

US COMPETITIVE TENDERING: COMPREHENSIVE COST ANALYSIS

Presentation to the
Sixth International Conference on Competition and
Ownership in Land Passenger Transport
Cape Town
September 1999

by:
Wendell Cox, Principal
Wendell Cox Consultancy (USA)

Telephone: +1 618 632 8507
Fax +1 618 632 8538
E-Mail wcox@publicpurpose.com
Internet:
www.publicpurpose.com
www.demographia.com

INTRODUCTION

Over the past two decades public passenger transport authorities around the world have increasingly turned to competitive mechanisms to deliver their services. It might have been expected that the United States, with its reputation for free markets, would be a leader in the field. But this has not been the case. Because of federal laws favoring existing public transport operating procedures and the nuances of special interest influence in US politics, conversion to competitive tendering has been very contentious and slow. Less than 10 percent of US public transport bus service is competitively tendered, a considerably lower figure than in the United Kingdom, Sweden, Denmark, Finland, Australia and New Zealand, for example.

This paper reviews research on us competitive tendering and provides the first comprehensive cost analysis of competitive tendering relative to non-competitive government production of public transport bus service in the United States. It includes all 1995 data available (not a sample) with respect to all metropolitan areas with more than one million population as of 1995.

PREVIOUS RESEARCH

Over the past 15 years, a number of studies have estimated the cost impacts of public transport bus service competitive tendering in the United States. Generally these studies have found competitive operation to be less costly than non-competitive. For example:

- Teal, Giuliano and Morlok found competitive cost savings in a 1986 review of US cases, which was the broadest research to date.¹
- In an independent audit of a major Los Angeles competitive tendering project, Price Waterhouse reported² cost savings of 60 percent savings per vehicle kilometer and improved service quality.
- Denver's mandatory competitive tendering program³ was found to have resulted in 25.6 percent higher bus service levels, while operating costs increased only 3.0 percent (1988 to 1995, inflation adjusted). In contrast, during the six years before competitive contracting, operating costs rose 18.8 percent, while service levels were increased by 17.5 percent.⁴
- Virtually all of the public transport agencies in the United States that have competitive tendered service have done so with the intention of reducing costs. Internal public agency analyses have invariably identified cost savings and in the few cases where competitive tendering has been abandoned, the impetus was either trade union political pressure or trade union concessions.⁵

These studies mirror the international experience in both bus and rail competitive tendering,⁶ and mirrors the general results that would be predicted by economic theory for substitution of

¹ Roger Teal, Genevieve Giuliano and Edward K. Morlok, *Public Transit Service Contracting* Report prepared for the United States Department of Transportation, Urban Mass Transportation Administration, 1986.

² Price Waterhouse, *Bus Service Continuation Project: Fiscal Year 1988-89 Evaluation Report* (1991).

³ 1988 legislation required Denver's public transport agency to competitively tender 20 percent of its bus service. The legislative mandate was expanded to 35 percent in 1999.

⁴ Wendell Cox, Janet E. Kraus and Subhash R. Mundle, *Competitive Contracting of Transit Services: The Denver Experience*, presented to the 5th International Conference on Competition and Ownership in Passenger Transport (Leeds), May 1997 and the Transportation Research Board (Washington), January 1997.

⁵ Examples are New Orleans, Miami and St. Louis.

⁶ Wendell Cox, Jean Love and Nick Newton, *Competition in Public Transport: International State of the Art*, paper presented to the 5th International Conference on Competitive and Ownership in Passenger Transport (Leeds), May 1997.

competition for monopoly.

More recently, studies have been published that reach different conclusions:

- Elliot Sclar⁷ found competitive costs in Denver's legislatively mandated program⁸ to be higher than non-competitive costs. Sclar calculated overhead costs at approximately double the normal rate, including costs normally associated with non-competitive service in overhead instead, did not adjust for competitive capital costs mandated by the public transport agency⁹ and not reported in non-competitive costs, and used a base year that did not precede the beginning of the competitive tendering program.¹⁰
- Recently William Shelton McCullough, Brian Taylor and Martin Wachs published an analysis of contracted and non-contracted US public transport bus services in 1993,¹¹ which generally found costs at public transport agencies that do not contract for bus service to be lower than agencies that contract for some or all of their bus services. Superficially, such a finding appears to contradict the research indicating that competitive tendering results in cost savings and the general economic theory that competition is more efficient than monopoly. For that reason, the McCullough-Taylor-Wachs (MTW) research

⁷ Elliot Sclar, *Paying More, Getting Less: The Denver Experience with Bus Privatization: 1990-1995*, report prepared for the Amalgamated Transit Union, AFL-CIO/CLC, February 1997.

