GREAT STREETS BTV
Downtown Street Design & Construction Standards- Part 2

Presented to: Transportation, Energy & Utilities Committee
November 29, 2017
1. Review Design Considerations for the street/corridor

2. Identify Proposed Future Street Type
   - Include details in Scope of Work, RFPs/RFQs for consultant services...
   - Then, project development or scoping phase...

3. Select appropriate options to layout Roadway & Pedestrian Zones
   - PROJECT MANAGER or PROFESSIONAL & USERS

4. Layout design, applying all pertinent Zone Dimensions to selected options
   - Finally, prepare plans & construction documents, cost estimates, etc. based on...

5. Utilize Street & Intersection Assemblies to select & place needed elements

6. Use Materials & Furnishings Palette to select materials, furnishings, etc
• **Chapter 1: Great Streets**
  - Policy synthesis, “Great Street” definition, Great Streets Principles

• **Chapter 2: Existing Conditions & Design Influences**
  - Dimensions, utilities, recommendations from adopted plans & studies, recommended Street Type

• **Chapter 3: Building Great Streets**
  - Street Types, zone options & dimensions, and siting considerations
  - Approval & recommendation by the DPW Commission
• **Chapter 4: Bikeway Types**
  - Bicycle facilities, intersection treatments, dimensions
  - Approval & recommendation by the DPW Commission

• **Chapter 5: Street Ecology**
  - Tree Belts/Green Belts, Street Trees, Green Stormwater Infrastructure
  - Approval & recommendation by DPW & Parks Commissions

• **Chapter 6: Street Lighting**
  - Decorative pole and luminaire specs, lighting levels, lighting quality, technology, pole spacing
  - Recommendation by BED Commission

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**Lighting Strategy for Great Streets**

**Lighting:**

- **POLE LAYOUT**
  - Light poles oriented in a soldier (opposite) pattern lends itself to a “boulevard” effect on Main Street, with a light pole landing on each corner of an intersection.

- **Clearances from poles to other site elements** shall be maintained.

- **Recommended clearances:**
  - Trees: 18’ minimum per “Guide to Tree Ordinances for Vermont Communities”
  - Hydrants: 6’ minimum per “Burlington Code of Ordinances”
  - Driveways: 4–5’ minimum

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**Pole option**
• **Chapter 7: Materials & Furnishings**
  - Roadway, sidewalk, curb, crosswalk, etc materials and specifications
  - Recommended and alternate benches, bike racks, bus shelters, parking meters, etc.
  - Recommended by staff due to adherence to VTrans standards, best practices, operations & maintenance considerations, and Great Streets principles.

• **Chapter 8: Appendices**
  - Technical engineering drawings, spec sheets, and other details to support recommendations contained in Chapters 3-7.
Street Typologies
ROADWAY & PEDESTRIAN ZONES

The second critical dimension for street design is the Roadway Zone width—the distance between the curb face on one side and the curb face on the other—and the resulting width of the Pedestrian Zone on either side of the street.

For the purpose of these standards, zones are organized as follows:

- **Roadway Zone** includes turn lanes, travel lanes, parking lanes, and bicycle lanes. Although parklets function as an extension of the pedestrian zone, they typically occupy space in the parking zone.
- **Pedestrian Zone** includes the curb, stormwater/raingardens, buffer zones, tree belt/furnishing zones, clear sidewalk zones, and frontage zones (special circumstances may call for a cycle track to be incorporated into the pedestrian zone).

In “Roadway & Pedestrian Zone Options” on page 64, the minimum and recommended dimensions for the Roadway and Pedestrian Zones are based on the individual street types described. While there are some outliers due to larger or smaller ROW, in general the application of these standards will result in the following proportions:

- 40’ roadway zone yields 13.5’ pedestrian zone
- 36’ roadway zone yields 15’ pedestrian zone
- 35’ roadway zone yields 15.5’ pedestrian zone
- 30’ roadway zone yields 18’ pedestrian zone

ROW
STREET TYPES BASED ON RESPECTIVE WIDTH OF ZONES

- **Commercial Slow Street**  
  - 66’ ROW, 35’ Roadway, 15.5’ Pedestrian

- **Commercial Slow Street- with Transit**  
  - 66’ ROW, 36’ Roadway, 15’ Pedestrian

