baltimore



McCulloh Street in Madison Park



South Montford Street in Canton



Complete Streets Design Manuals

Define Street Types

Street Types

- Align Street Function with Community Environment
- Possess Specific Design Specifications
- Cross Section Element Priorities Reflect Modal Hierarchy
- Priorities Include Curbside Management Elements

Appendix 1: Baltimore Complete Streets Design Criteria

	Downtown Commercial			Downtown Mixed-Use			Urban Village Main			Urban Neighborhood
	Target	Maximum	Constrained	Target	Maximum	Constrained	Target	Maximum	Constrained	Target
Sidewalk Zone										
Frontage Subzone	2'	–	0'	2'	–	0'	2'	–	0'	2'
Pedestrian Subzone (1)	12'	–	8'	10'	–	8'	8'	–	5'	6'
Shared Use Path	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Furnishing Subzone	7'	–	4'	7'	–	4'	7'	–	3.5'	7'
Curbspace										
Curb	20"	44"	8"	20"	44"	8"	20"	44"	8"	20"
On-street Parallel Parking (Automobile)	9'	9'	8'	9'	9'	8'	9'	9'	8'	9'
Commercial Loading / High Transit Boarding / Aligning	11'	12'	10'	11'	12'	10'	11'	12'	10'	11'
Roadway Zone										
Curbside Lane Subzone (2)										
Separated Bike Lane (3)	10'	–	8'	10'	–	8'	10'	–	8'	N/A
Two-Way Separated Bike Lane (4)	15'	–	11'	15'	–	11'	15'	–	11'	15'
Buffered Bike Lane (5)	8'	8'	6.5'	8'	8'	6.5'	8'	8'	6.5'	8'
Traditional Bike Lane	N/A	N/A	N/A	6'	7'	5'	6'	7'	5'	6'
Bus Priority Lane / Shared Transit Lane	12'	12'	11'	12'	12'	11'	12'	12'	11'	N/A
Side Boarding Stop (6)	9'	–	8'	9'	–	8'	9'	–	8'	9'
Travelway Subzone										
Travel Lane (7)	9'	10'	9'	9'	10'	9'	9'	10'	9'	9'
Transit Lane (8)	11'	11'	11'	11'	11'	11'	11'	11'	11'	11'
Truck Lane (8)	11'	11'	11'	11'	11'	11'	11'	11'	11'	11'
Turn Lanes	11'	12'	10'	11'	12'	10'	11'	12'	10'	11'
Median Subzone										
Pedestrian refuge	10'	–	7.33'	10'	–	7.33'	10'	–	7.33'	10'
Continuous with landscaping	10'	–	6'	10'	–	6'	10'	–	6'	N/A
Continuous without landscaping	6'	–	2'	6'	–	2'	6'	–	2'	N/A

(1) Sidewalk designed to Baltimore City Standards

(2) Width dimensions include gutter pan width

(3) Separated bike lane width includes 3' minimum buffer

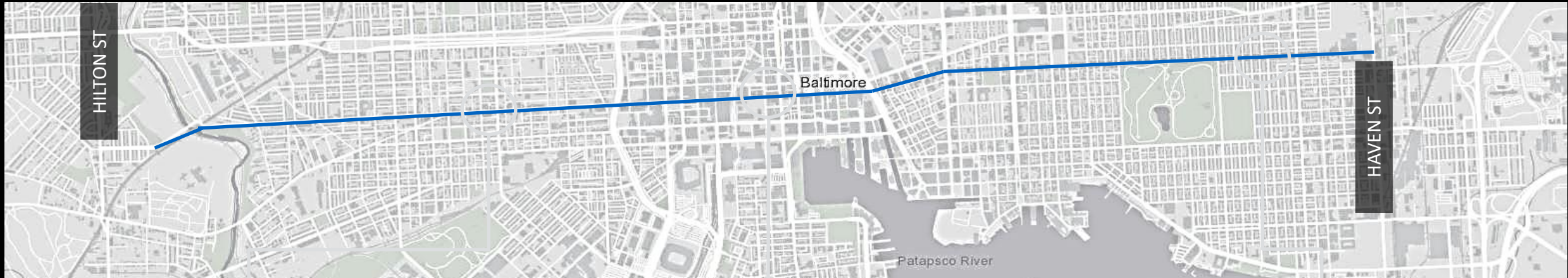
(4) Two-way separated bike lane width includes 3' minimum buffer

(5) Buffered bike lane width includes 1.5' minimum buffer

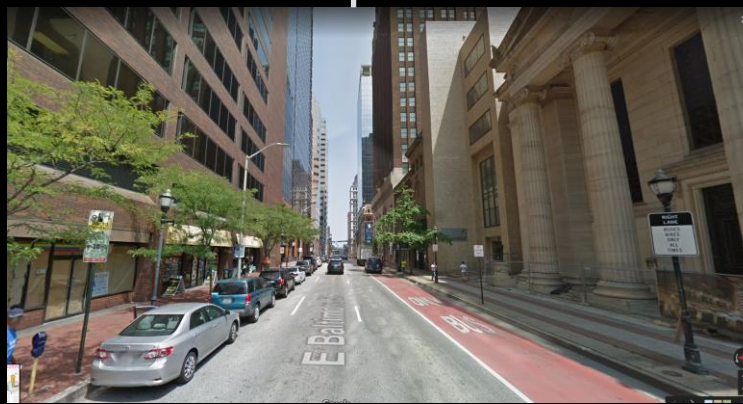
(6) Boarding island or bulb-out depending on bicycle accommodations

Example: Baltimore Street (Minor Arterial)