⁸ This is the only mandatory competitive tendering program in the United States.

⁹ In the 1994 procurement, the last before the Sclar analysis, the public transport agency required contractors to provide new buses, with an option for the buses to be purchased by the public transport agency at the end of the contract term. That asset transfer has now taken place. The National Transit Database does not generally include capital costs. Capital costs are sometimes included where they are a part of a contract cost paid to another operator by the public transport agency. Even in these cases, however, the National Transit Database does not report such costs explicitly, and as a result they cannot be directly derived.

¹⁰ This research was considered and not considered convincing by the Colorado legislature in 1999 when the competitive tendering mandate was expanded to 35 percent. The driving factor in this decision was the cost savings that had been documented in a number of studies, including Cox-Kraus-Mundle, KPMG Peat Marwick and the public transport agency itself.

¹¹ William Shelton McCullough III, Brian D. Taylor and Martin Wachs, *Transit Service Contracting and Cost Efficiency*, Paper presented to the Transportation Research Board (Washington), 1998.

is considered in greater detail.

The McCullough-Taylor-Wachs Research

A number of methodology issues make it inappropriate to characterize the MTW research as measuring differences between the costs of US competitively tendered and non-competitive bus services.

1. MTW compares the costs of contracted services to the cost of non-contracted services. Contracted services are those purchased by a government agency from another organization. Non-contracted services are those produced by the government agency itself. Some of the services included in the MTW sample are non-competitively contracted.¹² At least one competitively tendered service is included as a non-contracted service.¹³ MTW tends to compare government versus private operation of services, rather than competitive versus non-competitive operation (Tables #1 and #2).

Table #1 McCullough-Taylor-Wachs Contracted and Non-Contracted Sample Characteristics		
<i>Operator</i>	<i>Non-Competitive</i>	<i>Competitive</i>
<i>Government</i>	(1) Non-Contracted	(2) Non-Contracted
<i>Private Sector</i>	(3) Contracted	(4) Contracted

Table #2 Competitive and Non-Competitive Sample Characteristics		
<i>Operator</i>	<i>Non-Competitive</i>	<i>Competitive</i>
<i>Government</i>	(1) Non-Competitive	(2) Competitively Tendered
<i>Private Sector</i>	(3) Non-Competitive	(4) Competitively Tendered

2. MTW compares the combined contracted and non-contracted cost per service (revenue) hour of three samples of operators --- (1) agencies that do not contract for bus services, (2) agencies that contract for some bus services and (3) agencies that contract for all of their bus services. The MTW analysis, however, does not measure the difference between competitive and non-competitive operating costs within either individual public transport

¹² Non-competitive contracts include Boston, Baltimore, Worcester, Pioneer Valley (all Massachusetts) and Suffolk County (New York).

¹³ Minneapolis-St. Paul

agencies or metropolitan areas. Use of the combined cost indicator is less precise a comparison of contracted and non-contracted costs. In some public transport agencies, the percentage of contracted services is so low that could have only minuscule impact on overall public transport agency costs.¹⁴ In addition, administrative cost at public transport agencies may vary by up to \$14 per vehicle hour,¹⁵ which makes it impossible to measure the financial impact of contracted service through an examination of combined contract and non-contract costs.

3. The MTW “no contracting” sample is characterized by much smaller public transport agency sizes than the “some contracting” sample (Table #1). The median size no-contracting public transport agency is 16 buses. Moreover, the “no contracting” sample excludes high cost large public public transport agencies that do not contract, such as the New York City Transit Authority and the Chicago Transit Authority (Table #3). The median sized public transport agency in the “some contracting” sample is a more representative 233 buses and this sample contains a much higher representation of the high cost larger public operators.

Range of Buses	No Contracting	Some Contracting
1-24	58	0
25-49	15	3
50-99	4	5
100-249	3	8
250-499	4	2
500-999	0	7
1000+	2	0
Median of Sample	16	233
Cost per Revenue Hour	\$45.74	\$66.84
Median Number of Buses	16	233
Median is in # of Buses Range:	1-24	100-249
Range: Cost per Revenue Hour	\$43.13	\$68.00

¹⁴ This dynamic is illustrated by a “reductio ad absurdum” analysis. The high cost Seattle public transport agency contracted approximately five percent of its bus service. For contracted service to reduce the agency’s average cost per hour to the \$45.74 MTW “no contracting” average would have required the contract operators to pay the agency approximately \$2,300 per hour.

¹⁵ Wendell Cox, *VIA Metropolitan Transit Opportunity Analysis* (San Antonio, TX: Texas Public Policy Foundation), 1997.

