Designing Walkable Urban Thoroughfares: A Context Sensitive Approach

Communities Want:

- Flexibility
- Compatibility with adjacent land uses
- Balanced land use/transportation functions
- Safe and attractive streets
- Multimodal facilities
- Streets as quality public space
- Fewer design exceptions
Focus of the Recommended Practice

Walkable urban thoroughfares based on urban contexts

— “Major roads”:
  • Arterials and collectors

— “Urban”:
  • Walkable suburbs, town and city centers, neighborhoods
  • Mix of interactive land uses
  • Viable, attractive choices
    – Walking
    – Biking
    – Transit

Photo: Skidmore, Owings and Merrill LLP
Tenets of CSS

• Bring place and thoroughfare design together
• Balance
  – Safety
  – Mobility
  – Community objectives
  – Environment
• Multimodal
• Involve public, stakeholders
• Interdisciplinary teams
• Flexibility in design
• Incorporate aesthetics

Source: Minnesota Department of Transportation

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CSS: Bringing Place and Thoroughfare Design Together

E14th Corridor - San Leandro, CA Source: Community, Design + Architecture
CSS: Bringing Place and Thoroughfare Design Together

E14th Corridor - San Leandro, CA Source: Community, Design + Architecture
CSS: Bringing Place and Thoroughfare Design Together
CSS Design Framework

- Context zones:
  - Suburbs to urban cores

- Street classification:
  - Functional class
    - Arterial
    - Collector
  - Thoroughfare type
    - Boulevard
    - Avenue
    - Street

- Compatibility and mutual support
Context Zones – An Organizing System for Thoroughfare Design

Source: Duany Plater-Zyberk and Company
Features That Create Context

- **Land use**
  - Defines urban activity
  - Major factor in design criteria

- **Site design**
  - Arrangement of buildings, circulation, parking and landscape
  - Vehicle or pedestrian-orientation

- **Building design**
  - Height, massing shape context
  - Create enclosure/pedestrian interest
CSS vs. Conventional Thoroughfare Design Approach

<table>
<thead>
<tr>
<th>Conventional</th>
<th>CSS Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Context:</strong></td>
<td><strong>Context:</strong></td>
</tr>
<tr>
<td>- Urban</td>
<td>- Suburban</td>
</tr>
<tr>
<td>- Rural</td>
<td>- General urban</td>
</tr>
<tr>
<td></td>
<td>- Urban center</td>
</tr>
<tr>
<td></td>
<td>- Urban core</td>
</tr>
<tr>
<td><strong>Design criteria primarily based on:</strong></td>
<td><strong>Design criteria primarily based on:</strong></td>
</tr>
<tr>
<td>- Functional class</td>
<td>- Community objectives</td>
</tr>
<tr>
<td>- Design speed</td>
<td>- Functional class</td>
</tr>
<tr>
<td>- Forecast travel demand</td>
<td>- Thoroughfare type</td>
</tr>
<tr>
<td>- Level of service</td>
<td>- Adjacent land use</td>
</tr>
</tbody>
</table>
Thoroughfare Design Changes as Context Changes

The thoroughfare both responds to and contributes to shaping the context and defining the place.
<table>
<thead>
<tr>
<th>Context Zone Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>C-3 Suburban</strong></td>
</tr>
<tr>
<td>Primarily single family residential with walkable development pattern and pedestrian facilities, dominant landscape character. Includes scattered commercial uses that support the residential uses, and connected in walkable fashion.</td>
</tr>
<tr>
<td><strong>C-4 General Urban</strong></td>
</tr>
<tr>
<td>Mix of housing types including attached units, with a range of commercial and civic activity at the neighborhood and community scale.</td>
</tr>
<tr>
<td><strong>C-5 Urban Center</strong></td>
</tr>
<tr>
<td>Attached housing types such as townhouses and apartments mixed with retail, workplace and civic activities at the community or sub-regional scale.</td>
</tr>
<tr>
<td><strong>C-6 Urban Core</strong></td>
</tr>
<tr>
<td>Highest-intensity areas in sub-region or region, with high-density residential and workplace uses, entertainment, civic and cultural uses.</td>
</tr>
</tbody>
</table>

**Districts**
To be designated and described locally, districts are areas that are single-use or multi-use with low-density development pattern and vehicle mobility priority thoroughfares. These may be large facilities such as airports, business parks and industrial areas. | As applicable |
## Thoroughfare Type Characteristics

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Freeway</td>
<td>4 to 6+</td>
<td>45–65</td>
<td>Express</td>
<td>Required</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Optional separated pathway or shoulder</td>
<td>Regional truck route</td>
</tr>
<tr>
<td>Expressway/Parkway</td>
<td>4 to 6</td>
<td>45–55</td>
<td>Express</td>
<td>Required</td>
<td>No</td>
<td>No</td>
<td>Optional separated pathway or shoulder</td>
<td>Optional separated pathway or shoulder</td>
<td>Regional truck route</td>
</tr>
<tr>
<td>Boulevard</td>
<td>4 to 6</td>
<td>30–35</td>
<td>Express and Local</td>
<td>Required</td>
<td>Limited</td>
<td>Optional</td>
<td>Sidewalk</td>
<td>Bike lanes or parallel route</td>
<td>Regional truck route</td>
</tr>
<tr>
<td>Multiway Boulevard</td>
<td>4 to 6</td>
<td>25–35</td>
<td>Express and Local</td>
<td>Required on access lanes</td>
<td>Yes from access lane</td>
<td>Yes on access roadway</td>
<td>Sidewalk</td>
<td>Regional route/local deliveries only on access roadway</td>
<td></td>
</tr>
<tr>
<td>Avenue</td>
<td>2 to 4</td>
<td>25–30</td>
<td>Local</td>
<td>Optional</td>
<td>Yes</td>
<td>Yes</td>
<td>Sidewalk</td>
<td>Bike lanes or shared</td>
<td>Local truck route</td>
</tr>
<tr>
<td>Street</td>
<td>2</td>
<td>25</td>
<td>Local or none</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Sidewalk</td>
<td>Shared</td>
<td>Local deliveries only</td>
</tr>
<tr>
<td>Rural Road</td>
<td>2</td>
<td>25–35</td>
<td>Local or none</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Shared or shoulder</td>
<td>Local deliveries only</td>
</tr>
<tr>
<td>Local Street</td>
<td>2</td>
<td>25</td>
<td>Local or none</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Sidewalk</td>
<td>Shared</td>
<td>Local deliveries only</td>
</tr>
<tr>
<td>Alley/Rear Lane</td>
<td>1</td>
<td>5–10</td>
<td>None</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Shared</td>
<td>Shared</td>
<td>Local deliveries only</td>
</tr>
</tbody>
</table>