Changing Context = Different Street Design Needs



W. Baltimore Street - near Arlington St



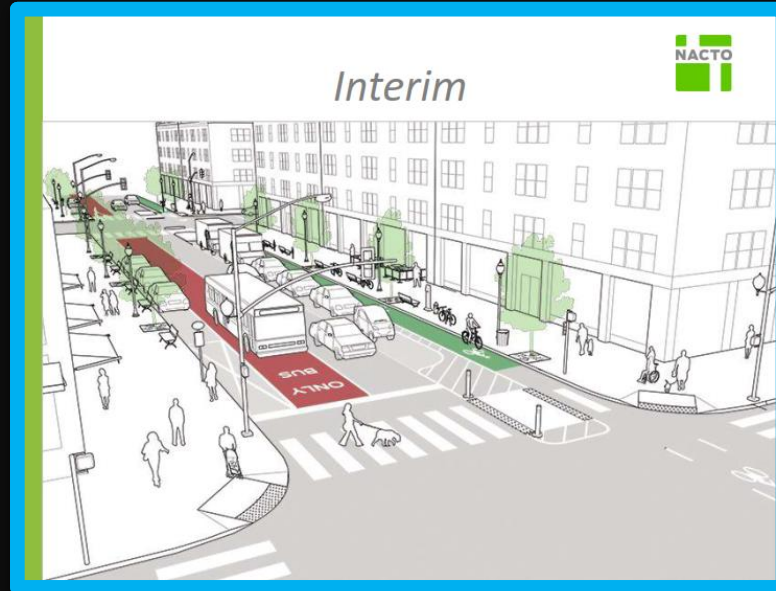
Baltimore Street - near Charles St



E. Baltimore Street - near S. East Ave



What can we do now?



Complete Streets Includes Collaboration with the Community and Testing Concepts



What can we do now?



When Designing a Street Prioritize Safety First



Measuring Success: Speed as a Performance Measure

Mobility: Faster speed = less delay,
quicker travel time, less congestion

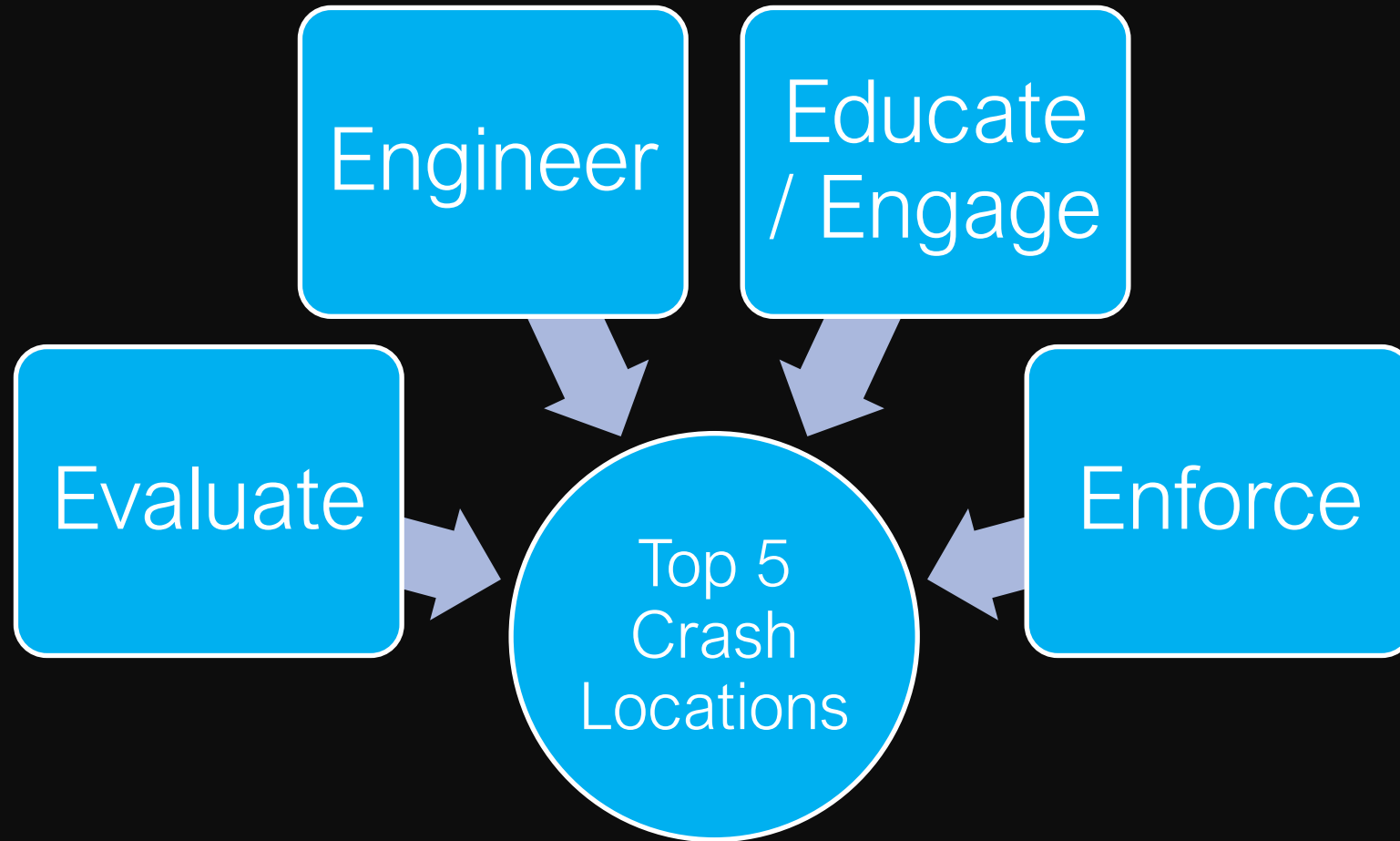
Safety: Faster speed = higher
probability of severe injury or fatality
in crash