Table #3 McCullough-Taylor-Wachs Distribution of Public Transport Agencies by Number of Buses		
MTW Cost Compared to Range Cost	6.1%	-1.7 %

Because US public transport agencies are characterized by substantial *diseconomies* of scale (Table #3), it the MTW research appears to reflect differences in agency sizes more than differences in contracting practice (Table #4).

Table #4 Average Cost per Revenue Hour by Size of Bus System: 1993	
Number of Buses	1993 Average Cost per Revenue Hour
1000+	\$84.68
500-999	\$77.26
250-499	\$68.00
100-249	\$61.59
50-99	\$60.82
25-49	\$49.33
1-24	\$43.13

MTW’s “no contracting” cost per revenue hour of \$45.74 is within seven percent of the average cost for agencies in the 1 to 25 bus category (\$43.13). The paper’s \$66.84 cost per revenue hour for the “some contracting” sample is within two percent of the \$68.00 for agencies in the 100-249 bus classification. MTW could well measure the cost impacts of size more so than the impact of contracting.

4. Some agencies in the “some” and “all” contracting sample have contracting costs that include bus capital. Capital costs, however, are not included in the National Transit Database for non-contracted services. This tends to overstate the cost of contracted services.¹⁶
5. Cost per revenue hour (in service hour) is not a sufficiently indicative cost measure. Revenue hour costs are output costs dependent upon policy decisions have nothing to do with contracting or the lack of it (the design of bus routes by the agency). The revenue hour cost indicator places competitive operators at a disadvantage, since a disproportionate share of peak period express services is operated competitively. In 1995, competitively tendered services in metropolitan areas of more than one million population had revenue hour per vehicle hour ratios of 0.815, while non-competitive services had ratios of 0.888. This disparity could account to a five to ten percent contracting

¹⁶ Examples include Denver, Chicago and Minneapolis-St. Paul.

disadvantage. A preferable (input) indicator is cost per vehicle hour (total hours). The cost of service to the public transport agency is more dependent upon the number of vehicle hours than on the number of revenue hours.

6. There is considerable difference in the major metropolitan area (more than 1 million) components of each of the samples. The “none” sample has only a 21.8 percent major metropolitan representation. The “some” and “all” samples have representations more than three times as high (Table #5). Costs, especially labor costs, tend to be lower outside major metropolitan areas, which would have the effect of skewing the results in favor of the “none” sample and against the “all” and “some” sample. Nearly 90 percent (87.4 percent) of public transport bus riders are carried on services within metropolitan areas of more than one million persons.

Table #5 McCullough-Taylor-Wachs Sample Size & Number in Metropolitan Areas of More than 1,000,000 Population			
Sample	Sample Size	In Major Metropolitan Areas	Major Metropolitan Share
All Contracted	29	20	69.0%
None Contracted	87	19	21.8%
Some Contracted	25	18	72.0%
Total	141	57	40.4%

THE COMPREHENSIVE RESEARCH: 1995

The research reported in this paper includes all identified instances of public transport bus competitive tendering in the 43 metropolitan areas with a population of more than one million in 1995. The primary data source was the United States Department of Transportation Federal Transit Administration National Transit Database. Additional data was obtained from public transport policy organizations for services in Minneapolis-St. Paul and Indianapolis, which were not reported to the National Transit Database.¹⁷

Bus competitive tendering excludes both non-competitive contract service and any competitive tendering in which the public transport agency mandates labor arrangements, such as wages or benefits beyond the dictates of the labor laws that generally apply to commercial enterprises (such as management contracting as occurs at Phoenix Transit¹⁸ and the Greensboro, North Carolina

¹⁷ Data obtained from the Metropolitan Council in Minneapolis-St. Paul and the city of Indianapolis.

¹⁸ Other services in the Phoenix metropolitan area are competitively tendered.

public transport agency).

Competitive tendering occurs in 30 of the 43 metropolitan areas. Non-competitive services, most operated directly by public transport agencies, occur in 42 of the 43 metropolitan areas (all services in Las Vegas are competitively tendered).

- The universe reviewed includes the 123 non-competitive and 77 competitively tendered services in metropolitan areas with more than one million population. These services are administered by 161 public transport agencies, and represent 87.4 percent of all US public transport bus ridership.¹⁹
- Some competitively tendered services reported in the National Transit Database include vehicle capital costs. In contrast, no capital costs are included in non-competitive operating costs and some maintenance costs are capitalized (resulting in an understatement of operating costs).²⁰ A 10 percent cost reduction is applied to competitive costs where vehicle capital costs are included.²¹
- Administrative costs are allocated to non-competitive and competitive services based upon an allocation of vehicle kilometer and vehicle hour related costs.
- A composite cost comparison was developed, using a weighting of cost per vehicle hour and cost per vehicle kilometer calculated at the individual public transport agency level using the ratio of vehicle operations and vehicle maintenance costs.

