



**National Bus Rapid Transit Institute  
(NBRTI)  
At the University of South Florida**

# History of the NBRTI

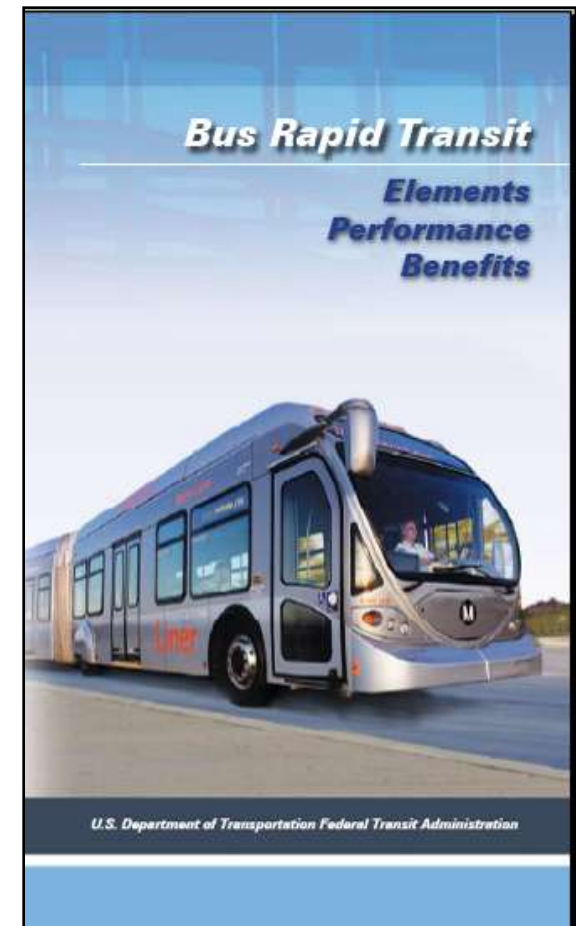
- In January 2001, the National BRT Institute was created at USF's Center for Urban Transportation Research (CUTR) with the charge of creating a national program for **training, technical assistance, research, innovation, and evaluation** of existing and proposed BRT projects

# Core Program Areas

- Clearinghouse
- Technical assistance and support
- Research
- Demonstration

# Brochure

- Provide BRT information in a condensed format
  - Closely follows the layout of FTA's *Characteristics of Bus Rapid Transit for Decision Making* (2009) document
  - Will be expanded to include data for each BRT system in the U.S. and abroad



# Website

[www.nbrti.org](http://www.nbrti.org)

Welcome to the National Bus Rapid Transit Institute - Windows Internet Explorer

http://www.nbrti.org

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Welcome to the National Bus Rapid Transit Institute

## National BRT Institute

Contact Us Events BRT Systems Links Technical Assistance (P3P) BRT Research

Search our BRT Database

- Learn
- Plan
- Fund
- Build
- Promote
- Evaluate

### What is Bus Rapid Transit?

BRT is an innovative, high capacity, lower cost public transit solution that can significantly improve urban mobility. This permanent, integrated system uses buses or specialized vehicles on roadways or dedicated lanes to quickly and efficiently transport passengers to their destinations, while offering the flexibility to meet transit demand. BRT systems can easily be customized to community needs and incorporate state-of-the-art, low-cost technologies that result in more passengers and less congestion.

### Our Mission

The Mission of the National BRT Institute is to facilitate the sharing of knowledge and innovation for increasing speed, efficiency, and reliability of high-capacity bus service through the implementation of BRT systems in the United States.

The 2009 FTA Characteristics of Bus Rapid Transit for Decision Making is now available [for download](#).

### BUS RAPID TRANSIT

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### BRT News

#### Upcoming Event!

[BRT Symposium](#), Hartford, CT, October 15, 2009.

[Transit Seminar: Madison, WI, October 1 presentations](#)

[BRT Workshop: Cleveland, OH, July 21-22 presentations](#)

FTA Administrator James Simpson led a delegation to India in September 2008. The mission visited Delhi, Visakhapatnam, Hyderabad, and Mumbai. A [trip report](#) was prepared...

Photos

The National BRT Institute is a part of the [Center for Urban Transportation Research](#) at [USE](#)

