Appendix C
7. Street Classification and Street Design Standards Presentation
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Street Classification & Street Design Standards

Transportation Policy Committee
December 12, 2012

Functional Classification

- Arterial – highest mobility, highest speed, access control
- Collector – lower speeds, shorter distances, traffic distribution
- Local – basic access to residences/businesses
Functional Classification

Conventional Classification

- Design considers speed, volume, and type of traffic
- Standards for lane width, posted speed, geometric design, and intersection design
ITE, Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities
Portsmouth Street Design Standards

Planning Board’s Subdivision Rules and Regulations define standards for three types of street:

<table>
<thead>
<tr>
<th>Type</th>
<th>ROW</th>
<th>Pavement</th>
<th>Sidewalks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>50’</td>
<td>32’</td>
<td>1-2</td>
</tr>
<tr>
<td>Commercial</td>
<td>60’</td>
<td>36’</td>
<td>1-2</td>
</tr>
<tr>
<td>Industrial</td>
<td>60’</td>
<td>32’</td>
<td>0</td>
</tr>
</tbody>
</table>

![Residential Street Minimum Standards Diagram]

Notes:
1. 1’2” gravel base increases if ground conditions warrant.
2. Granite curb of 12”x4½” Min. sloped at 45° with 8” vertical reveal.
3. Sidewalks required as designated by Site Review Committee.
COMMERCIAL STREET MINIMUM STANDARDS
NO SCALE.

NOTES:
1. 12" GRAVEL BASE INCREASES IF GROUND CONDITIONS WARRANT.
2. VERTICAL 18" GRANITE CURB WITH 24" REVEAL.
3. SIDEWALKS REQUIRED AS DESIGNATED BY SITE REVIEW COMMITTEE.

INDUSTRIAL STREET MINIMUM STANDARDS
NO SCALE.

NOTES:
1. 12" GRAVEL BASE INCREASES IF GROUND CONDITIONS WARRANT.
2. STREET SIDEWALKS TO BE PROVIDED AS DESIGNATED BY THE SITE REVIEW COMMITTEE.
3. 24" MIN. GRANITE CURB AT 45° WITH 24" REVEAL MAY BE REQUIRED IF SITE CONDITIONS WARRANT.
Issues With Existing Standards

- Designed for new streets in subdivisions
- No guidance for retrofits of existing streets
  - Trees and landscaping
  - Bicycle/pedestrian facilities
  - Street furniture
  - Intersections
- May not reflect current City standards
  - Policy on sidewalk materials (brick/concrete)

Complete Streets Standards

- Emphasize character of entire street
  - All users (vehicular and non-vehicular)
  - Intersections
  - Bike facilities
  - Sidewalks
  - Transit stops
  - Type and intensity of adjacent land uses
Some Recent Design Guides

- ITE, *Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities*, 2006

ITE Thoroughfare Types

- Freeway / Expressway
- Parkway
- Rural Highway
- High Speed Boulevard
- Low Speed Boulevard
- Avenue
- Street
- Rural Road
- Alley / Rear Lane
ITE: Travelway Guidance

- Lane width
- Medians
- Bicycle facilities
- On-street parking and configuration
- Transition design
- Midblock crosswalks
- Pedestrian refuge islands
- Midblock bus stops

ITE: Roadside Zone Guidance
Charlotte Urban Street Design Guidelines

Street Types

- Main Streets (most pedestrian-oriented)
- Avenues (most common other than local)
- Boulevards
- Parkways (most auto-oriented)
- Local Streets (most prevalent)
New York City Street Design Manual: Overall Design Goals

**Safety**  Move people and goods safely

**Access and Mobility**  Accommodate all street users, giving priority to the most energy- and space-efficient modes

**Context**  Respond to neighborhood character

**Livability**  Create a vibrant public realm with high-quality public spaces

**Sustainability**  Contribute to a healthier and more sustainable environment

**Visual Excellence**  Create coherent and harmonious streetscapes

**Cost-Effectiveness**  Provide the greatest possible value to the public
New York City Street Design Manual

Street Categories

**General Street**
Most prevalent, emphasizes motor vehicle use, typically separates vehicles and pedestrians/bicyclists

**Boulevard**
Wide street with multiple travel lanes, medians, and emphasis on landscaping and visual quality

**Slow Street**
Local street, emphasis on pedestrian, sometimes called “bicycle boulevards” or “home zones”

**Transit Street**
Used exclusively for public transit

**Pedestrian-Only Street**
Serving only pedestrians
San Francisco Better Streets Plan

- Commercial
  - Downtown commercial
  - Commercial throughway
  - Neighborhood commercial
- Residential
  - Downtown residential
  - Residential throughway
  - Neighborhood residential
- Industrial
- Mixed-use
- Special
  - Parkway
  - Park edge
  - Multi-way boulevard
  - Ceremonial (Civic)
  - Alley
  - Shared Public Way
  - Paso (Pedestrian-only)

Downtown Commercial

Downtown commercial streets such as Grant or Kearny Streets tend to be higher in pedestrian volume and higher street activity throughout the day. It is as such, their importance, visibility, and high level of pedestrian activity, downtown streets should have generous sidewalks, high level of pedestrian amenities, and distinctive formal design

Street typologies in the Down Town Commercial category are described in the Downtown Commercial Plan adopted in 1994.

