

PUBLIC TRANSPORT ORGANIZATIONAL MODELS: ROLES FOR THE PUBLIC and PRIVATE SECTORS

Outline

- **Organizational Models**
- **UK Bus Experience**
- **US Transit Industry**
- **Rail Examples**
- **Prospects for the future**

Organizational Models

- **Unregulated/Deregulated**
- **Regulated Competition**
- **Threatened Competition**
- **Private Monopoly**
- **Public Monopoly**
- **Contracting Out**

Six Organizational Models

		MODELS					
		Unregulated	Regulated Competition	Threatened Competition	Private Monopoly	Public Monopoly	Contracting Out
FUNCTIONS	Regulation	Minimum	Yes	Yes*	Yes	Yes	Yes*
	Financing	PR	PR	PR	PR	PU	PR
	Planning	PR	PU & PR	PU & PR	PR & PU	PU	PU
	Ownership	PR	PR	PR	PR	PU	PR (or PU)
	Operation	PR	PR	PR	PR	PU	PR
	Maintenance	PR	PR	PR	PR	PU	PR

* The model is regulated in the form of contracts.

PU: Public Sector; PR: Private Sector

UK Experience with Bus Restructuring

- **Background**
- **Bus Deregulation outside London**
- **London strategy**
- **Results to date**

Background

- **Prior to mid-1980s, UK local bus industry broadly comparable to US transit industry:**
 - public ownership at local level
 - heavily subsidized
 - slowly declining ridership
 - little innovation in technology, service, or management
 - little responsiveness to public needs or concerns
- **Buses played a larger role than in US because of lower car ownership levels and higher operating costs**

Bus Deregulation Outside London (1986)

Basic premises behind bus deregulation:

- deregulation would produce a competitive market
- competition would substantially reduce costs
- a competitive market would improve resource allocation
- there would be no significant negative side effects

Basic Elements of UK Bus Deregulation

- **Bus markets were divided between commercial and non-commercial, with the following definitions and rules for each:**

Commercial

- **Defined as any service that an operator is prepared to offer with the only government support being:**
 - **concessionary fares reimbursement**
 - **fuel taxes rebate**

Basic Elements of UK Bus Deregulation

Commercial (cont'd)

- **Services are registered including the route and timetable, and changes become effective after 6 weeks notice**
- **Fares can be changed with no prior notice**
- **Unrestricted entry and exit from the market**
- **Known as "Competition In the Market"**

Non-Commercial

- **Services which are not registered as commercial, but needed for social reasons as identified by local authorities**
- **Awarded to a private sector operator after a competitive bidding process for a period of (typically) three years**

Public Transport Authority Reorganization

- **As a transitional strategy, public transport authorities were to be "corporatized," i.e., held at arm's length from government**
- **Could receive subsidy only as a result of success in a competitive bidding process**
- **Eventually they were expected to be privatized**

London Strategy

- **Deregulation not introduced in London because of concerns about:**
 - the effects of free entry on congestion
 - rail system effects
- **London Transport (now Transport for London) opted to retain control over all planning functions but to move to privatization through competition for incremental pieces of the London bus network**
- **Known as "Competition For the Market"**

London Buses Reorganization

- **Decentralization of London Buses Limited (LBL) operations, giving progressively more independence to LBL depots**
- **Awarding approximately 50% of competitive tenders to LBL subsidiaries with the remainder to independent private bus operators**
- **Used competitive pressure to induce LBL subsidiaries to restructure labor contracts and management strategy**
- **In 1994 all LBL subsidiaries were privatized**

Table 1: Key bus operating statistics, GB and London, 1985/86 to 1999/2000

	Bus km (000)	Pax trip (000)	Subsidy			Operating costs per bus-km
			Total £m	Per bus km	Per pax trip	
London						
85/86	273	1152	335	£1.23	£0.29	£2.71
89/90	292	1188	238	£0.82	£0.20	£2.23
94/95	356	1167	177	£0.50	£0.15	£1.59
99/00	365	1307	124	£0.34	£0.09	£1.49
GB outside London						
85/86	1804	4489	904	£0.50	£0.20	£1.51
89/90	2150	3886	682	£0.32	£0.18	£1.02
94/95	2293	3253	620	£0.27	£0.19	£0.86
99/00	2234	2972	613	£0.27	£0.21	£0.76

Source - Transport Statistics GB 2001 and earlier editions

Notes:

Subsidy includes concessionary fares payments.

Operating costs and subsidies are in constant 1999/2000 prices.