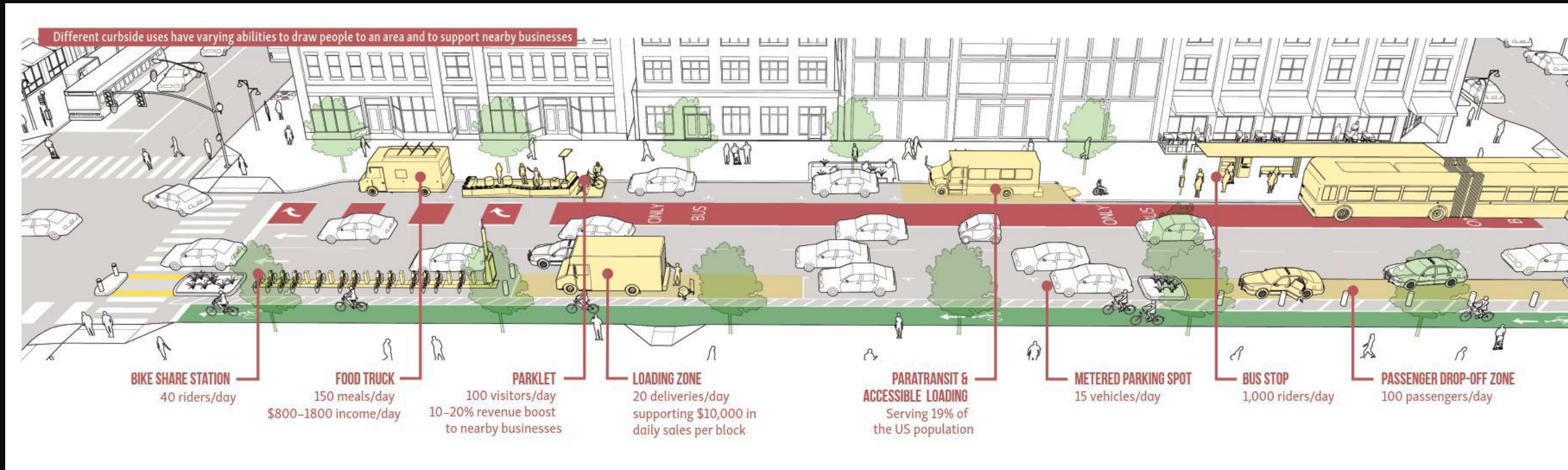
Design to Eliminate Severe Injuries and Fatalities



Be “All in” on Vision Zero



Improve Mobility: Progressively Manage Curbspace



Source: NACTO

Start A Dialog on Applicable Performance Measures

Safety Measures

- Minimum width requirements

- Minimum sight distance requirements

- Fire & rescue access / hydrants

- Examples of conflict points

Mobility Measures

- Person movement: docking vs. parking

Accessibility Measures

- ADA related

- Commercial loading

- Concentric rings

- Retail access: turnover & time restrictions

Curbs Can Serve Activity, Commerce, and Movement

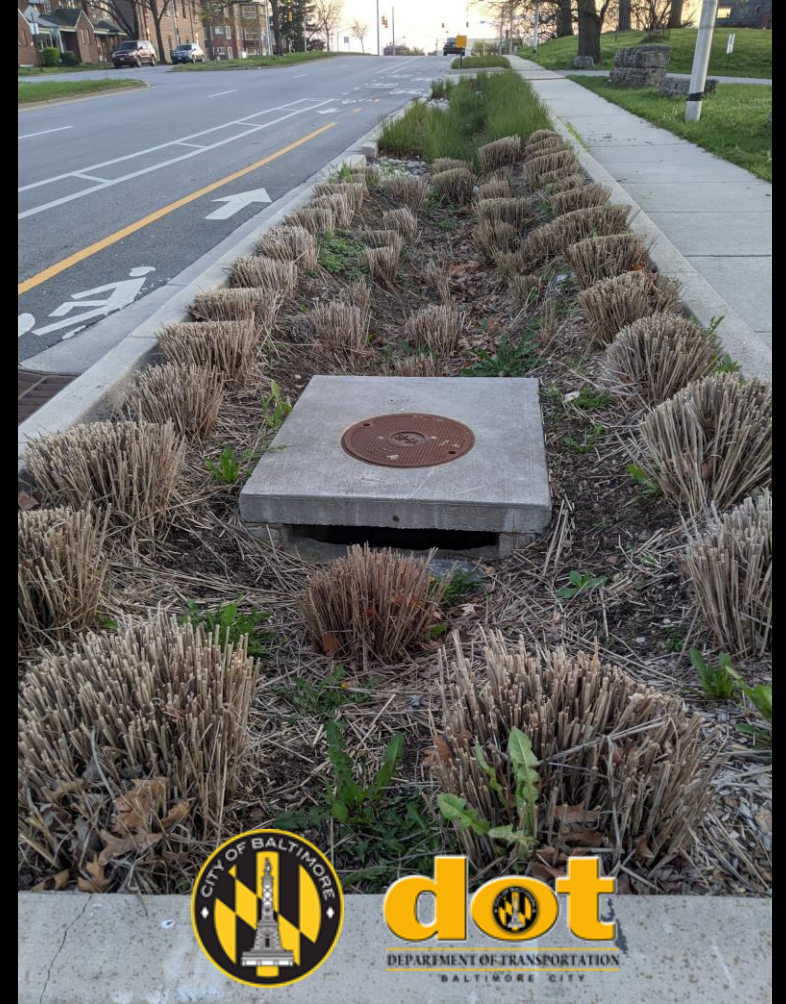


Source: NACTO



Be Sustainable: Apply Green Infrastructure

- Manage stormwater
- Provide shade
- Buffer the sidewalk from the street



How to Get it Done:
Establish a Prioritization Process for
Guiding Tough Decisions