Cost per Vehicle Hour:

The cost per vehicle hour comparison yields the following results (Table #6 and Figure #1):

- Based upon aggregate service levels, competitively tendered services are 30.8 percent less expensive per vehicle hour than non-competitive services.
- Based upon an mean average of individual metropolitan area data, competitively tendered

¹⁹ With respect to data obtained from the Metropolitan Council in Minneapolis-St. Paul competitively tendered services are assumed to have 1.15 vehicle hours and vehicle kilometer per each service vehicle hour and vehicle kilometer respectively.

²⁰ No adjustment is made to account for non-competitive capitalization of operating costs.

²¹ Vehicle capital costs are excluded in Denver based a detailed analysis in a 1995 Management Report for the Regional Transportation District. (Mundle and Associates and Wendell Cox Consultancy).

services are 25.4 percent less expensive per vehicle hour than non-competitive services.

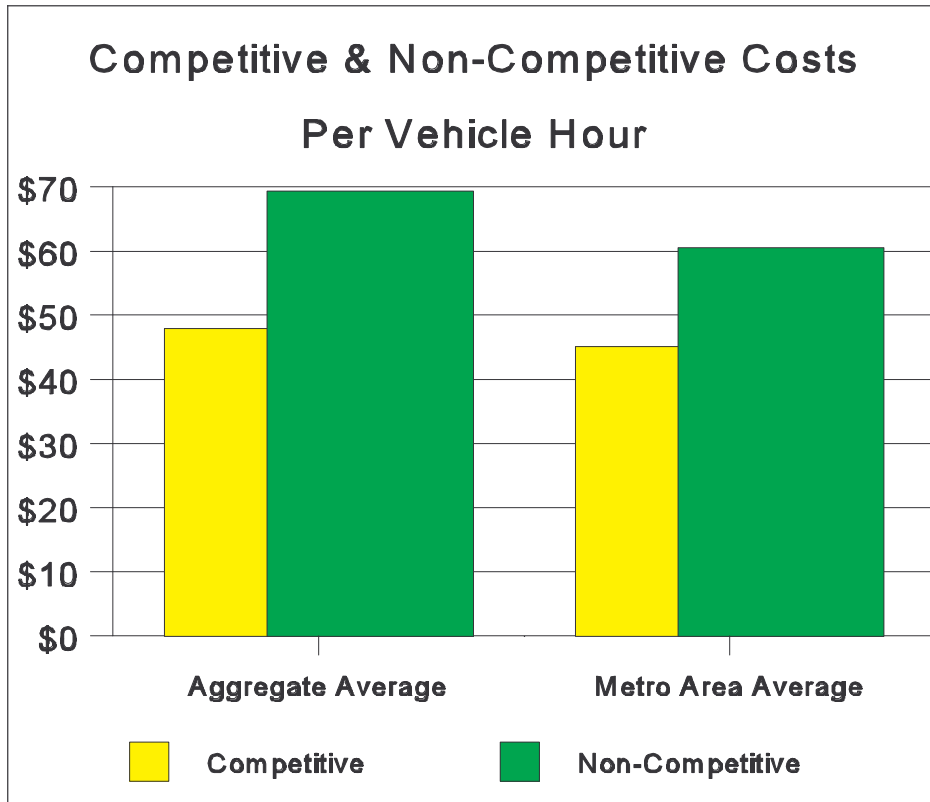


Figure 1

Cost per Vehicle Kilometer

The cost per vehicle kilometer comparison yields the following results (Table #7 and Figure #2):

- Based upon aggregate service levels, competitively tendered services are 47.4 percent less expensive per vehicle kilometer than non-competitive services.
- Based upon an mean average of individual metropolitan area data, competitively tendered services are 39.5 percent less expensive per vehicle kilometer than non-competitive services.