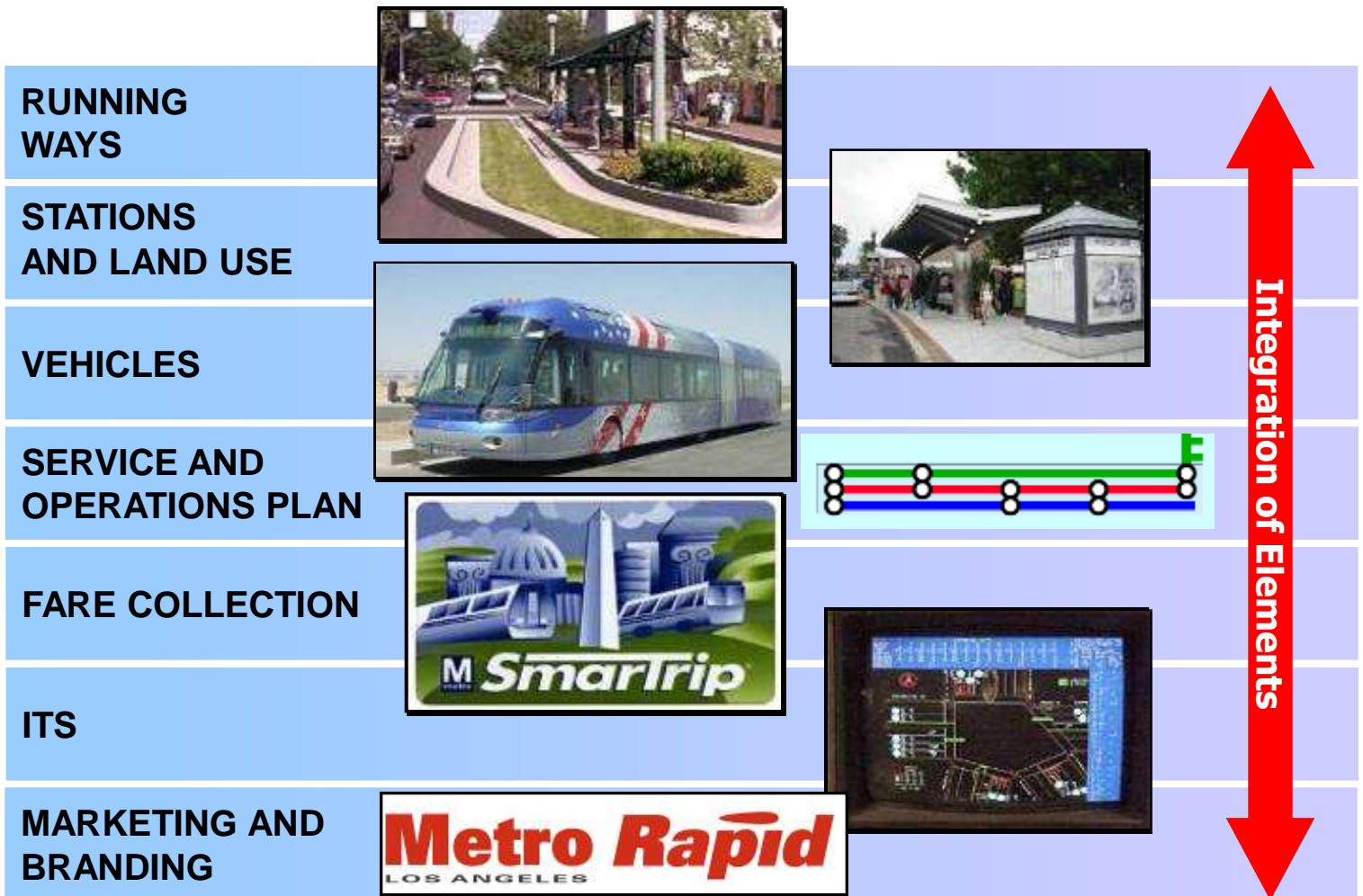
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# **BRT in the United States: A Range of Complexity**

- Beginning to Catch On
- Debate between BRT and LRT
- BRT Lite
- Rail-Like BRT
- Tradeoffs
  - Permanence vs. Flexibility vs. Affordability

# BRT as an Integrated System of Elements



## “Rail-Like” Busway Stations



# Specialized BRT Vehicles



***ATS Phileus  
Eindhoven, Netherlands***

***Irisbus Civis  
Las Vegas MAX***





## Vehicle Guidance



# Off-Board Fare Collection Options



*Proof-of Payment: TVM  
York, On. Rapid Transit*

*Smart Card Fare Gates  
TransMillenio, Bogota*



# “Travel Ways”

- **Exclusive or shared** transit ways
  - at-grade or grade-separated
- **Bus priority/HOV** lanes (Houston)
  - exclusive on- and off-ramps
- **Dedicated** transit lanes (Curitiba, Brisbane, Pittsburgh)
- Transit streets or transit malls
  - transit-only streets (downtowns, Seattle and Denver)
- **Mixed traffic** (Los Angeles)
  - signal priority/preemption
- **Queue jump** (Auckland, NZ)
  - permit BRT vehicles to “jump” ahead of traffic queues
  - preemption

# Service Alternatives

- Premium service
- **Higher average speeds** than local service
- **Average speeds comparable to LRT**
- Parallel local and express service
- Major commuter corridors
- Skip stop
- **Reliable**
- **High frequency**
- All day
- Reduced dwell time
- **Highly flexible**
- No schedule

# Route Structures

- **More direct than local service**
- “Off-line” stations
- Anchored by major activity centers
- **Major corridors**
- Feeder routes
- Operate in low-density residential
- **Flexible**
- Effect on Land use
- No map

# Conclusions

- Offer as “**premium**” service
- **Brand** as unique, integrated service
- **Unique** characteristics
  - vehicles
  - stations
  - fare payment
  - “running way”
  - higher speed
  - highly flexible
  - ITS
- Environmentally friendly
- Alternatives analysis/MIS – “**another tool in the toolbox of public transportation alternatives**”
- The future
  - precision docking
  - magnetic guidance (driverless)
  - customer demand/route deviation service
  - interim alternative for rail corridor development



