Policy Study

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Myths and Facts of Nation's Transit Policy

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EXECUTIVE SUMMARY

The surface transportation reauthorization bills now being considered by the Congress continue the government-dominated approach that has not worked in the past. In fact, these bills ignore the results of 25 years of research (much of it federally funded) that has demonstrated the problems of the conventional approaches. Much of the literature on transit that has passed peer-review and appeared in academic journals points out that the traditional programs have done more harm than good.

Public transit monopolies are now slated to get larger capital grants and more operating subsidies, even though it has been established that the former encourage local planners to promote wasteful rail transit projects while the latter encourage a continuation of inefficiencies and a shifting of costs from riders to taxpayers.

Rail transit and many fixed-route bus systems are inappropriate for dispersed and decentralizing U.S. cities. Riders care about their time and find that conventional transit is an expensive choice. More competitive transit modes (such as airport shuttle vans) that can approximate door-to-door service in large metropolitan areas would be far more effective but will have limited scope as long as local regulations bar the entry of innovative services, the transit monopolies are routinely bailed out, and freeways are available to auto users at no charge.

Policy Alternatives

Congress should incorporate 25 years of research results (much of which the public paid for) and adopt a federal transit program along these lines:

* Phase out discretionary federal capital grants over a five-year period, and eliminate the "earmarking" of grants for specific projects.
* Convert transit operating subsidies to transit vouchers for low-income people.
* Make continued federal aid contingent on deregulating local transit markets.
* Convert the capital grants program into a no-strings "block grant" program.
* Exempt from federal income tax employer-provided travel allowances (in lieu of employer-paid parking).
* Remove the federal ban on charging prices for use of Interstate expressway segments in congested urban areas.
* To encourage competitive contracting of transit service, repeal the Section 13(c) labor-protection clause of the urban mass transit law.

These measures would bring a new paradigm in urban transit, based solidly on the findings of decades of transportation research.

I. INTRODUCTION

The New York Times recently described the plight of the nation's large-city transit systems as a case of declining subsidies exacerbated by economic recession.[1] The facts show otherwise. Big-city transit systems are ever more subsidized but continue to lose riders in good times and in bad. Three thousand miles to the west, but as misinformed, *The Los Angeles Times* welcomed congressional efforts to broaden federal transit funding on grounds that population growth would intensify "gridlock" ("If nothing is done to clear traffic jams, the average speed of cars at rush hour will be about 12 miles per hour--four-hour round-trips for commuters who live 25 miles from work. Cars would be moving bumper-to-bumper in downtown Los Angeles and parts of Orange County at between 5 and 10 m.p.h.").[2] Extra transit funding, the *Times* suggested, would also reduce smog. Again, the writers disregarded the facts. Cities accommodate growth (and avoid downtown gridlock) by suburbanizing. And transit systems in the U.S. have no record of diverting significant numbers of auto users. Air quality or energy-saving consequences have, therefore, been negligible.

Together, these two representative editorials repeat most of today's cliches of urban transportation. The fact that discussions such as these set the tone after a quarter of a century of academic research to the contrary is troubling. Far worse, judging by the debates over the 1991 Surface Transportation Reauthorization Bills (STRB), the findings of researchers have had no impact whatsoever on Congress (or, for that matter, virtually every other U.S. lawmaking body), which continues to rely on the same specious arguments that have supported its urban transportation spending plans since 1964. The draft Act proposed in HR 2950 offers to spend $151 billion over the next six years. Of that amount, $119 billion will support highway projects and $32 billion is earmarked for mass transit. An extension of the 2.5-cent gasoline tax is proposed to help cover the cost of the bill.

Almost all of the old contentions about urban transportation have been undermined by facts and findings brought to light by researchers and reported in peer-reviewed journals. Much of this research has been funded by the U.S. Department of Transportation itself. All of this has had negligible impacts on public policy.

Discussions among urban transportation researchers are probably less contentious than in other domestic policy fields. Most analysts agree on the basics. These include the following observations:

1. The long-term growth of incomes has spawned demands for low-density living. The auto-highway system has facilitated these lifestyles, causing the demand for conventional transit (defined as traditional fixed-route, fixed-schedule, most often bus service) to decline.

2. The most conspicuous transit failures have been the recently installed rail systems.

3. Publicly run transit monopolies are inefficient and rarely responsive to demand. As a result, they serve ever smaller markets at ever higher costs. Their subsidization has, therefore, increased considerably.

