On-Street Priority Transitways

Sustainable Transport
Using Available Right-of-Ways

Mark C. Walker, AICP
Parsons Brinckerhoff

The Urban Transit Challenge

- Increase urban mobility & transit speed
- Use available rights-of-way
- Minimize costly tunneling and elevated structures
- Integrate transit with communities
- Improve livability of urban public spaces.

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Cairo, Egypt

A Sustainable Approach: On-Street Transitways

- LRT, Bus, or Mini-Bus
- Semi-Exclusive Lane or Guideway:
  - No other traffic in lane
  - Pedestrians and cars cross at-grade
- Enhanced Stations or Stops
- Limited Underpasses & Overpasses.

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On-Street BRT Transitways

- Curitiba, Brazil
  - Extensive Busway System
- São Paulo, Brazil
  - Four Distinct Busways
- Quito, Ecuador
  - Electric Trolleybus Transitway
- Bogotá, Colombia
  - High-Capacity Transitway.

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Curitiba, Brasil

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Sao Paulo, Brasil

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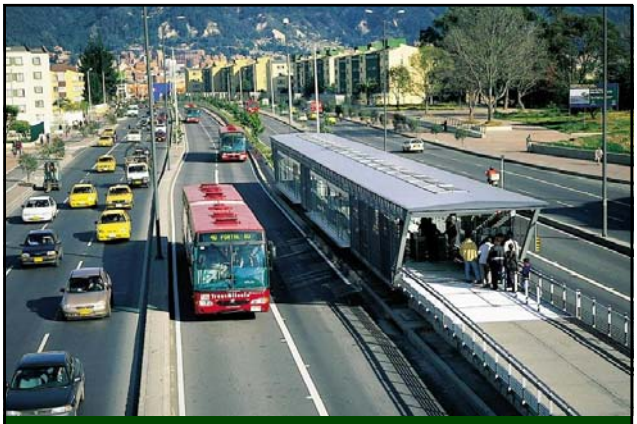
Quito, Ecuador



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Bogotá, Colombia

On-Street LRT Transitways

- Segments of many North American, European, & other LRT systems:

  Birmingham, Boston, Cairo, Calgary, Cologne, Dallas, Denver, Dresden, Hanover, Hong Kong, Istanbul, London, Los Angeles, Manchester, Manila, Munich, Pittsburgh, Portland, Sacramento, San Diego, San Francisco, San Jose, Stuttgart, Toronto, Tunis, & others.

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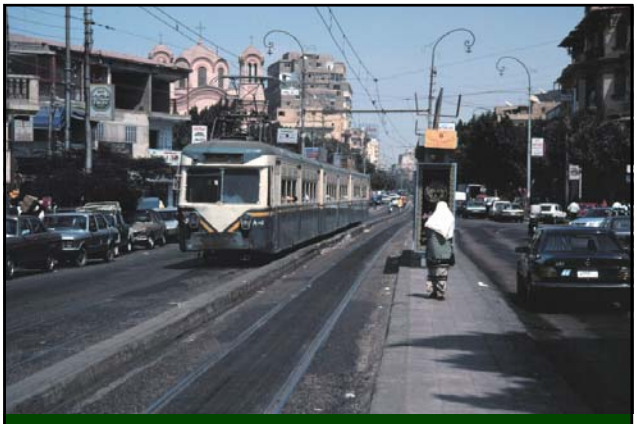

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Cairo, Egypt

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San Diego, California

Challenges for Implementation

- Finite space (width) available - must accommodate:
  - Transitway & Station Platforms
  - Traffic Lanes & Turning Lanes
  - Sidewalks & Pedestrian Amenities
  - Parking
  - Landscaping

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Tunis, Tunisia

Challenges for Implementation

- Integration between elements - need to coordinate:
  - Transit and traffic movements,
  - Transit with pedestrian circulation,
  - Increased pedestrian activity and traffic,
  - Business concerns (esp. parking)

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Melbourne, Australia

Key Planning & Design Issues

- Placement of Transitway:
  - Center Of Street (median)
  - Both Sides of Street (curb lanes)
  - One Side of Street
  - Other Configurations

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Ciudad de México

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Sao Paulo, Brasil

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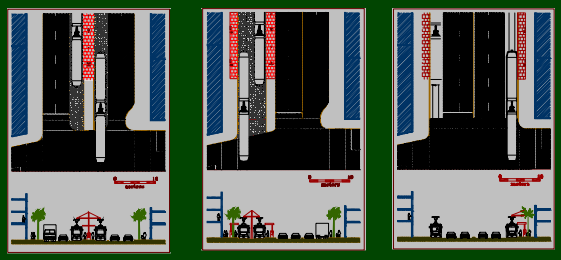
Quito, Ecuador

Key Planning & Design Issues

- Station Platform Placement:
  - Center, Side, On-Sidewalk, Other



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Curitiba, Brasil

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Quito, Ecuador

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Bogotá, Colombia

Key Planning & Design Issues

- Access for Emergency Vehicles
- Access to Utilities & Potential Relocation
- Business Concerns:
  - On-Street Parking
  - Visibility of Facades
- Access to Abutting Properties (curb cuts).

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Operational Issues

- All-Stop vs. Express & Local Service
- Left or Right Turns Within or Across Transitway?
- Signal Preemption
- Effect of Fare Payment and Boarding on Operations & Capacity.

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Curitiba, Brasil

Planning & Design Opportunities

- Enhanced Paving
- Attractive Barriers (for Traffic & Pedestrians)
- Landscaping, Trees, Street Furniture
- Pedestrian-Friendly Building Facades
- Supportive Urban Design
- Transit-Oriented Land Uses.

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Cairo, Egypt

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Stuttgart, Germany

Potential of On-Street Transitways

- Enhance transit speeds, capacity, & comfort within available rights-of-way
- Provide highly visible transit: (vehicles, guideway, and stations)
- Opportunity to upgrade street design: (paving, signage, & landscaping)
- Potential for incremental implementation
- Guide improved patterns of development.

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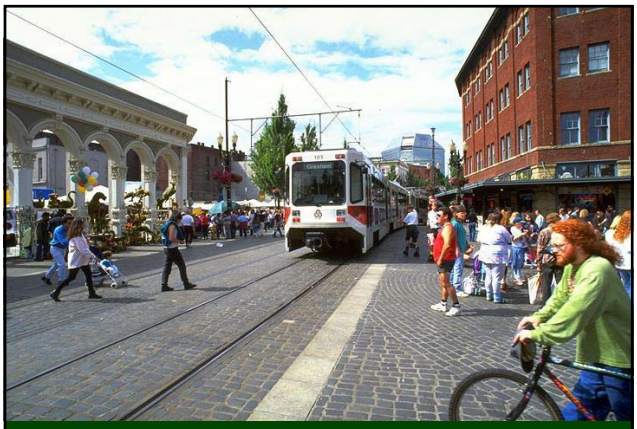

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Portland, Oregon

On-Street Priority Transit Facilities

Sustainable Transport
Using Available Right-of-Ways

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