Table 2: Percentage change in key bus operating statistics with 1985/86 as base

	Bus km (000)	Pax trip (000)	Subsidy			Operating costs per bus-km
			Total £m	Per bus km	Per pax trip	
<i>London</i>						
89/90	+7%	-3%	-29%	-33%	-31%	-18%
94/95	+30%	-1%	-47%	-59%	-48%	-41%
99/00	+34%	+13%	-63%	-72%	-69%	-45%
<i>GB outside London</i>						
89/90	+19%	-13%	-25%	-36%	-10%	-32%
94/95	+27%	-28%	-31%	-46%	-5%	-43%
99/00	+24%	-34%	-32%	-46%	+5%	-50%

Source - Transport Statistics GB 2001 and earlier editions

Results of Bus Deregulation (1)

- **Operating costs dropped significantly -- by about 50%, most of impact immediately after deregulation**
- **Bus kilometers of service increased substantially immediately after deregulation, but now is in modest decline again**
- **Fares rose significantly, particularly in major metropolitan areas**
- **Relatively little sustained on-the-street competition**

Results of Bus Deregulation (2)

- **Great majority of services (80-85%) are operated in commercial regime**
- **Subsidies have declined by about 30% since deregulation**
- **Ridership has declined significantly since deregulation**
- **Subsidy per passenger has remained approximately constant despite major decline in subsidy per vehicle kilometer**
- **Perceptions of service instability**

Typical Trajectory Following Deregulation

- **Incumbent operator registered most of pre-existing network as commercial**
- **Reduced costs and raised entry cost by converting to minibuses**
- **Establishing a foothold for a new entrant via competitive bidding proved difficult**
- **Price competition proved to be ineffective relative to frequency competition**
- **Large bus holding companies emerged through mergers and acquisitions**
- **The urban bus market as it developed in the UK proved not to be truly contestable**
- **Local bus planning staff largely disappeared**

London Results

- **Similarities:**
 - **Unit cost reductions in London are close to those attained outside London**
 - **Service provided has increased by a similar amount to outside London**
- **Differences:**
 - **Ridership in London has experienced modest growth**
 - **Subsidy has declined much more substantially in London than elsewhere**

US Transit Industry

- **Organizational Models in the US**
 - Traditional regional public transport authority
 - Enhanced public transportation authority
 - Split policy and planning/operations entities
- **Industry Structure**

A. "Classical" Regional Transit Authority (RTA)

Characteristics:

- **integrated policy and operations responsibilities**
- **single service provider (or equivalent)**
- **limited/non-existent role beyond transit**
- **limited range of services: fixed route ops, paratransit**

Example: RIPTA (Rhode Island); many others

A. "Classical" Regional Transit Authority (RTA)

- Pros:**
- strong coordination and control;
clear accountability
 - coherent image: strong public identification
 - low conflict potential
 - known, familiar option
 - low overhead for smaller cities
- Cons:**
- little long-range planning, except "monument building"
 - little incentive for efficiency
 - vulnerable to labor and political pressures
 - narrow mandate
 - isolated/remote from customers
 - entrenched/resistant to change

B. Expanded RTA Model

Characteristics:

- **integrated policy and operations responsibilities**
- **single service provider (or equivalent)**
- **expanded range of services: carpools, etc.**
- **expanded role re: land use planning**

Example: King County Metro

B. Expanded RTA Model

- Pros:**
- **intervention in land use -- transit demand cycle**
 - **potential to match service with needs**
 - **increased market share --> increased public support**
 - **strong market orientation**
 - **many "pros" from Alternative "A"**
- Cons:**
- **complex to manage efficiently**
 - **hard to measure performance**
 - **priorities may be hard to set**
 - **vulnerable to labor and political pressures**

C. Split Policy/Operations Responsibilities: Single Service Providers

Characteristics:

- **policy board responsible for:**
service area definition, capital planning, farebox recovery/revenue goals, performance measures
- **single service provider responsible for:**
service provision, marketing, route planning, maintenance, workforce management

Example: Minneapolis/St. Paul (1980s)

C. Split Policy/Operations Responsibilities: Single Service Providers

- Pros:**
- limits political influence on operations
 - allows operations staff to focus on service
 - encourage longer-range perspective
 - clear objectives for service provider
 - many "pros" from Alternative "A"
- Cons:**
- difficult to define clear separation of roles
 - hard to transition into from "A"
 - some "cons" from Alternative "A"

D. Split Policy/Operations Responsibilities: Multiple Service Providers

Characteristics:

- **competitive bidding for service contracts**
- **policy board role also includes:
funding allocation to providers, contracting, and
oversight centralized customer information system**

Example: San Diego (1990s)

D. Split Policy/Operations Responsibilities: Multiple Service Providers

- Pros:**
- encourages efficient operations
 - makes clear distinction between policy and operations role
 - all "pros" of Alternative "C"
- Cons:**
- difficulty of contracting and monitoring
 - accountability unclear
 - duplication of roles
 - transition difficulties between operators
 - weakened system image

Transit Industry Structure

- **Remarkably little change since the early 1970s:**
 - **regional transit authorities regulating, planning and directly operating most services**
 - **principal use of private sector is in providing purchased services to transit authorities**

Purchased Transit Service in US Transit Industry (2004): Operating Expense

Mode	Directly Operated	Purchased	Total	% Purchased
Bus	14,219.0	1,987.4	16,206.5	12.3%
Heavy Rail	4,734.2	0.0	4,734.2	0.0%
Commuter Rail	3,235.3	207.1	3,442.4	6.0%
Light Rail	851.5	35.9	887.4	4.0%
Demand Response	927.3	1,596.7	2,523.9	63.3%
Total	23,967.2	3,827.1	27,794.3	17.1%

Source: *American Public Transit Administration Fact Book 2006 (for 2004)*

Use of Purchased Transit Services

- **Dominant for demand-responsive service**
- **Little or none for urban rail services**
- **Modest for fixed route bus services**

Percent of Transit Systems that Contract for Bus Services

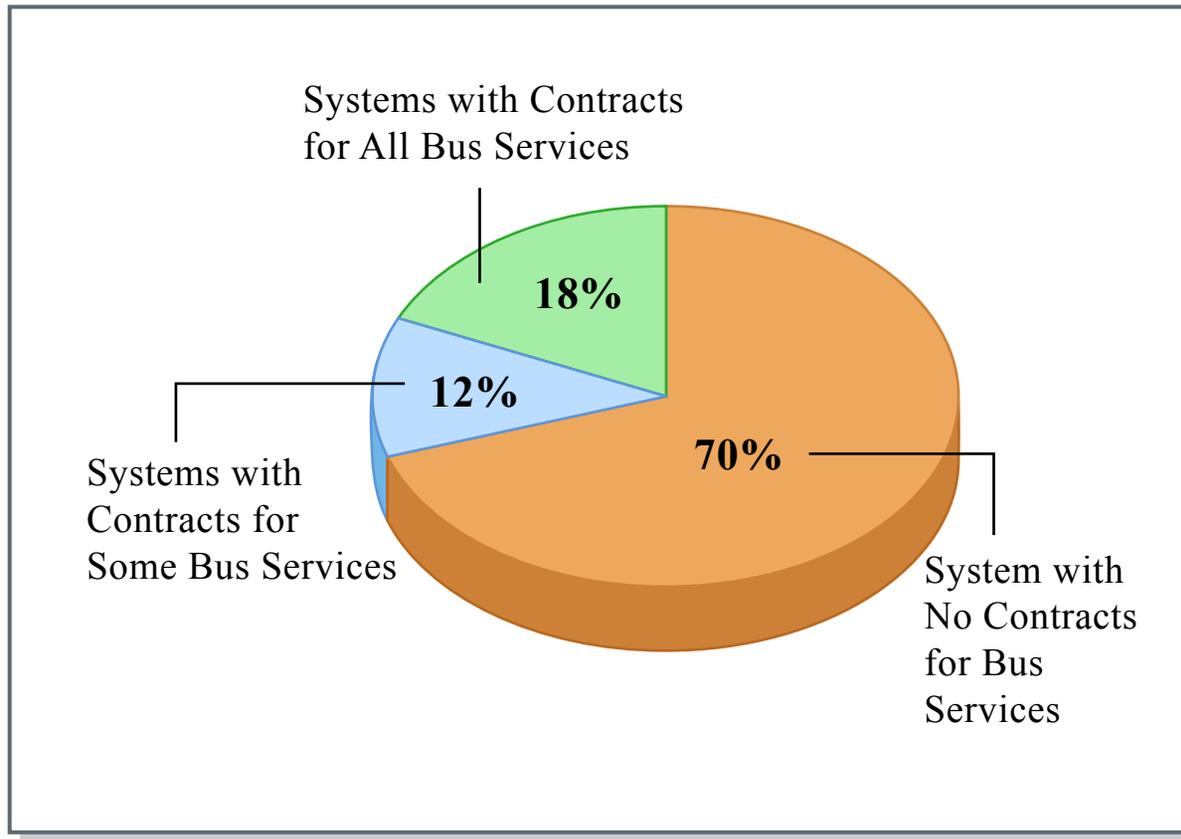


Figure by MIT OCW.

