

WHAT ARE COMPLETE STREETS AND WHAT ARE OTHER MUNICIPALITIES DOING?

PREPARED FOR THE CITY OF LONDON
June 2, 2017

Agenda

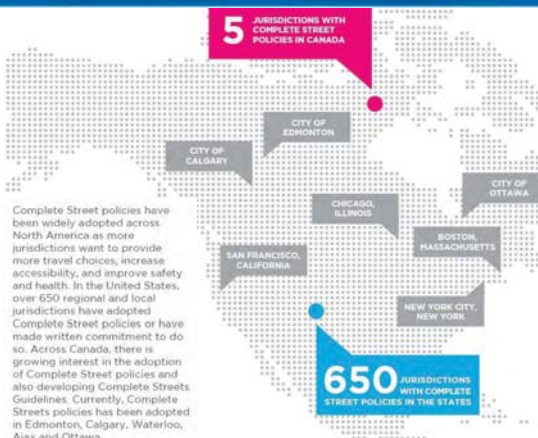
- 1 What are and Why Implement Complete Streets?
- 2 Challenges In Implementing Complete Streets
- 3 Process and Objectives of Complete Streets
- 4 Examples of Complete Streets Implementation

1. What are and Why Implement Complete Streets?

DEFINITION

► **Complete Streets** is a **policy and design approach** that requires streets to be **planned, designed, operated, and maintained for all users and uses.**

Why are 650+ Jurisdictions Adopting Complete Streets?

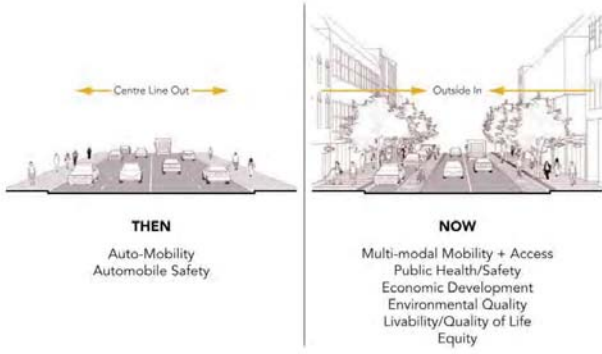


Why are 650+ Jurisdictions Adopting Complete Streets?



Why are 650+ Jurisdictions Adopting Complete Streets?

OUR DESIGN GOALS HAVE CHANGED



LONDON ALSO IS MOVING TOWARD COMPLETE STREETS



2. Challenges in Implementing Complete Streets

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MANY DEMANDS ON A LIMITED RIGHT-OF-WAY

- Pedestrians
- Bicycles
- Transit
- Cars
- Delivery Trucks
- Courier Services
- Emergency Vehicles
- Green Infrastructure
- Trees & Planters
- Driveways
- Lay-by Lanes
- AODA Ramps
- Transit Stops & Shelters
- Taxi & Valet Zones
- Bike Racks
- Parked Cars
- Construction
- Waste Collection
- Fire Hydrants
- Street Furniture
- Hydro/Traffic Poles
- Gas Meters
- Utility Vaults
- Parking Meters
- Vendors
- Newspaper Boxes
- Cafes
- Sandwich Boards

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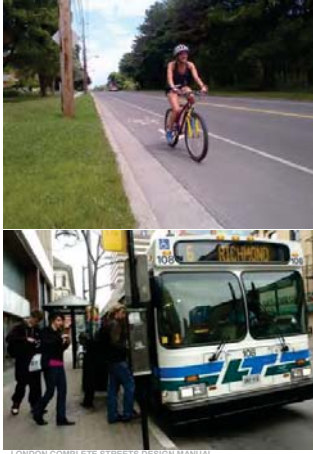
Complete Streets Require Collaboration between Many City Departments



Streets Serve Different Roles



Streets Serve Different Users



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CHALLENGES – INCORPORATING ALL MODES IN THE DESIGN PHASE, BEFORE CONSTRUCTION



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CHALLENGES – REMEMBER THE MOST VULNERABLE ROAD USERS



Sidewalk

Where is my sidewalk?

