TOD 201

SUSTAINABLE URBAN DESIGN & TRANSIT
APTA Sustainability and Urban Design Standards Program

- 2 Working Groups of volunteers from transit agencies, cities, non-profits and consultants

- Documents:
  - Area of Influence Standard (published Dec 2009)
  - Joint Development and TOD (published Dec 2009)
  - Local Government Partnerships (ongoing)
  - How to Use Urban Design for Transit (ongoing)
  - Multi-Modal Transit Access Guidelines (ongoing)
APTA Urban Design Standards Program: Goals

1. Build sustainable communities by integrating transit service into existing and new neighborhoods, corridors, and regions;

2. Increase transit ridership by more effectively linking transit service with more compact developments;

3. Improve transit efficiency by coordinating transit service and investments with infrastructure improvements and land development;

4. Conserve natural resources by developing patterns and communities that require less land for development, create open space, and reduce the demand for fossil fuels to meet energy needs.
Design Matters?

*function*

*function*  
*aesthetics*  
*durability*
Sustainable Urban Design Strategies can help create places in which:

- Transit contributes to making a “place,” facilities are attractive, functional, and serve as community destinations.
- Access to transit balances the needs of all modes and users.
- The neighborhoods around transit facilities support and encourage a vital mix of activities.
- Transit corridors take advantage of nearby neighborhoods and destinations to encourage a diversity of places and access modes.
- The transit network connects users to key regional destinations.

“Transit-friendly Communities”
When Design Matters

- May add to up-front cost of projects, BUT...
- Don’t risk the long-term success of a project – incorporate comprehensive design practices from outset
When Design Matters

- Design can be one element of broader customer-focused strategy
When Design Matters

- Design features can be funded through creative partnerships
Why Commit to Good Design?

1. Increase Ridership
   - TCRP report cites design-related elements as central to increasing ridership
Why Commit to Good Design?

2. Improve Customer Experience
   - Information
   - Comfort
   - Confidence
Why Commit to Good Design?

3. Increase System Efficiency
Why Commit to Good Design?

4. Improve Public Image
   - especially important for infrequent or choice riders
Why Commit to Good Design?

5. Increase Safety
   - Lighting
   - Telephones
   - Wayfinding/maps
   - Ped/bike facilities
   - Orientation and proximity of buildings
Why Commit to Good Design?

6. Promote Community Livability
   − Station as catalyst for community reinvestment
   − Opportunity for partnerships
Why Commit to Good Design?

6. Promote Community Livability
   - Transit access creates valued public spaces
Why Commit to Good Design?

6. Improve Accessibility
   - Access to station/shelter, tickets
   - Ease of boarding

![Diagram showing accessible design elements such as boarding and alighting area, accessible route, bus shelter, and curb or vehicle roadway edge.]

![Image of a woman in a wheelchair accessing a ticket machine.]

![Sign indicating elderly.]
Implementation: Barriers

Common Barriers:
- Public vs. Private Realm
- Constrained roadway width and public property
- Aligning multiple funding sources and stakeholders
- Coordination of utilities, streetscaping and infrastructure
Implementation: Key Concepts

- Context Sensitive Solutions
- Complete Streets
- Green Streets
- Placemaking

“What attracts people most, it would appear, is other people.” - William Whyte, on public spaces
Implementation: Strategies

Community Partnerships
- Adopt-A-Shelter programs

Advertising
- Enhance customer experience?

Demonstration Projects
Implementation: Strategies

Define Transit Areas of Influence

“the spatial areas in which transit stops and stations have the greatest impact on land use and development and from which there is high potential to generate transit ridership.”
Implementation: Strategies

Define Transit Areas of Influence

**FIGURE 1**
Diagram of Typical Areas of Influence

- Transit Stop or Station
- Core Transit Area
- Primary Catchment Area
- Secondary Catchment Area
## Implementation: Strategies

### Define Transit Areas of Influence

<table>
<thead>
<tr>
<th>Core Transit Area</th>
<th>Primary Catchment Area</th>
<th>Secondary Catchment Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning focus</td>
<td>Station design and access planning.</td>
<td>Community-wide transportation and land use planning</td>
</tr>
<tr>
<td>Development density</td>
<td>Concentration of highest density development</td>
<td>More compact development patterns than community average</td>
</tr>
<tr>
<td></td>
<td>Density greater than the community average</td>
<td></td>
</tr>
</tbody>
</table>

(see APTA report for full table)
Implementation: Strategies

Define Transit Areas of Influence
- Start with radius based on mode, then adjust for local factors

<table>
<thead>
<tr>
<th></th>
<th>Local Street Transit</th>
<th>Rapid Street Transit</th>
<th>Semirapid Transit</th>
<th>Regional Transit</th>
<th>Rapid Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Station Area</td>
<td>N/A</td>
<td>1/8 mile</td>
<td>1/4 mile</td>
<td>1/4 mile</td>
<td>1/3 mile</td>
</tr>
<tr>
<td>Primary Catchment Area</td>
<td>1/8 mile</td>
<td>1/4 mile</td>
<td>1/2 mile</td>
<td>1/2 mile</td>
<td>2/3 mile</td>
</tr>
<tr>
<td>Secondary Catchment Area</td>
<td>1/2 mile</td>
<td>1 mile</td>
<td>2 miles</td>
<td>5 miles</td>
<td>3 miles</td>
</tr>
</tbody>
</table>
Implementation: Strategies