- **Minimum Commercial Street**  
  - 66’ ROW, 28’ Roadway, 19’ Pedestrian

- **Major Commercial Street**  
  - 66’ ROW, 40’ Roadway, 13’ Pedestrian

- **Special Commercial Street (Main Street)**  
  - 99’ ROW, 38’ Roadway, 30’+ Pedestrian

- **Downtown Residential Street**  
  - 66’ ROW, 30’ Roadway, 18’ Pedestrian
EXISTING ROADWAY WIDTH (curb-to-curb)

Changing the width of the roadway usually involves moving more than 50% of the row remains dedicated to the movement dimension. While this strategy does narrow the Roadway Zone, recommend that where the existing roadway is greater than that existing 35' roadways remain in place. The standards also yields 15.5' pedestrian zones, these standards recommend dimension on commercial streets. Since the 35' roadway width that 15' pedestrian zones should be considered the desirable of the Roadway Zone. Therefore, these standards propose be insufficient, as they limit what can be accomplished outside faces at the property line, 13' Pedestrian Zones are considered to

Balancing Roadway & Pedestrian Zones

Building Great Streets:

Downtown Street Design Standards  DRAFT November 2017 City of Burlington
Great Street Types

This section provides cross sections and Pedestrian & Roadway Zone options for the following Great Street types.

Each Great Street Type includes a typical cross section, options for the layout of laneways in the Roadway Zone, and minimum and recommended elements within the Pedestrian Zone.

The street types are based on the assumption that a typical 66' or 99' right-of-way exits; where the actual right-of-way varies from these dimensions, designers should work with the City to determine the most appropriate way to allocate the right-of-way between the Roadway and Pedestrian Zones.

Options for these zones have been provided based on the standard zone dimensions for "Roadway Zones" on page 96 and "Pedestrian Zones" on page 99. Selection of these options should be informed by the design considerations found in Chapter 2, or by the outcome of a scoping study or other project development process.

Commercial Slow Street (66' row, 35' Roadway)

Commercial Slow Street with Transit (66' row, 36' Roadway)

Minimum Commercial Street (66' row, 28' Roadway)

Major Commercial Street (66' row, 40' Roadway)

Special Commercial Street (99' row, 38' Roadway)

Downtown Residential Street (66' row, 30' Roadway)

Proposed Street Type

Commercial Minimum

Downtown Residential

Commercial Slow Street

Slow Street with Transit

Special Commercial

Major Commercial

TBD by Corridor Study

Balancing Roadway & Pedestrian Zones

In Burlington, for downtown commercial streets with building faces at the property line, 13' Pedestrian Zones are considered to be insufficient, as they limit what can be accomplished outside of the Roadway Zone. Therefore, these standards propose that 15' pedestrian zones should be considered the desirable dimension on commercial streets. Since the 35' roadway width yields 15.5' pedestrian zones, these standards recommend that existing 35' roadways remain in place. The standards also recommend that where the existing roadway is greater than 35' wide, it be narrowed in order to achieve this preferred dimension. While this strategy does narrow the Roadway Zone, more than 50% of the row remains dedicated to the movement of vehicles, transit and bikes.

Changing the width of the roadway usually involves moving the curb and gutter and its associated systems. The curb location usually determines, or at least indicates, other critical locations such as underground utilities which run parallel to the roadway, and their junctions with "lateral" lines which connect services to adjacent private property. The curb also typically establishes the location for the gutter, storm drains, and sewer system. Changing curb locations is usually more complex and costly than merely moving striped lanes within the roadway, or moving street furnishings within the sidewalk zone. However, in some cases moving the curb location (along with associated stormwater facilities and utility lines) is an essential design tool to rebalance the proportion of roadway to usable pedestrian space for other purposes than vehicular movement, and is significantly less costly and challenging than expanding the ROW.

When a project boundary includes an entire block face or more, designers should work with the City to investigate opportunities for relocating the curb to meet the preferred dimension for Roadway and Pedestrian Zones. In some cases, utility relocation, cost, or other unique constraints may prevent the complete redevelopment of the street, but it should be explored as a starting point in all project design.

