Community-Oriented BRT: Urban Design, Amenities, and Placemaking

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Pro Walk Pro Bike Pro Place
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Rapid transit projects are long-term investments that can be designed to improve communities beyond transportation benefits alone

- Create/enhance public space
- Effect how communities develop and evolve over time
  - Pedestrian-oriented
  - TOD
- Driving force for city-building and design
- Key concept: placemaking
What is Placemaking?

...not just the act of building or fixing up a space, but a whole process that fosters the creation of vital public destinations: the kind of places where people feel a strong stake in their communities and a commitment to making things better. Simply put, placemaking capitalizes on a local community’s assets, inspiration, and potential, ultimately creating good public spaces that promote people’s health, happiness, and well-being.

Project for Public Spaces
Project Background

Safe, comfortable, attractive transit environments

- Encourage transit and walking
- Serve as focal points for community life
- Activate adjacent land uses
- Support business
- Stimulate development

Placemaking benefits of transit

- Routinely considered an essential part of rail projects
- Frequently overlooked with respect to bus facilities
Project Background

• Conventional bus service in the U.S.
  • Suffers from an image problem
  • Facilities lack sense of permanence enjoyed by rail-based transit
• Influence of land use policies
Project Background

Bus Rapid Transit

• Higher level of investment
• More permanent infrastructure
• Can play a major role in creating and revitalizing the public realm
BRT is an enhanced bus system that operates on bus lanes or other transitways in order to combine the flexibility of buses with the efficiency of rail.

BRT operates at faster speeds, provides greater service reliability and increased customer convenience.

BRT uses a combination of advanced technologies, infrastructure and operational investments that provide significantly better service than traditional bus service.

Source: Federal Transit Administration
## BRT Elements

<table>
<thead>
<tr>
<th>Running Ways</th>
<th>Stations</th>
<th>Vehicles</th>
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<tbody>
<tr>
<td>Service and Operations Plan</td>
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<td>Fare Collection</td>
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<td>ITS</td>
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<td>Marketing and Branding</td>
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**Integration of Elements**
BRT Elements

RUNNING WAYS

STATIONS
# BRT Elements

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<td><img src="image1.png" alt="Running Ways Image" /></td>
<td><img src="image2.png" alt="Stations Image" /></td>
<td><img src="image3.png" alt="Vehicles Image" /></td>
<td><img src="image4.png" alt="Marketing and Branding Image" /></td>
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Bus Rapid Transit Placemaking

- Strong system identity
- Reflect unique culture and history
- Contribute to neighborhood continuity
- Demonstrate public commitment to quality
- Attract private investment
- Catalyze new development, revitalization
- Shift urban development in a positive direction
Serve as a resource for communities that wish to learn how others have used BRT as a tool for enhancing the public realm

- Not: detailed instructions such as in design manuals
- Focus: sharing the experiences of agencies that have been successful at building community value into BRT projects
1. Literature review

2. In-depth case studies of three BRT systems
   - Metro Orange Line, Los Angeles
   - Emerald Express (EmX), Eugene, OR
   - Health Line, Cleveland

3. Questionnaire to transit agencies in the U.S., Canada, and Australia

4. Synthesis of key recommendations and lessons learned
Case Studies:
Metro Orange Line, Los Angeles

• Began in October 2005
• Similar to a rail alignment
• “Greenway ribbon”
  • Unified theme
  • Beautify, blend into San Fernando Valley
• Design features
  • Architectural stations
  • Pedestrian linkages
  • Public art
  • Multi-use recreational path
  • Landscape beautification
Architectural Stations
Public Art
Public Art
Public Art
Recreational Path
Landscape Beautification
Landscape Beautification
Before and After
Before and After
Before and After
Case Studies:
Emerald Express “EmX”, Eugene, OR

• Began in January 2007
• “Greening” the corridor
  • Community integration
  • Concern for environment
  • Appreciation of Eugene’s history & natural beauty
• Lane Transit District consulted:
  • Arborists
  • Urban foresters
  • Architects
  • Cycling groups
  • People with disabilities
Stations
Stations
Greening the Corridor
Public Art
Public Art
Recreational Path
Case Studies: Health Line, Cleveland

• Began in August 2008
• Investments in transit as a mechanism for private investment
• Credited with catalyzing more than $4 billion in investments along the corridor
Case Studies: Health Line, Cleveland

