

Visualization

as a design and planning tool for

Complete Streets Projects

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Visualizations help our ability to **Communicate, Perceive, Process, & Respond** to information.

Visualizations are omnipresent all around us and we make use of them intuitively everyday!



Designing and planning

Complete Streets

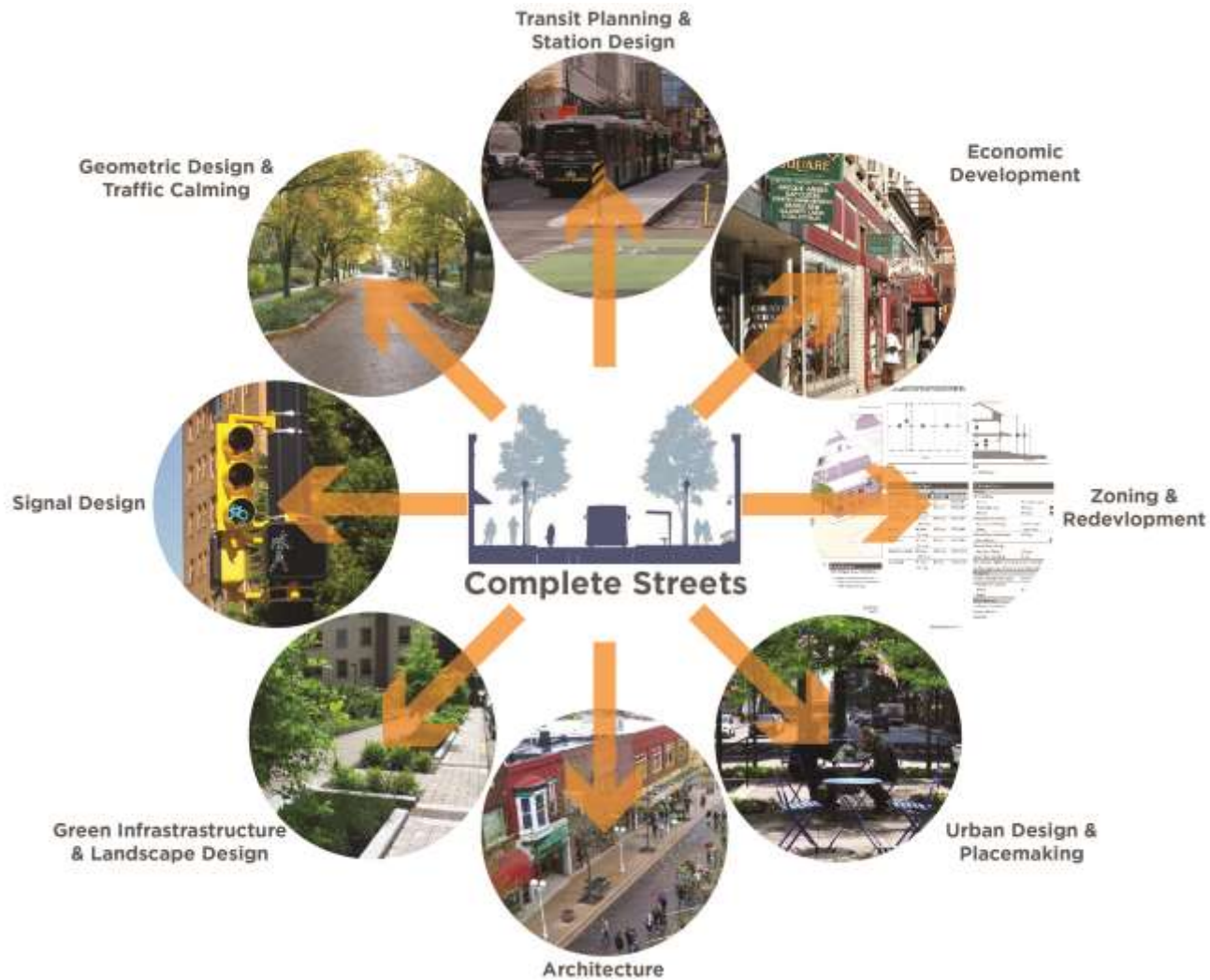
is a complex

multi-disciplinary process

that requires disparate sets of information to be synthesized and presented in a comprehensive manner.

Visualizations can help this planning and design process.





Architects, Landscape Architects, & Urban Designers have always relied on power on visualization in their work.



Lakeside Master Plan, Chicago. Source: SOM



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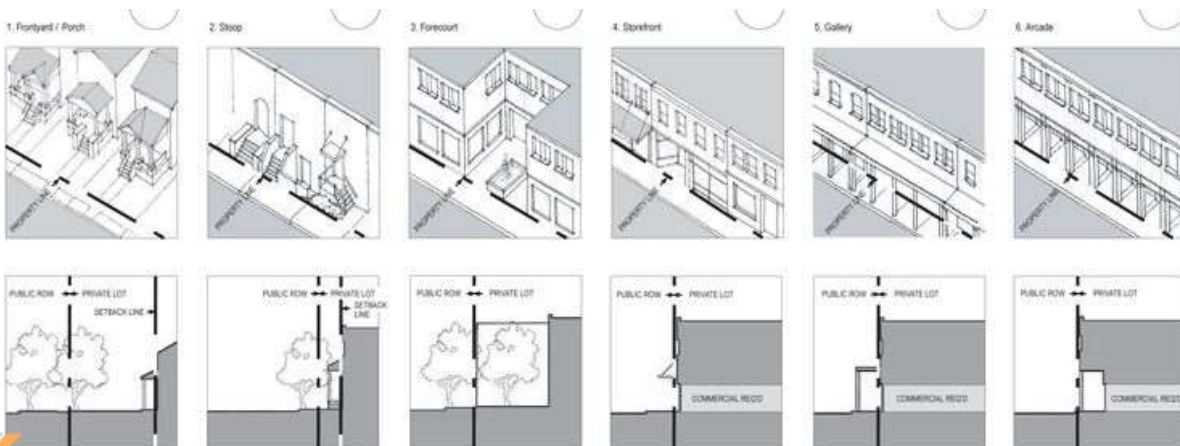
Orleans Landing, Detroit, Michigan. Source: Urban Design Associates



