The Competitive Future of Urban Passenger Transport

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Introduction

Throughout the developed world, urban passenger transport continues to lose market share to the automobile despite its potential to reduce air pollution, energy use, and traffic congestion by attracting ridership from the automobile.

This paper examines the factors behind passenger transport's continuing decline and concludes that a contributing cause is that market discipline is largely inoperative. Unless and until passenger transport systems are subject to competitive market disciplines, their relative decline can be expected to continue.

Public Transport Market Share is Declining

From 1970 to 1990, the percentage of people riding passenger transport to work (work trip market share) declined by 42 percent in the US. During the 1980s, automobiles accounted for virtually all of the increase in work trip travel. In 1990, 18 million more people traveled to work by car than in 1980 — the 10 years' *growth* in automobile commuting was more than three times the *total* number of people commuting by passenger transport in 1990. During the 1980s, transport's work trip market share declined 17 percent nationally, from 6.2 percent to 5.1 percent,[1] and rose in just two of the 39 metropolitan areas of more than one million people. (See Table 1.)[2]

Even the construction of new rail lines and extensions have not reversed the decline. No US metropolitan area that built or expanded urban rail systems in the 1980s experienced an increase in passenger transport's market share. Passenger transport's work trip market share decreased 33 percent in Portland despite the opening of a new light rail line. Passenger transport's work trip market share in Atlanta declined 36 percent despite an expansion of the heavy rail system.[3]

Ridership has continued its decline since 1990. In 1991, the number of trips taken on public transport dropped to below 1970 levels[4] despite a 23 percent increase in population and a 50 percent growth in employment. Preliminary data for 1992 indicates a further 1.3 percent decline.[5] Total US ridership is less than half that of metropolitan Tokyo (which has one-tenth the total population of the US).[6]

Similar trends are occurring throughout the developed world. Reflecting improved affluence, automobile usage is rising in Europe and other developed areas at a greater rate than in the United States.[7]

- In western Europe, per capita passenger transport ridership is declining in most urban areas;[8]
- Ridership is declining in Australia and New Zealand;[9] and,
- From 1984 to 1990, passenger transport market share decreased for two-thirds of the large Canadian passenger transport systems.[10] Even Vancouver, BC, with one of North America's most successful new rail systems, experienced a decline in market share, prompting public officials to question the wisdom of the original decision to build rail.[11]

Table 1

1980 to 1990 Public Passenger Transport Work Trip Market Share for US Metropolitan Areas with More than One Million Residents

Metropolitan Area *(CMSA or MSA)*	Work Trip Market Share			Major Capital Expansions 1980-1990
	1980	1990	Change	
Atlanta	7.3%	4.7%	-35.6%	*Heavy Rail Extended*
Baltimore	10.2%	7.7%	-24.5%	*New Rapid Rail Line*
Boston	11.7%	10.6%	-9.4%	*Rapid Rail Extended*
Buffalo	6.6%	4.7%	-28.8%	*New Light Rail /w Subway*
Charlotte	2.6%	1.8%	-30.8%	
Chicago	16.5%	13.7%	-17.0%	*Rapid Rail Extended*
Cincinnati	5.7%	3.7%	-35.1%	
Cleveland	7.8%	4.6%	-41.0%	
Columbus	4.2%	2.7%	-35.7%	
Dallas	3.5%	2.4%	-31.4%	
Denver	6.2%	4.2%	-32.3%	
Detroit	3.7%	2.4%	-34.0%	
Hartford	5.4%	3.7%	-31.5%	
Houston	3.0%	3.8%	26.7%	*New Busways*
Indianapolis	3.2%	2.1%	-34.4%	
Kansas City	3.8%	2.1%	-44.7%	
Los Angeles	5.1%	4.6%	-9.8%	
Miami	4.9%	4.4%	-10.2%	*New Rapid Rail & People Mover*
Milwaukee	7.1%	4.9%	-31.0%	
Minneapolis	8.6%	5.3%	-38.4%	
New Orleans	10.4%	7.3%	-29.8%	
New York	28.0%	26.6%	-5.0%	*New Subway*
Norfolk	4.6%	2.2%	-52.2%	
Orlando	1.7%	1.5%	-11.8%	
Philadelphia	12.5%	10.2%	-18.4%	*New subway*
Phoenix	2.0%	2.1%	5.0%	
Pittsburgh	11.0%	7.9%	-28.2%	*Light Rail Extended & New Subway*
Portland	8.1%	5.4%	-33.3%	*New Light Rail*
Providence	4.0%	2.6%	-35.2%	
Rochester	5.2%	3.2%	-38.5%	
Sacramento	3.4%	2.4%	-29.4%	
Salt Lake City	4.9%	3.0%	-38.8%	
San Antonio	4.6%	3.7%	-19.6%	
San Diego	3.3%	3.3%	0.0%	*New Light Rail*
San Francisco	11.2%	9.3%	-17.0%	*New Light Rail*
Seattle	8.2%	6.3%	-23.2%	
St. Louis	5.7%	3.0%	-47.4%	
Tampa	1.7%	1.5%	-11.8%	
Washington	14.8%	13.7%	-7.4%	*Rapid Rail Extended*
Metro average	7.0%	5.4%	-23.1%	
US average	6.4%	5.3%	17.2%	

Causes of the Decline

Much of the decline in passenger transport ridership is the result of growing affluence and changes in demographics, but the decline is exacerbated by three factors:

- Ineffective Marketing: Services have not been tailored to changing markets.
- Escalating Unit Costs: Operating costs have escalated above market rates.
- Wasteful Investments (Especially Rail): Excessively costly public transport infrastructure projects have been built.

Ineffective Marketing: Urban transport markets have changed radically. Among developed nations, urban population densities have declined markedly, and work trips are more dispersed than in the past. These trends are most pronounced in America but have advanced considerably in other nations as well.

For decades, Americans have moved from the densely settled cities to more spacious suburbs.[12] This trend — most apparent since World War II — actually began in the early 1800s and created a distinctly American lifestyle[13] based upon detached single-family houses with front lawns and back yards.

The conventional forms of passenger transport — high capacity rail systems and large buses — are at a particular disadvantage in serving the more decentralized travel markets that have emerged. Yet, public transport authorities have generally failed to design services for these emerging market.

Conventional passenger transport services are most effective in serving urban cores (central cities) and central business districts (CBD). But these markets are of declining relevance.

- By 1980, the CBD share of employment averaged only seven percent for the ten largest US urban areas. The nation's strongest CBD — New York — accounts for only eight percent of metropolitan employment. In Los Angeles, the CBD represents only three percent.[14] And the downward trend has continued. By 1990, more than 60 percent of US employment and two-thirds of US office space was in suburban areas.[15]

- Today, just one-quarter of the American people live in central cities, and the largest portion of people — half the population — lives outside the central city.[16] Moreover, the suburbanization of both residences and businesses is expected to continue.[17] The trend toward ever-declining population densities[18] — the number of people per square mile — is continuing in the traditional suburban areas as well as in the cities. From 1950 to 1990, average densities for the central cities of the nation's 25 largest urbanized areas[19] declined 42 percent.[20] Population densities of the suburban areas that surround these cities declined by 24 percent.[21] And average densities for the entire urbanized areas declined 46 percent.[22]

As traditional passenger transport markets shrink, passenger transport's market share shrinks as well.

Why has passenger transport failed to provide services for the emerging market segments? Public choice economics may provide the answer — that the incentive structure is wrong. In the competitive market, firms have to provide customers with the products they desire, or they go out of business (this is "consumer sovereignty"). In non-competitive environments, such as the public sector, no such customer-producer nexus exists. As a result, non-competitive environments tend to exhibit "producer sovereignty,"

a situation in which organizations produce those products they, rather than customers, choose. Passenger transport tends to exhibit the characteristics of producer sovereignty.

Escalating Unit Costs: Another factor that has contributed to passenger transport's market share loss is escalating unit costs (costs per mile of service), which have consumed funding that otherwise could have been used to expand passenger transport service.

From 1970 to 1991, US urban passenger transport costs escalated more than 60 percent ahead of inflation, while costs per passenger have more than doubled in real terms.[23] The extent of this escalation is illustrated by a comparison to medical care. (See Figure 1.) Since 1970, passenger transport expenditures have increased relative to the Gross Domestic Product at *approximately the same rate* as medical care expenditures.[24] Further, *passenger transport unit costs rose 10 percent more than those of medical care* from 1970 to 1990.[25]

Passenger transport's unit cost performance has deteriorated substantially in the last two decades — real costs per mile have increased at more than double the rate of the previous 20 years. Compared to competitive industries, passenger transport cost increases have been even more substantial. Since 1970, when public and private costs were similar, public passenger transport costs per mile increased 88 percent compared to competitive bus industry costs per mile — an annual productivity loss of 3.2 percent.[26] (See Figure 2.) Competitive bus industry costs have declined 0.7 percent annually since 1970, and 2.3 percent annually since deregulation in the early 1980s (inflation adjusted). Moreover, passenger transport productivity has declined sharply, while productivity in other transportation industries has improved. (See Figure 3.)