**Source: Transportation Research Board Special Report 258 (2001)
Contracting for Bus and Demand-Responsive Transit Services: A Survey of US Practice and Experience.**

Percent of Transit Systems that Contract for Demand-Responsive Transit Services

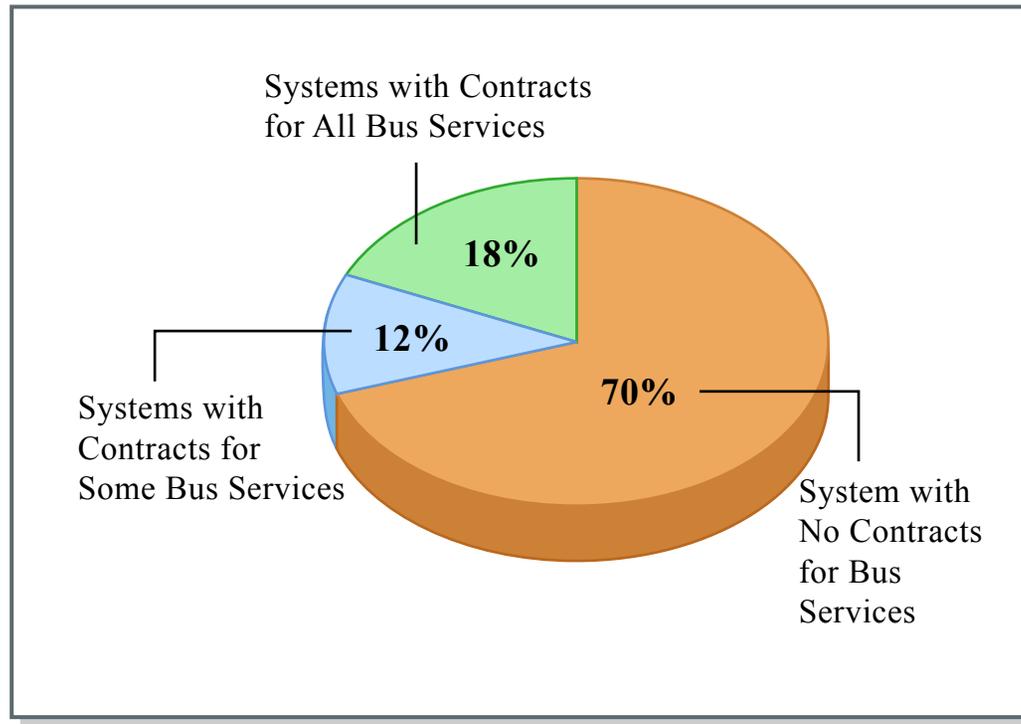


Figure by MIT OCW.

Source: Transportation Research Board Special Report 258 (2001)
Contracting for Bus and Demand-Responsive Transit Services: A Survey of US Practice and Experience.

Percent of Transit Systems that Contract for All, Some, and No Bus and Demand-Responsive Transit Services