Factors that Limit or Expand Areas of Influence

- Station infrastructure
- Physical Barriers
- Street connectivity
- Pedestrian environment
- Bicycle environment
- Wayfinding
- Topography
- Safety
Implementation: Strategies

Factors that Limit or Expand Areas of Influence

- Distance to activity centers
- Climate
- Trip purpose
- Transit connectivity/network
- Transit frequency
- Transit parking availability
- Access to retail opportunities
Implementation: Strategies

Limit

Expand

FIGURE 2
How Factors Can Limit Areas of Influence

FIGURE 3
How Factors Can Expand Areas of Influence
Sustainable Design Features

Walkability & Pedestrian Safety

- Every step counts!
- Consider *usable* space. Can a wheelchair or stroller get by?

“The Relationship Between Distance to Transit Facility and Pedestrian Mode Choice”
Sustainable Design Features

Access
- Consider all modes
- ADA
- Visual access
- WMATA Station Site and Access Planning Manual
Sustainable Design Features

Road Design
- Street Connectivity
- Dedicated Lanes
- Road Diets
Sustainable Design Features

Bikes and Transit
- Access to station
- Bikes on transit
- Bike parking

See TCRP Report 62: Integration of Bicycles and Transit (TRB, 2005)
Sustainable Design Features

Bus Stop Design & Placement
- Locate near centers of pedestrian activity
- Shelters, seats, trash cans, wayfinding and other information

See Accessing Transit, Design Handbook for Florida Bus Passenger Facilities, FDOT 2004
Sustainable Design Features

Bus Stop Access
- Design depends on context

Use a Bus Stop Design Checklist
- See “Pedestrian Road Safety Audit Guidelines and Prompt Lists” FHWA and PBIC, walkinginfo.org
Sustainable Design Features

Parking

- Balance park-n-ride needs with other modes and uses
- Consider walkability & aesthetics of parking areas

THIS

NOT THIS
Sustainable Design Features

Safety & Security
- Address perceived and real safety concerns
- Crime Prevention Through Environmental Design
Sustainable Design Features

Built Environment
- Mixed use
- Density
- Active ground use
Developing Design Guidelines

Why?

- Establish shared vision & cohesive system
- Engage citizens and staff early – find common ground *before* investment
- Good marketing
- Increase competitiveness for grants
Developing Design Guidelines

Strategies

1. Draw from existing guidelines:
   - Sound Transit, Seattle
   - Accessing Transit: Design Handbook for Florida Bus Passenger Facilities
   - BART Station Access & TOD Guidelines
Developing Design Guidelines

Strategies

2. Tailor guidelines to local context
   - Engage public to identify local strengths and challenges

3. Use an iterative process

4. Seek endorsement
Developing Design Guidelines

Step 1: Right People, Right Time

- elected officials
- transit agency staff
- local jurisdiction staff
- area businesses, residents, employers & employees
- property owners, development professionals
- transit passengers
- chambers of commerce, downtown associations
- law enforcement personnel
Developing Design Guidelines

Step 2: Outline a Design Process

- Identification of Stakeholders
- Identification of Design Goals
- Identification of a concept for the transit facility
- Assessment of compatibility with existing plans, guidelines, policies, and standards
- Balancing conflicting goals and mediating compromise
Developing Design Guidelines

Step 3: Identify Design Goals, e.g.:

- Basic function/utility
- Decisions about long term public infrastructure decisions
- Safety and security
- Convenience for transit customers
- Efficient movement of transit vehicles
- Lifecycle costs
- Place-making and urban design
- Accommodations for all users (accessibility/universal design)
Developing Design Guidelines

Step 3: Identify Design Goals, e.g. (con’t):

– Accommodations for all desired transportation modes
– Environmental sensitivity and sustainability
– Community identity
– Clarity, orientation, and spatial organization
– Adaptability for expansion and future needs
Developing Design Guidelines

Step 4: Identify a Vision Concept

“Calgary, in the year 2024...we live closer to where we work, relying less on our cars for the shorter work trip and more on transit, walking and cycling...investment in transit has resulted in a higher level of service and usage: shorter walk times to transit and LRT stops and preferential "transit treatment" make the transit trip more attractive and convenient....”

- Calgary Transit Friendly Design Guide 2006
Developing Design Guidelines

Step 5: Assess Compatibility with other plans

– General, Master or Comprehensive Plans
– Zoning and other policies near stations or on transit corridors
– Mission statements, objectives & performance measures
Developing Design Guidelines

Step 6: Balance Conflicting Goals

- Environmental, aesthetic, security, mobility and budgetary goals might conflict
- Broker compromise
- Place-based approach

Define Place, Identify Stakeholders
Evaluate Place
Develop Vision
Short-Term Experiments
Long-term vision implementation

Reevaluate
Improve

Project for Public Spaces, www.pps.org
Design Guidelines Checklist

- Match features to context
- Commitment to Quality
- Design and Placement
- Maintenance
- Cost Efficiency
- Customer Satisfaction
QUESTIONS?

COMMENTS?