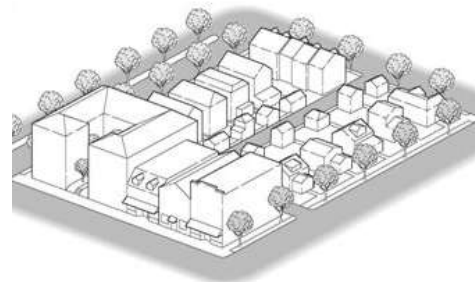
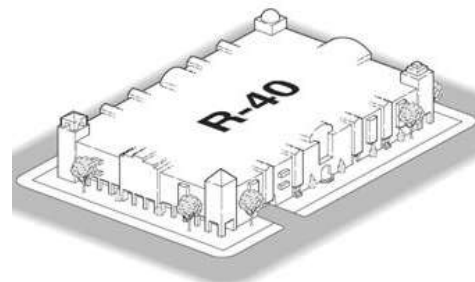
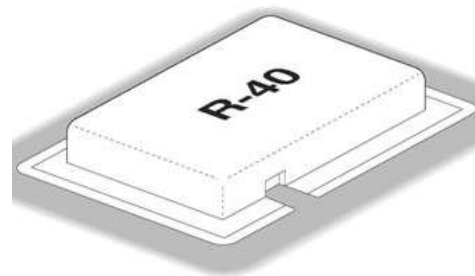
Policy documents have also started to utilize more graphics



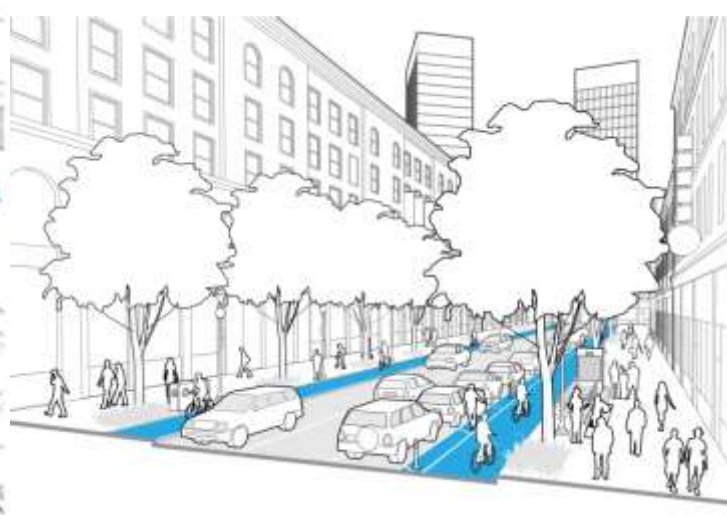
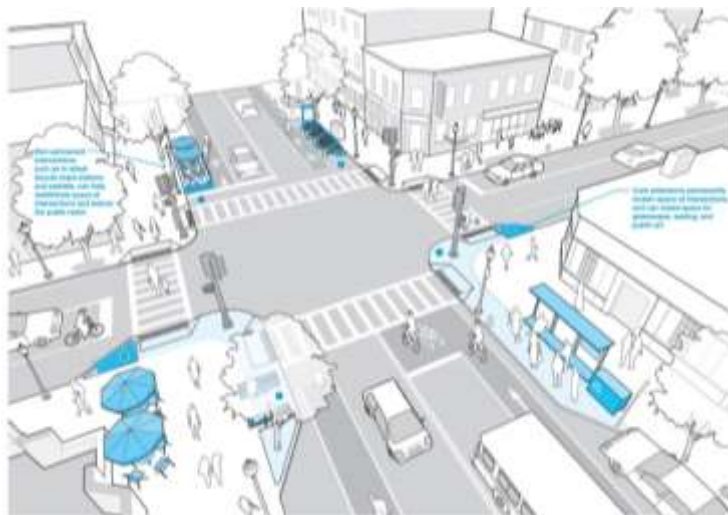
Natural to Urban Transect. Source: DPZ & Company via CATS



Form Based Codes. Source: FBCI



Form Based Codes. Source: FBCI



4 INTERSECTIONS

4 INTERSECTIONS



Technically accurate, yet easy to understand visualizations can act not just as a communication tool, but also as an integral design and implementation tool.

Examples of Visualization Types:

- **Before and After 3D Renderings,**
- **Animations,**
- **Rendered Plans & Cross-Sections**
- **Diagrams**



Ways in which visualizations act as a design and planning tool.

- **Internal communication medium for an interdisciplinary project team**
- **Compare multiple alternatives**
- **Communication tool in stakeholder engagement and public outreach**
- **Marketing tool to generate public support and raise financial resources to implement projects**



