Complete Streets

**INTRODUCTION**

The desire for safe streets that function well for all users is a timeless idea. Since the early part of the last century, street design has been an interdisciplinary affair, often occurring in the context of a larger vision for the neighborhood, community, or city. Designs were guided by the uses planned along the street, the needs of pedestrians, horse drawn carriages, bicycles, and even streetcars. In urban environments, conflicts between these street users were commonplace and various design solutions were devised to address these challenges.

With the mid-20th century rise of the automobile, however, the focus on street design shifted; driven by new physical and safety considerations related to the size, weight, and speed of the automobile. Specialists in traffic engineering emerged. A new professional language was created. Roadway standards were developed, and attention was increasingly focused on moving vehicles quickly, minimizing delay for motorists, and increasing the personal freedom, access, and mobility afforded by the automobile.

Today, there is a growing public desire for a return to more walkable and bikeable streets that support livable communities. Increasingly, local and regional agencies are working in support of street and transportation network design that encourages walking, bicycling, transit use by all users, including children, seniors, and disabled.

A complete street is safe, comfortable, and convenient for travel via automobile, foot, bicycle, and transit. This concept was initially championed by cycling advocacy groups seeking increased accommodation of cyclist needs in roadway design. Their initial research revealed a changing attitude among the majority of Americans. For the first time in decades, surveys are showing a preference for expanding existing public transportation and building new bikeways and sidewalks over expanding existing highways and building new highways.1

**Goals**

- Increased safety for the most vulnerable street users, especially bicyclists and pedestrians
- Increased choices for mobility
- Increased access for non-driving population
- Energy savings related to more fuel efficient modes of travel
- Reduced vehicle miles traveled (VMT) resulting in:
  - CO2 emission reduction
  - Improved traffic flow
- Decreased maintenance and repair costs
- Increased physical activity levels resulting in improved public health
- Improved design standards and guidelines

**Potential Sustainability Measures**

Potential sustainability measures for Complete Streets relate to the community design, the transportation network, and the choices available to the traveling public. The most sustainable

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Complete Streets communities will have a diverse mix of land uses that are accessible by many modes of travel on streets that serve all users safely and comfortably, and the resulting share of walking, bicycling, and transit trips are expected to be higher than comparable communities.

- Percent of streets with accommodation for all modes
- Quality or Level of Service for all modes
- Percent of population within walking distance of transit
- Percent of jobs within walking distance of transit
- Percent of population served by bicycle facilities
- Percent of jobs served by bicycle facilities
- Average vehicle trip length (shorter is better)
- Bicycling mode share
- Walking mode share
- Transit mode share
- Energy (fuel) savings related to mode share (relative to national or regional averages)
- Safer streets (reduction in bicycle & pedestrian crash severity and frequency)
- Emissions metrics related to vehicle use

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#### COMPLETE STREETS

**KEY STATISTICS AND FACTS:**

- For the first time in decades, surveys are showing a preference for expanding existing public transportation and building new bikeways and sidewalks over expanding existing highways and building new highways.1
- There are an estimated 35.3 billion walking trips nationwide every year in the U.S.2
- Walking is not just for recreation. Over 50% of all walking trips serve a functional purpose other than exercise and recreation3
- Nearly a third of Americans do not drive, and the non-driving senior population will grow even larger in the near future with the aging Boomer generation
- 55% of Americans say they would rather drive less and walk more4
- The top pedestrian complaint is simply that there are too few sidewalks5
- The top bicyclist complaint is simply that there are too few bikeways6
- While pedestrian and bicycle trips account for roughly 9% of all trips, 13% of all traffic related fatalities involve pedestrians and bicyclists7

### COMPLETE STREETS

<table>
<thead>
<tr>
<th align="center">ACHIEVEMENT LEVELS (NOTE: HIGHER LEVELS GENERALLY INCORPORATE ACTIONS OF LOWER LEVELS)</th>
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<tbody>
<tr>
<td align="center"><strong>Bronze (Good)</strong></td>
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<tr>
<td align="center">Modal Accommodation - all modes of travel required to be accommodated on all local, collector, and arterial streets</td>
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<tr>
<td align="center">Vehicular Level of Service (LOS) – allow exceptions from jurisdiction standards on case by case basis</td>
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<tr>
<td align="center">Design Speed – allow design speed to match posted and planned operating speed on case by case basis</td>
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<tr>
<td align="center">Roadway Design – allow exception from</td>
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</tbody>
</table>

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2 National Household Travel Survey (NHTS), 2001.
3 Natl. Survey of Pedestrian and Bicyclist Attitudes and Behaviors, 2002.
4 National Transportation Availability & Use survey, 2002.
5 National Transportation Availability & Use survey, 2002.
6 2005 NHTSA Traffic Safety Facts

**References/Commentary**

- Completestreets.org is a comprehensive online resource.
- Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities, ITE Proposed Recommended Practice is a comprehensive guide to street design that reflects a
- City of Portland, OR, Creating Livable Streets, Street Design Guidelines for 2040, Available online; Retrieved November 2, 2010.
Sustainable Community Development Code Framework

**COMPLETE STREETS**

<table>
<thead>
<tr>
<th>Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities is a comprehensive guide to street design that reflects a joint effort between ITE and the Congress for New Urbanism</th>
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<tbody>
<tr>
<td>Complete street designs should accommodate all users, including emergency and life safety providers</td>
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<td>Complete streets policies can be structured to protect and prioritize the most vulnerable street users</td>
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**Sustainable Community Development Code Framework**

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<tr>
<td>standard cross sections based on context and consideration of other transportation goals on case by case basis</td>
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<tr>
<td>match posted and planned operating speed – applied in specific districts or areas (CBD, urban centers, TODs)</td>
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<tr>
<td>to match posted and planned operating speed – applied throughout the jurisdiction</td>
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**References/Commentary**

<table>
<thead>
<tr>
<th>Bronze (Good)</th>
<th>Silver (Better)</th>
<th>Gold (Best)</th>
<th>References/Commentary</th>
<th>Code Examples/Citations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enact Standards</td>
<td>Adopt a Complete Streets policy</td>
<td>Establish Complete Street design standards that are land use and context sensitive</td>
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<td>Require Complete Street design in all new construction</td>
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<td>Requirements for new development based on the complete streets program and expected use of the roadway</td>
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<td>Require public and/or advisory committee involvement in the design process</td>
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<td></td>
<td>No exceptions to the Complete Streets policy</td>
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| construction and reconstruction to routinely accommodate Americans with Disabilities Act (ADA) and Universal Design requirements. | - Require exceptions to Complete Street design to be approved by senior management or elected officials  
- Require Transportation Impact Studies to evaluate and address all modes of travel |