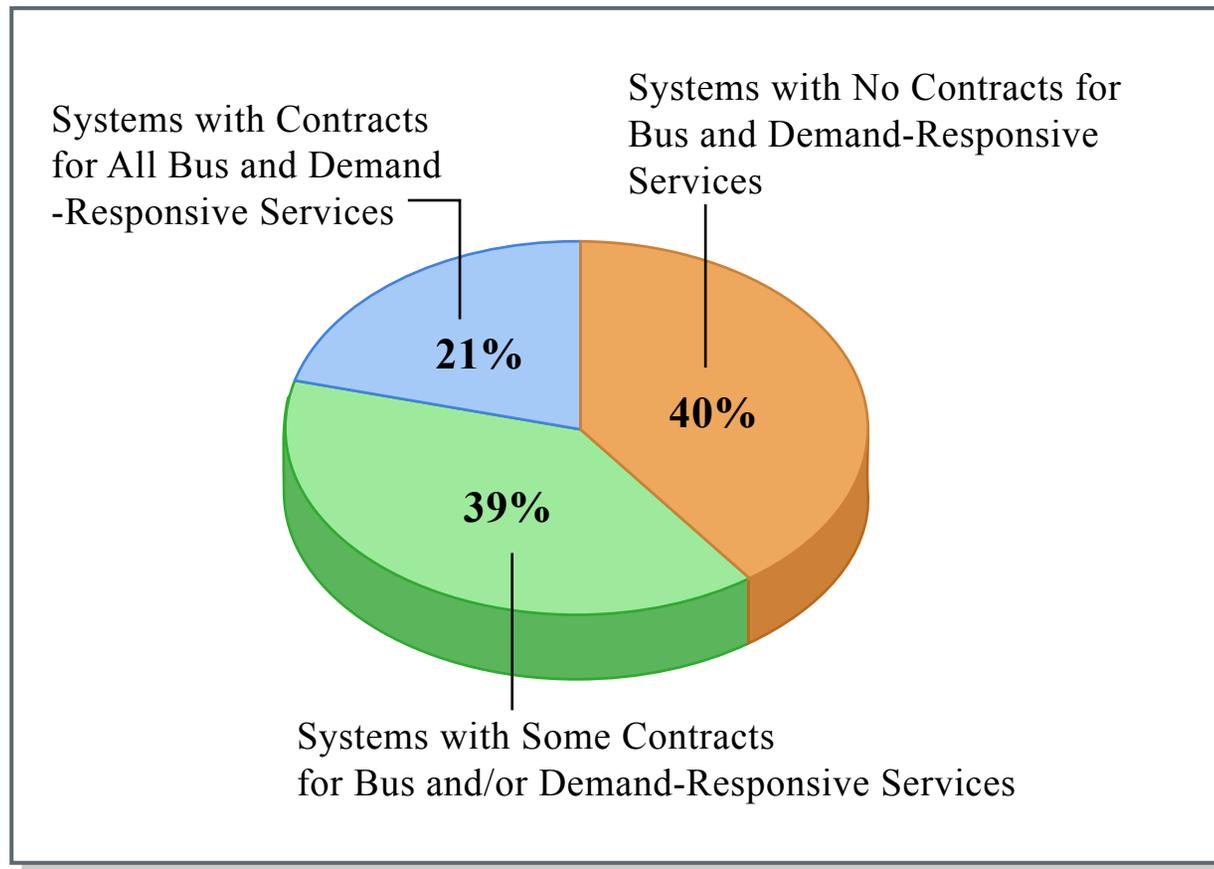


Figure by MIT OCW.

**Source: Transportation Research Board Special Report 258 (2001)
Contracting for Bus and Demand-Responsive Transit Services: A Survey of US Practice and Experience.**

Fixed Route Bus Services

- **Represents more than 50% of all services in the US**
- **Could clearly be operated efficiently and effectively by the private sector under contract**
- **The real potential for significant expansion for the private sector in transit**

BUSES OPERATING EXPENSE

(2004: \$ million)

(All agencies with Operating Cost > \$100 million)

Agency	Total Bus Expense	Purchased Service	Percent Purchased
New York City Transit	1,678.9	0.0	0%
Los Angeles MTA	715.6	31.4	4%
Chicago (CTA)	669.8	0.0	0%
New Jersey Transit	587.4	44.0	8%
Philadelphia (SEPTA)	400.7	0.3	0%
Washington DC	395.7	0.0	0%
New York City (DOT)	358.0	358.0	100%
Seattle	309.4	0.0	0%
Houston	244.6	37.7	15%
Oakland (AC Transit)	225.5	1.3	1%
Boston (MBTA)	248.2	5.6	2%
Denver (RTD)	221.1	60.9	28%
Miami (MDTA)	229.4	0.0	0%
Santa Clara	184.7	2.3	1%
Pittsburgh	219.1	0.0	0%

Figure by MIT OCW.

BUSES OPERATING EXPENSE

(2004: \$ million)

(All agencies with Operating Cost > \$100 million)

Agency	Total Bus Expense	Purchased Service	Percent Purchased
Baltimore (MTA)	202.6	25.3	13%
Dallas (DART)	187.6	0.4	0%
Minneapolis/St Paul	186.1	0.0	0%
Atlanta (MARTA)	169.4	4.0	2%
Detroit (DDOT)	182.8	0.0	0%
Portland (Tri-Met)	183.6	0.0	0%
San Francisco (MUNI)	166.3	0.0	0%
Cleveland	160.0	0.0	0%
Orange Country (OCTA)	167.9	4.9	3%
Honolulu	118.9	0.0	0%
Milwaukee	121.3	2.1	2%
Chicago (PACE)	114.8	14.6	13%
St Louis	110.3	0.0	0.0%
Total	8,759.7	592.7	7%

Figure by MIT OCW.