Recommended curb-to-curb widths are based on known design considerations. For those streets for which a unique master plan is recommended, the recommended roadway width may be subject to change.
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- Minimum Commercial Street (66' row, 28' Roadway)
- Major Commercial Street (66' row, 40' Roadway)
- Special Commercial Street (99' row, 38' Roadway)
- Downtown Residential Street (66' row, 30' Roadway)

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COMMERCIAL SLOW STREET

- 66’ ROW, 35’ Roadway, 15.5’ Pedestrian
COMMERCIAL SLOW STREET- with TRANSIT

- 66’ ROW, 36’ Roadway, 15’ Pedestrian
MINIMUM COMMERCIAL STREET

- 66’ ROW, 28’ Roadway, 19’ Pedestrian
MAJOR COMMERCIAL STREET

- 66' ROW, 40' Roadway, 13' Pedestrian
• 66' ROW, 30' Roadway, 18' Pedestrian
Zone Dimensions
The second critical dimension for street design is the Roadway Zone width—the distance between the curb face on one side and the curb face on the other—and the resulting width of the Pedestrian Zone on either side of the street.

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### ESTABLISHES MINIMUM & PREFERRED DIMENSIONS

<table>
<thead>
<tr>
<th>Zone</th>
<th>Dimensions</th>
<th>Considerations</th>
<th>Add'l Info</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Parking Lane</strong></td>
<td>Parallel Parking: 7.5' x 20'</td>
<td>• A 20' minimum no parking zone should be established from a crosswalk to the first parking stall at intersections.</td>
<td>VTrans ref. dwg. Standard E-193 Pavement Marking Details</td>
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<td></td>
<td>Angled Parking: 9' x 18' (length measured perpendicular to curb when stall is at 60 deg. angle)</td>
<td>• A 30' minimum no parking zone should be established from a crosswalk to the first parking stall at approaches to a signalized intersection.</td>
<td>Parking Stall Markings Section 3B.19</td>
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<td>• Bumpouts may be utilized within this required setback distance.</td>
<td>App. A-1</td>
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<tr>
<td><strong>Travel Lane</strong></td>
<td>10' minimum; 10.5' minimum on transit/truck routes</td>
<td>• Wider travel lanes (11' to 12') are appropriate in locations with high volumes of heavy vehicles.</td>
<td>VTrans ref. dwg. Standard E-193 Pavement Marking Details</td>
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<td>• Travel lane widths of 10' generally provide adequate safety in urban settings while discouraging speeding. City may choose to use 11' lanes (10.5' min.) on designated truck and bus routes.</td>
<td>App. A-1</td>
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## Clear Sidewalk Zone

- **Dimensions:**
  - 5' width minimum
  - Preferred with varies by street type; see street types
  - Slab thickness:
    - 5" residential
    - 8" commercial

- **Considerations:**
The Sidewalk Zone should be clear of any obstructions including utilities, traffic control devices, trees, and furniture. While these guidelines prescribe more generous preferred Sidewalk Zone widths, they also establish a total minimum sidewalk width of 5' for all Street Types. The ADA minimum walkway width is 4', with a 5' width every 200'; this may be applied when severe dimensional constraints exist upon approval of the City Engineer.

## Tree Belt/Furnishing Zone

- **Dimensions:**
  - 6' minimum
  - 8' preferred

- **Considerations:**
Maximize the Tree Belt/Furnishing Zone to provide as much of a buffer as possible between the Sidewalk Zone and adjacent street traffic; however do not reduce the Clear Sidewalk Zone beyond the minimum recommended widths. When space is limited at the surface, resulting in a Tree Belt/Furnishing Zone of less than 8', the soil volume for trees can be achieved by encroaching under the Buffer Zone, Clear Sidewalk Zone, and, if applicable, Raised Cycle Track.

For new developments and where opportunities are available to create a consistent setback, designs should accommodate wider sidewalks with generous Tree Belt/Furnishing Zones. Consider traffic calming elements, such as curb extensions or chicanes where on-street parking is present, to provide more space for street furniture, trees, and other amenities.
To review these chapters in detail, visit:
greatstreetsbtv.com/downtown-standards