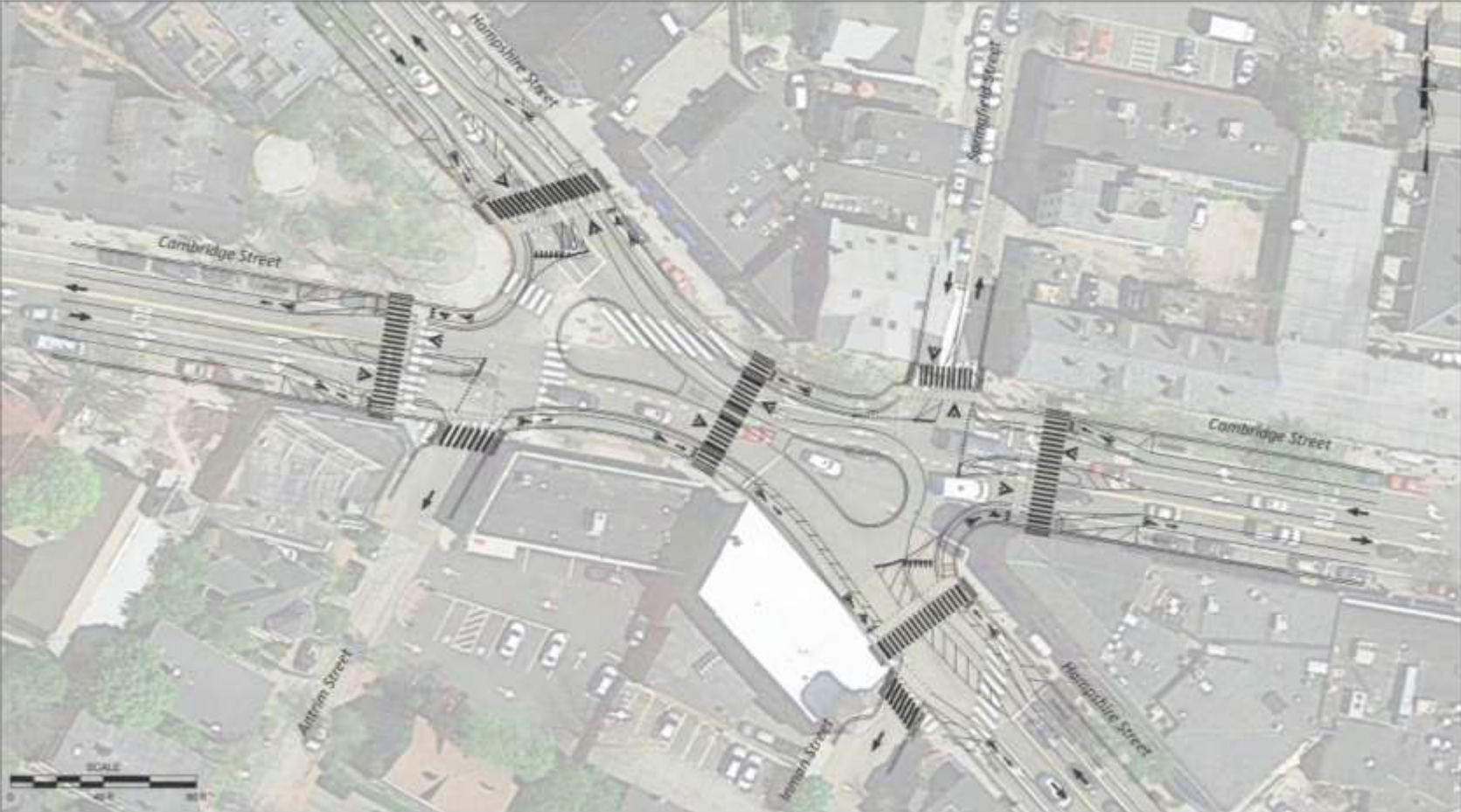
Inman Square, Cambridge, MA



Existing



Inman Square, Cambridge, MA

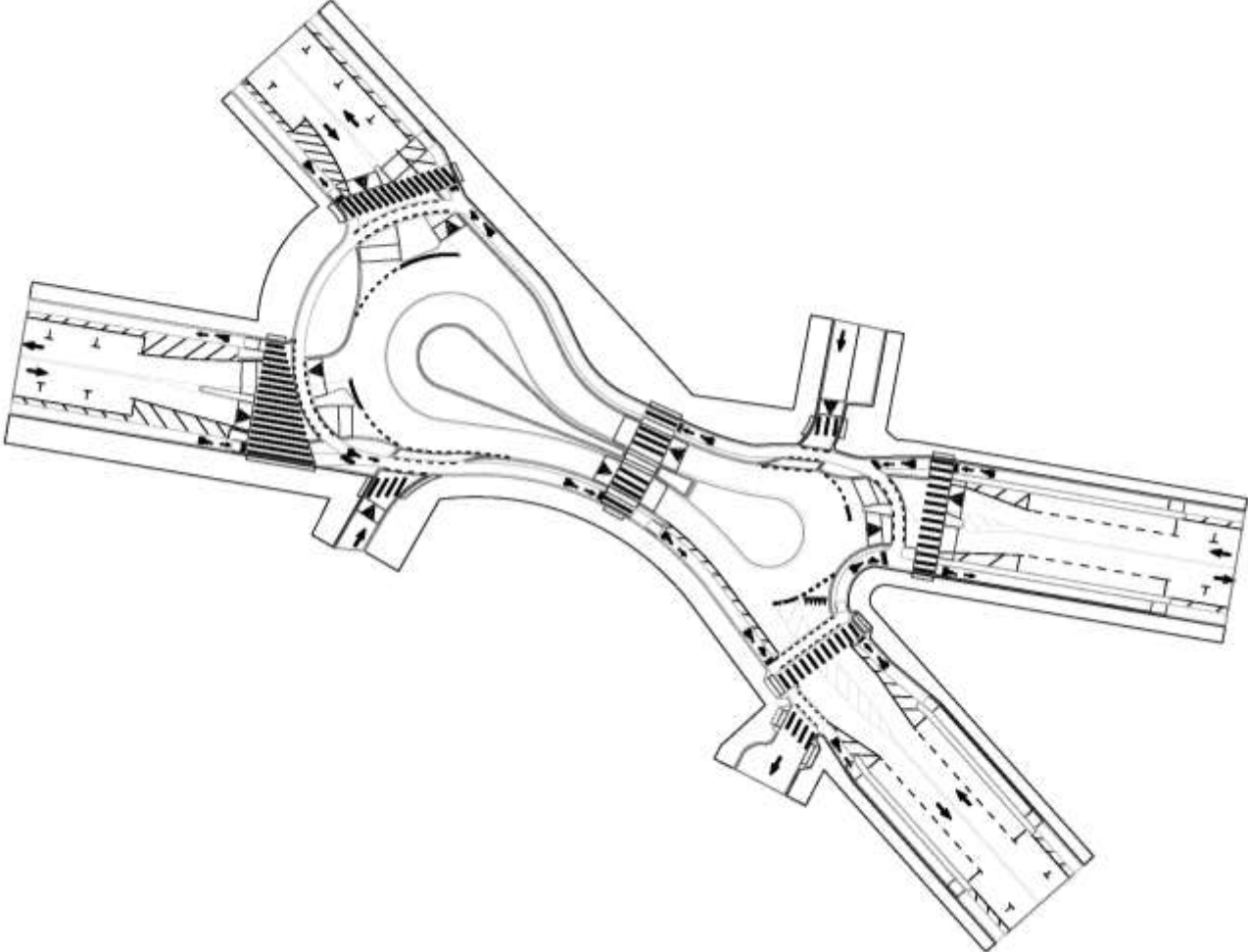


Inman Square, Cambridge, MA





Inman Square, Cambridge, MA



Inman Square, Cambridge, MA



Landscape Design Conceptual Sketch



Inman Square, Cambridge, MA

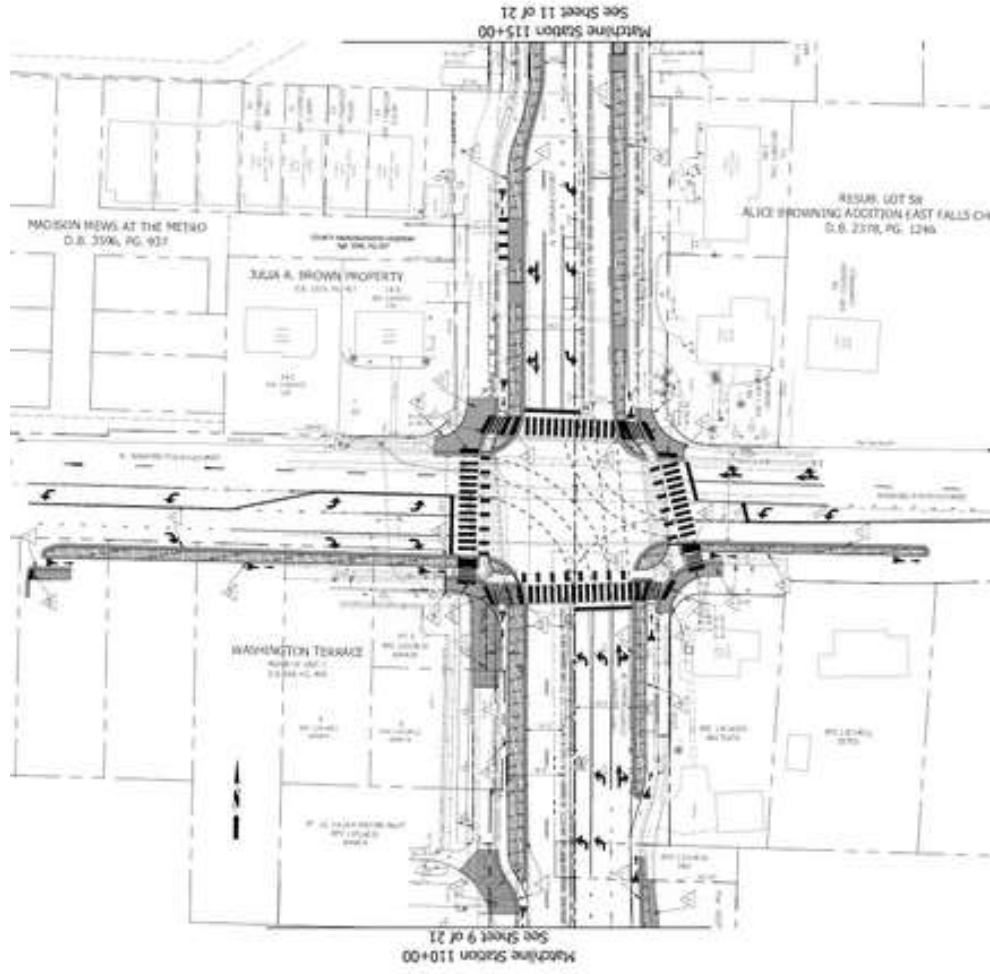
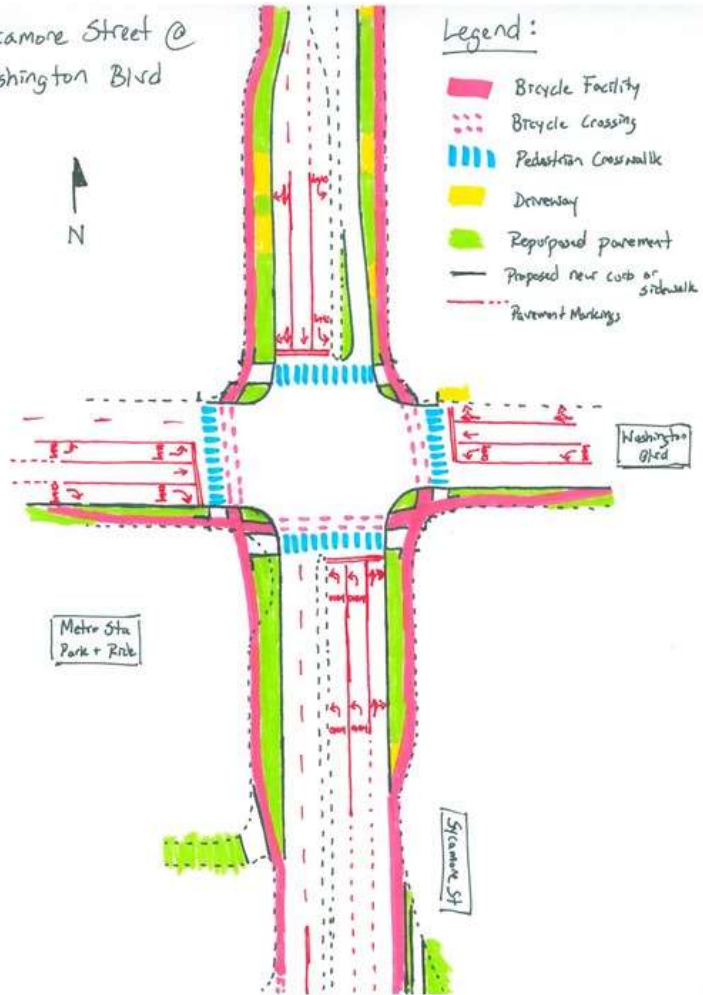


Sycamore Street, Arlington, VA

Sycamore Street @
Washington Blvd



- Legend:
- Bicycle Facility
 - Bicycle Crossing
 - Pedestrian Crosswalk
 - Driveway
 - Repurposed pavement
 - Proposed new curb or sidewalk
 - Pavement Markings



Sycamore Street, Arlington, VA



Sycamore Street, Arlington, VA

Sycamore Street
@ Lee Highway

Legend:

- Bicycle Facility
- Bicycle Crossing
- Rebated Curb
- Driveway
- Repurposed Pavement
- Proposed new curb or sidewalk
- Revised Marking

