

Prospects for Public Transport in the USA

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Public Transport in the US Today



- **Ridership increasing but market share is small**
 - public transport accounts for only 2% of all urban trips
- **Strong financial support from the public and government**
- **Significant number of new rail starts in past 30 years**
 - rail cities increased from 9 to 30
- **Major rebuilding of many older systems**
- **Limited institutional or technological innovation**

Metropolitan Areas with Largest Transit Share Modal Split for Home-to-Work Journeys (2000)

	Car	Transit	Non-Motorized	Work at home
NY-NJ-CT-PA	65.7	24.9	6.4 ↓	3.0 ↑
Chicago	81.5 ↑	11.5 ↓	4.2 ↓	2.9 ↑
San Francisco - Oakland	81.0	9.5	5.5	4.1 ↑
Washington DC- Baltimore	83.2 ↑	9.4 ↓	3.9 ↓	3.5 ↑
Boston	82.7	9.0	5.1 ↓	3.2 ↑

↑↓ indicates change of more than 0.5% from 1990-2000

Source: Journey to Work Trends in the United States and its Major Metropolitan Areas 1960-2000



Support for Public Transport



The strategy of aligning public transport with road interests has been effective in raising funds to build and operate public transport systems:

- Federal funding for public transport increased by 46% to \$52.6 billion over next six years
- Federal Government currently pays for 40% of public transport capital cost
- 70% of state and local referenda for measures funding public transport have passed in past 4 years
- Fare revenue covers only 33% of public transport operating cost

Ridership Trends by Mode

Mode		2004 Ridership (Millions)	Change 1975-2004 (%)
Metro	- 5 old systems	2,272	648 (+39%)
	- 6 new systems	476	
Light Rail	- 8 old systems	170	44 (+37%)
	- 14 new systems	179	
Regional Rail	- 4 old systems	379	128 (+50%)
	- 12 new systems	35	
Bus		5,731	37 (+1%)
Total - all modes		9,575	~ +40%

"Old" systems began pre-1975; "New" systems began post-1975



US Urban Transport Today: Significant Influences

- **Suburbanization of homes, employment and attractors**
- **High car ownership and low operation costs**
- **Extensive urban road infrastructure**
- **Government policies towards roads and public transport**



Suburbanization: 2000 Journey to Work

Total Trips (in millions of daily trips)

	Jobs in:		
Homes in:	Central City	Suburbs	Total Homes
Central City	28.2 (27%)	9.2 (9%)	37.4 (36%)
Suburbs	20.8 (20%)	44.6 (43%)	65.4 (64%)
Total Jobs	49.0 (48%)	53.8 (52%)	102.8 (100%)

- 64% of home commute trip ends are in suburbs
- 52% of work commute trip ends are in suburbs
- suburb-suburb commute is most common



Suburbanization: 2000 Journey to Work

Share of 1990-2000 Increase

	Jobs in:	
Homes in:	Central City	Suburbs
Central City	5%	14%
Suburbs	16%	65%

- 25% increase in commute trips, 1990-2000
- 65% of new trips are suburb-suburb
- 5% of new trips are central city-central city

Suburbanization: 2000 Journey to Work

Public Transport Mode Share

	Jobs in:	
Homes in:	Central City	Suburbs
Central City	14%	6%
Suburbs	6%	2%

- public transport is non-competitive in suburb-suburb commute market
- growth is occurring in markets dominated by the car

Other Significant Influences



- **Low taxes, fees, and user charges for car ownership and use**
 - **High car ownership**
 - **High car use**
- **Urban parking supply plentiful and often free**
- **Large investment in urban road system**

US Public Transport Today: A Critical Assessment



- **Public transport has been stabilized**
- **Many new rail initiatives in operation or underway**
- **Some real success stories: New York City, Houston, Seattle, Washington DC**
- **Institutional change is occurring slowly**
- **Retention of public and political support**