4. In most cases, the auto-highway system is poorly managed. The most promising management innovation would be the implementation of pricing, namely congestion charges, pollution taxes and accurate parking charges.

5. State and local regulations have stifled the emergence of innovative and efficient transit services.

6. User-side subsidies (like food stamps) are the most efficient way to improve the mobility of the poor and the disabled.

7. Policy options ought to be evaluated in terms of their marginal costs and benefits.

These principles are, for the most part, disregarded in the STRB. This paper contrasts the proposals of the STRB with policy reforms that introduce or enhance private provision in an atmosphere of competition. With few exceptions, the proposed STRB offers little more than the traditional government-dominated programs for urban passenger transportation. The lawmakers are suggesting more of the same even though it is clear that transit and highway services are two areas where conventional public-sector programs have failed. Simply put, the former is underutilized and should never have been deployed in its current forms; the latter is often oversubscribed (therefore inefficiently used) and should not be managed in ways that it is.

Sections of this report will discuss policy debates over conventional transit (rail and bus), road and highway pricing (their planning, financing and construction have recently been dealt with by former World Bank economist Gabriel Roth[4]) and non-conventional (para) transit. The latter is associated in most people's minds with taxis. Indeed, the discussion concerns the regulation of taxis, shuttle vans and similar modes. These are important because, as summed up by Sandra Rosenbloom,[5] "there is evidence that, if deregulated, private taxi services could possibly provide or replace many public transport services."

II. WHAT WE HAVE LEARNED ABOUT CITIES, COMMUTING AND TRANSIT

A. Rail Transit and Modern Cities

The most serious transportation policy failures have been the post-World War II rail transit systems. These systems were supposed to woo big-city commuters back to transit. In so doing, they would justify their high costs. Yet, the U.S. Department of Transportation Urban Mass Transit Administration's (UMTA's) own study of these projects[5] (see Table 1) shows that:

1. the recently installed heavy-rail systems (Atlanta, Baltimore, Miami, Washington) experienced ridership shortfalls of 35 percent (weighted averages);

2. the new light-rail facilities (Buffalo, Pittsburgh, Portland, Sacramento) showed ridership shortfalls of 65 percent (weighted averages);

3. these systems experienced severe cost overruns, such that the full costs per (one-way unlinked) passenger trip were $8.66 for the subways and $7.99 for the streetcars (weighted averages);

4. three of the eight transit districts actually experienced *reduced net system patronage* after the rail facilities were added (Table 2); the causes are likely to have included higher bus fares (to cover deficits), bus service cutbacks (also to make up for cost overruns) and bus realignments (more feeder service and more forced transfers).

In addition, there is no evidence that any of these systems diverted enough auto trips to make a difference in overall traffic conditions. The study leaves unstated the problem of U.S. taxpayers at-large paying for systems that relatively few big-city residents use.

What accounts for these failures? Two themes will be highlighted here: First, federal subsidies and mandates provide local decision makers with the wrong incentives; second (and, perhaps, as a direct consequence), officials misread a number of key trends. Harvard transportation economist John Kain notes that:

> "... the incentives created by the discretionary grant program and associated evaluation guidelines have corrupted local planners and have encouraged them and their consultants to prepare seriously misleading evaluations. Their elaborate and costly projections of future costs and ridership invariably underestimate

Table 1

FORECAST AND ACTUAL PERFORMANCE FOR RECENT RAIL TRANSIT PROJECTS
(F: Forecast; A: Actual; %D: Percent Difference)

	Heavy Rail Projects				Light Rail Projects			
	Washington	Atlanta	Baltimore	Miami	Buffalo	Pittsburgh	Portland	Sacramento
Weekday Rail Passengers (thousands)								
F	569.6	NF	103.3	239.9	92.0	90.5	42.5	50.0
A	411.6	184.5	42.6	35.4	29.2	30.6	19.7	14.4
%D	-28%	–	-59%	-85%	-68%	-66%	-54%	-71%
Rail Project Capital Costs (millions of 1988 dollars)								
F	4,352	1,723	804	1,008	478	699	172	165
A	7,968	2,720	1,289	1,341	722	622	266	188
%D	83%	58%	60%	33%	51%	-11%	55%	13%
Annual Rail Operating Expense (millions of 1988 dollars)								
F	66.3	13.2	NF	26.5	10.4	NF	3.8	7.7
A	199.9	40.3	21.7	37.5	11.6	8.1	5.8	6.9
%D	202%	205%	–	42%	12%	–	45%	-10%
Total Cost per Rail Passenger								
F	3.04	NF	NF	1.73	2.15	NF	1.68	1.53
A	8.75	5.93	12.82	16.77	10.57	7.94	5.19	6.53
%D	188%	–	–	872%	392%	–	209%	328%