Figure 1

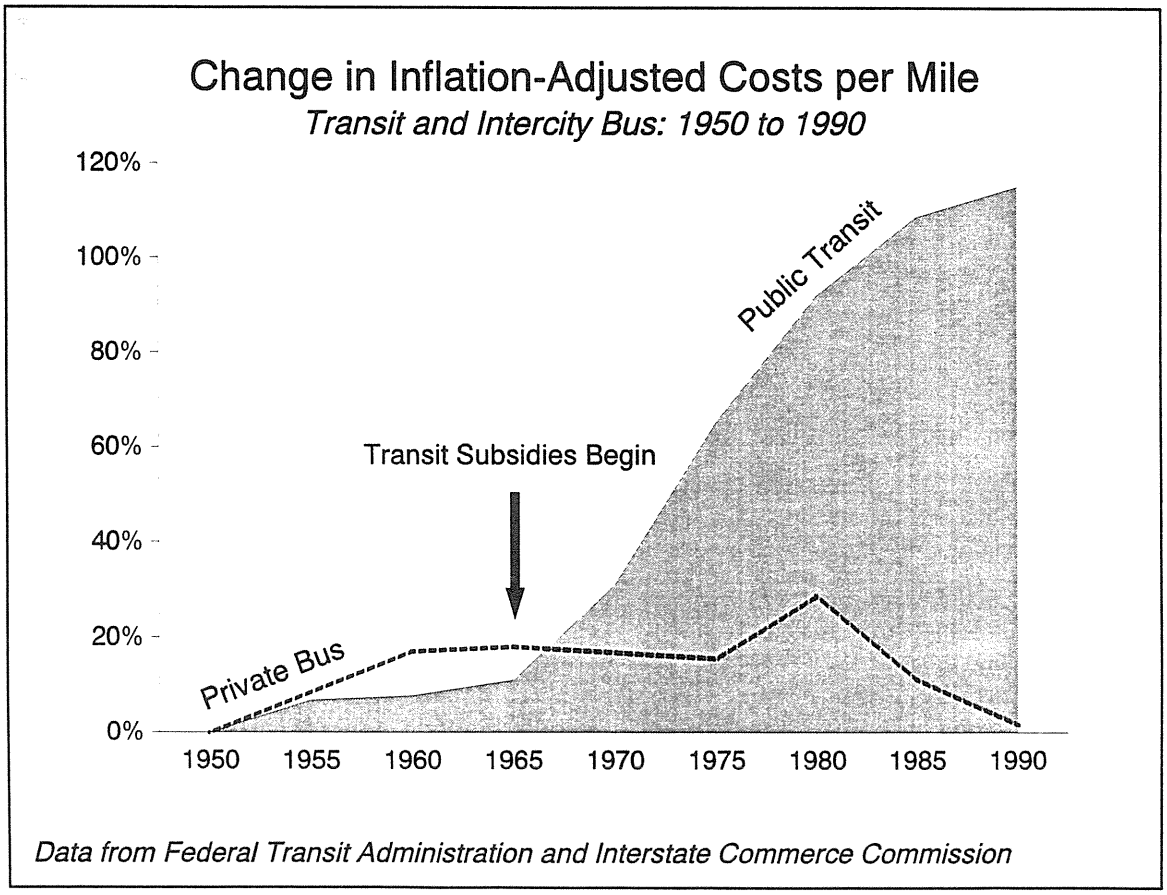


Figure 2

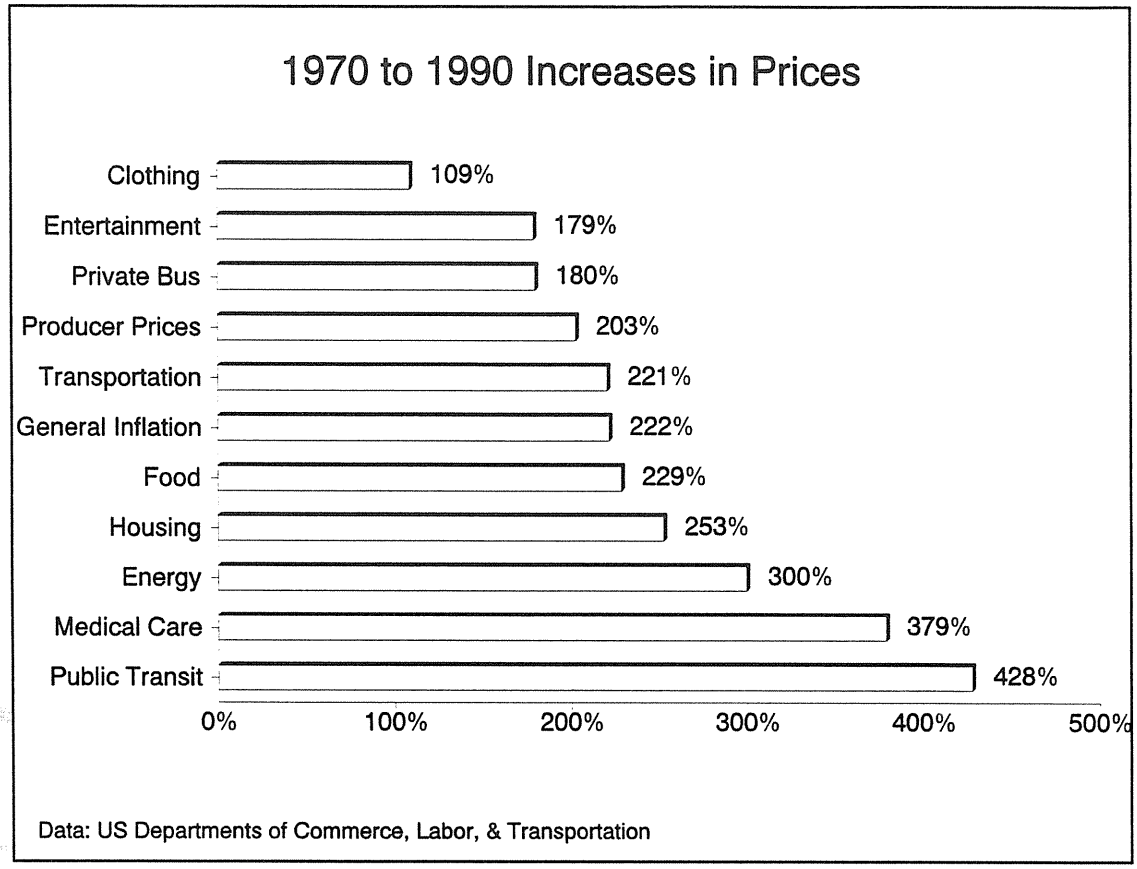
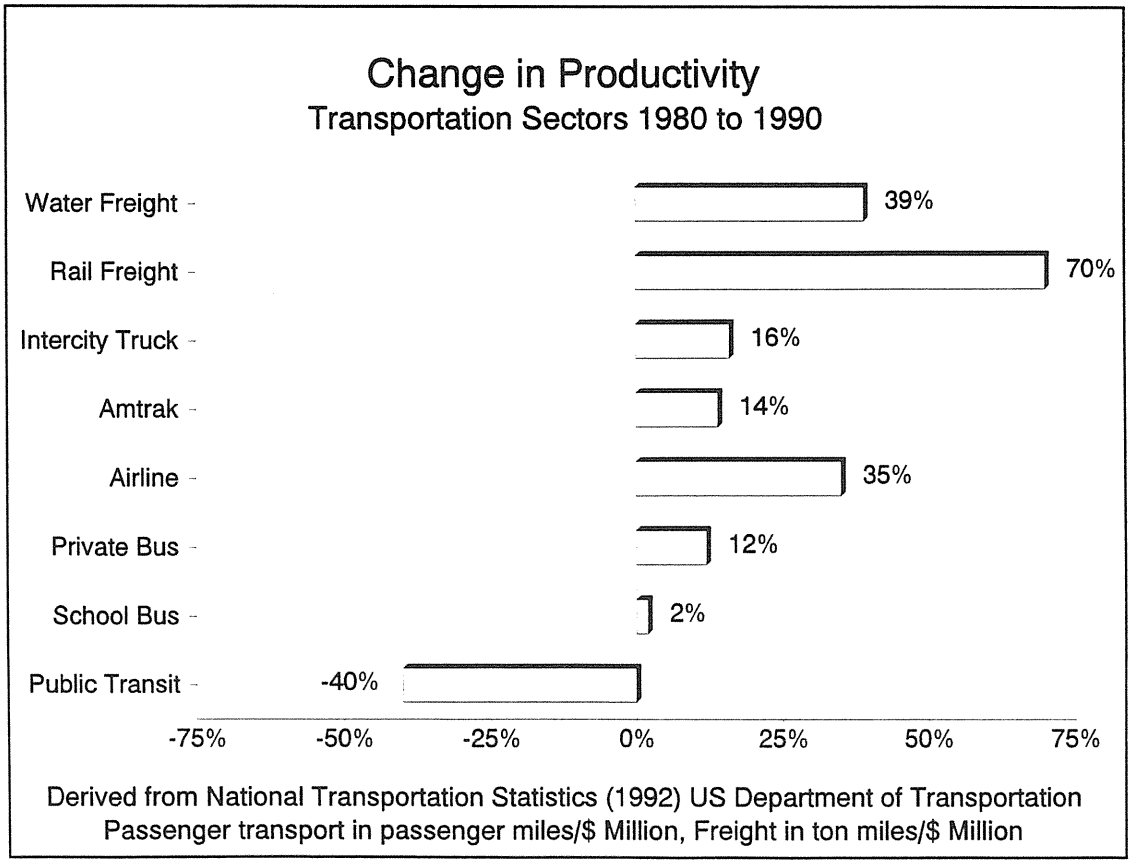


Figure 3



Passenger transport costs have risen so substantially that the cost of moving a passenger one mile is now nearly three times that of the automobile. (See Table 2). Despite perceived cost advantages, *public passenger transport as it is produced in the US is much more costly than travel by automobile.*[27]

Passenger transport unit costs have escalated around the world.

- In Canada, passenger transport costs per mile rose 36 percent from 1970 to 1990, an annual rate of 1.8 percent (inflation adjusted).[28]
- From 1970 to 1983, London Transport (LT) bus costs escalated at nearly twice the rate of inflation.[29]
- Unit cost escalation has also occurred in western Europe, Australia, and New Zealand.

Revenues are less dear in the public sector. Indeed, there is evidence that the greater the amount of public revenue available to passenger transport, the greater the unit cost escalation.[30] (See Table 3.) An analysis of the 166 public transit agencies (accounting for 93 percent of US transit costs) from 1979 to 1990 showed that the largest increase in unit costs reflected the largest increases in funding:[31]

- The 20 percent of transit agencies that received the largest funding increases also increased their unit costs 48 percent on average after adjusting for inflation.
- The second quintile (based on funding increases) had an average unit cost increase of 30 percent (inflation adjusted).

Table 2

Personal and Public Transportation Costs		
	Personal (Automobile): 1991	Public Transit: 1991
Total Expenditures (In Billions)	$490.7	$20.5
User Expenditures (In Billions)	$493.0	$5.6
Excess/Deficit (In Billions)	$2.3	($14.9)
User Pay %	100.5%	27.3%
Person Miles (In Billions)	3,065.3	37.5
Expenditures per Person Mile	16.1¢	54.7¢
User Expenditures per Person Mile	16.1¢	14.9¢
Tax Subsidy per Person Mile (Non-user tax subsidies)	0.1¢	39.8¢

Highway expenditures estimate includes all personal, business, and government expenditures on highway related personal and business travel. Includes purchase of vehicles, taxes, maintenance, operation, insurance, and licensing. Derived from *National Transportation Statistics*, Section 15, and National Income and Product Account data.