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CHALLENGES – MAKE TRAVEL PERCEIVED TO BE SAFE



Bike lanes

Cyclist on sidewalk

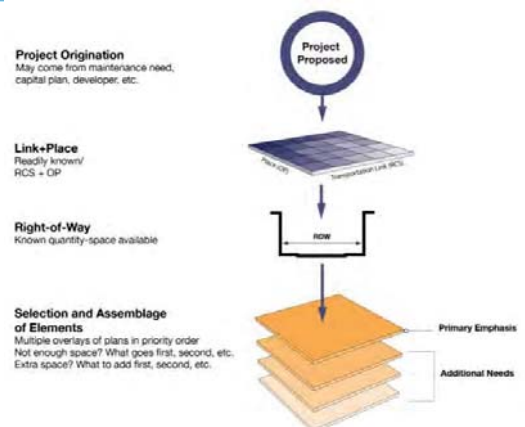
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3. Process and Objectives of Complete Streets

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Complete Streets Simplified Process



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Objectives for Urban Street Design (Boston)

Intersection Design Principles

1 Accessible for All
Universal accessibility design principles should inform all aspects of intersection design, ranging from geometry to signal timing, with a commitment to achieving the best outcome for all users within the constraints of each site.

2 Ease of Maintenance
Intersection materials should be long-lasting and sustainable, requiring a low amount of maintenance. Pavers are not allowed in crosswalks, and a clear accessible path should be provided across intersections.

3 Reclaiming Space
Intersections that contain wide, undefined areas of pavement not necessary for the efficient movement of motor vehicles provide opportunities to reclaim street space for pedestrians, transit users, and bicyclists, as well as greenscape.

4 Minimum Signal Cycle Lengths
Signal cycle lengths should be minimized to reduce delay for all users. As technology advances, traffic signalization should evolve towards a smarter, more equitable system that passively detects pedestrians, bicyclists, transit, and motor vehicles.

5 Traffic Controls
Intersections should be evaluated to provide the most efficient and cost-effective method of control, including STOP- and YIELD-controlled, as well as signalized intersections.

6 Emissions Reductions
Coordinated signal timing can reduce energy consumption and emissions and should be considered in every project, but should not cause excessive delay to environmentally-friendly modes of travel such as walking and bicycling.

7 Smart Tags
"Tags" are an evolving technology that provide information to people via mobile devices with internet access, which are particularly useful for people walking or using transit. Designs should consider including tags to provide way-finding information, as well as details about local facilities and businesses.

8 All-Weather Access
Intersections should function during all weather conditions including rain and snow. Designs should prevent ponding of precipitation at ramps, and provide storage space for snow during winter.

9 Obeying the Law
Intersections should facilitate predictable movements, and encourage people to obey all traffic laws, in particular laws that impact the safety of non-motorized users. Traffic controls should be designed in a consistent, predictable manner to help encourage safe behaviors.

10 Reduce Clutter
Intersection elements, such as sign and light poles, utility covers, hydrants, traffic control devices, etc. must be thoughtfully laid out to maximize accessibility and functionality, and utilities should be accessible for maintenance without obstructing pedestrian crossings.

11 Balancing Users' Needs
Intersection design should balance the safe and efficient movement of non-motorized users with the efficient movement of motor vehicles. Pedestrians and bicyclists are susceptible to far greater injuries in the event of a crash with a motor vehicle. As pedestrians are the most vulnerable roadway user, intersection designs must prioritize their needs. This design principle must inform all aspects of intersection design, from determining the number of lanes, to the configuration of crosswalks, to the design of traffic controls.

12 Stormwater Management
Green street elements should be incorporated whenever possible to reduce runoff and the amount of impervious surfaces at intersections and street corners. Greenscape should be incorporated not only to recharge groundwater, but to filter pollutants and improve air quality.

13 Sensors
Sensors should be evaluated to small traffic conditions, small courts, and accessibility to improve efficiency.



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Priority Focus is Developing Guidelines or Manual

- Complete Streets Guidelines focus on the physical design of streets, modal choice, priority-setting, space allocation, design standards, context-sensitive options and decision-making protocol

Boston's Complete Streets

1 Blue Lanes and Transit Prioritization
Blue lanes and transit prioritization can improve the efficiency of transit and provide a clear path for transit users.