* Annual total cost of rail service divided by annual equivalent of 'weekday rail passengers,' computed using numbers of average weekday equivalents per year derived from annual total and average weekday rail ridership reported by project operators. Annual total cost of rail service is the sum of (1) the annualized value of 'rail project capital cost,' computed using a 40-year project lifetime and a discount rate of 10 percent per year, and (2) 'annual rail operating expense.'

NF indicates no forecast of a data item was obtainable from published sources.

Source: Table S-1, D.H. Pickrell, U.S. Department of Transportation, Research and Special Programs Administration, Transportation Systems Center, *Urban Rail Transit Projects: Forecast Versus Actual Ridership Costs*, Cambridge, MA, 1990.

Table 2

FORECAST AND ACTUAL COST PER NEW TRANSIT TRIP
RECENT RAIL TRANSIT PROJECTS
(F: Forecast; A: Actual; % D: Percent Difference)

	Heavy Rail Projects				Light Rail Projets			
	Washington	Atlanta	Baltimore	Miami	Buffalo	Pittsburgh	Portland	Sacramento
New Transit Trips per Average Weekday (thousands)								
F	NF	99.1	NF	262.9	81.0	NF	51.3	13.0
A	281.3	36.9	37.3	- 25.8	- 0.4	6.3	11.5	- 4.2
%D	–	- 63 %	–	–	–	–	- 78 %	–
Total Cost per New Transit Trip* (1988 dollars)								
F	NF	NF	NF	1.67	2.20	NF	1.14	3.53
A	11.97	29.47	13.56	–	–	34.64	9.49	–
%D	–	–	–	–	–	–	731 %	–

* Annual total cost impact of rail project divided by annual equivalent of 'new transit trips per average weekday,' computed using numbers of average weekday equivalents per year derived from annual total and average weekday rail ridership reported by project operators. Annual total cost of rail service is the sum of (1) the annualized value of 'rail project capital cost,' computed using a 40-year project lifetime and a discount rate of 10 percent per year, and (2) 'annual rail operating expense.'

NF indicates no forecast of a data item was obtainable from published sources.

Source: Table S-2, D.H. Pickrell, U.S. Department of Transportation, Research and Special Programs Administration, Transportation Systems Center, *Urban Rail Transit Projects: Forecast Versus Actual Ridership Costs*, Cambridge, MA, 1990.

> capital and operating costs by large amounts, and at the same time overestimate future ridership .... As a result of these forecasting 'errors', large amounts of federal and local tax revenues have been used to build rail projects that have provided few, if any, benefits, and in a surprising number of instances, appear to have actually reduced transit ridership. Even where these large expenditures have led to increased transit ridership, it is clear that much larger increases in ridership could have been achieved by spending the same amount for other transit improvements .... The most certain, and possibly the only way of eliminating these abuses would be to sharply curtail and modify, or better yet, entirely eliminate, federal discretionary capital grants for transit."[7]

The STRB does not follow this good advice. Rather, it increases funds available to discretionary spending by local public transit agencies. In addition, it restores some of the federal operating subsidies that have been trimmed in recent years even though state and local governments have more than made up the gap (see below). The STRB introduces some amount of spending flexibility; highway funds can be diverted to transit and vice-versa. Environmental orthodoxy and the power of associated interest groups almost guarantee that a coalition will emerge to swing more money towards transit.

Lawmakers Ignore the Simple and Well-Understood Reasons for Diminished Demand for Transit

Though the failures of the new rail systems are conspicuous, they are simply the most pronounced symptom of two larger problems: the poor fit of pre-automobile modes to modern cities and the inability of a politicized supply structure to respond to changing demands. The entire transit industry has been in decline since the 1920s. Thirty-five rail transit systems have been abandoned in this century and transit passenger-trips have fallen to one-third of their 1946 high. Arguments on behalf of the STRB show that lawmakers continue to ignore the simple and well-understood reasons for the diminished demand for bus and rail transit.