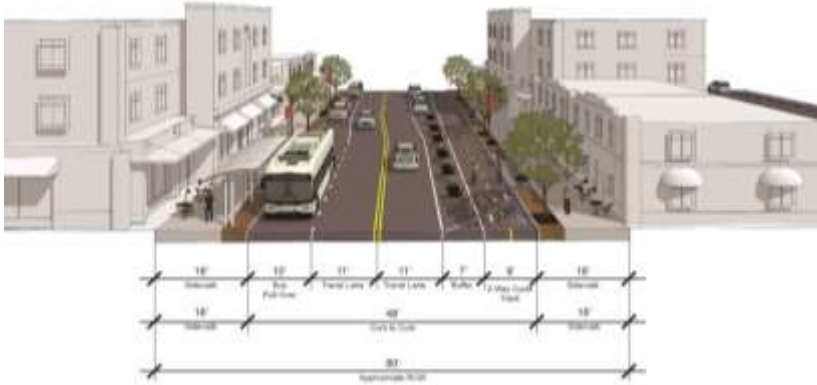


Penn Street, Reading, PA

Penn Street: Existing Typical Cross-Section



Penn Street: Proposed Typical Cross-Section Option2: Two-Way Cycle Track and Westbound Bus Stop



Penn Street: Proposed Typical Cross-Section Option2: Two-Way Cycle Track



Penn Street: Proposed Typical Cross-Section Option2: Two-Way Cycle Track and Eastbound Bus Stop



Penn Street, Reading, PA



Penn Street, Reading, PA



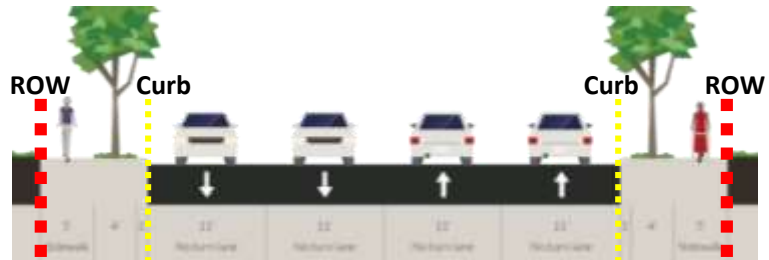
Credit: Floura Teeter Landscape Architects

Penn Street, Reading, PA



Credit: Reading Eagle- Ben Hasty

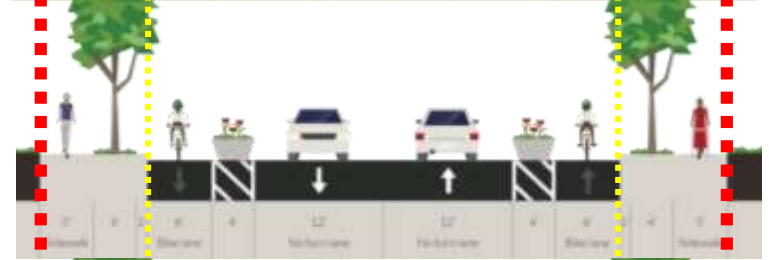
Compare Alternatives



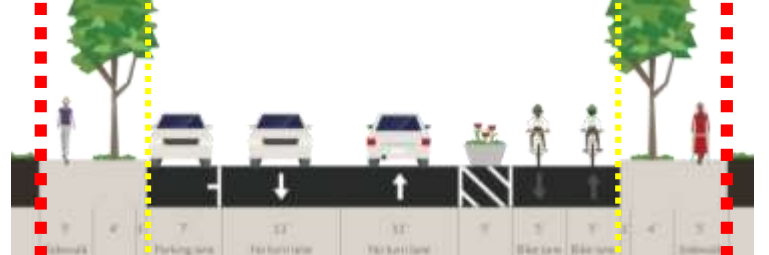
Existing :
4 Lanes Undivided



Option 1 :
3 Lanes + Bike Lanes



Option 2 :
2 Lanes + Protected Bike Lanes



Option 3 :
2 Lanes + 2-Way Cycle Track + Parking



125th Street, North Miami, FL



Existing



125th Street, North Miami, FL



Option 1: Three Lanes with Spot Medians, Parking, and Buffered Bike lanes



125th Street, North Miami, FL



Option 2: Two Lanes with Cycle Track



Orange Avenue, Edgewood, FL



Existing



Orange Avenue, Edgewood, FL



Option 1: Parking + Double Buffered Bike Lane
Add Landscape + Street Trees



Orange Avenue, Edgewood, FL



Option 2: Parking Protected Buffered Bike Lane
Add Landscape + Street Trees



Orange Avenue, Edgewood, FL



Option 3: Parking on Left + Left Turn Pockets + Buffered Bike Lane
Add Landscape + Street Trees



Orange Avenue, Edgewood, FL



Option 3A: Parking on Left + Left Turn Pockets + Buffered Bike Lane
Add Landscape + Street Trees + Redevelopment