Table 3

Public Transit Unit Cost Increase following Revenue Increase: 1979 to 1990 (Inflation Adjusted)					
Change in Unit Costs (Cost per Mile)	Percentage of Public Agencies by Funding Increase Quintile				
	Top 20%	2nd 20%	3rd 20%	4th 20%	5th 20%
50% & Over	30%	9%	9%	3%	0%
30% to 50%	27%	42%	9%	3%	0%
10% to 30%	36%	39%	49%	49%	50%
0% to 10%	6%	6%	18%	12%	21%
Less than 0%	0%	3%	15%	33%	29%
Average Change in Unit Costs	48%	30%	19%	10%	10%
From fiscal year 1990 sample of 166 public transit agencies accounting for more than 93 percent of US passenger transport operating costs (motor bus, electric bus, light rail & heavy rail).					

- The third quintile had an average inflation-adjusted unit cost increase of 19 percent.
- The fourth and bottom quintiles — those that received the smallest amount of new funding — had average unit cost increases of 10 percent (inflation adjusted), and 21 of the 26 transit agencies where unit costs actually decreased were in the fourth and bottom quintiles.

Experience has been similar in Canada. (See Table 4.) Again, the cause of the cost escalation can be explained by the incentive structure. In the competitive market, firms seek to maximize the revenue to unit cost ratio to obtain the greatest return on investment. In non-competitive environments, such as the public sector, there is no profit motive, and therefore no incentive to maximize the revenue to unit cost ratio.

Wasteful Investments (Especially Rail)

Further, passenger transport often has chosen to develop rail systems that have proven to be both inefficient and ineffective.[32] During the 1980s, more than $20 billion was spent to build and expand urban rail systems in 14 US cities. Yet, passenger transport work trip market share declined in all but one of the cities where it remained stable.[33] Even Washington, DC, which has the nation's most expensive new rail system, anticipates a *continuing decline* in market share.[34] Urban rail has failed to achieve its public objectives — it has had little overall impact on travel patterns. A US Department of Transportation study documents that new urban rail systems have generally cost more than anticipated to build, cost more than anticipated to operate, and carried far fewer riders than planned.[35] The same study estimated the cost of each new rider attracted to a rail system ranged from $4,800 to $17,700 annually:

- The annual cost of each new rider on Atlanta's rapid rail system was over $15,000.[36]

Table 4

Relationship of New Revenue for Operations to Change in Cost per Hour 1984 to 1990			
Transit Agency Change in Fares and Operating Subsidies (Inflation Adjusted)	Average Increase in Revenues (Fares and Operating Subsidies)	Average Increase: Cost per Hour	Number of Transit Agencies in Category
+20% & Over	+34.9%	+6.3%	5
0% to +19.9%	+8.7%	+3.5%	7
Decrease	-5.8%	-2.1%	5
Sample of 17 large and medium sized public transit agencies. Calculated from Canadian Urban Transit Association (CUTA) data.			

- Per passenger costs on Los Angeles' new commuter rail system have been projected as high as $25,000 annually (the cost per *new* passenger transport passenger would be higher).[37]

- John Kain of Harvard University has estimated that the annual cost per new passenger transport passenger on the proposed Dallas rail system would be more than $45,000.[38]

The planning processes that have justified rail systems have often failed to consider quality alternatives. They have routinely discounted the potential of bus alternatives, usually by understating capacities.

Again, the problem may be the result of a dysfunctional incentive structure. Passenger transport authorities do not face market disciplines that would require objective analysis of investments and selection based upon a credible cost-benefit analysis. The situation is exacerbated where capital funding is obtained from remote (non-local) government sources. This has become an embarrassment in the US, where urban rail systems have become a primary mechanism for the distribution of political largesse ("pork") by powerful members of the US Congress. The incentive structure encourages passenger transport authorities to design costly and highly visible projects that are more readily marketable in the political setting.

Passenger transport's continuing decline can be attributed in part to insulation from market forces. Passenger transport marketing is ineffective because there is no incentive to be effective. Passenger transport costs escalate, because there is no incentive to be cost effective. Passenger transport makes wasteful investments, because there is no incentive to make effective investments.

Passenger Transport and Customers

Passenger transport can increase its market share only by attracting customers. To attract customers, passenger transport must understand what the potential customers of passenger transport — the automobile drivers — want.

- ***Proximity***. Customers want service that is conveniently close to both their trip origin and destination.

- ***Frequency of Service***: Customers want to have the ability to travel whenever they like. That means that service must be frequent, and it must be available virtually all day.

- ***Speed***: Customers want to get where they are going as quickly as possible.

It is important to understand that passenger transport can reduce air pollution and traffic congestion only if it entices ***automobile drivers to switch to passenger transport.*** Mere diversion from automobiles is not enough. Attracting an automobile passenger from a car pool without removing the automobile from the road accomplishes nothing. With respect to reducing air pollution and traffic congestion, ***the test of passenger transport policy is not how many people are riding passenger transport, it is how many automobiles passenger transport removes from the road.***

To serve customers, passenger transport must provide the services that customers want and provide them for no more than the market rate. That requires, at a minimum, incorporating the incentives of the competitive market by which the effectiveness of financial resources are maximized.

Market Strategies

A number of strategies exist for subjecting passenger transport services to market discipline:

- Competitive tendering.
- Entrepreneurial (or commercial) services
- Independent review of major capital projects
- Non-dedication of funding
- Separation of policy from operations

Competitive Tendering

Competitive tendering is the provision of a public service through a competitively awarded contract. Competitive tendering is a synthesis of public and private roles. The public sector decides what services should be competitively tendered and what specifications should apply to the service. The competitive market responds to the invitation of the government, and one or more producer is selected to provide a specific service for a period of time. The public sector retains policy control over the service, while the competitive market produces the service under public scrutiny. Competitive tendering is being used around the world for a variety of public services including public passenger transport.[39] Competitive tendering has been primarily applied to bus services, but has been used for rail services in the US and Sweden. Moreover, a form of competitive tendering is likely to emerge from the privatization of British Rail. Further, competitive tendering could have a "spill-over" effect upon unit costs of rail systems. Where a routine conversion to competitive tendering is underway, rail costs have declined relative to the market (London and San Diego). This may be due to the radically different public management and policy culture that develops in a competitive environment.

Overview of the US Experience

Competitive tendering has been slowly adopted by passenger transport authorities in the United States.[40] By 1991, approximately 10 percent of US passenger transport bus service was competitively tendered. (See

Table 5

Extent of Competitive Operation* in US Metropolitan Areas: 1991		
Competitively Operated in 1991	Metropolitan Area	
Above 40%	Austin	Miami
30% to 40%	New York	San Diego
20% to 29%	Dallas-Ft. Worth	Denver
15% to 19%	Houston	Minneapolis-St. Paul
10% to 14%	Kansas City San Francisco	Los Angeles New Orleans
5% to 9%	Atlanta Chicago Sacramento Washington, DC	Baltimore Phoenix Seattle
(Based on Number of Buses) * Competitive Tendering and Commercial Services.		

Figure 4

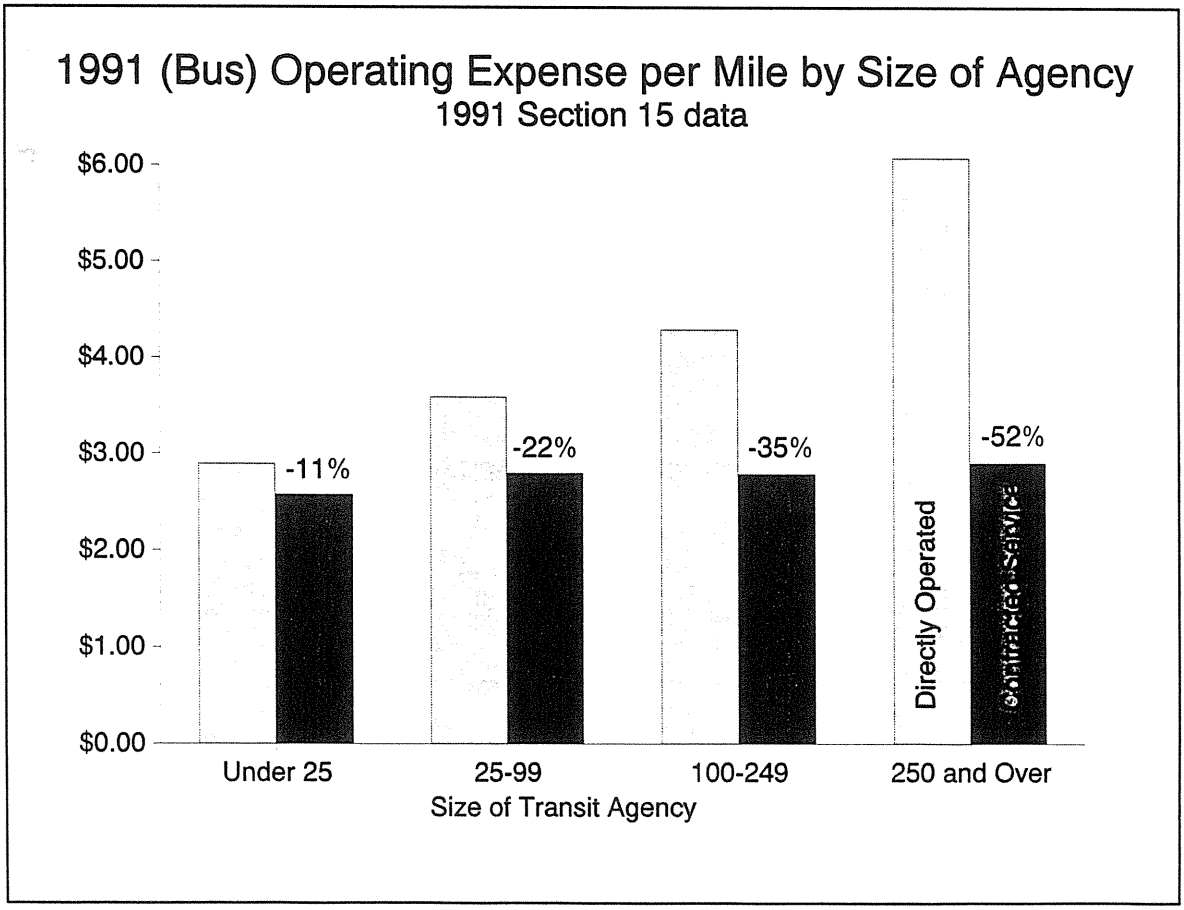


Table 5.) The costs of the competitively tendered services were considerably less than those of services provided directly by public transport authorities. (See Figure 4.) Competitive services are the most cost effective of US passenger transport services. (See Table 6.)

- The five most cost effective US systems are either competitively tendered or commercial (entrepreneurial)
- Eighty of the top 10 systems are either competitively tendered or commercial.
- The most cost effective system is approximately one-third less costly than the most cost effective light rail system, 50 percent less costly than the lowest cost commuter rail system; 60 percent less costly than the lowest cost metro system; and 60 percent less costly than the lowest cost non-competitive bus system.