Shaded cells represent thoroughfare types that are not addressed in this report.

Notes:
1. Boulevard, Multiway Boulevard, Avenue, and Street thoroughfare types have sidewalks on both sides. Sidewalk width varies as a function of context zone, fronting land use and other factors.
2. Freight movement is divided into three categories: 1) Regional truck route, 2) Local truck route and 3) Local deliveries only. Cells show highest order of truck movement allowed.
Avenue

- Arterial or collector (4 lanes max)
- Target speed (25 to 30 mph)
- Land access
- Curb parking
- Primary ped and bike route
- Local transit route
- Freight, local deliveries
- Optional: landscaped median
Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities

Avenue
Excelsior Blvd St Louis Park
Figure 5.1 Components of an urban thoroughfare. Source: Community, Design + Architecture.
CSS Elements in Urban Contexts

Raised median on Boulevards with landscaping
Mid-block crossings with curb extensions and median refuge
Space for street cafes
Farside bus stops with shelter and amenities
High visibility crosswalks alternative paving or ladder/zebra striping
Curb extensions with small return radius

Pedestrian amenities such as benches, plazas, and public art
Urban Design Features
Short pedestrian scaled blocks
Bike lanes and bicycle parking
Street trees in treewells or planting strips

Designing Walkable Urban Thoroughfares, A Context Sensitive Approach
### Thoroughfare Type and Land Use Establish Design Criteria

**Table 6.4 Design Parameters for Walkable Urban Thoroughfares (continued)**

<table>
<thead>
<tr>
<th>Thoroughfare Design Parameters for Walkable Mixed-Use Areas</th>
<th>General Urban (C-4)</th>
<th>Urban Center/Core (C-5/6)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Context</strong></td>
<td>Building Orientation (entrance orientation)</td>
<td>front</td>
</tr>
<tr>
<td>Maximum Setback [2]</td>
<td>0 ft.</td>
<td>0 ft.</td>
</tr>
<tr>
<td>Off-Street Parking Access/Location</td>
<td>rear, side</td>
<td>rear, side</td>
</tr>
<tr>
<td>Streetside</td>
<td>Minimum sidewalk width [3]</td>
<td>8 ft.</td>
</tr>
<tr>
<td>Pedestrian Buffers (planting strip exclusive of travel way width) [3]</td>
<td>7 ft. tree well</td>
<td>6 ft. tree well</td>
</tr>
<tr>
<td>Street Lighting</td>
<td>For all thoroughfares in all context zones, intersection safety lighting, basic street lighting, and pedestrian-scale lighting is recommended. See Chapter 8 (Streetside Design Guidelines) and Chapter 10 (Intersection Design Guidelines).</td>
<td></td>
</tr>
<tr>
<td>Parallel On-Street Parking Width [7]</td>
<td>8 ft.</td>
<td>7–8 ft.</td>
</tr>
<tr>
<td>Vertical Alignment</td>
<td>Use AASHTO minimums as a target, but consider combinations of horizontal and vertical per AASHTO Green Book.</td>
<td></td>
</tr>
<tr>
<td>Bike Lanes (min./preferred width)</td>
<td>5 ft. / 6 ft.</td>
<td>5 ft. / 6 ft.</td>
</tr>
<tr>
<td>Access Management [10]</td>
<td>High</td>
<td>Low–Moderate</td>
</tr>
<tr>
<td>Typical Traffic Volume Range (ADT) [11]</td>
<td>15,000–50,000</td>
<td>1,500–30,000</td>
</tr>
</tbody>
</table>
Downtown Zumbrota Main Street Avenue
Thoroughfare Type & Land Use Example

MN 58 Downtown Zumbrota “Main Street” Context Zone and Corridor Segment
Zumbrota Sub-Area Study
DRAFT EXAMPLE 6/22/11 rev 6/24

Engineering - Design Elements

- Thoroughfare Type: Avenue - Main Street
- Land Use: Commercial, High Density Residential
- Access: Direct street
- Street Size: Direct street
- Access/Parcels: Mostly rear side
- Parking: No change
- Street Length: 300-600 (block length)
- Signal: None

Transportation

- Average Daily Traffic: 6,000 (2006) and 12,000 (2020)
- Speeds: 45 mph posted
- Safety/
- O&M: Reduce to

Utilities

- Storm Water: Improve/upgrade
- Water Utilities: None

Appendices

- ITE Designing Walkable Urban Thoroughfares, A Context Sensitive Approach

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