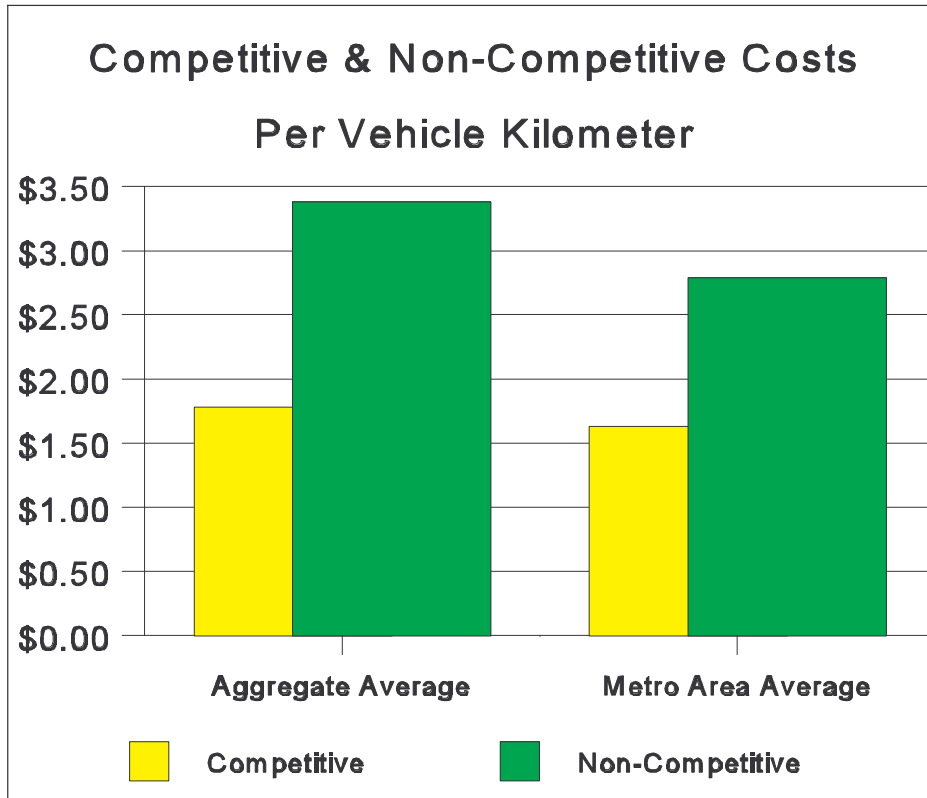


Figure 2

Composite Cost Comparison

The composite cost comparison, calculated using a weighting (above) of individual service cost per vehicle hour and cost per vehicle kilometer ratios, yields the following results (Table #8 and Figure #3):

- Based upon aggregate service levels, competitively tendered services are 35.4 percent less expensive in composite costs than non-competitive services.
- Based upon an mean average of individual metropolitan area data, competitively tendered services are 33.1 percent less expensive per vehicle kilometer than non-competitive services.²²

Competitive costs are lower than non-competitive costs in all 30 metropolitan areas in which

²² Without the 10 percent capital cost adjustment, the national average savings figures would decline by less than one percent.