# Conclusions

- BRT can provide **effective solutions**
- Characteristics suited to **high and lower density** environments
- Offer advantages in early & **incremental implementation**
- Ultimately its **reliability, directness, convenience**
- Lower cost, high capacity alternative to rail

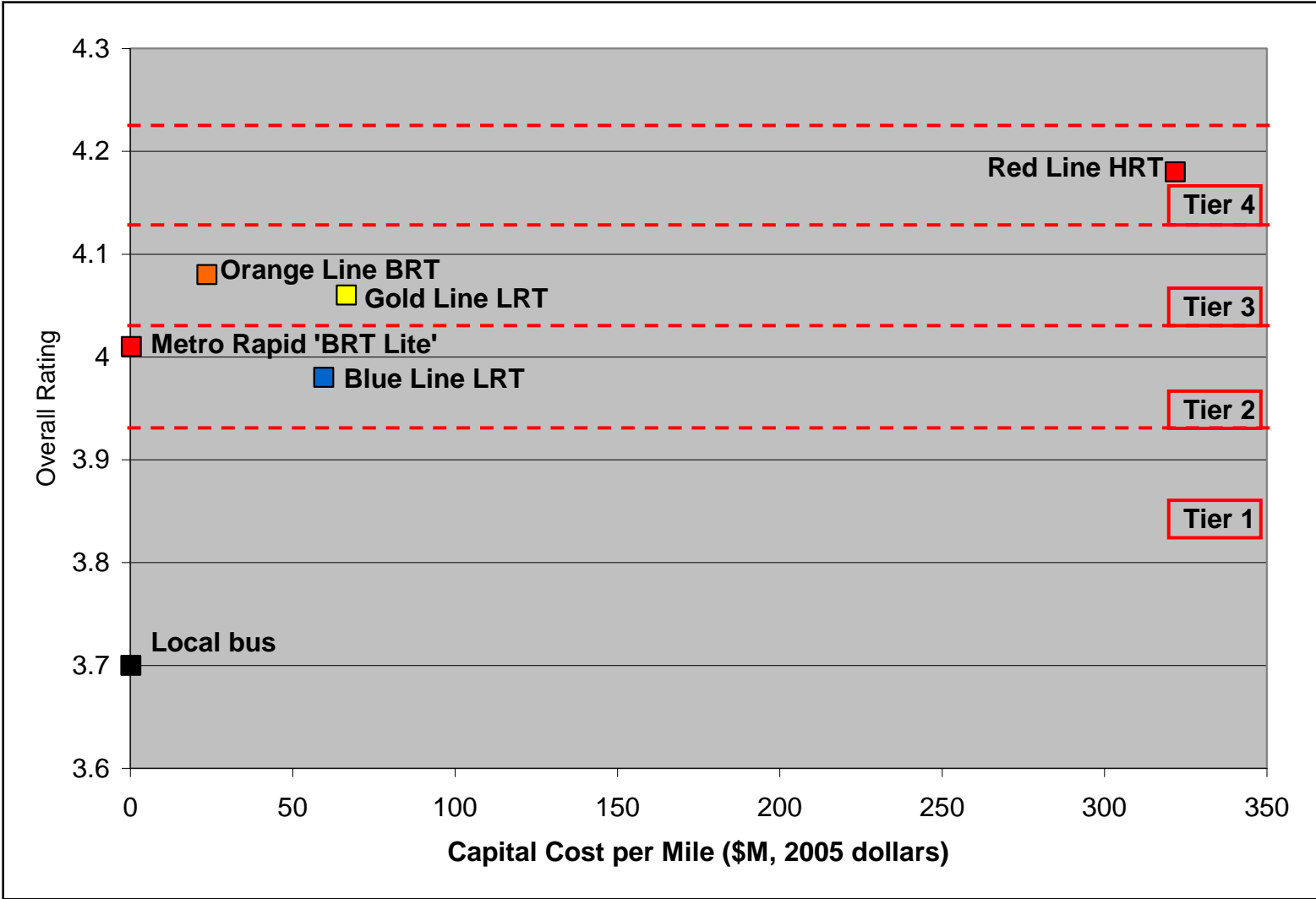


# Quantifying the Importance of Image and Perception to Bus Rapid Transit

- The public do perceive alternative rapid transit modes differently
- Perceived differences linked to level of investment and urban context
  - Reliability and service frequency are most important tangible attributes
  - Safety (while riding and at station/stop) is the most important intangible attribute, particularly for non-transit users
- BRT capable of competing with rail-based transit (at least in the perception of the general public) in return for lower capital cost investments



# Overall Rating versus Capital Cost per Mile



# Effects of BRT Station Proximity on Property Values

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- No recent quantitative modeling studies on property value impacts of BRT in the U.S.
- We hoped to find statistically significant, positive impacts on surrounding property values from BRT, with magnitudes approaching those found for rail transit modes.
- First application: Pittsburgh East Busway
- Found **similar increase in property values** closer to BRT services as has been found for LRT