Establish a Prioritization Process for Guiding Tough Decisions

Policy > Process > Implementation Guidance



Implementing Complete Streets Starts with Policy: Establish a Modal Hierarchy



Implementing Complete Streets: Ensure the Project Selection Process Reflects the Community's Values

IMPLEMENTATION

PROJECT PRIORITIZATION

Introduction

The Department of Transportation's project prioritization processes include assessments of the following major components:

1. Equity
2. Safety
3. Asset Condition

The Addressing Equity in Baltimore section details the equity indicators recommended for the equity assessment in the project prioritization processes. These indicators represent population factors, recommended in the Complete Streets Ordinance, that can be quantified for such an analysis. This section includes an illustrative spatial analysis of the City for each indicator based on best available information, as well as an example of the process to combine the indicators into one map for application in the prioritization processes. It also provides an example of a method to score the geographic areas 1-5. This equity assessment should be continually reviewed, refined, and applied by the City officials.

Infrastructure projects managed by the Department of Transportation that most heavily impact the daily life of residents and visitors to the city are:

1. Sidewalks
2. Roadway Resurfacing
3. Capital Improvement Projects

Sidewalks

Baltimore City has 3,600 miles of sidewalks. Historic and current funding levels are not adequate to address all ADA compliance concerns each year, so a data-driven process will guide improvements and repairs based on equity, safety, condition of sidewalks, user needs, and connectivity. Previous sidewalk replacement and repair has been guided through requests routed through the 311 system, but prioritizing work by request does not equitably distribute the work.

Project Prioritization Process

Step 1: Condition Assessment

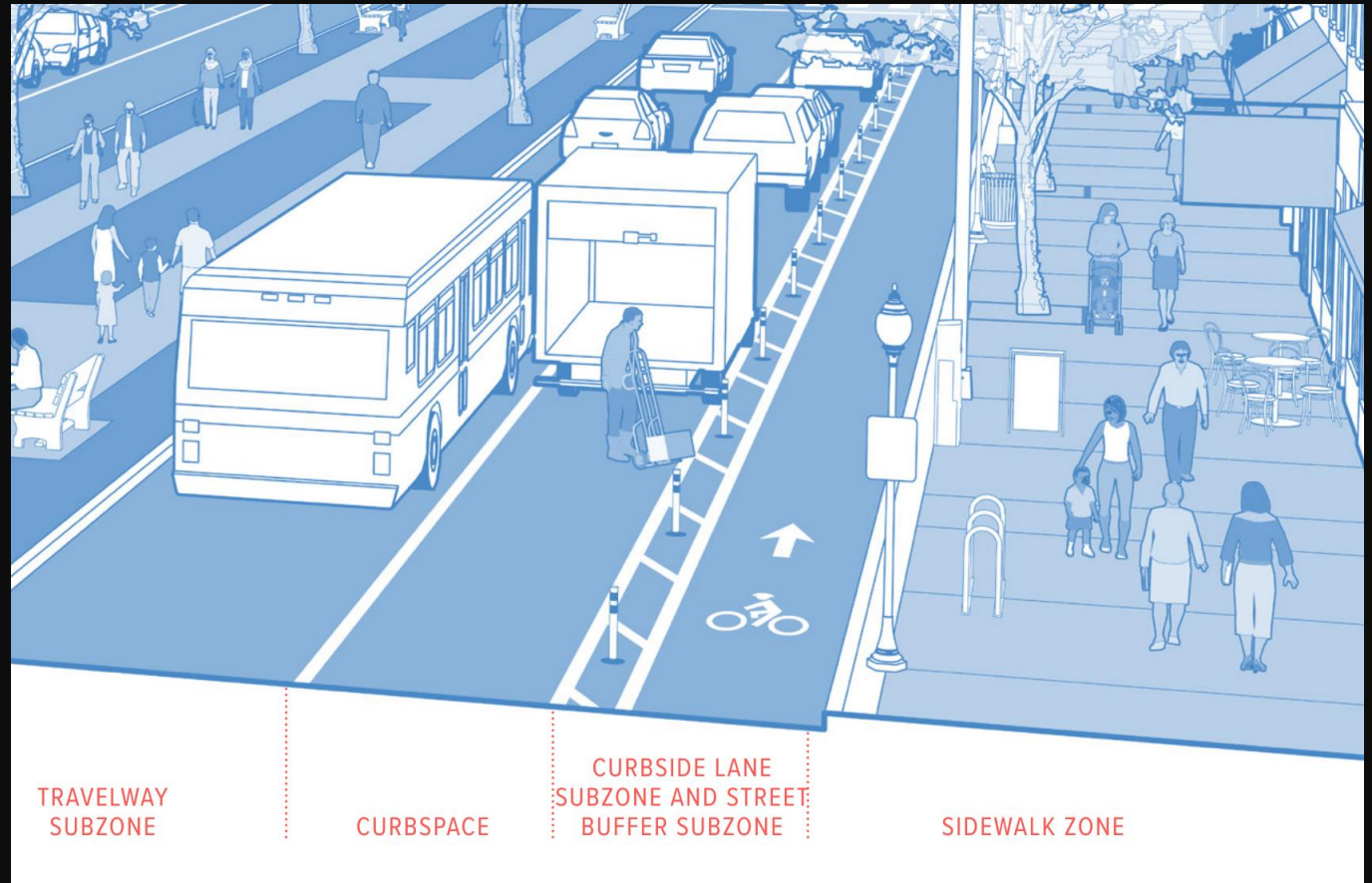
Conduct a condition assessment for all sidewalks and assign a Sidewalk Condition Score for each sidewalk according to the following scale:

Sidewalk Condition Score	Condition Description
5	Worst condition and must be replaced as soon as possible due to safety concern
4	Poor condition
3	Fair condition
2	Good condition, but not ADA compliant
1	Good condition and ADA compliant

Step 2: Prioritize Safety



Implementing
Complete Streets
ROW is Often Limited:
Provide Guidance to
Street Designers



Implementing Complete Streets

ROW is Often

Limited:

Provide Guidance to
Street Designers

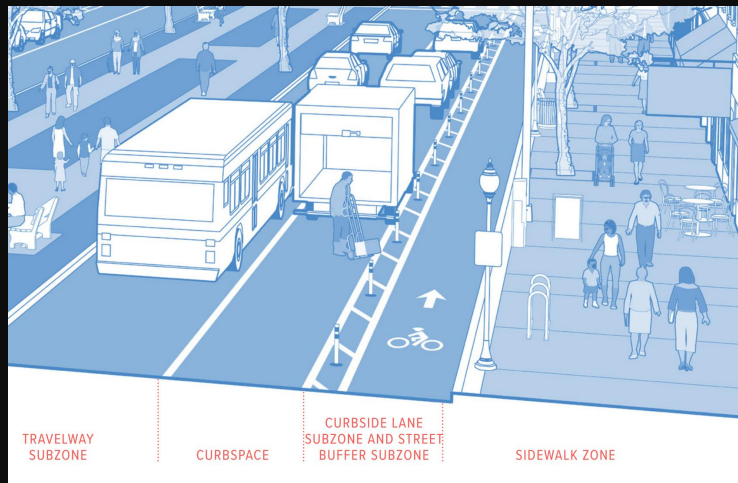


Table 1. Limited Right-of-Way Priorities

Street Type	Sidewalk Zone		Roadway Zone			
	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

(table continues next page)

Why Complete Streets are So Important

Ensure Equity:

- **Prioritizing Projects**
- **Measuring the Success of a Project**
- **Engaging the Public**

Why Attention to Complete Streets Implementation is So Important in Serving Historically Disadvantaged Communities

By LAWRENCE MARCUS (M), PAULA FLORES (F), JAMIE ROBERTS, PTP (M), AND ABIGAIL JOHNSON

The decisions we make every day as transportation professionals can impact quality of life, access to opportunities, and can result in systemic inequities in our communities. This became very clear as we adapted to new norms throughout the pandemic. The undeniable evidence of disproportionate impacts has been eye-opening. We need to act now and revisit our practices and perspective of success in our profession. We stand at a new crossroads—recognizing the consequences of the past—and must take a new path that radically innovates the way we think, assess, and implement.



Ensure Equity:

- **Include an Equity Component in Project Selection**



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Project Prioritization Process