- High level of pedestrian activity
- Design for general pedestrian environment and residential
- High level of through traffic
- High level of pedestrian activity
- Pedestrian facilities
- Non-residential use in close proximity
- Limited and frequent off-street parking

StandardVerdana

- Standard

- Additional Guidelines

- Standard

- Additional Guidelines

Transportation Policy Committee
Seattle Right-of-Way Improvements Manual

- AASHTO Standard Traffic Classifications
  - Interstate Freeways
  - Regional Streets
  - Principal Streets
  - Minor and Collector Arterial Streets
  - Commercial and Residential Access Streets and Alleys
- Transportation Network Classes
  - Major Truck Streets
  - Transit Streets
  - Bicycle Ways
  - Boulevards

Seattle Right-of-Way Improvements

<table>
<thead>
<tr>
<th>Street Type</th>
<th>Street (Traffic) Classification</th>
<th>Adjacent Land Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Street</td>
<td>Arterial – all</td>
<td>Neighborhood commercial with a pedestrian designation</td>
</tr>
<tr>
<td>Mixed Use Street</td>
<td>Arterial – all</td>
<td>Neighborhood commercial</td>
</tr>
<tr>
<td>Regional Connector</td>
<td>Principal Arterial</td>
<td>Industrial, Commercial, Residential</td>
</tr>
<tr>
<td>Commercial Connector</td>
<td>Minor Arterial</td>
<td>Commercial, Residential</td>
</tr>
<tr>
<td>Local Connector</td>
<td>Collector Arterial</td>
<td>Residential, Institutional (community service)</td>
</tr>
<tr>
<td>Industrial Access Street</td>
<td>Arterial – all, non-arterials in commercial areas</td>
<td>Industrial, Maritime</td>
</tr>
<tr>
<td>Green Street</td>
<td>Non-arterial in Downtown Seattle</td>
<td>Residential</td>
</tr>
</tbody>
</table>
Conventional street design favors the function of **movement** over that of **place**. The NACTO Urban Street Design Guide considers street design as a balance of these two needs and **safety** as the driving parameter in design.

The Guide uses **street width and dimension** as a primary point of departure. Width is a limiting factor in design when considering the re-organization of a given corridor. The Guide has been organized accordingly, ranging from Very Large Streets to Very Small Streets.

Conventional street design practice is limited by functional classification or an alternative classification scheme, usually based on context. Using width as opposed to type or class allows for the street to be analyzed foremost as a **container and a public space**, with context, land use and **traffic** as forces that together shape that space.

The Intersections portion of the Guide will highlight both spatial and temporal design strategies, focusing on how cities can make junctions safer for everyone using the street.
NACTO Urban Street Design Guide (draft)

Street Types
- Very Large Streets
- Large Streets
- Medium Streets
- Small Streets
- Very Small Streets
- Alleys and Passageways
- Pedestrian Streets
- Shared Streets and Home Zones
- Transit Street

Intersection Types
- Complex Intersections
- Compact Intersections
- Reorganizing Intersections
- Multi-leg Intersections
- Public Plazas

Very Small Streets

New small streets, often 25 ft wide for bus lanes only, whose design has been simplified to facilitate the use of bus lanes and provide for pedestrian safety. New small streets may have wider sidewalks and more pedestrian-friendly design features, such as "shared streets" or "living streets" that prioritize pedestrian safety and comfort. These streets are often located in areas with lower traffic volumes and can be designed to accommodate the needs of pedestrians and cyclists.
New Models & Best Practices

- Many advances in the last ~6 years
  - Complete Streets (2005)
  - ITE Walkable Thoroughfares (2006)
  - City-specific standards and manuals: New York, Chicago, Charlotte, Portland, Seattle, San Francisco, and many more
  - NACTO – new compendium of recognized best practices

- National standards and best practices can be applied and adapted to reflect local context
Scope of Standards

- Conventional
  - Safety
  - Speed
- Broaden the scope of standards
  - Environment:
    - “Sustainable Streets”
  - Users:
    - Complete Streets
    - Livable Streets
    - Healthy Streets