2 Intelligent Signals and Traffic Controls
Intelligent signals and traffic controls can optimize traffic flow and reduce delays.

3 Streets and Curb Space
Streets and curb space should be designed to accommodate all modes of transport.

4 Minimum Lane Width
Minimum lane width should be maintained to ensure safe and efficient travel.

5 Rain Gardens and Stormwater Management
Rain gardens and stormwater management can reduce runoff and improve water quality.

6 Street Trees and Greenery
Street trees and greenery can improve air quality and provide shade.

1 Electric Vehicle Charging Stations
Electric vehicle charging stations should be accessible and convenient for users.

2 Ease of Maintenance
Ease of maintenance should be considered in all design decisions.

3 Accessible
Accessibility should be a priority in all design decisions.

4 Permeable
Permeable surfaces can reduce runoff and improve water quality.

5 Smart Meters for Street Lighting
Smart meters for street lighting can optimize energy use and reduce costs.

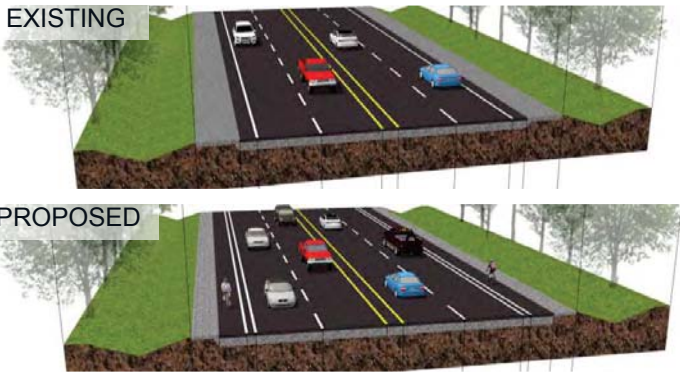
6 Single Lane and Cycle Tracks
Single lane and cycle tracks can provide dedicated space for cyclists.

7 Digital Tags and Wayfinding
Digital tags and wayfinding can provide information to users.

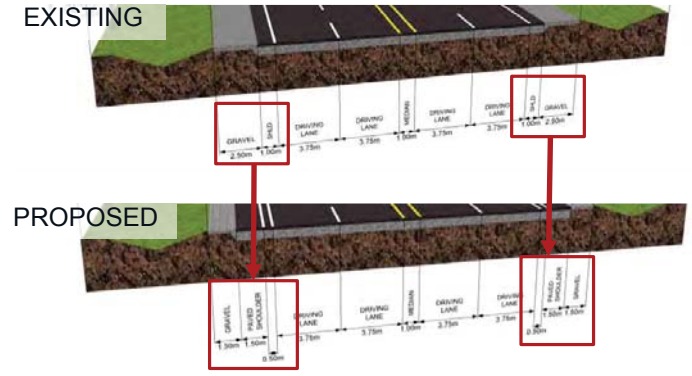
8 Wide Sidewalks
Wide sidewalks can provide a safe and comfortable path for pedestrians.

4. Examples of Complete Streets Implementation

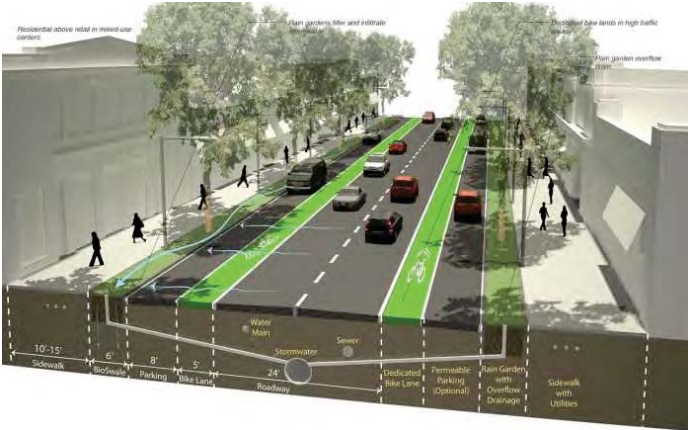
Road Reconstruction



Road Reconstruction



Complete Streets is about Allocating Space



New York City – Before



New York City – After



New York City – Before