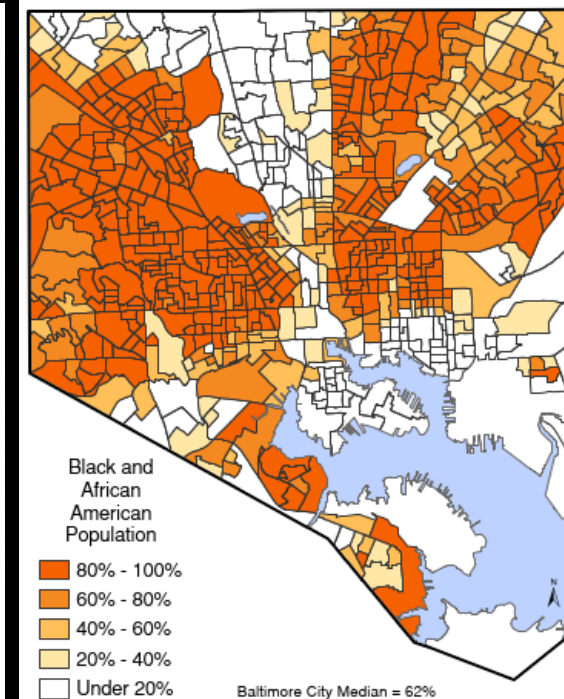
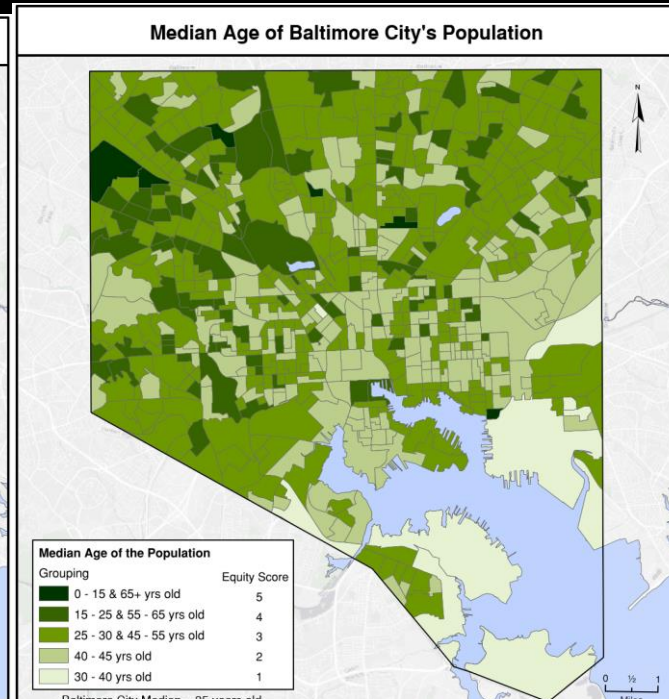
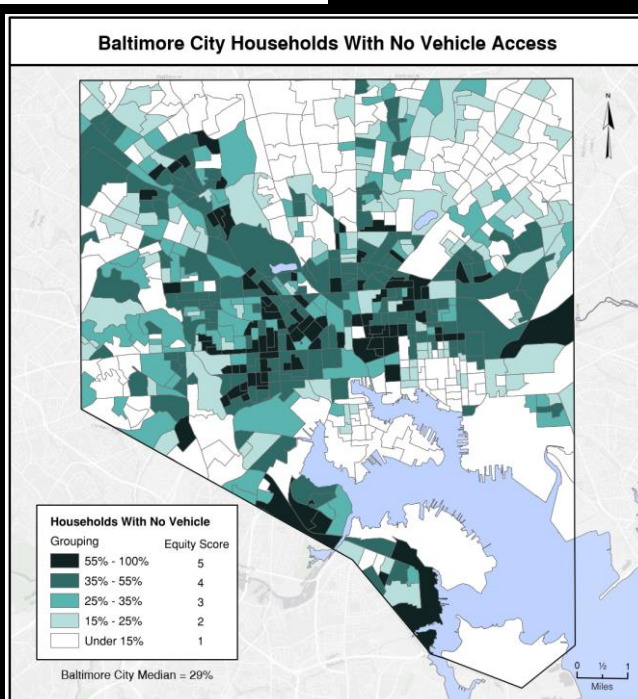
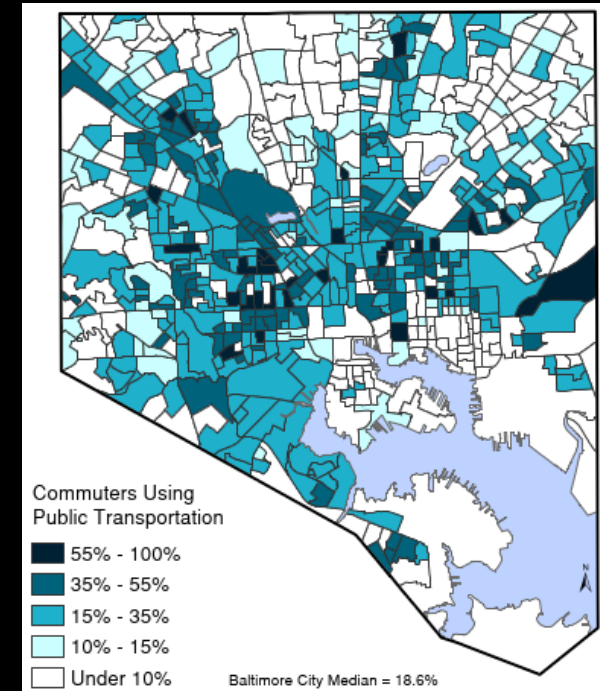