Average Commuting Times Have Remained Constant Since 1967

Modern American cities are spread out, with most origins and destinations too decentralized for high-capacity rail and even fixed-route bus systems to be attractive options. By 1980, just 3.7 percent of all worktrips were from outside central cities to the traditional central business district, while less than 10 percent of total worktrips were destined for the CBD (Tables 3 and 4). Between 1960 and 1980, 80 percent of

Table 3

WORKTRIP TRAVEL TIMES IN U.S. URBANIZED AREAS, 1980
BY ORIGIN - DESTINATION CATEGORIES
(trip durations in minutes; percent of total in parentheses)

Living: / Working:	Inside Central City			Outside Central City		
	CBD	Ins. CC	Outs. CC	CBD	Ins. CC	Outs. CC
ALL Urbanized Areas	24.9 (5.5 %)	20.0 (32.7 %)	26.4 (8.6 %)	35.1 (3.3 %)	27.2 (15.3 %)	18.8 (36.6 %)
25 LARGEST Urbanized Areas	33.4 (4.5 %)	25.5 (24.7 %)	29.9 (6.8 %)	42.1 (3.7 %)	33.0 (14.3 %)	19.5 (45.7 %)

Note: The 'overall' averages were 22.2 minutes for all Urban Areas and 25.4 minutes for the largest 25 Urban Areas, a difference of 14 percent.

Source: compiles from U.S. Department of Transportation (1985) *Demographic Change and Worktrip Travel Trends, Volume II -- Statistical Tables.*

Table 4

THE LIMITED ROLE OF CBDs IN THE TEN LARGEST U.S. URBANIZED AREAS (1980)

	Total area jobs (000s) (1)	Core-city CBD jobs* (000s) (2)	Percent CBD jobs
New York	6,627.5	537.7	8.1 %
Los Angeles	4,366.3	129.8	3.0 %
Chicago	2,989.9	279.1	9.3 %
Philadelphia	1,689.4	172.6	10.2 %
San Francisco	1,536.9	168.0	10.9 %
Detroit	1,498.8	76.7	5.1 %
Washinton D.C.	1,415.6	124.5	8.8 %
Boston	1,270.7	85.8	6.8 %
Dallas	1,228.8	78.3	6.4 %
Houston	1,200.0	102.9	8.6 %
TOTAL	23,838.8	1,755.5	7.4 %

* Central Business District jobs held by residents of all SMSAs of the corresponding SCSA; for Dallas and Washington, D.C.: all CBD jobs held by SMSA residents.

Sources: computed from U.S. Census of Population (1980) *Journey to Work: Metropolitan Commuting Flows*, Table 3; and U.S. Department of Transportation (1985) *Demographic Change and Recent Worktrip Travel Trends*, Volume I -- Final Report Table C2.

the added commutes were suburb-to-suburb trips.[8] Jobs had followed the labor force into the suburbs, allowing speedier trips on less congested roads, and taking traffic pressures off the traditional downtowns. Over the long-term, average commuting *times* for major metropolitan areas have remained almost constant in spite of significant growth. Data in Table 5 make the point for the 1980-85 period for the twenty largest U.S. cities. Yet, where data are available, it is possible to show that these trends go back much further. Large sample surveys from 1967 show that average worktrip times for Los Angeles County are the same as those shown for 1985 despite a twelve percent population increase in the eighteen-year interval.

Housing and Job Markets Adjust to Mismanaged Transportation Systems

This is a case of market forces finding their own solution. Land, housing, and job markets came to the rescue of mismanaged transportation systems. Suburbanization is, of course, a universal and durable process which will only accelerate as telecommunications continue their remarkable advance, thinning old-style transit's markets even further.

Transit Declined Because of Affluence

The fundamental reason for suburbanization and conventional transit's decline is affluence. Throughout the world, as incomes have increased, people have opted for ever higher-quality automobile transportation as well as for more residential space. John Kain[9] (Figure 1) shows how U.S. auto ownership tracked income growth and how the latter was the "mirror image" of transit's decline. The range and mobility afforded by the auto-highway system have caused cities to grow by suburbanizing. Roughly speaking, suburbanization takes place in two major waves of development. First, households seek low-cost land that allows them to consume more space; and, soon thereafter, large numbers of job opportunities arrive as industry follows the labor force into the suburbs. Increasing real incomes are another long-term trend that bodes badly for conventional transit's future.