- Streetscape renovation of historic Euclid Avenue
- Begin creating multi-modal complete street corridor
- Bring active and engaging street life to Euclid Avenue
  - Create open space amenities
  - Develop corridor into a linear park
Stations
Stations
Stations
Public Art
Landscape Plantings
Urban Forestry
Urban Forestry
Pavement Design
Pavement Design
Pavement Design
Bicycle Lanes
Questionnaire to Transit Agencies

- 45 questions
- 36 agencies in the U.S., Canada, and Australia
- 14 respondents
- A host of community and public space improvement goals
- Document the current state of placemaking practice with regard to BRT
- Relationship between BRT and urban landscape
Community Outreach

- Perform urban design outreach and community visioning as early as possible
- Use photo simulations or other advanced visualization tools to convey a “mental picture” of the project
- Create separate boards that the community can consult with regarding specific issues or concerns
  - Public art projects
  - Disruption of businesses during construction
Recommendations and Lessons

Stakeholder Engagement

- Get support of property owners and business community as soon as possible
- Pursue opportunities for partnerships between public, private, neighborhood, and non-profit stakeholders
- Include staffs of local community development and land use agencies in planning and development phases
- Use memoranda of understanding and intergovernmental agreements to delineate responsibilities and clarify working relationships
- Get strong project champion(s) from the outset, from public, private, and non-profit sectors if possible
Infrastructure and Public Space Enhancements

- Use BRT as a tool for funding streetscape improvement projects, which are difficult to fund as standalone projects.
- Integrate transit infrastructure and public space improvements into one project that conveys a clear, distinct brand identity, but that also fits into the existing fabric of the corridor.
- Build principles and practices of sustainability into a comprehensive design and development process that produces cost savings to avoid “wish list” cuts.
Recommendations and Lessons

Safety and Maintenance

• Image is everything! Plan in advance for how facilities will be kept clean, well-lighted, and safe at all times.

• To avoid interference with operations, consider maintenance logistics when designing landscaping.

• Locate boundary elements so as not to create fragmented tracts of land or areas where ownership and authority are unclear.

• Seek out partners, such as a local business improvement districts, for ongoing maintenance activities, or

  • “Adopt a Shelter” programs
  • Selling the naming rights to the service or individual stations
Thank you for your attention

Federal Transit Administration
www.fta.gov

National Bus Rapid Transit Institute
www.nbrti.org

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Running Ways

• Mixed traffic
• Arterial curb bus lanes
• Shoulder busways and bus lanes
• Arterial median busways
• At-grade busways (can use railroad right-of-way)
• Grade-separated busways
Cleveland Health Line

- Began Aug. 2008
- $200M, $28.5M per mile
- 7 miles (4.4 miles bus lanes)
- 5 minute headways
- Ridership: 12,300 per day
- 60% increase over old Route 6
Began Jan. 2007
$25M, $6.25M per mile
4 miles (2.6 miles bus lanes)
10 minute headways
Ridership: 4,700 per day
74% increase over old Route 11
## Similar Operating Characteristics

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Rapid Transit Mode</th>
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<tbody>
<tr>
<td></td>
<td><strong>BRT</strong></td>
<td><strong>LRT</strong></td>
<td></td>
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<tr>
<td>ROW Options</td>
<td>Exclusive or Mixed Traffic</td>
<td>Exclusive or Mixed Traffic</td>
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</tr>
<tr>
<td>Station Spacing</td>
<td>1/4 to 1 Mile</td>
<td>1/4 to 1 Mile</td>
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</tr>
<tr>
<td>Vehicle Seated Capacity</td>
<td>40 to 85 Passengers</td>
<td>65 to 85 Passengers</td>
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<tr>
<td>Average Speed</td>
<td>15-30 mph</td>
<td>15-30 mph</td>
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</tr>
<tr>
<td>P/H/D (exclusive ROW)</td>
<td>Up to 30,000</td>
<td>Up to 30,000</td>
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<tr>
<td>P/H/D (arterial)</td>
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<td>Up to 10,000</td>
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<tr>
<td>Capital ROW Cost/Mile</td>
<td>$0.2M to $25M/Mile</td>
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<td>Capital Cost/Vehicle</td>
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<td>O&amp;M/SH</td>
<td>$65 to $100</td>
<td>$150 to $200</td>
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BRT projects designed with local context in mind
  – Create a sense of place
  – Scale and character of the community
  – Quality of life for whole community

Channel a wide spectrum of benefits
  – Economy
  – Aesthetics
  – Public health
  – Community development

Design focus:
  – Context
  – Livability
  – Accessibility