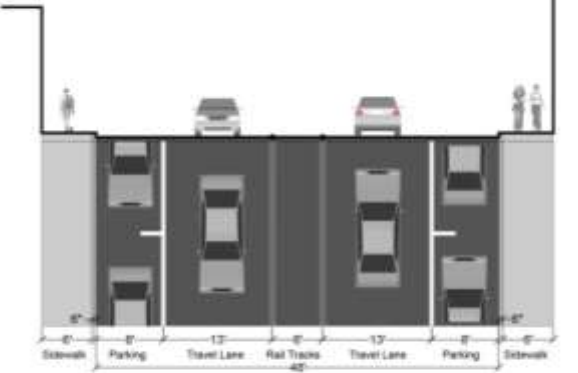


Clement Avenue, Alameda, CA



Plan

EXISTING SECTION



PROPOSED SECTION

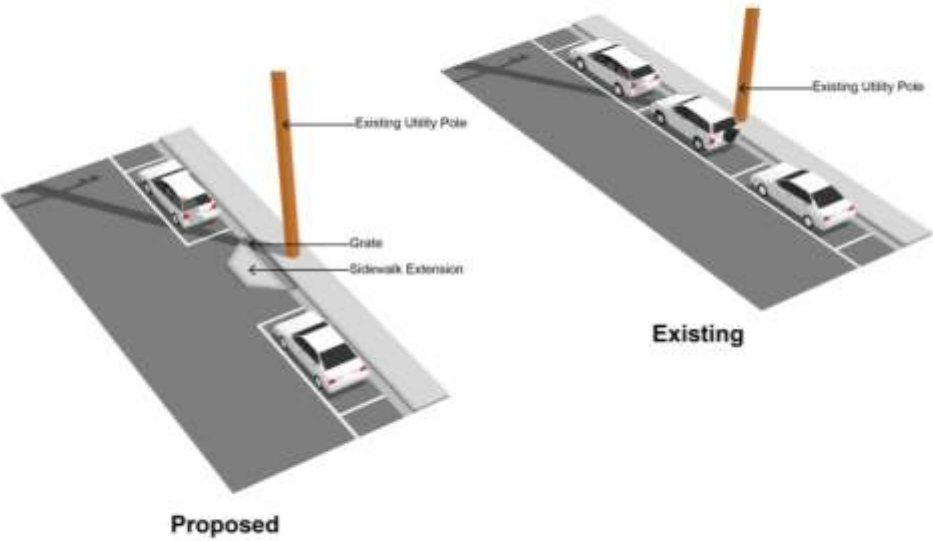


Cross-Sections

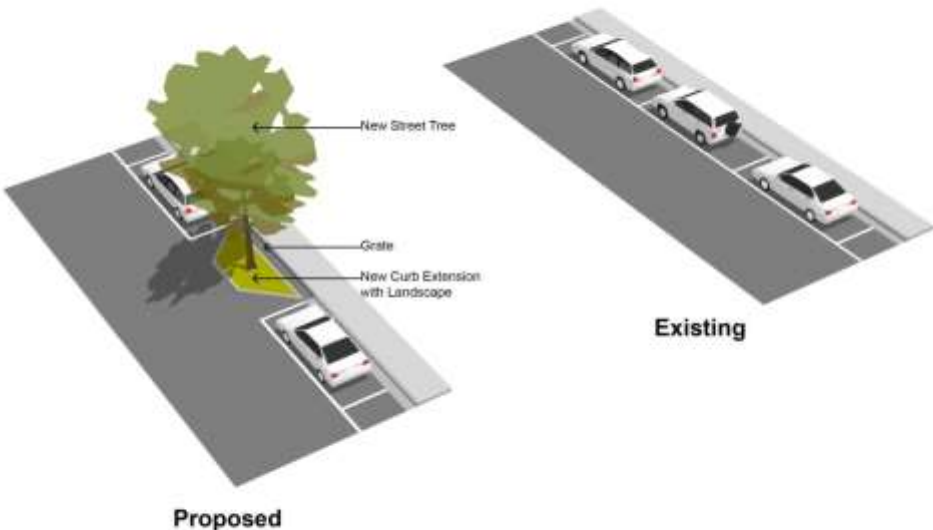


Clement Avenue, Alameda, CA

Sidewalk Extension



Street Tree



Clement Avenue, Alameda, CA

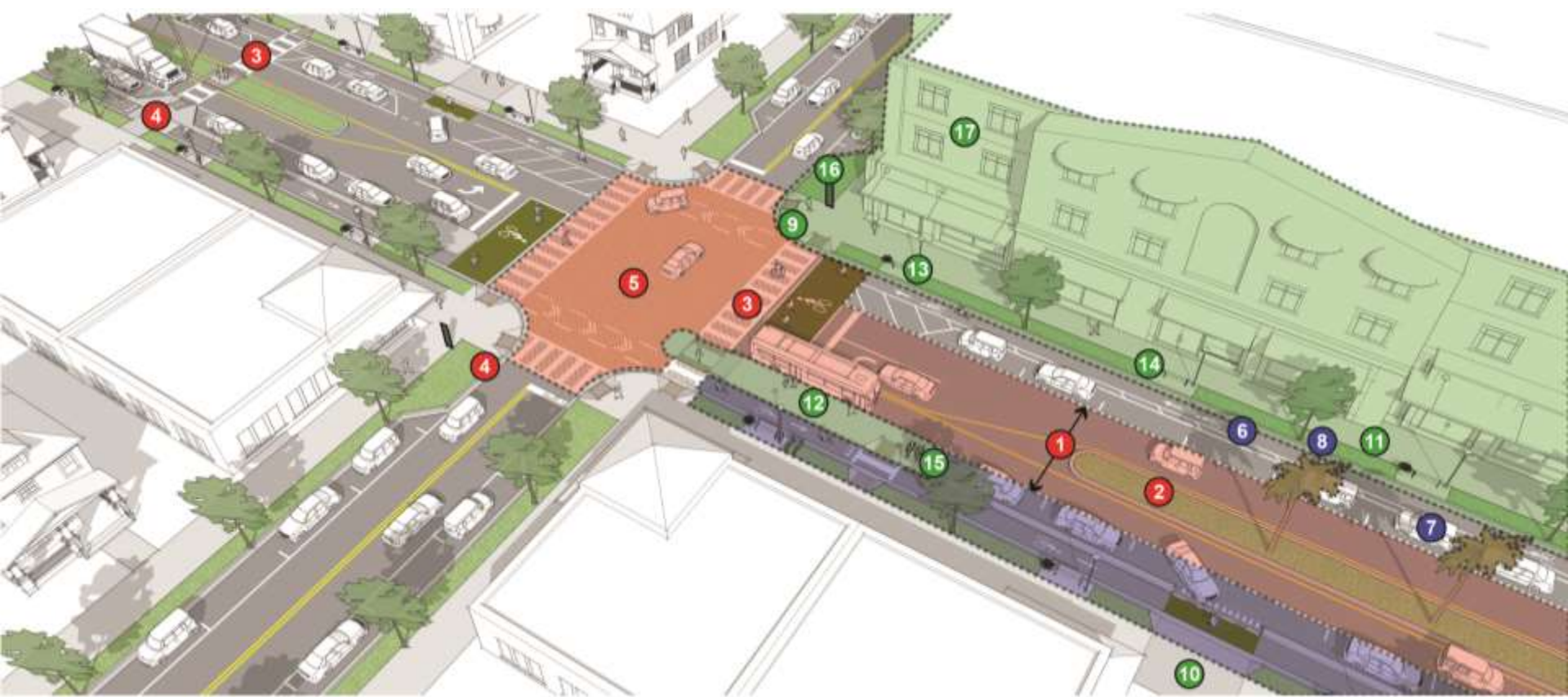


Clement Avenue, Alameda, CA

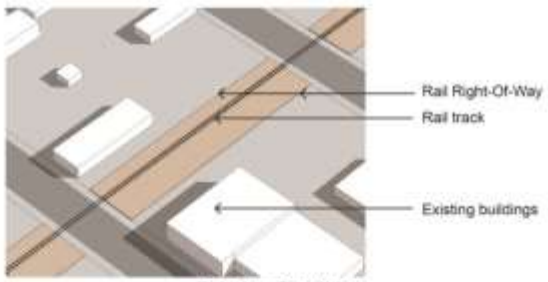


Proposed – 2 Way Cycle Track

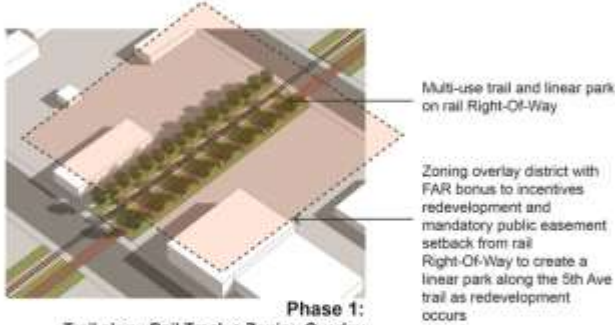
Diagram – Elements of Complete Streets, MetroPlan (MPO) Orlando, FL