Non-Work Trips (Child-Dropoff-Shop-And-Commute Trips) Are Growing Fastest and Transit Does Not Serve These Needs

Still another problem for the transit industry has to do with life-style changes in the modern service-consuming society where non-work trips are growing fastest. Most transit serves these trips poorly (in 1983, only 2.2 percent of metro-area *non-work* trips were via public transit (Table 6); preliminary data for 1990 show that the trend is continuing). This is especially true for the growing numbers of working mothers and fathers who link child drop-off-shop-commute errands into one trip chain. Trips of this sort are not easily made via conventional transit.

Table 5

WORKTRIP TRAVEL TIMES: 1980 VS. 1985
LARGEST U.S. METROPOLITAN AREAS
(travel times in minutes)

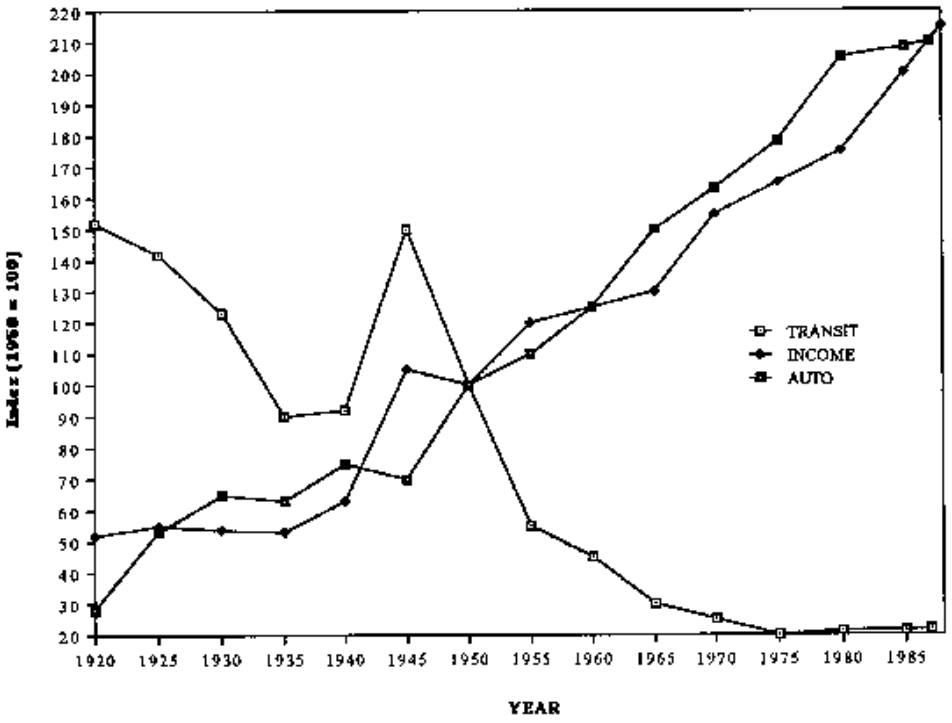
	1980			1985		
	All	Auto	Transit	All	Auto	Transit
New York	35.6	28.1	47.6	34.0	26.3*	46.2
Los Angeles	24.3	23.7	40.5	22.8	22.1**	39.0
Chicago	28.2	25.4	45.9	26.4	23.9**	44.0
San Francisco	25.3	23.1	39.4	24.4	21.3*	33.2
Philadelphia	25.6	23.7	43.4	24.2	21.9**	39.6
Detroit	23.3	23.1	40.9	19.9	19.9**	44.5
Boston	23.5	22.0	37.7	23.2	20.4*	40.0
Dallas	22.8	22.6	38.1	23.2	22.7	40.7
Washington D.C.	28.5	26.9	41.7	26.2	25.0**	38.4
Houston	26.6	26.5	46.1	24.0	24.0**	42.0
Miami	23.7	22.9	42.3	21.0	20.6**	33.2
Cleveland	23.4	22.1	38.3	19.8	19.5**	37.0
Atlanta	25.9	24.7	42.8	24.0	23.3*	42.1
St. Louis	23.0	22.6	37.1	21.1	20.9*	31.9
Seattle	23.1	22.0	37.4	21.1	20.5*	37.8
Minneapolis	20.1	19.6	31.0	17.8	17.6**	27.0
San Diego	19.6	20.3	38.9	19.6	19.5	39.5
Baltimore	26.5	25.7	41.6	25.9	24.7	41.2
Pittsburgh	23.1	22.2	37.0	22.4	21.5	37.1
Phoenix	21.7	21.8	42.2	22.6	22.4	38.3

Note: ** decrease in auto commuting time is significant, 0.01 level
* decrease in auto commuting time is significant, 0.05 level

Sources: 1980 U.S. census and 1985 American Housing Survey. See Peter Gordon, Harry W. Richardson, and Myung-Jihn Jun (Autumn, 1991) *"The Commuting Paradox,"ournal of the American Planning Association*, 57, pp. 426 - 420.