public transport bus service is competitively tendered.²³

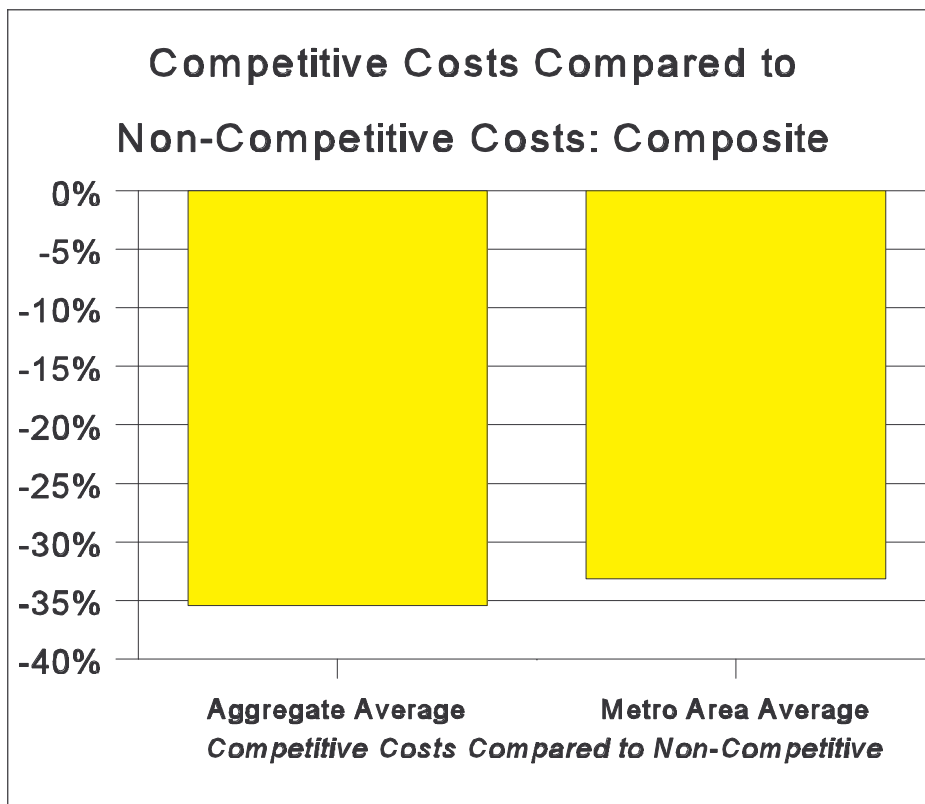


Figure 3

Conclusion

Consistent with previous US and international research, the good faith efforts of US public transport agencies to administer competitive service delivery have produced cost savings.

²³ In the metropolitan areas in which the cost differences are the least (Seattle, Houston and Austin), tender awards since 1995 have enlarged the cost differential. Houston Metro competitively tendered a complete operating division in 1996 (150 buses). Agency staff estimates the savings at more than 35 percent. The Seattle competitively tendered peak-hour express services (Snohomish County) have been retendered (1997), resulting in a cost per hour reduction of 19 percent from the previous contract, which would increase the cost differential between competitive and non-competitive costs. Retendering of Denver services since 1995 have reduced competitive costs per vehicle hour by more than 15 percent (Internet: www.publicpurpose.com/ut-denc99.htm).

Table #6
Competitive and Non-Competitive Public Transport Table Bus Service Costs per Vehicle Hour
US Metropolitan Areas of More than 1,000,000 Population in 1995

Metropolitan Area	State(s)	Competitively Tendered	Non-Competitive	Cost Difference	Percentage Competitively Tendered
Aggregate Average (Total Service Level)		\$47.98	\$69.30	-30.8%	6.4%
Metropolitan Area Average		\$45.15	\$60.55	-25.4%	8.1%
Atlanta	GA	\$44.57	\$57.69	-22.7%	4.6%
Austin	TX	\$52.32	\$58.43	-10.5%	29.3%
Boston	MA-NH	\$50.08	\$83.03	-39.7%	7.0%
Buffalo	NY		\$60.68		0.0%
Charlotte	NC-SC	\$37.16	\$49.70	-25.2%	4.3%
Chicago	IL-IN-WI	\$50.28	\$69.43	-27.6%	3.6%
Cincinnati	OH-KY		\$54.23		0.0%
Cleveland	OH	\$27.49	\$67.70	-59.4%	0.3%
Columbus	OH		\$63.94		0.0%
Denver	CO	\$46.92	\$62.32	-24.7%	24.5%
Detroit	MI	\$36.38	\$72.43	-49.8%	1.2%
Dallas-Ft. Worth	TX	\$52.81	\$72.43	-27.1%	22.5%
Greensboro-Winston Salem-High Point	NC		\$38.27		0.0%
Hartford	CT	\$41.55	\$59.29	-29.9%	5.6%
Houston	TX	\$67.95	\$61.61	10.3%	3.1%
Indianapolis	IN	\$27.26	\$56.40	-51.7%	21.5%
Kansas City	MO-KS	\$42.47	\$62.48	-32.0%	5.1%
Los Angeles	CA	\$48.96	\$73.57	-33.5%	9.9%
Las Vegas	NV-AZ	\$34.00			100.0%
Memphis	TN-AR		\$44.61		0.0%
Miami	FL	\$36.81	\$60.52	-39.2%	3.7%
Milwaukee	WI	\$49.33	\$55.60	-11.3%	2.2%
Minneapolis-St. Paul	MN-WI	\$53.44	\$59.51	-10.2%	14.4%
New Orleans	LA		\$70.17		0.0%

Table #6
Competitive and Non-Competitive Public Transport Table Bus Service Costs per Vehicle Hour
US Metropolitan Areas of More than 1,000,000 Population in 1995