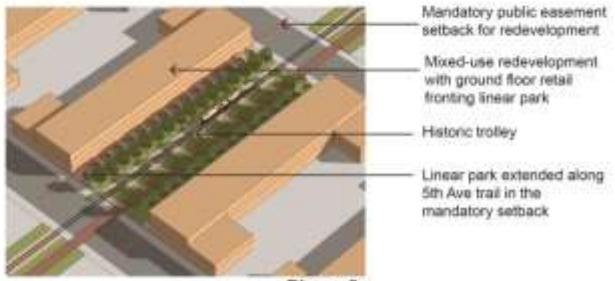
5th Avenue Trail, Billings, MT (Proposal)



Existing Condition



Phase 1:
Trail along Rail Track + Zoning Overlay District



Phase 2:
Mixed-use redevelopment fronting the trail with mandatory setbacks creating extended linear park

5th Avenue Trail, Billings, MT (Proposal)



5th Avenue Trail, Billings, MT (Proposal)



Proposed Phase 1

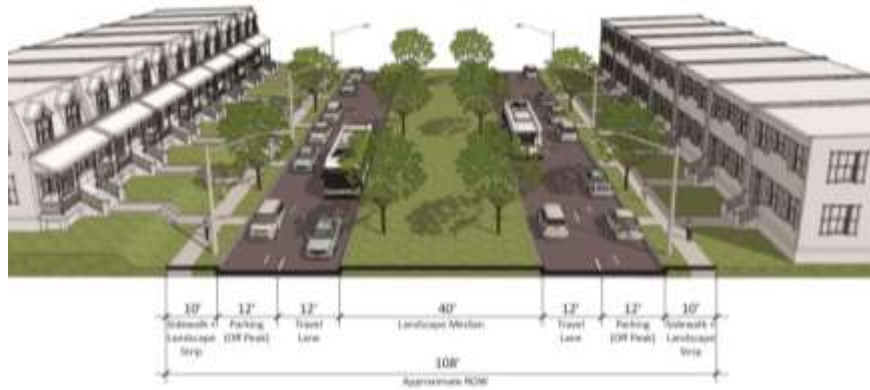
5th Avenue Trail, Billings, MT (Proposal)



Proposed Phase 2

33rd Street, Baltimore, MD

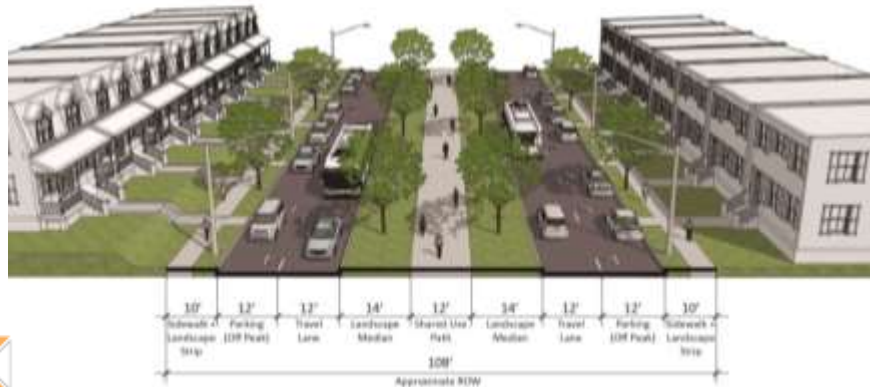
Existing Cross-Section



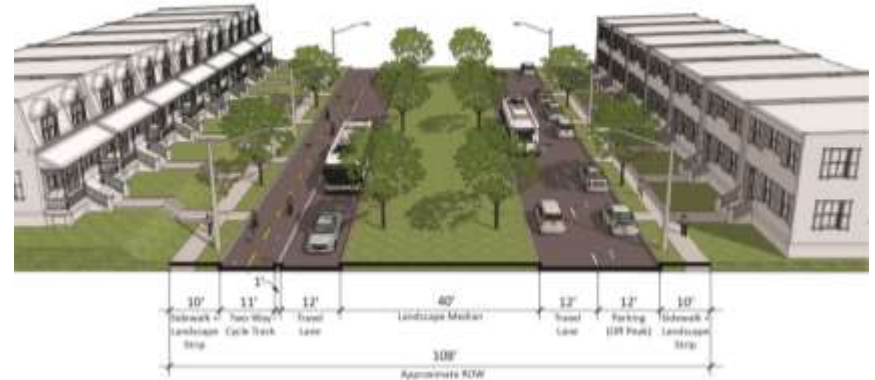
Existing Cross-Section



Proposed Cross-Section: Option 1 Center Median Running Shared Use Path



Proposed Cross-Section: Option 2 Two-Way Cycle Track on North Side



33rd Street, Baltimore, MD



33rd Street, Baltimore, MD



Complete Streets in Brevard county, FL



Florida Avenue Complete Streets Feasibility Study

What is a complete street?
A roadway where the entire right-of-way is designed and operated to enable safe access for all users. Pedestrian, bicyclists, motorists, and transit riders of all ages and abilities are able to safely move along and across a complete street.



Why are complete streets important?