Source: *National Transit Database Transit Profiles, 2004*

<http://www.ntdprogram.com>

Largest 28 Bus Operators

- **Less than 7% of bus service is currently provided under purchase of service arrangements**
- **13 of 28 agencies do not provide any purchased bus service**
- **Only 5 agencies provide more than 10% of bus services under contract: New York City (Department of Transportation), Houston, Denver, Baltimore (MTA), and Chicago (PACE)**

Agencies Using Purchased Services Extensively Fall Into Three Groups

- **Agencies which took over financial responsibility for franchise operators: New York City Department of Transportation**
- **Agencies taking over franchised services and/or expanding services through purchase agreements: Baltimore (MTA), and Chicago (PACE)**
- **Agencies required to transfer core services to purchased service arrangements: Denver**

Rail Experiences

- **Japan (late 1980s)**
- **Argentina (mid 1990s)**
- **British Rail (late 1990s)**
- **London Underground PPP (2002)**
- **Puerto Rico - Tren Urbano (2004)**

Japan

- **JNR was privatized in 5 geographical units with vertical integration - internal restructuring approach**
- **Surplus labor was not transferred**
- **Government takes the lead in new high-speed rail infrastructure**
- **JRs (East, Central, etc.) have to operate at a profit**
- **Government controls fare levels**
- **Viewed as a successful model**

Argentina

- **National, regional rail and subway system serving Buenos Aires with**
 - massive fare evasion
 - excess labor and many "no show" employees
 - inadequate maintenance
 - no investment
 - strong labor unions
- **Restructured as 7 separate bid packages with vertical integration**
- **Public sector owns facilities and sets fares, schedules, investment requirements**
- **Contractor keeps fare revenue**
- **Ten-year concessions agreements**
- **Subsidy to be continued with awards based on minimum subsidy bid**

Argentina (cont'd)

- **Required at least 2 operators so competition threat remained**
- **World Bank funded buyout of excess labor**
- **Broad outreach to solicit interested bidders**
- **Lengthy bidding and transition process harmed the system**

Immediate (1-year) results:

- **Improved quality, fare collection and ridership up by 30%**

Longer-term (5-year) results:

- **At least one of four concessionaires performing poorly**
- **Non-cooperation on unified fare system**
- **Lobbying to change contract terms and duration**
- **Quantity and Quality of public monitoring function eroded**
- **Government late on payments**

British Rail

- **British Rail restructured into ~100 separate companies (vertical sequestration) including:**
 - **Train Operating Companies (TOCs)**
 - **Rolling Stock Leasing Companies**
 - **Infrastructure company**
 - **oversight from the Office of the Rail Regulator**
- **TOC concessions awarded for seven-year terms with subsidy built in**
- **Infrastructure company, originally Railtrack, was a shareholder-owned company with assets transferred from the government and income from TOC access charges**
- **Railtrack did an inadequate job on maintenance and ended up going out of business**
- **Replaced Network Rail as a public entity**

London Underground PPP

- **Operation of Underground remains responsibility of LUL - a public sector entity**
- **Infrastructure companies awarded long-term concessions to finance, improve, and maintain the rolling stock and infrastructure**

Puerto Rico - Tren Urbano

- **New heavy rail/metro system for San Juan metropolitan area**
- **Design-Build-Operate-Maintain approach taken**
- **Public sector controls schedules and fares and retains fare revenue, but with operator revenue incentive**
- **Aggressive outreach for consortia to bid on RFP**

Results - short-term:

- **Successful in getting construction underway quickly compared with traditional approach**
- **Operator's perspective influenced the design**
- **Many interfaces created major problems**
- **Inadequate public sector oversight of construction process**
- **Major contractor problems resulted in significant delays and cost overruns**

Prospects for the Future

Key ingredients for private sector participation:

- **service is new and different**
- **external intervention**
- **incomplete assimilation of private operators**

Direct transit authority operation is highly stable in North America:

- **small leverage for central government**
- **at state/local levels of government organized labor is a powerful force likely to resist change**
- **confrontational/ideological nature of the debate**

Possible Strategies

- **Development of non-confrontational, incremental change proposals**
- **Contingency plans**
- **Replacement of marginally performing routes by contracted van or minibus service**
- **Develop a database on results of initiatives by credible agency**
- **Split policy board from operating functions**
- **Corporatization and privatization of bus depots in large metropolitan areas**