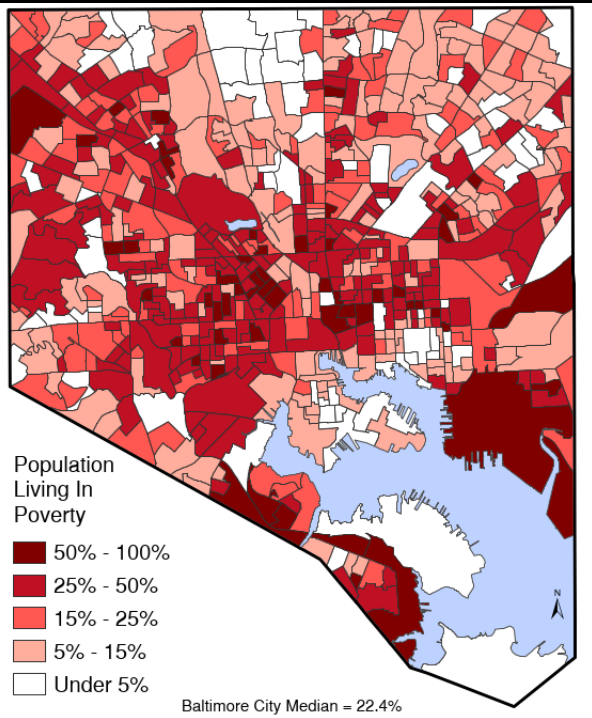
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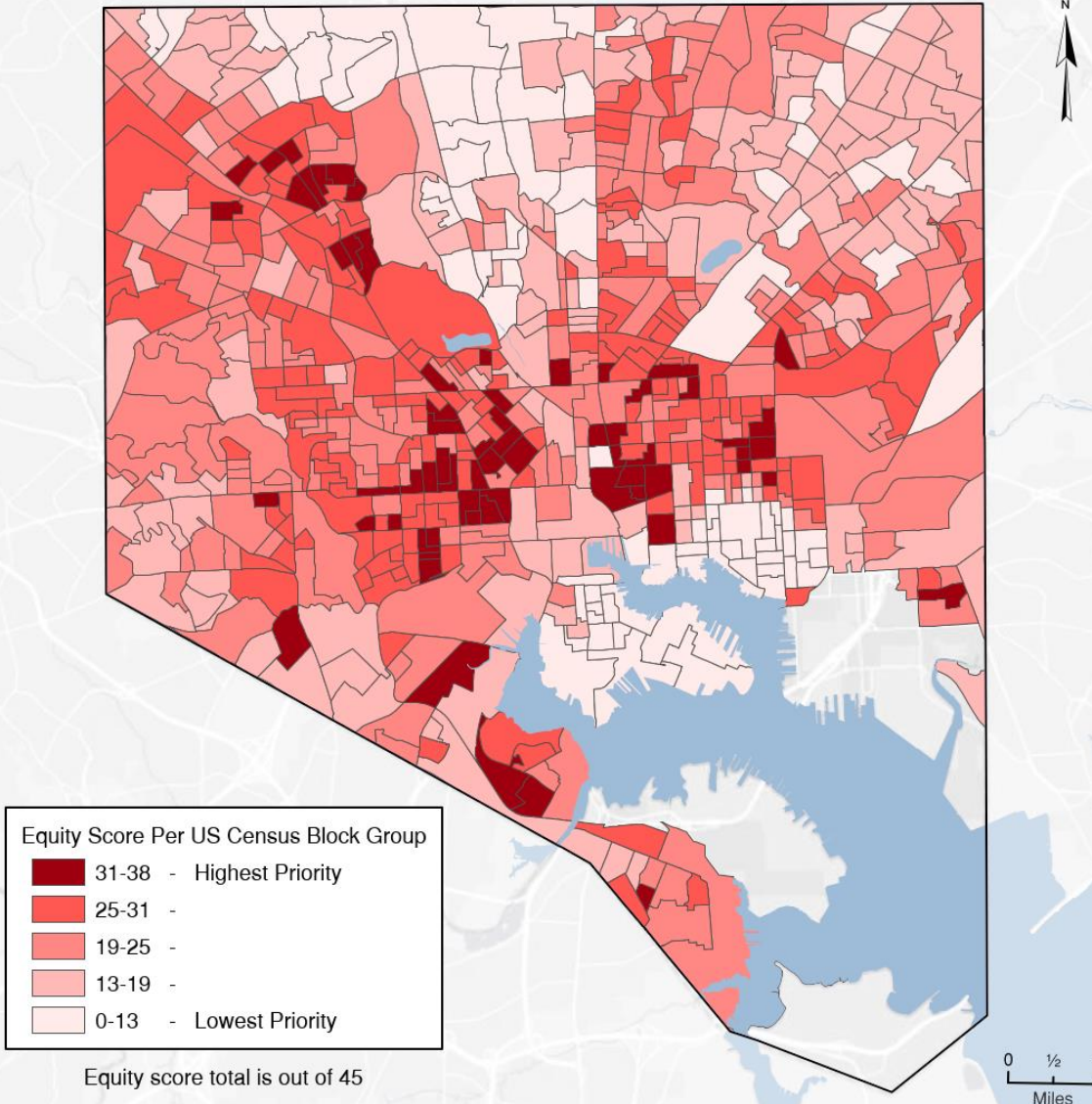
Example Equity Indicators to Identify Disadvantaged Communities