An analysis of 17 urban areas with representative competitive services indicates that, on average, competitive services are: (See Table 7.)

- Nearly 60 percent less costly than non-competitive bus services.
- Nearly 50 percent less costly than urban rail (light rail and metro) systems.
- 35 percent less costly than commuter rail services.

As the use of competitive tendering has increased, competition per bid package has also increased. Based on a 1992 survey of 78 US passenger transport competitive tendering, fewer than two proposals were received, on average, per round of competitive bidding (request for proposal) before 1985. In 1991-1992, nearly five proposals were received on average. (See Figure 4.)[41]

The survey also found the size of a competitive package and the availability of publicly-owned buses for leasing have an important impact on the extent of competition. Competition is greatest for packages involving fewer than 50 buses. For larger packages (over 50 buses), the competition is very limited where proposers are required to supply buses. These findings indicate that the many small transportation businesses are better able to compete for smaller packages. (See Tables 8 and 9.)

San Diego: San Diego separates policy from operations, and the passenger transport policy agency facilitates, rather than operates, service. All services are provided by public and private operating companies. The Metropolitan Transit Development Board (MTDB) — the policy board — fulfills the role of catalyst; it supervises the Metropolitan Transit System and sets a unified fare, transfer policy, route structure, and common logo for public and private carriers. Like London Transport, San Diego has a routine program for injecting competition into its system:

> *Constructive competition for provision of services will be encouraged. An annual review of ...(non-competitive)... services for potential contract award will be included in the ... plan development process.*[42]

Bus system costs per mile in San Diego declined more than 20 percent from 1979 to 1993 after adjusting for inflation — an annual productivity improvement of 1.6 percent.[43] This cost reduction can be traced to the use of competitively tendered services operated by private carriers.

Table 6

US Public Transport Cost per Passenger Mile Top 50 Systems: 1990

Rank	State	System	Type	Cost ¢	Rank	State	System	Type	Cost ¢
1	WA	Seattle-Snohomish Co (ATE)	MB-CT	7.85	26	HI	Honolulu DOT Service	MB	22.37
2	NJ	Academy Lines	MB-CO	9.94	27	NJ	DeCamp Bus Lines	MB-CO	22.46
3	NJ	Suburban Trans Corp	MB-CO	10.33	28	WA	Richland-Ben Franklin	MB	22.93
4	TX	Austin (Laidlaw)	MB-CT	11.67	29	CA	Los Angeles - contractors	MB-CT	23.0
5	TX	Houston (Greyhound)	MB-CT	11.7	30	IL	DuPage Motor Coach	MB-CT	23.13
6	CA	San Diego Trolley	LR	11.71	31	LA	New Orleans-West (ATC)	MB-CT	23.14
7	IN	Chicago-Hammond Yellow Coach	MB-CO	11.76	32	MA	Boston-Amtrak/MBTA	CR	23.62
8	NJ	Hudson Tr Lines-Mahwah	MB-CO	14.02	33	OR	Portland-Tri-County MTD	LR	24.09
9	IL	Chicago-Burlington North	CR	14.84	34	WA	Kitsap County Tr	MB	24.17
10	CT	Hartford-Contractors	MB-CT	15.77	35	TX	San Antonio-VIA Metro Tr	MB	24.41
11	NJ	Bergenfield-Rockland	MB-CO	16.66	36	UT	Salt Lake City- Utah TA	MB	24.45
12	CA	Sacramento-Yolo Co.	MB-CT	17.22	37	FL	Lee County Tr	MB	24.48
13	NJ	Lakeland Bus Lines, Inc	MB-CO	17.34	38	DC	Washington, DC-WMATA	RR	24.49
14	GA	Atlanta-MARTA	RR	17.37	39	LA	New Orleans-RTA	LR	24.99
15	CA	San Francisco-Caltrans	CR	17.40	40	IL	Chicago-Commuter Rail Bd	CR	25.07
16	TX	El Paso PTA	MB	17.41	41	NY	New York Bus Tours, Inc	MB-CO	25.12
17	KS	Kansas City: Johnson Co (ATE)	MB-CT	18.16	42	TX	The T-Fort Worth	MB	25.42
18	PA	Pittsburgh-Beaver County	MB-CT	18.18	43	CA	N San Diego Tr	MB	25.45
19	NJ	Rockland Coaches, Inc	MB-CO	18.95	44	CA	San Francisco-Golden Gate TD	MB	25.49
20	IL	Chicago & NW Tr Co	CR	19.21	45	CA	San Diego-contractors	MB-CT	25.82
21	CA	Santa Monica Muni Bus	MB	20.39	46	NY	Liberty Line Tr Inc	MB	26.73
22	CA	San Francisco-BART	RR	20.96	47	IL	Des Plaines- No Suburb TD	MB	27.06
23	NY	Syracuse-Contractors	MB-CT	21.31	48	GA	Atlanta: cobb County (ATE)	MB-CT	27.25
24	NJ	Port Authority TC	RR	21.52	49	NY	New York-MTNR	CR	27.4
25	IN	Chicago-South Shore	CR	22.05	50	NJ	Newark-NJT Corp	CR	27.54

Type Codes: CR=commuter rail, non-competitive; LR=light rail, non-competitive; MB=motor bus, non-competitive; MB-CT=motor bus, competitive; MB-CO=motor bus, entrepreneurial; RR=metro, non-competitive

Table 7

Comparison of Competitive Public Transit Costs per Passenger Mile To Non-Competitive Costs in Same Urban Area: 1990					
State	Competitive System	Competitive Cost	Non-Competitive		
			Bus	Light or Rapid Rail	Commuter Rail
WA	Seattle-Snohomish Co (ATE)	7.9¢	37.5¢		
NJ	Academy Lines	9.9¢	34.0¢	44.3¢	27.5¢
TX	Austin (Laidlaw)	11.7¢	37.0¢		
TX	Houston (Greyhound)	11.7¢	31.4¢		
IN	Chicago-Hammond Yellow	11.8¢	43.2¢	27.8¢	14.8¢
CT	Hartford-Contractors	15.8¢	43.6¢		
CA	Sacramento-Yolo Co.	17.2¢	47.3¢	37.3¢	
KS	Kansas City: Johnson Co	18.2¢	58.8¢		
PA	Pittsburgh-Beaver County	18.2¢	36.3¢	44.0¢	
NY	Syracuse-Contractors	21.3¢	53.4¢		
CA	Los Angeles-Contractors	23.0¢	34.3¢	58.4¢	
LA	New Orleans-West (ATC)	23.1¢	35.7¢	25.0¢	
CA	San Diego-Contractors	25.8¢	30.2¢	11.7¢	
GA	Atlanta: Cobb County (ATE)	27.3¢	37.7¢	17.4¢	
AZ	Phoenix-Contractors	28.9¢	31.9¢		
CA	San Francisco-BART (Laidlaw)	31.9¢	45.3¢	21.0¢	17.4¢
MA	Springfield-Contractors	33.0¢	48.6¢		
Comparative Factor		1.0	2.4	1.9	1.5

No more than one competitive system shown per urban area
Source: Federal Passenger transport Administration Section 15

- San Diego has converted to competitive tendering of bus service with more than 30 percent of bus service tendered.
- San Diego converted to competitive tendering at less than half the annual rate of employee turnover (or the natural attrition rate), and there have been no employee layoffs. (The avoidance of employee layoffs is a MTDB policy.)

- Competition has reduced the cost increase rate of the public passenger transport agency, San Diego Transit, to nearer that of the competitive market.

Table 8

Proposals per Competitive Procurement by Year		
Years	Requests for Proposals	Average Number of Proposals
1984 and Before	8	1.8
1985-1986	14	4.1
1987-1988	17	4.2
1989-1990	20	4.0
1991-1992	19	4.7
All	78	4.0

Source: Wendell Cox Consultancy in association with Travers Morgan New Zealand, *Competition in Overseas Public Transport Competitive Tendering: Africa, the Americas, Australia, and Continental Europe*, (Belleville, IL: Wendell Cox Consultancy, August 1992).

Table 9

Number of Proposals by Size of Competitive Procurement				
Number of Buses	Operators Provide Buses		Public Agency Provides Buses	
	Proposals	Average Number of Proposals	Proposals	Average Number of Proposals
50 and Over	4	1.0	10	3.6
30 to 49	12	4.2	12	4.8
15 to 29	14	4.7	10	4.0
Fewer than 15	15	3.7	1	5.0
All	45	3.9	33	4.2

Source: Wendell Cox Consultancy in association with Travers Morgan New Zealand, *Competition in Overseas Public Transport Competitive Tendering: Africa, the Americas, Australia, and Continental Europe*, (Belleville, IL: Wendell Cox Consultancy, August 1992).

- Competitive services in San Diego average 48 percent less per mile than non-competitive services (non-competitive services are 95 percent more expensive).[44]
- The percentage of operating expenses covered by fares rose from 31 percent in 1979 to 53 percent in 1990.[45]

Coincidentally, San Diego has also developed a model rail system with a cost per passenger mile that is 40 percent less than the next most efficient light rail system in the United States.[46] Overall, San Diego's passenger transport ridership has increased nearly 80 percent since 1975. Despite the diversion of substantial ridership from buses to light rail, bus ridership is up more than 25 percent. Compared to the national passenger transport industry cost increase rate, San Diego has saved more than $200 million — enough to operate its bus services for three years.

San Diego also provides an example of successful public agency competition against private firms. In 1993, publicly owned San Diego Transit was awarded a tender to operate the City of Chula Vista passenger transport system for $1.89 per mile, at least 55 percent less than its system wide costs per mile. In response to private sector competition, San Diego Transit has reduced clerical and maintenance staff and obtained an arrangement with the Amalgamated Transit Union that permits it to pay market rate wages and benefits for the tendered service. The second lowest bid, submitted by a private carrier was $1.92 per mile. Local private bus companies have challenged the San Diego Transit bid, suggesting that the $1.89 figure does not include all attributable costs. Nonetheless, the case illustrates the potential for cost savings from competitive tendering of public passenger transport service. If San Diego Transit were to provide all of its services at competitive market rates — those charged to the city of Chula Vista — an additional $30 million would be available — enough to nearly double bus service in San Diego.[47]

Los Angeles: Los Angeles competitively tendered passenger transport routes that were threatened with cancellation as a result of financial constraints. The routes were competitively tendered by the city of Los Angeles and the county of Los Angeles in 1987 under the supervision of the Los Angeles County Transportation Commission. Ridership on the tendered routes increased 150 percent, while overall passenger transport ridership declined in the Los Angeles area.[48] In an independent audit, Price Waterhouse reported:

- Unit cost savings of 60 percent savings (public costs were 150 percent higher than competitive costs).[49] Savings on some routes were found to be 69 percent, which is unprecedented in passenger transport tendering.