Arguments Supporting Public Transport in the USA

- **Equity:**
 - *Access for those who cannot or do not choose to drive*
- **Congestion:**
 - *The need for a high-quality alternative to the car*
- **Land use influence:**
 - *Public transport is necessary, but not sufficient to change trends*
- **Environmental:**
 - *Car technology strategies are more effective in short run*
- **Energy:**
 - *Car technology strategies are more effective in short run*

Elements of an Effective Public Transport System

- **High quality access to public transport system**
 - low density access by car
 - medium density access by bus
 - pedestrian-friendly design throughout
- **Higher speeds than car on trunk routes**
 - different modes: trams, light rail, high quality bus
 - priority in use of road space
 - priority at signals
- **Easy connections throughout**
- **Integration between transport and land use decisions**



Elements of an Effective Public Transport System



Observations:

- **Building new technology lines may be important, but system will fail without the support of the other elements:**
 - **High quality bus**
 - **Effective integration**
 - **Pedestrian friendly design**

Lessons for China from the USA Experience

- **Do not allow the public transport system to decline relative to the car/highway system**
 - as car ownership increases, need to improve public transport
 - re-building the public transport system is expensive, time-consuming, painful, and uncertain
- **Maintaining vibrant cities is critical for a strong economy**
- **Offering people attractive urban settings for living, work, and recreation can result in higher density cities, which are easier to serve with public transport**
- **Urban density and structure are key to having the opportunity for a high-quality and efficient public transport system**
- **Do not ignore the long run in transport investments**

Traditional Arguments Supporting Public Transport in China

- Full system cost
- Environmental impact
- Energy requirements
- Land use influence
- Equity
- Congestion



Other Arguments Supporting Public Transport in China

- **Agglomeration benefits to economic activity**
 - maintaining and strengthening major Chinese cities
 - major infrastructure investments have long-term benefits
- **Decreases negative externalities**
 - accidents
 - health
 - noise
 - global warming
- **Enhances the quality of urban space**



Strategies to Improve Public Transport

- **Improve service quality**
- **Improve operating performance**
- **Influence the market**
- **Deal with the finance challenge**