Metropolitan Area	State(s)	Competitively Tendered	Non-Competitive	Cost Difference	Percentage Competitively Tendered
Norfolk	VA		\$41.22		0.0%
Nashville	TN		\$47.55		0.0%
New York	NY-NJ-CT-PA	\$63.00	\$77.21	-18.4%	2.4%
Orlando	FL		\$47.59		0.0%
Pittsburgh	PA	\$48.47	\$67.49	-28.2%	1.5%
Philadelphia	PA-NJ	\$25.69	\$74.93	-65.7%	0.9%
Phoenix	AZ	\$31.07	\$55.14	-43.7%	26.4%
Portland	OR-WA	\$45.31	\$62.10	-27.0%	0.6%
Providence	RI-MA		\$55.62		0.0%
Rochester	NY		\$59.56		0.0%
Sacramento	CA	\$55.44	\$68.57	-19.1%	5.7%
San Antonio	TX		\$42.12		0.0%
San Diego	CA	\$32.53	\$52.04	-37.5%	20.4%
Seattle	WA	\$70.80	\$72.74	-2.7%	5.7%
San Francisco	CA	\$53.74	\$78.01	-31.1%	11.0%
Salt Lake City	UT		\$47.83		0.0%
St. Louis	MO-IL	\$32.15	\$53.04	-39.4%	5.2%
Tampa-St. Petersburg	FL	\$43.35	\$50.28	-13.8%	1.4%
Washington-Baltimore	DC-MD-VA-WV	\$53.06	\$76.22	-30.4%	3.5%

Calculated from National Transit Database, Metropolitan Council (Minneapolis-St. Paul) data and city of Indianapolis data.

Table #7
 Competitive and Non-Competitive Public Transport Bus Service Costs per Vehicle Kilometer
 US Metropolitan Areas of More than 1,000,000 Population in 1995

Metropolitan Area	State(s)	Compe-titively Tendered	Non-Competitive	Cost Difference	Percentage Competitively Tendered
Aggregate Average (Total Service Level)		\$1.78	\$3.38	-47.4%	8.4%
Metropolitan Area Average		\$1.63	\$2.79	-39.5%	10.0%
Atlanta	GA	\$1.57	\$2.66	-40.9%	6.0%
Austin	TX	\$2.09	\$2.72	-23.3%	32.6%
Boston	MA-NH	\$1.52	\$4.27	-64.5%	11.3%
Buffalo	NY		\$3.21		0.0%
Charlotte	NC-SC	\$1.41	\$2.21	-36.2%	5.0%
Chicago	IL-IN-WI	\$1.81	\$3.89	-53.4%	5.5%
Cincinnati	OH-KY		\$2.40		0.0%
Cleveland	OH	\$0.90	\$3.16	-71.3%	0.5%
Columbus	OH		\$2.86		0.0%
Denver	CO	\$1.77	\$2.47	-28.1%	25.4%
Detroit	MI	\$1.53	\$3.06	-49.9%	1.2%
Dallas-Ft. Worth	TX	\$1.66	\$3.05	-45.5%	28.0%
Greensboro-Winston Salem-High Point	NC		\$1.68		0.0%
Hartford	CT	\$1.49	\$2.75	-45.9%	7.1%
Houston	TX	\$1.52	\$2.44	-37.8%	5.4%
Indianapolis	IN	\$1.15	\$2.38	-51.7%	21.5%
Kansas City	MO-KS	\$1.53	\$2.87	-46.6%	6.4%
Los Angeles	CA	\$1.69	\$3.45	-51.0%	13.0%
Las Vegas	NV-AZ	\$1.68			100.0%
Memphis	TN-AR		\$1.96		0.0%
Miami	FL	\$1.53	\$2.79	-45.1%	4.1%
Milwaukee	WI	\$1.62	\$2.74	-41.0%	3.3%
Minneapolis-St. Paul	MN-WI	\$2.06	\$2.77	-25.7%	16.9%
New Orleans	LA		\$3.54		0.0%

Table #7
 Competitive and Non-Competitive Public Transport Bus Service Costs per Vehicle Kilometer
 US Metropolitan Areas of More than 1,000,000 Population in 1995

Metropolitan Area	State(s)	Compe-titively Tendered	Non-Competitive	Cost Difference	Percentage Competitively Tendered
Norfolk	VA		\$1.80		0.0%
Nashville	TN		\$2.06		0.0%
New York	NY-NJ-CT-PA	\$2.73	\$4.49	-39.2%	3.2%
Orlando	FL		\$2.06		0.0%
Pittsburgh	PA	\$1.47	\$2.97	-50.7%	2.2%
Philadelphia	PA-NJ	\$0.78	\$4.39	-82.2%	1.7%
Phoenix	AZ	\$1.25	\$2.41	-48.1%	28.0%
Portland	OR-WA	\$1.88	\$2.75	-31.6%	0.6%
Providence	RI-MA		\$2.27		0.0%
Rochester	NY		\$2.99		0.0%
Sacramento	CA	\$1.95	\$2.95	-34.0%	6.9%
San Antonio	TX		\$1.78		0.0%
San Diego	CA	\$1.42	\$2.22	-35.8%	20.0%
Seattle	WA	\$2.28	\$2.88	-20.7%	6.9%
San Francisco	CA	\$1.87	\$3.69	-49.5%	14.5%
Salt Lake City	UT		\$1.68		0.0%
St. Louis	MO-IL	\$1.16	\$2.28	-49.3%	6.2%
Tampa-St. Petersburg	FL	\$1.71	\$2.12	-19.4%	1.5%
Washington-Baltimore	DC-MD-VA-WV	\$1.81	\$3.85	-53.0%	5.2%