- An improvement in service reliability of over 300 percent, a 75 percent reduction in passenger complaints, and virtually the same safety performance relative to the region's large public passenger transport agency.

- Part of the lower operating costs has been passed on to customers in the form of lower fares.

More than 10 percent of Los Angeles passenger transport services are now competitively tendered.

Denver: In 1988, Colorado enacted legislation requiring Denver's public passenger transport system, the Regional Transportation District (RTD), to competitively tender 20 percent of its bus service. The private providers have produced quality service, prompting KPMG Peat Marwick to note: "No relationship was found between safety and quality of service and higher bus operator turnover. In most measures, the tenderers performed as well or better than RTD despite lower wages."[50] KPMG Peat Marwick's second annual performance audit reported cost savings of 31 percent (public costs are 45 percent higher than competitive costs).[51] Excluding ancillary passenger transport costs of superfluous facilities and redundant staff,[52] savings are 39 percent. Savings over a five year period are projected at nearly $30 million, even after including more than $8 million in labor redundancy payments to public bus drivers to avoid layoffs.[53] RTD has expanded the use of tendered services beyond that required by the legislation and has recently awarded tenders for another five years.

Dallas: The Dallas Area Rapid Transit Authority greatly expanded passenger transport services through competitive tendering. More than 200 buses are operated under contract. Express and suburban services are provided — types of services that are especially expensive to operate. Nonetheless, savings are being achieved, and these services have increased Dallas passenger transport ridership.[54]

Austin: Austin's Capital Metropolitan Transit District (Capital Metro) provides more than 40 percent of its bus service through competitive tendering. Express routes and University of Texas routes are competitively tendered. Costs per service hour are 44 percent less among the tendered services. Costs per passenger mile are 60 percent less and are approximately 20 percent below the cost per passenger mile of the nation's most efficient public bus system.[55]

Atlanta: Cobb County, in the Atlanta area, used competitive tendering to establish its new passenger transport system. Operating costs per hour are 28 percent below those of non-competitive services.[56] In its second year of operation, ridership increased by nearly 40 percent, while overall passenger transport ridership dropped in the Atlanta area.

Fairfax County, Virginia: Escalating passenger transport costs induced Fairfax County (in the Washington, DC area) to convert its bus system to competitive tendering. The county estimated that its cost savings were 39 percent, and the system has been expanded since its establishment in 1986.[57]

US Specialized passenger transport services: Passenger transport's most rapidly expanding market segment is specialized services for the disabled and the elderly. These services usually provide door to door service ("dial-a-ride" services) and are usually operated with small buses or taxicabs. Nearly 70 percent of specialized services for senior citizens and the disabled is operated under competitive tender.[58]

London: London Transport (LT) has the most comprehensive program of competitive tendering in the world.

> *LT's policy is to [competitively] tender for the provision of goods and services where similar or greater efficiency can be obtained at lower cost without compromising safety. Internal departments, in some cases, are allowed to bid for this work.*[59]

LT's competitive service system is larger than most complete passenger transport systems; it uses 30 companies to operate more than 270 routes while retaining service and fare coordination:

- More than 2,400 buses are competitively tendered — 50 percent of London Transport bus service. London operates more buses by competitive tender than are operated by all US public agencies except New York.[60]

- Overall, London Transport's bus costs per mile have *declined* 34 percent (inflation adjusted) since competitive tendering began in 1984 — an annual productivity improvement rate of 4.5 percent. In the year ended March 31, 1993, bus costs were US$500 million less than they would have been if costs had risen with inflation. Since 1984, US$2.4 billion has been saved relative to inflation.

- The former public monopoly (London Buses, Ltd.) has improved its cost performance by 32 percent — an annual productivity improvement rate of 4.3 percent. As a result London Buses has won approximately 60 percent of the services opened to competitive tendering.

- Competitively tendered services carry 500 million passengers. Among North American bus systems, only New York carries more passengers. London's competitively tendered services carry more passengers than all of the bus and urban rail services in Chicago, Los Angeles, Philadelphia, Washington (DC), and Boston.

- Service quality has improved, even where the former public monopoly is awarded service it previously operated non-competitively. The tendered services division has *achieved London Transport's best operating performance.*[61]

- Subsidies declined from 55 percent of operating costs to 15 percent, while service levels were increased 20 percent. By comparison, public passenger transport bus systems in New York, San Francisco and Boston carry more passengers per mile but require operating subsidies of more than 50 percent.[62]

Canada: Competitive tendering has been somewhat limited in Canada:

- Suburban services have been competitively tendered in the Montreal area for nearly 10 years. At least 100 buses are competitively tendered.

- Smaller community services are competitively tendered in British Columbia, Saskatchewan, Ontario, and Quebec.

- Suburban systems are competitively tendered in the Toronto area. Mississauga Transit (Toronto area) competitively tendered a single route at savings of more than 20 percent compared to the internal cost of operation.[63]

Copenhagen: The Danish parliament enacted mandatory competitive tendering legislation for Copenhagen public passenger transport bus services (45 percent by 1994), and a 100 percent mandate is under consideration. More than 30 percent of services are now competitively tendered, and savings are estimated at 10 to 15 percent. In addition, the passenger transport agency credits competitive tendering with reversing its downward trend in ridership.[64]

Sweden: In 1989, parliament passed legislation to encourage competitive tendering. In Stockholm, 20 percent of bus service has been opened to competitive tendering and some commuter rail service. Cost savings have been nearly 20 percent. In Göteborg (Gothenburg), competitive tendering reduced costs per mile by nearly half from 1989 to 1993.[65]

New Zealand: A 1990 act of Parliament required that all public passenger transport services be provided commercially or through a "competitive pricing procedure." Christchurch reduced its system-wide costs by 32 percent in the initial round of tenders. Competitive tendering of all dedicated school bus service is also required.[66]

Other Nations: As the passenger transport financial situation continues to deteriorate, other nations are implementing or considering conversion to competitive tendering, including the Netherlands, Finland, Norway and elsewhere.[67]

Commercial services

Changing urban markets can be served by allowing commercial operators to produce services. In some cases, passenger transport services can be operated commercially (without subsidy) by private providers.

These commercial services can serve new markets, replace more expensive subsidized passenger transport services, supplement existing services, or fill service needs that cannot be filled by publicly subsidized passenger transport services.

South Africa: Black-owned minibuses ("kombi-taxis") provide commercial services to 42 percent of Black commuters in South Africa. Approximately 105,000 minibuses with capacities of from 15 to 19 people provide service in major metropolitan areas.[68] By comparison, the total number of passenger transport buses operating in the United States is approximately 40,000. The minibus industry not only provides essential mobility without public subsidy, but also provides business opportunities for Black entrepreneurs. Owners have expanded the size of their fleets and have diversified into other commercial ventures.

Miami: A US Department of Transportation study[69] conservatively estimated that 400 private unsubsidized vans (jitneys) in Miami carry as many as 49,000 riders per weekday — approximately the same number of riders are carried by Miami's billion dollar heavy rail system. The jitneys operate over high-volume streets in competition with public passenger transport service. Yet, less than one-quarter of their ridership has been diverted from the public system. Ridership surveys found 78 percent of van riders were workers with annual incomes less than $25,000 a year, and 53 percent of riders were non-English speaking. The jitneys have increased net passenger transport ridership in Miami by an estimated 13 percent — and at no cost to taxpayers.[70] Most riders choose the jitneys because they provide faster trips than the public buses. Most Miami jitney companies are minority owned. The passenger transport authority has attempted to eliminate jitney competition through regulatory and legal strategies and by lowering fares on the public routes that compete with the vans.

New York City: The largest US commercial system — estimated at 2,400 private vans — operates in New York City.[71] Passengers have been attracted by more direct and frequent services.[72] As in Miami, many of the vans are minority owned, and passenger transport authorities have attempted to eliminate competition from the vans using regulatory and legal strategies and lower fares on the competitive routes. Yet the vans continue to prosper. A New York van operator explained what the passenger transport agency would have to do to win back passengers: "Easy. Just give them faster and better service."[73] There have, however, been problems with the vans. Some are not licensed, and some do not meet insurance requirements.

New Jersey: New Jersey Transit oversees a large network of commercially operated services and provides some capital assistance. Private companies operate more than 1,000 buses. These services carry more than 55 million annual passengers and provide 750 million passenger miles. The New Jersey commercial operators represent the nation's fifth largest bus system (in terms of passenger miles). Unlike other major US public passenger transport systems, the New Jersey private companies receive *virtually no operating subsidies*.[74]

Other International Examples: The overwhelming majority of bus service in Japan, Hong Kong, Taiwan, and Singapore is unsubsidized. The Hong Kong and Singapore subways are privately operated and earn a profit. Most urban rail service in Japan is privately operated and profitable.[75] Most less developed nations that were not previously communist rely on non-subsidized privately operated passenger transport systems, often utilizing small buses and vans.[76]

Competitive Rapid Transit

Rapid passenger transport is not confined to rail systems. Competitively operated bus services are not only cost effective, competitively operated express buses operate at speeds equal or superior to rail passenger transport and represent the least costly rapid passenger transport alternative, both in terms of capital costs

Table 10

Cost per Passenger Mile for Rapid Transit and Light Rail

Type of Service	Cost per Passenger Mile			Average Speed (MPH)
	Capital Cost (Compared to Busway/HOV)*	Operating Cost	Lowest Cost System	
Competitive Bus	-100% to 0%	18¢	10¢	24.1
Commuter Rail	N/A	28¢	15¢	30.9
Rapid Rail	+513%	33¢	17¢	23.4
Light Rail	+494%	42¢	13¢	13.7
Non-Competitive Bus	+0%-100%	43¢	17¢	24.1

*HOV: high occupancy vehicle lanes for car pools and buses. Capital costs are calculated per passenger trip. Derived from Federal Transit Administration, Section 15 and San Diego-MTDB data and John Kain, Ross Gittell, Amrita Daniere, Sanjay Daniel, Tsur Summerville, and Liu Zhi, *Increasing the Productivity of the Nation's Urban Transportation Infrastructure* (Washington, DC: US Department of Transportation, Federal Transit Administration, Technology Sharing Program, January 1992).

and operating subsidies.[77] (See Table 10.) Moreover, busways can handle the passenger loads required in all but a few rail corridors.