Improving Public Transport: Better Service Quality

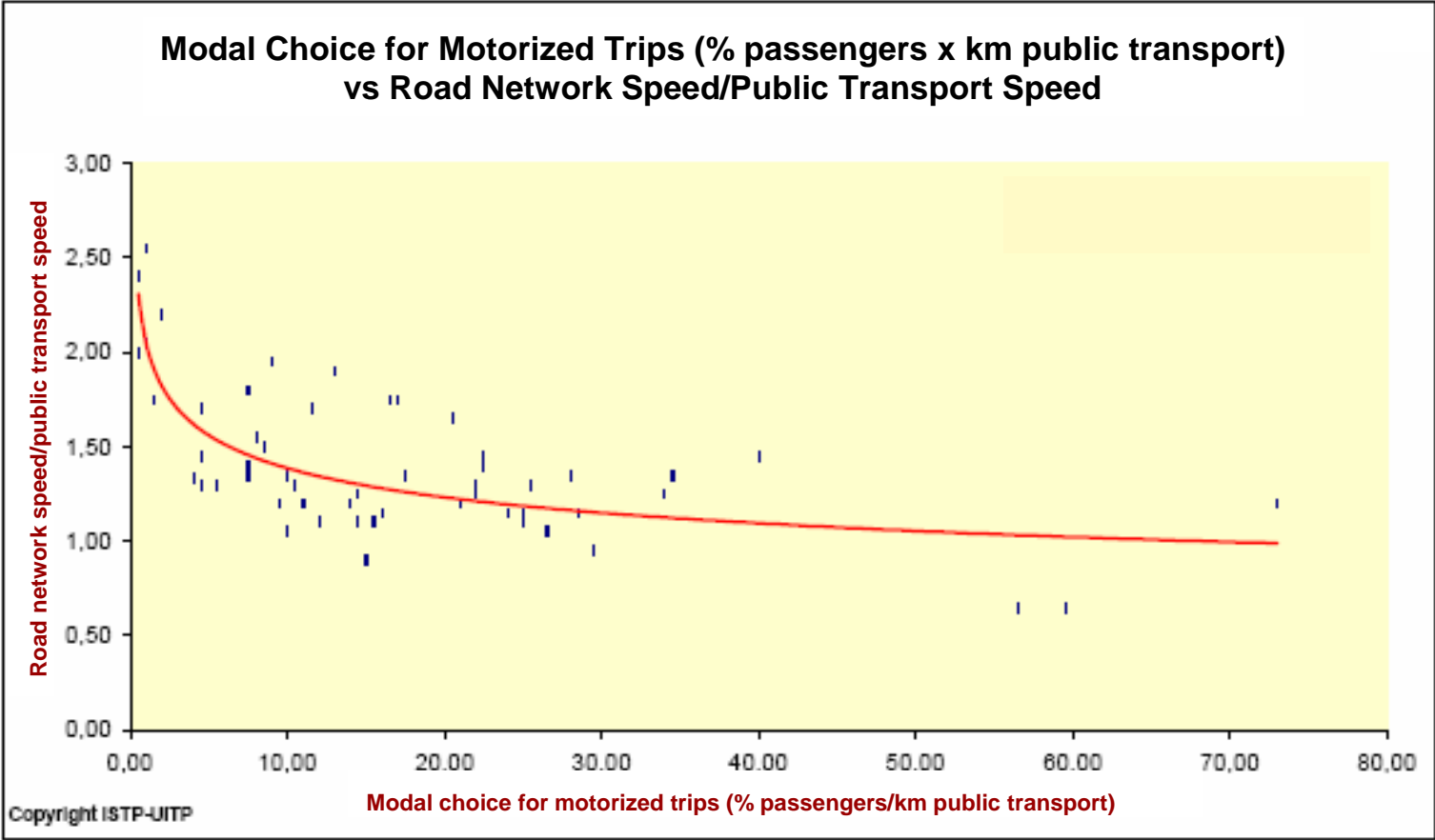
As car ownership increases, ridership will depend on attracting "choice" riders, requiring:

- speed
- reliability
- network performance



Improving Public Transport: Speed

Relative speed between auto and transit is critical



Source: UITP Millenium Database



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China Planning Network Urban Transportation Congress
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Improving Public Transport: Reliability

Implications of information technology:

- Better service
- Better information both for operator and user
- Better (real time) data for managing the system



Improving Public Transport: Network Performance

- **Critical need to improve bus network performance: the base technology for public transport**
- **Bus Rapid Transit aims to improve all key bus attributes:**
 - **Physical**
 - Right of way priority
 - Expedited boarding and alighting
 - Stops
 - Vehicles
 - Fare Collection System
 - AVL system
 - Signal system
 - Passenger information system
 - **Service**
 - Knowledge based planning and operations
 - High frequency
 - High reliability
 - Control
 - **System**
 - Distinct image
 - Connectivity
 - Land use integration

Improving Public Transport: Network Performance

- **Interchanges/Transfers are a basic characteristic of public transport**
- **They are necessary for effective area coverage**
 - **typically 30-60% of urban public transport trips involve 2 (or more) public transport vehicles**
- **A major source of customer dis-satisfaction contributing:**
 - **uncertainty, discomfort, waiting time, cost**
- **Largely ignored in service evaluation and planning practice, which focuses on performance of individual services**

Improving Public Transport: Influencing the Market

- Collaboration with employers and businesses
- Influence on land use and development plans
- Broad definition of public transport



Improving Public Transport: The Finance Challenge

- Collaboration with government at all levels, recognizing positive externalities of public transport with employers and businesses
- Congestion or toll financing
- Building partnerships with employers and businesses; e.g., U-Pass programs



Ingredients for Future Success

- **Greater private sector involvement**
 - competition in the provision of services
 - innovative finance and procurement methods
- **Aggressive implementation of new technology**
 - better information provision: pre-trip and en route
 - more effective real-time operations control
 - improved vehicle design
- **Organizational change**
 - greater operating staff responsibility and inclusion
 - greater customer orientation