COMPLETE STREETS ARE SAFE, INVITING, ENGAGING PLACES

Increase Safety for Pedestrians, Cyclists, and Motorists



Support Vibrant Communities



Expand Ability to Move Around



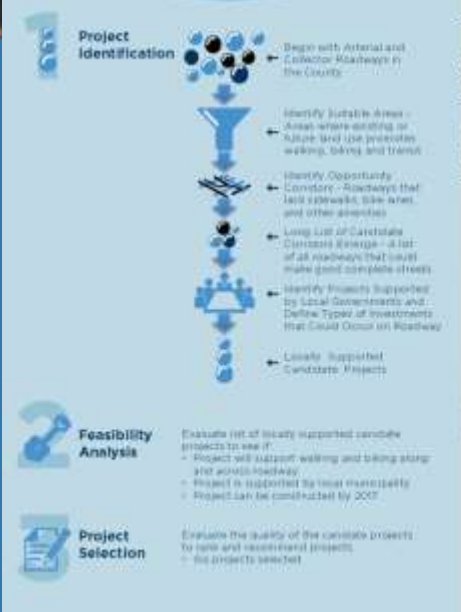
Support Healthy Communities



Brevard County is Implementing 6 Complete Streets Projects by 2017
The Space Coast Transportation Planning Organization has allocated a total of \$18 million for the feasibility studies, design and construction of complete streets projects to be spent by 2017.

How Were Complete Street Projects Selected?

THREE PHASE SCREENING PROCESS



6 Projects Selected



- 1 Mosses Avenue, Titusville
- 2 North Atlantic Avenue, Cape Canaveral
- 3 Peachtree Street, Cocoa
- 4 Florida Avenue, Cocoa
- 5 Hinderbach Causeway, Cocoa Beach
- 6 Hickory Street, Melbourne



Hickory Street, Melbourne, FL



Hickory Street, Melbourne, FL



Proposed: Shared Street

Hickory Street, Melbourne, FL



Proposed: Market and Festival Space on Weekends and Holidays

Florida Avenue, Cocoa, FL



Existing

Florida Avenue, Cocoa, FL



Option 1: Curb Extensions and Plaza

Florida Avenue, Cocoa, FL



Option 2: Parklet + Northern Parcel Land Swap and Redesign

Public Outreach and Stakeholder Engagement



Public Outreach and Stakeholder Engagement

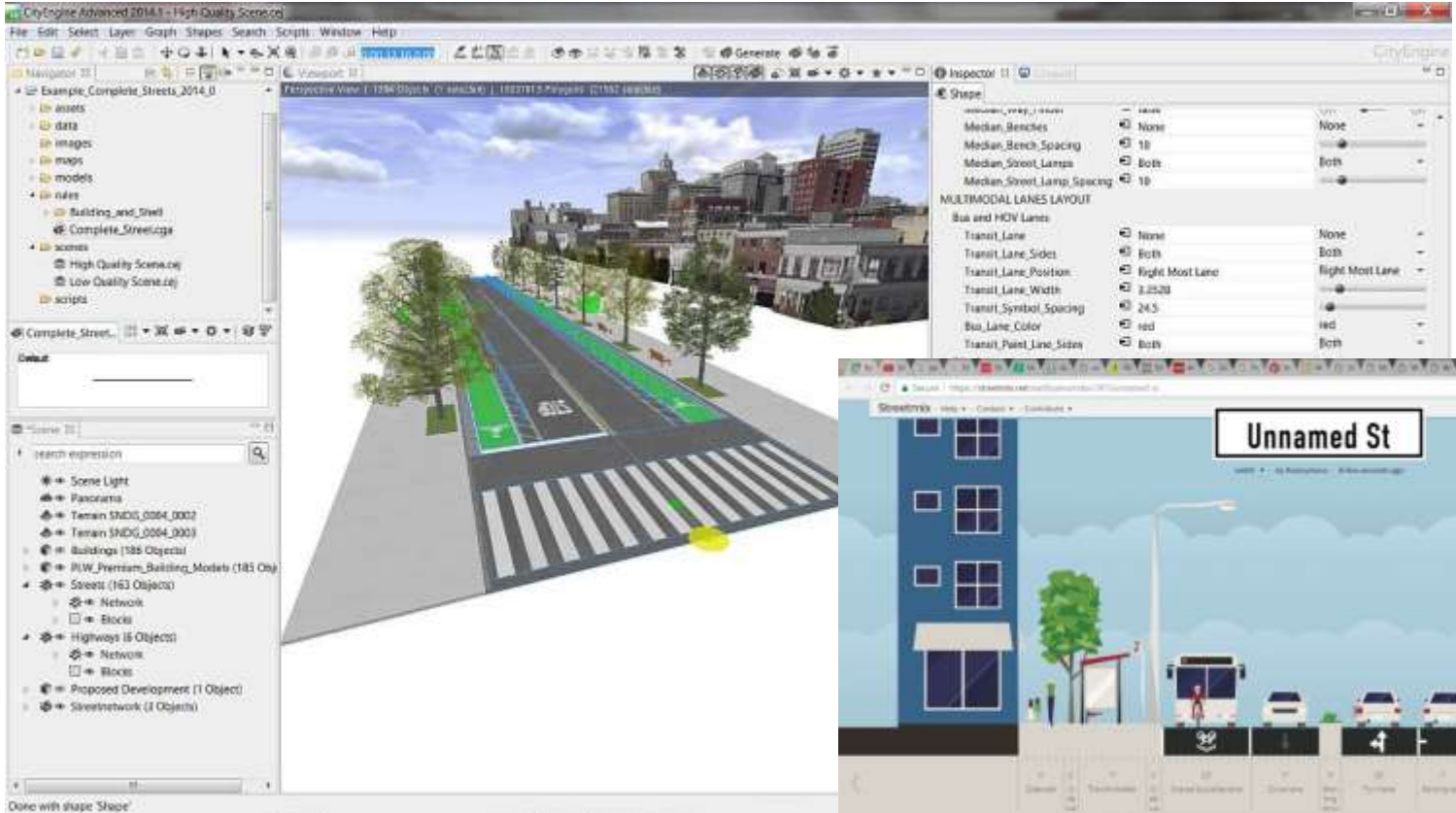


For seamless integration of graphics in the design and planning process:

- Include it as part of project scopes, budgets, and staffing decisions.
- Coordination from the start of the project between Project managers, designers, planners, visualizers, etc.
- Make visualizations and graphics an integral part of thinking process and workflow.



Where is the Industry Headed?



Source: ESRI City Engine



Source: StreetMix



Where is the Industry Headed?



Main & Spring street, Los Angeles, CA. Source: LADOT



Source: www.geek.com



Source: www.techradar.com





Thank You

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& ASSOCIATES

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