In some cases, express buses operate in mixed traffic on motorways, and in other cases they operate on busways and high-occupancy vehicle (HOV) lanes available to buses and car pools.[78] Even where dedicated busways are constructed, competitive express bus services are far less costly than rail services. A recent US Department of Transportation study showed that the capital costs per passenger of such facilities are *one-fifth* that of rail systems.[79] Moreover, HOV lanes are flexible. They make rapid passenger transport service through car pools available to the now dominant non-downtown employment locations, while reducing traffic congestion. Further, competitive rapid passenger transport can be operated on regional streets through mechanisms such as "red routes," bus priority lanes, and exclusive express bus lanes such as the "key routes" on the streets of Nagoya, Japan. Examples of competitive rapid passenger transport follow.

Brazil: Urban areas in Brazil have been leaders competitive rapid passenger transport. Curitaba has developed a busway that carries more than 300,000 riders per day. At peak hour, Curitaba's busway carries more riders (nearly 20,000) than any rail line in the US outside New York City.[80] A busway in Porto Allegre equals Curitaba's peak hour volumes. Sao Paulo is achieving peak hour volumes of 30,000 by providing a central passing lane at stations.[81]

Johannesburg: Johannesburg has built an exclusive busway for buses and minibuses between the downtown area and the nation's largest black township, Soweto (with an estimated population of 2 to 3 million). This facility has improved travel time and made Black-owned commercial minibus services more attractive to customers. In addition, the city has constructed two major downtown terminals to handle the large volume of minibuses entering the area.

Ottawa: Canada's capital also demonstrates the potential for competitive rapid passenger transport. Ottawa's busway is among North America's most successful new rapid passenger transport systems, carrying 200,000 riders daily, and nearly 10,000 per peak hour in the peak direction.[82] Ottawa's busway is non-competitively operated, but it could be provided through competitive tendering at lower cost.

Seattle: Community Transit in the Seattle area has established a competitive rapid passenger transport system that achieves the lowest cost per passenger mile of any rapid passenger transport system in the nation.[83] Unit costs dropped 38 percent when competitive tendering was implemented,[84] and ridership has increased by nearly 60 percent, while overall passenger transport ridership in the Seattle area has declined.[85] More than 70 buses are operated at less than 10¢ per passenger mile — from 30 to 70 percent less than the most cost effective rail systems in the nation. Incremental capital costs have been small, since the buses use already constructed motorways and HOV lanes. The average speed of operation is 23 miles per hour, which is competitive with that of rapid rail systems.

Houston: Houston's Metropolitan Transit Authority (MTA) was one of the first agencies in the nation to use competitive rapid passenger transport. Further, MTA is using competitive rapid passenger transport to serve suburban employment centers, providing expedited services to a market segment usually unserved by rapid passenger transport. (Even where rail systems serve such centers, their indirect routing through downtown make them unattractive to suburban commuters.) Nearly 100 commuter express buses operate. Costs savings average 24 percent,[86] and costs per passenger mile are less than half that of average rail systems.[87] Buses average 27 miles per hour, relying on Houston's extensive busway and HOV network. Houston's capital costs per mile for busways has averaged less than one-half that of new light rail systems.

San Diego: San Diego's Metropolitan Transit Development Board and San Diego County provide competitive rapid passenger transport service through competitive tendering Operating costs per passenger mile are 3¢ higher than San Diego's light rail line,[88] but incremental construction costs (unlike light rail) are minimal, because the services operate on general purpose lanes. Speeds average approximately 30 miles per hour, equalling the average of less flexible commuter rail systems.

San Francisco: The San Francisco Bay Area Rapid Transit District (BART) uses buses to improve access to its rail rapid passenger transport system. When the system was converted to competitive tendering BART's operating cost per mile declined by 26 percent.[89] BART customers are able to board buses in communities well beyond rail line terminals and receive expedited travel to rail stations.

Other US Examples: Competitive rapid passenger transport services are also operated on busways and HOV lanes in other communities. For example:[90]

- The Shirley Highway Busway/HOV lane in the Washington, DC area carries more than 15,000 people per peak hour in buses (competitive and non-competitive) and car pools — a volume exceeded by none of the light rail lines outside New York City.

- The El Monte Busway/HOV lane in the Los Angeles area carries 45,000 people daily — considerably more than any new light rail line in the US. Both competitive and non-competitive services are provided.

- The Lincoln Tunnel bus lane in the New York area carries 35,000 people during peak hour on both competitive and non-competitive services, exceeding the performance of even Brazilian busways.

These cases also illustrate the ability of busway/HOV facilities to attract passengers. Busway/HOV lanes regularly attract double (or more) the person trips as general purpose motorway lanes. By comparison, new light rail systems achieve peak hour passenger volumes barely comparable to that carried by a single motorway lane.[91] One of the advantages of HOV lanes compared to rail lines is that they improve travel times for car pools. This makes rapid passenger transport service available to people who work outside central business districts. As a result, nearly two-thirds of HOV ridership is in car pools.[92]

Public planning processes that are under the control of passenger transport authorities frequently choose rail alternatives over bus alternatives for rapid transport, despite the excessive costs of rail and the fact that virtually the same customer advantages can be obtained through busways. In that public agencies are generally shielded from the market incentives that would maximize the impact of capital expenditures, it may be appropriate to require separate and independent approval of capital projects. This would be most effective where funding for the capital project was not from a dedicated (earmarked) source. Approval would be required from the national, state or provincial treasury, which would consider the most effective use to which the funding could be placed.

Separation of policy from operations.

A public agency that plans service cannot objectively choose between itself and other organizations for operation of services, even where service provision by others is in the public interest. In the present situation, public transport managers have incentives to violate the public interest. Their career advancement, like that of other public managers, depends upon an increasing staff and budget. Yet competitive tendering reduces budgets and staff sizes.

As developed nations convert their transit systems to competitive tendering, they are also reforming their transit governance systems. Recognizing the inherent conflict faced by public transit monopolies, governments are "separating policy from operations." The public transit agencies that determine which services are provided are not permitted to operate services. Their services must be provided under competitive tender or by entrepreneurs. Most conversions to competitive tendering involve separation of policy from operations. The most successful programs, those in London and San Diego, both incorporate separation of policy from operations.

Separation of policy from operations involves limiting the role of public agencies to deciding which services should be provided and then obtaining the services in the required quantity and quality for the lowest cost.

- Public managers are evaluated based upon how efficiently and effectively they obtain public services.
- Policy boards are able to focus more of their efforts in policy and less on operating issues.
- Public operating departments are converted to publicly owned corporations (corporatization). Or they may be sold to the private sector (through asset sales). These firms may compete for tenders to perform the specified work along with firms already in the market.

The transit policy organization is free to provide for the highest levels of transit service.

- The public policy body could prescribe minimum service levels and maximum fare levels. Public authorities establish service standards and entry and exit requirements (period of notice required to begin or discontinue service).

Table 11

The Potential for Increasing Passenger transport Service and Usage through Competitive Tendering: 10 Years			
	Status Quo 10th Year	Competitive Tendering	
		10th Year	Compared to Status Quo
Miles of Service	2.3 Billion	4.0 Billion	*+74%*
Change from 1991	*+0.4%*	*+74%*	
Passengers	6.6 Billion	10.9 Billion	*+64%*
Change from 1991	*-8%*	*+51%*	
Average Passenger Fare	82¢	68¢	*-18%*
Change from 1991	*+21%*	*No Change*	
New Full Time Jobs	800	106,500	*+12,633%*
Change from 1990	*+0.4%*	*+59.5%*	
Work Trip Market Share	4.1%	6.8%	*+64%*
Change from 1990	*-22%*	*+28%*	
Figures rounded, percentages based upon actual data. Assumptions in end note.			

- Commercial services could be used wherever possible. Entrepreneurs would be permitted to operate any part of the transit system, charging publicly prescribed fares.

- Prescribed services that are not provided by entrepreneurs would be provided through competitive tendering.

- Entrepreneurs would be permitted to provide any additional services, including taxicab services, that are not publicly prescribed. Regulation would be limited to fundamental issues such as safety and insurance.

Competitive Incentives: The Potential

If the US passenger transport trends of the last decade continue — without incorporating competitive incentives — ridership is projected to further decline, and passenger transport's work trip market share would be expected to drop another 19 percent to 4.1 percent in ten years. (See Table 11.)

On the other hand, the competitive strategies already being employed by some agencies offer the potential to reverse passenger transport's decline.[93] If over the next ten years, public passenger transport agencies embraced competitive tendering, it is conservatively estimated that:[94]

- Ridership could increase by more 51 percent, compared to a decline of 8 percent without competitive tendering ("Status Quo").

- Passenger transport's work trip market share could increase by 28 percent to 6.8 percent (returning passenger transport's market share to above the 1980 level). Under the "Status Quo," market share would decline to 4.1 percent (from the 1990 level of 5.3 percent).

- 106,000 new full-time jobs could be created in passenger transport operations and administration. Additional jobs would be created in industries that supply goods and services to passenger transport.

- No layoffs of public employees would occur, and public agencies would still continue to provide the overwhelming majority of services.

Incorporation of commercial services would improve the competitive projections.

A "Best" Case and "Worst" Case projection was also made. Under the "Best" Case, ridership would increase 84 percent; under the "Worst" Case, ridership would increase 21 percent. (See Tables 12 and 13.)

Toward a Customer-Oriented Regulatory Framework

A new passenger transport regulatory structure is needed, one that puts the interests of customers first. It must serve the riders, the taxpayers, and the community. Passenger transport services should be structured to serve the community by reducing traffic congestion and air pollution. This requires that no more than necessary be spent to produce a mile or hour of service, so that the highest level of passenger transport service can be provided. New Zealand's 1989 Transport Act provided for such a regulatory structure.

Table 12

The Potential for Increasing Passenger transport Service and Usage through Competitive Tendering: 10 Years: "Best Case"

	Status Quo 10th Year	Competitive Tendering	
		10th Year	Compared to Status Quo
Miles of Service	2.3 Billion	4.7 Billion	*+104%*
Change from 1991	*+0.4%*	*+105%*	
Passengers	6.6 Billion	14.7 Billion	*+122%*
Change from 1991	*-8%*	*+84%*	
Average Passenger Fare	82¢	68¢	*-18%*
Change from 1991	*+21%*	*No Change*	
New Full Time Jobs	800	150,700	*+19,330%*
Change from 1990	*+0.4%*	*+43%*	
Work Trip Market Share	4.1%	9.2%	*+122%*
Change from 1990	*-22%*	*+2%*	

Table V Assumptions, Except 1.00% new passengers assumed for each new 1 percent in service.