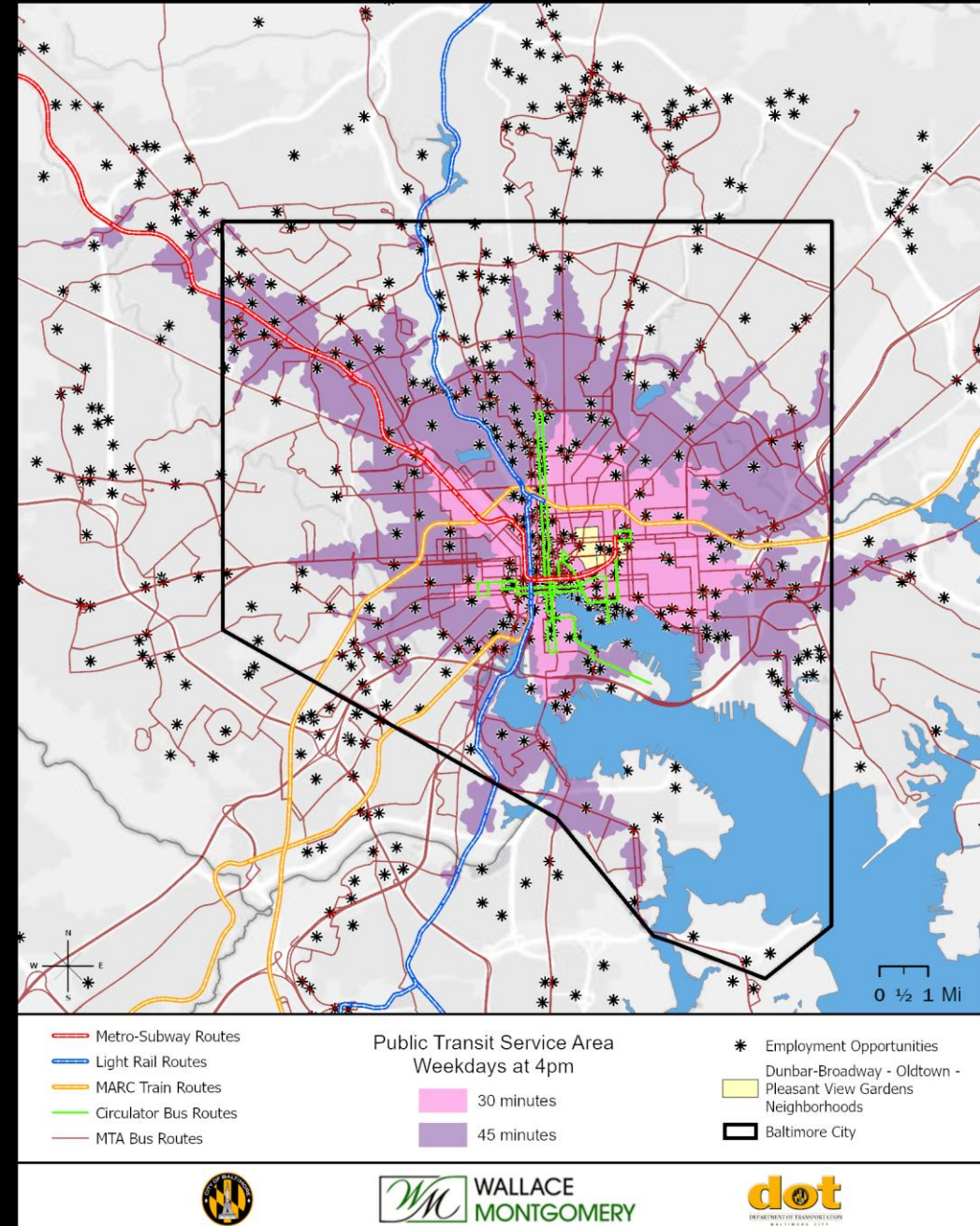
Identify Disadvantaged Communities



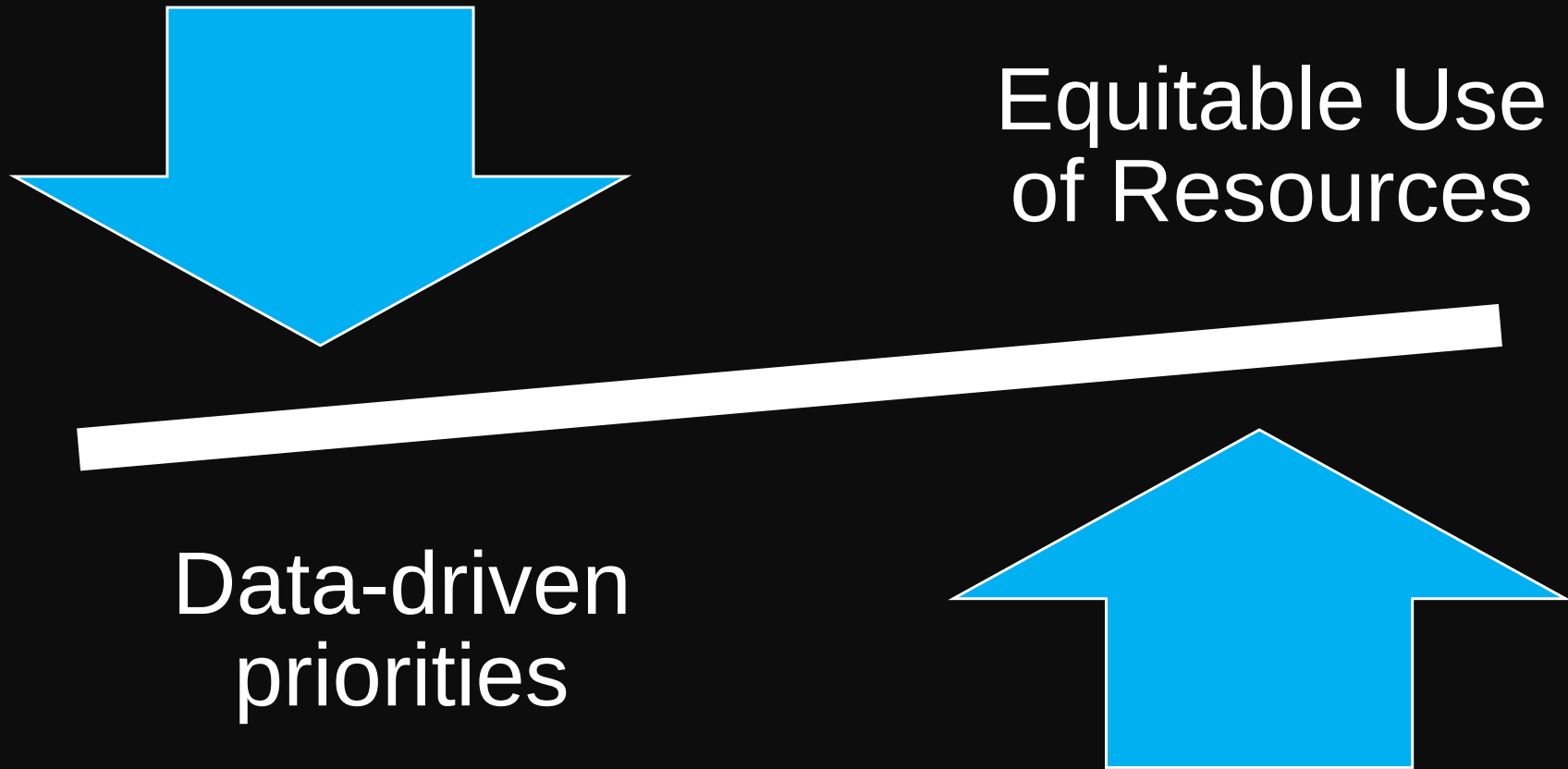
Equity Analysis for Baltimore City



Apply Tools to Identify Facility Needs Example: Transit Access to Relevant Jobs



Priority Setting: Ensure a Balance Between Technical and **Equitable** Measures



A group of people are seated around a table in a meeting room, engaged in a discussion. The room has a yellow brick wall and a large map of the United States in the background. A banner with the text 'VISIONZERO' is visible. The text 'Implementing Complete Streets: Equity in Public Engagement' is overlaid on the image.

Implementing Complete Streets: Equity in Public Engagement

Addressing Equity



Equity in Community Engagement Policies:

Race/Gender/Culture

Policy: Complete Streets project outreach efforts will be sensitive to race, gender and ethnicity, and will be tailored to the affected community to help achieve comprehensive participation.

Income

Policy: Complete Streets project outreach efforts will identify communities with socio-economic challenges and customize communication methods and meeting locations to optimize participation and engagement with the project.

Age

Policy: Complete Streets project outreach efforts will engage community members of all ages by customizing communication methods and meeting locations to optimize participation with the project.

Accessibility:

Policy: Complete Streets project outreach efforts will ensure all residents have equal opportunity to participate in the public process regardless of vehicle access, physical disability, or other factors.

Implementing Complete Streets

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