Calculated from National Transit Database, Metropolitan Council (Minneapolis-St. Paul) data and city of Indianapolis data

Table #8
 Competitive and Non-Competitive Public Transport Table Bus Service Costs: Composite
 US Metropolitan Areas of More than 1,000,000 Population in 1995

Metropolitan Area	State(s)	Cost Difference	Percentage of Service Competitively Tendered	Vehicle Hours Allocation	Vehicle Kilometers Allocation
Aggregate Average (Total Service Level)		-35.4%	7.0%	71.9%	28.1%
Metropolitan Area Average		-33.1%	8.4%	73.4%	26.6%
Atlanta	GA	-27.6%	5.0%	73.1%	26.9%
Austin	TX	-14.0%	30.2%	72.8%	27.2%
Boston	MA-NH	-46.9%	8.3%	70.9%	29.1%
Buffalo	NY		0.0%	70.2%	29.8%
Charlotte	NC-SC	-28.2%	4.5%	72.5%	27.5%
Chicago	IL-IN-WI	-34.7%	4.1%	72.3%	27.7%
Cincinnati	OH-KY		0.0%	71.5%	28.5%
Cleveland	OH	-62.5%	0.4%	73.9%	26.1%
Columbus	OH		0.0%	76.5%	23.5%
Denver	CO	-25.8%	24.8%	67.7%	32.3%
Detroit	MI	-49.8%	1.2%	64.2%	35.8%
Dallas-Ft. Worth	TX	-32.1%	24.0%	72.7%	27.3%
Greensboro-Winston Salem-High Point	NC		0.0%	76.8%	23.2%
Hartford	CT	-34.0%	6.0%	74.6%	25.4%
Houston	TX	-6.1%	3.9%	66.0%	34.0%
Indianapolis	IN	-51.7%	21.5%	75.0%	25.0%
Kansas City	MO-KS	-36.2%	5.5%	71.1%	28.9%
Los Angeles	CA	-38.0%	10.7%	74.1%	25.9%
Las Vegas	NV-AZ		100.0%	100.0%	
Memphis	TN-AR		0.0%	74.8%	25.2%
Miami	FL	-40.7%	3.8%	75.1%	24.9%
Milwaukee	WI	-18.0%	2.4%	77.3%	22.7%
Minneapolis-St. Paul	MN-WI	-14.0%	15.0%	75.5%	24.5%

Table #8
 Competitive and Non-Competitive Public Transport Table Bus Service Costs: Composite
 US Metropolitan Areas of More than 1,000,000 Population in 1995

Metropolitan Area	State(s)	Cost Difference	Percentage of Service Competitively Tendered	Vehicle Hours Allocation	Vehicle Kilometers Allocation
New Orleans	LA		0.0%	64.0%	36.0%
Norfolk	VA		0.0%	74.1%	25.9%
Nashville	TN		0.0%	73.0%	27.0%
New York	NY-NJ-CT-PA	-24.6%	2.7%	70.5%	29.5%
Orlando	FL		0.0%	76.2%	23.8%
Pittsburgh	PA	-34.8%	1.7%	70.4%	29.6%
Philadelphia	PA-NJ	-70.2%	1.1%	72.6%	27.4%
Phoenix	AZ	-45.0%	26.8%	70.3%	29.7%
Portland	OR-WA	-28.1%	0.6%	75.8%	24.2%
Providence	RI-MA		0.0%	74.3%	25.7%
Rochester	NY		0.0%	68.5%	31.5%
Sacramento	CA	-22.6%	6.0%	76.6%	23.4%
San Antonio	TX		0.0%	77.0%	23.0%
San Diego	CA	-37.1%	20.3%	75.2%	24.8%
Seattle	WA	-7.8%	6.0%	71.5%	28.5%
San Francisco	CA	-36.0%	12.0%	73.1%	26.9%
Salt Lake City	UT		0.0%	72.1%	27.9%
St. Louis	MO-IL	-42.2%	5.5%	71.8%	28.2%
Tampa-St. Petersburg	FL	-15.1%	1.4%	76.5%	23.5%
Washington-Baltimore	DC-MD-VA-WV	-36.5%	4.0%	73.0%	27.0%