Table 13

The Potential for Increasing Passenger Transport Service and Usage through Competitive Tendering: 10 Years: "Worst" Case			
	Status Quo 10th Year	Competitive Tendering	
		10th Year	Compared to Status Quo
Miles of Service	2.3 Billion	3.5 Billion	*+54%*
Change from 1991	*+0.4%*	*+54%*	
Passengers	6.6 Billion	8.7 Billion	*+31%*
Change from 1991	*-8%*	*+21%*	
Average Passenger Fare	82¢	68¢	*-18%*
Change from 1991	*+21%*	*No Change*	
New Full Time Jobs	800	77,600	*+9,906%*
Change from 1990	*+0.4%*	*+43%*	
Work Trip Market Share	4.1%	5.4%	*+31%*
Change from 1990	*-22%*	*+2%*	
Table V Assumptions, Except 0.38% new passengers assumed for each new 1 percent in service.			

A customer-oriented regulatory structure would incorporate commercial services wherever possible, while using competitive tendering to obtain those services that are not provided by the market. The public role should be to prescribe minimum service levels and maximum fare levels. Public authorities would also establish service standards and entry and exit requirements (period of notice required to begin or discontinue service).

- Entrepreneurs should be permitted to operate any part of the passenger transport system, charging publicly prescribed fares. More than one commercial operator could provide service on a route.

- Prescribed services not provided by entrepreneurs should be provided through competitive tendering.

In addition, entrepreneurs should be permitted to provide any additional services that are not publicly prescribed, including taxicab service. Regulation of these services should be limited to fundamental matters such as safety and insurance.

Conclusion

Urban passenger transport continues to lose market share, and much of the loss is attributable their isolation from market discipline. New consumer oriented services have not been established. Costs are escalating inordinately. Wasteful capital investments are undertaken.

Market discipline can be brought to bear on passenger transport through include competitive tendering, commercial services, competitive rapid transit services, independent approval of major capital projects and separation of policy from operations.

Where passenger transport is not exposed to market discipline, market share is likely to drop even further. For urban passenger transport to have a more positive future, a necessary condition is the incorporation of competitive incentives (market discipline).

End Notes

1. Alan E. Pisarski, *New Perspectives in Commuting* (Washington, DC: US Department of Transportation, Federal Highway Administration, Office of Highway Information Management, July 1992). Market share for taxis (0.2 percent) are included by the Census as a form of public transit. The taxi share has been subtracted from these figures.

2. Ibid. Also derived from US Census Bureau data.

3. Calculated from US Census Bureau data.

4. U.S. Department of Transportation, Federal Transit Administration, Section 15 data (FTA Section 15). Data is for the four primary modes of transit: motor bus, electric bus, rapid rail, and light rail (street car).

5. According to the American Public Transit Association official as reported in Bill Sammon, "RTA has Miles to Go to Recapture Lost Riders," *The Plain Dealer* (Cleveland) June 28, 1993.

6. Calculated from Chris Bushell, ed., *Jane's Urban Transport Systems* (Coulsdon, Surrey, UK: Jane's Information Group, multiple editions).

7. See for example, John Pucher, "Capitalism, Socialism, and Urban Transportation," *APA Journal*, 278, 2, 1990 and Charles Lave, "Those Unstoppable Automobiles: Do What We Will, People Are Going to Drive Their Own Cars," *Washington Post*, August 15, 1992.

8. Review of trends since 1983 in 20 major international urban areas (national capitals and metropolitan areas of more than one million population). Calculated from Chris Bushell, ed. *Jane's Urban Transport Systems* (Coulsdon, Surrey, UK: Jane's Information Group, multiple editions).

9. Ibid.

10. Calculated from Canadian Urban Transit Association data.

11. "Vancouver Commuter Rail Losing Out to Autos," *Daily Journal of Commerce* (Seattle, WA: July 27, 1993) quotes Vancouver Mayor Gordon Campbell (who is also chair of the Vancouver Regional Transit System) and BC Ministry of Transport Officials.

12. Inner city population density declines were masked for decades by growth in other neighborhoods within the city limits. For example, inner city Philadelphia wards reached their peak populations in 1830 according to Kenneth T. Jackson, *Crabgrass Frontier: The Suburbanization of the United States*, (New York, NY: Oxford University Press, 1985).

13. The cities of the US, Canada, Australia, and New Zealand historically have been less densely populated than comparable cities in Europe, allowing for a greater proportion of the population to afford detached, single-family dwellings surrounded by lawns and gardens. The American residential "lifestyle" is evident in these countries, although suburbanization of jobs and retail is occurring at a slower pace than in the US.

14. Peter Gordon, "Myths and Facts of Nation's Transit Policy," *Policy Insight*, No. 131 (Los Angeles, CA: Reason Foundation, October 1991).

15. Joel Garreau, *Edge City: Life on the New Frontier* (New York, NY: Doubleday, 1991) and the *National Office Market Report* (Houston, TX: Office Network, 1987).

16. Data from the 1990 US Census, US Department of Commerce, Bureau of the Census. By comparison, slightly more than 25 percent of American live in central cities, and 24 percent live in rural areas.

17. John D. Kasarda, *People and Jobs on the Move: America's New Spacial Dynamics*, Paper presented to America's New Economic Geography (conference), Rutgers University, Center for Urban Policy Research, Washington, DC, April, 1987.

18. Some low-density areas are increasing in population density as in-filling occurs. This does not represent a trend toward "densification," which would require higher densities to be achieved in already developed areas.

19. Includes those urban areas with greater than 500,000 population in 1950.

20. On average, the cities added 53 percent in land area and decreased 12 percent in population

21. These suburbs added 262 percent in land area and 174 percent in population.

22. Land area increased 179 percent and population increased percent.

23. There has been some moderation in the rate of increase in transit costs in recent years as a result of constraints and the threat of privatization. Unit costs remain far in excess of the market rate and productivity remains below standard.

24. Analysis of data in the *Government Finance* series (Washington, DC: U.S. Department of Commerce, Bureau of the Census: annual) and *Trends in Health Spending: An Update* (Washington, DC: Congress of the United States, Congressional Budget Office, June 1993).

25. Jean Love, "Mass Transit: A Barren Promise," *Across the Board*, The Conference Board (New York, NY: July-August 1992)

26. Based upon difference in cost per mile trend.

27. Wendell Cox, Jean Love, and Samuel A. Brunelli, *The Livable American "City:" Toward an Environmentally Friendly American Dream*, Paper presented at Environmental Strategies for a Prosperous World: The National Leadership Summit on the Environment, Energy, and Natural Resources, the American Legislative Exchange Council, Perdido Beach, AL: April 24, 1993.

28. In 1990, calculated from 1970. New service costed at the 1970 rate in 1990 dollars.

29. Department of Transport, Scottish Office/Welsh Office, *Buses* (London, UK: Her Majesty's Stationery Office, July 1984).

30. See Wendell Cox and Jean Love, "Controlling the Demand for Taxes through Competitive Incentives," *State Factor*, Vol.17, No.12 (Washington, DC: American Legislative Exchange Council, December 1991); Wendell Cox and Samuel Brunelli, "The Untold Story: The Rapid Growth in City Revenues," *The State Factor*, Vol.18, No.10 (Washington, DC: American Legislative Exchange Council, 1992); and Eric Hanushek, "The Impact of Differential Expenditures on School Performance," *Issue Analysis* (Washington, DC: American Legislative Exchange Council, March 1990).

31. Analysis based upon sample of all 166 largest transit agencies for which national data is available for 1979 and 1990. Sources include the US Department of Transportation, Urban Mass Transportation Administration Section 15 Reporting System and the American Public Transit Association.

32. The availability of large amounts of federal funding, and the Congressional earmarking process has encouraged urban areas to develop expensive rail systems. It is likely that if urban areas had been required to pay for such systems themselves, they would have either not been built, or more cost effective systems would have been chosen. The tendency of federal funding to skew local projects toward less effective and inefficient options was documented by the Congressional Budget Office in *Efficient Investments in Waste-Water Treatment* (Washington: 1985)

33. Calculated from U.S. Census data.

34. Federal City Council, *Transit in the Nation's Capital: What Lies Ahead* (Washington, DC: US Department of Transportation, Urban Mass Transportation Administration, 1986).

35. Don Pickrell, *Urban Rail Transit Projects: Forecasts versus Actual Ridership and Costs* (Washington, DC: US Department of Transportation, Urban Mass Transportation Administration, 1989).

36. The paradox is that many people ride Atlanta's rail system — almost half of Atlanta's transit ridership is on its rail system, yet overall trips on the transit system have increased less than four percent since the rail system opened. (see John Kain, *Deception in Dallas: Strategic Misrepresentation in Rail Transit Promotion and Evaluation*, APA Journal [American Planning Association], Spring 1990).

37. Calculated from Roger Snyder and Antonio Villaraigosa, "Commuting on the Backs of the Poor," *The Los Angeles Times*, November 27, 1992.

38. John Kain, *Deception in Dallas: Strategic Misrepresentation in Rail Transit Promotion and Evaluation*, APA Journal [American Planning Association], Spring 1990). Kain uses a figure of $185.50 per round trip rider per day, which has been annualized in the text. Kain estimates that the proposed rail system would attract only 6,500 new transit trips daily, which is approximately one-one thousandth of Dallas County's more than 5.5 million daily person trips.

39. Wendell Cox and Jean Love, *Designing Competitive Contracting Systems For The Public Good: A Review of the U.S. Experience*, paper presented to the International Conference on Bus Ownership and Competition in Thredbo, New South Wales (1989).

40. For a description of the reasons for the slow acceptance of competitive contracting in the US, see Jean Love and Jim Seal, *Competitive Contracting in the US: Overcoming Barriers*, Paper presented to the Second International Conference on Privatization and Deregulation in Passenger Transportation in Tampere, Finland (June 1991).

41. Wendell Cox Consultancy in association with Travers Morgan New Zealand, *Competition in Overseas Public Transport Competitive Tendering: Africa, the Americas, Australia, and Continental Europe*, (Belleville, IL: Wendell Cox Consultancy, August 1992).

42. Data from *Metropolitan San Diego Short Range Transit Plan FY 1994-2001*, Metropolitan Transit Development Board (San Diego: June 1993).

43. Ibid.

44. Ibid.

45. According to 1990 Urban Mass Transportation Administration and San Diego Metropolitan Transit Development Board data, the only large bus and rail system (or bus only system) in the US with a higher fare recovery ratio was New Jersey Transit.

46. FTA Section 15, 1991.

47. Comparison of San Diego Transit rate for public-private competition with its non-competitive rate. Assumes San Diego Transit public-private competition rate for additional bus services.

48. "Bus Service Continuation Project," *Private Sector Briefs*, Vol.4, No.6 (Washington, DC: US Department of Transportation, Federal Transit Administration, Office of Private Sector Initiatives, July 1992).

49. Price Waterhouse, *Bus Service Continuation Project Fiscal Year 1988-89 Evaluation Report* (1991).

50. KPMG Peat Marwick in association with Mundle & Associates, Inc. and Transportation Support Group, Inc., *Denver RTD Privatization Performance Audit Update: July 1990 - June 1991: Final Report.* (November 1, 1991).

51. Ibid.

52. Jean Love and Jim Seal, *Competitive Contracting in the US: Overcoming Barriers*, Paper presented to the Second International Conference on Privatization and Deregulation in Passenger Transportation in Tampere, Finland (June 1991).

53. KPMG Peat Marwick in association with Mundle & Associates, Inc. and Transportation Support Group, Inc., *Denver RTD Privatization Performance Audit Update: July 1990 - June 1991: Final Report.* (November 1, 1991).

54. *National Urban Mass Transportation Statistics: Section 15 Annual Report* (Washington, DC: US Department of Transportation, Federal Transit Administration, 1992).

55. FTA Section 15 data.

56. *National Urban Mass Transportation Statistics: Section 15 Annual Report* (Washington, DC: US Department of Transportation, Federal Transit Administration, 1992).

57. "Contracted Bus Operations and Maintenance: Fairfax County, Virginia," *Private Sector Briefs* (Washington, DC: US Department of Transportation, Urban Mass Transportation Administration, Office of Private Sector Initiatives, June 2, 1986).

58. Ibid.

59. *Annual Report 1992/93*, London Transport (London, UK: 1993)

60. Nick Newton, *Competitive Tendering: The London Experience*, presentation to the 3rd International Conference on Competition and Ownership in Surface Passenger Transport (Toronto: September 1993).

61. *Annual Report 1992/93*, London Transport (London, UK: 1993)

62. Above analysis based upon data from London Transport *Annual Reports* (multiple editions), John Hibbs, *on the Move: A Market for Mobility on the Roads*, Hobart Paper 121, Institute of Economic Affairs (London: 1993), and *Buses* (Parliamentary White Paper), Department of Transport, Scottish Office and Welsh Office, Her Majesty's Stationary Office (London: 1985) and *National Urban Mass Transportation*

Statistics: Section 15 Annual Report (Washington, DC: US Department of Transportation, Urban Mass Transportation Administration, multiple editions).

63. American Bus Association, *Transit Times*, (Washington, DC: April 1990).

64. *The Danish Model: Competition and Quality in Public Transport*, Hovedstadsomradets Takikselskab (Copenhagen: 1992).

65. Bjørn Andersen, *Tendering in Scandinavia: Systems and Results: Sustainable Competition Through Tendering?*, paper delivered to the Third International Conference on Competition and Ownership in Surface Passenger Transport, Toronto, September 1993.

66. Ian Wallis, *Competitive Tendering in New Zealand: Evolving Policies and Experience*, paper delivered at the 2nd International Conference on Privatization and Deregulation in Passenger Transport (Tampere, Finland: 1991).

67. See Bjørn Andersen's paper, Workshop 2, same volume and Wendell Cox and Jean Love, *International Experience in Competitive Tendering*, paper delivered at the 2nd International Conference on Privatization and Deregulation in Passenger Transport (Tampere, Finland: 1991).

68. Carole Cooper, Robin Hamilton, Harry Meshabela, Shaun McKay, Elizabeth Sidiropoulos, Clare Gordon-Brown, Stuart Murphy and Coletane Markham, *Race Relations Survey 1992/93* (Johannesburg, South Africa: South African Institute of Race Relations, 1993).

69. Urban Mobility Corporation, KPMG Peat Marwick, and Subhash Mundle, *The Miami Jitneys* (Washington, DC: Department of Transportation, Federal Transit Administration, Office of Private Sector Initiatives, August 1992).

70. Ibid.

71. *Van and Car Service Issue Affecting NYCTA Surface Operations*, Metropolitan Transit Authority (New York: January 1992).

72. For more information, see E. S. Savas, Sigurd Grava, and Roy Sparrow, *The Private Sector in Public Transportation in New York City: A Policy Perspective*, (New York, NY: Institute for Transportation Systems, The City University of New York, 1991.)

73. Seth Faison, "Bus-Fare Cuts Fail to Lure Queen's Riders: Private Vans Thriving Despite Price Pressure," *The New York Times* (November 29, 1992).

74. Analysis of *National Urban Mass Transportation Statistics: Section 15 Annual Report 1990* (Washington, DC: US Department of Transportation, Federal Transit Administration, 1991).

75. Calculated from Chris Bushell, ed. *Jane's Urban Transport Systems* (Coulsdon, Surrey, UK: Jane's Information Group, multiple editions).

76. Ibid.

77. Only commuter rail services operated faster than competitive bus rapid transit services. However commuter rail systems normally drop downtown passengers off at a single station, requiring transfer to other services, while bus services circulate in the downtown area making many transfers unnecessary. It is reasonable to assume that express bus passengers travel at overall average speeds at least as great as those of commuter rail passengers. Commuter rail operates under either electric or diesel power.

78. Car pooling declined substantially in the 1980s. During that period, little public investment was applied to build HOV lanes and other facilities that would have provided a faster trip for car pool.

79. John Kain, Ross Gittell, Amrita Daniere, Sanjay Daniel, Tsur Summerville, and Liu Zhi, *Increasing the Productivity of the Nation's Urban Transportation Infrastructure* (Washington, DC: US Department of Transportation, Federal Transit Administration, Technology Sharing Program, January 1992).

80. Calculated from Chris Bushell, ed. *Jane's Urban Transport Systems* (Coulsdon, Surrey, UK: Jane's Information Group, multiple editions).

81. John Kain, Ross Gittell, Amrita Daniere, Sanjay Daniel, Tsur Summerville, and Liu Zhi, *Increasing the Productivity of the Nation's Urban Transportation Infrastructure* (Washington, DC: US Department of Transportation, Federal Transit Administration, Technology Sharing Program, January 1992).

82. John Kain, Ross Gittell, Amrita Daniere, Sanjay Daniel, Tsur Summerville, and Liu Zhi, *Increasing the Productivity of the Nation's Urban Transportation Infrastructure* (Washington, DC: US Department of Transportation, Federal Transit Administration, Technology Sharing Program, January 1992).

83. Analysis of FTA Section 15 data (1991).

84. Calculated from *Commuter Bus Service: Total Cost Comparison* (Lynwood, WA: Community Transit, January 8, 1986).

85. Calculated from *Metro Contract Service: An Update* (Lynwood, WA: Community Transit, June 12, 1985) and *National Urban Mass Transportation Statistics: Section 15 Annual Report 1991* (Washington, DC: US Department of Transportation, Federal Transit Administration, 1992).

86. "Houston: Competitive Contracting Update," *Private Sector Briefs*, Vol.4, No.10 (Washington, DC: US Department of Transportation, Federal Transit Administration, Office of Private Sector Initiatives, March 1993).

87. *National Urban Mass Transportation Statistics: Section 15 Annual Report* (Washington, DC: US Department of Transportation, Federal Transit Administration, 1991).

88. *National Urban Mass Transportation Statistics: Section 15 Annual Report* (Washington, DC: US Department of Transportation, Federal Transit Administration, 1991).

89. Based upon comparison of first year's competitive rate per hour to previous year's non-competitive rate.

90. Dennis L. Christiansen, *High-Occupancy Vehicle System Development in the United States*, (College Station, TX: Texas Transportation Institute, December 1990).

91. According to Cambridge Systematics with the Urban Institute, Sydec, Inc, Herbert S. Levinson, Abrams-Cherwony & Associates and Lee & Elliot, *Characteristics of Urban Transportation Systems* (Washington, DC: US Department of Transportation, Technology Sharing Program, September 1992), the ideal capacity of a freeway lane is 2,200 person trips per peak hour. Dennis L Christiansen, *High-Occupancy Vehicle System Development in the United States: A White Paper* (College Station, TX: Texas Transportation Institute, Texas A&M University, December 1990), reports that new light rail lines achieve from 500 to 2,500 in peak hour person trips.

92. Dennis L. Christiansen, *High-Occupancy Vehicle System Development in the United States*, (College Station, TX: Texas Transportation Institute, December 1990).

93. Motor bus, electric bus, rapid rail and light rail (street car). Assumptions:

1. Overall operating revenues (subsidies and fares) would continue to increase at the inflation adjusted 1979 to 1990 national rate (approximately 2 percent annually).

2. Services would be subjected to public-private competition at a rate no greater than that of natural employee attrition (there would be no layoffs).

3. National job growth is assumed to be 14.5 percent, and transit's work trip market share is estimated by applying the change in overall ridership to the increase in national employment.

4. Passengers would increase at 0.69 percent for each 1.00 percent increase in service (based upon Michael D. Meyer and Eric J. Miller, *Urban Transportation Planning: A Decision Oriented Approach*, McGraw Hill Book Company (New York: 1984).

4. Under the status quo:

   a. Operating costs per mile would continue to increase at the inflation adjusted 1979 to 1990 national rate (approximately 2 percent annually).

   b. Average passenger fares would rise at the same inflation adjusted rate as overall operating revenues (see #1, above)

   c. Ridership per mile would continue to decline at the 1978 to 1990 rate, approximately 1.6 percent per year. (1978 is used, rather than 1979, to eliminate the impact of the 1979 gasoline allocation crisis, which increased transit ridership temporarily. Use of 1979 data would overstate the extent of transit's downward ridership trend).

5. Under Public-Private Competition:

   a. Operating costs would decrease at the national competitive bus industry rate from 1979 to 1990 (a rate similar to the annual decrease rates in San Diego and Minneapolis-St. Paul, where public-private competition has been implemented).

   b. Average passenger fares would remain constant (inflation adjusted).

   c. Savings and higher fare revenues would be used to establish new services.

   d. New transit employment would be created at 0.8 percent for each 1.0 percent increase in service. This assumes that the new competitive services would be more productive, requiring fewer employees per unit of service.

94. This projection assumes the use of public-private competition, with conversion at a rate approximately one-half that of natural employee attrition. More favorable results would be obtained by using a higher conversion rate relative to employee attrition, and by incorporating entrepreneurial services. London has achieved annual productivity improvements nearly triple that of San Diego, by accelerating the conversion to public-private competition.