Figure 1

INDEXES OF AUTO OWNERSHIP, TRANSIT USE, AND INCOME PER CAPITA, 1920 - 1988 (1950 = 100)



Source: John F. Kain (1991) "Trends in Urban Spatial Structure, Demographic Change, Auto and Transit Use, and the Role of Pricing." Statement prepared for the United States Senate, Committee on Environment and Public Works.

Table 6

MODE CHOICE BY TRIP PURPOSE, 1983
METROPOLITAN AREAS ONLY
(percent distribution)

	Privately Operated Vehicles	Public Transit	Other
Work trips	87.95 %	5.86 %	6.19 %
Non-work trips	82.65 %	2.23 %	15.12 %
TOTAL	83.85 %	3.05 %	13.11 %

Source: 1983-84 Nationwide Personal Transportation Study data tapes.

Note: Early results from the 1990 NPTS show that public transit accounted for 2.5% of all person-trips in 1990 vs. 2.3% in 1983. These early results do not refer to metropolitan areas, as this table does.

B. The Problems with Fixed-Route Buses

Whereas the new rail systems use up the most resources per passenger, most public transit funding supports urban bus systems. Public transit accounted for approximately 9.5 percent of all urbanized area worktrips in 1980 and most of these (65 percent) were by bus (Table 7). Transit as a whole accounted for just 3 percent of all (work as well as non-work) metropolitan area person-trips by 1983; bus transit accounted for 76 percent of all transit person-trips in that year. It is no surprise that the long-term decline of the transit industry is mostly a story about fixed-route, fixed-schedule buses.

Despite Federal Involvement in Transit, Ridership Figures in 1990 Are Comparable to 1964 Figures

The federal government's participation in transit funding dates to 1964 and the Urban Mass Transportation Act. Backers expected that large-scale funding would provide attractive alternatives to aging transit systems, reversing the long-term steady loss of riders. Rather than reversing the decline, federal transit policy has merely enabled the industry as a whole to remain at a ridership plateau. It served approximately the same number (and a much smaller share) of passengers in 1990 as in 1964, the year the federal rescue effort began.

The latest available data for the entire industry tell the story. Between 1978 and 1988, vehicle-miles travelled on the nation's highways grew at an annual average rate of 2.7 percent while transit use grew by 1.1 percent per year. The costs of achieving this meager growth have been enormous: the transit industry's expenses grew by 13.7 percent per year. Transit industry jobs grew by 4.7 percent per annum. To cover costs, passenger fares grew by 9.3 percent per annum while total operating assistance grew by 15 percent per year. As federal assistance grew by 3.3 percent per annum (indicating a declining federal share), state and local subsidies increased by 18.1 percent per year. By 1988, passenger fares covered less than 37 percent of operating costs and not a penny of capital costs.

Government Programs Have Done More Harm Than Good

Government programs have done more harm than good. Hard-pressed transit agencies have been seduced by the federal discretionary capital grants program to build rail systems that make little economic sense. Yet, even where rail systems have not been built, political agendas and management responses to uneconomic incentives have worked against cost-containment and innovation. As a result, all sorts of costs have escalated and fare collection efforts have suffered.

Table 7

COMMUTER MODE CHOICES FOR WORKERS IN U.S. URBANIZED AREAS, 1980*
(percentages)

	Private Vehicles				Public Transport			Walked
	Drive Alone		Carpool					
	Car	Truck/Van	Car	Truck/Van	Bus	Subway	Railroad	
Ten Largest Urban Areas	53.61 %	5.35 %	15.27 %	1.70 %	8.16 %	6.42 %**	2.06 %	5.66 %
Next Ten Largest Urban Areas	58.38 %	7.39 %	16.87 %	2.19 %	8.53 %	0.15 %	0.06 %	4.63 %
All Urban Areas	57.38 %	7.42 %	16.33 %	2.20 %	6.06 %	2.50 %	0.86 %	5.34 %

*1.3 % of workers reported that they worked at home
** 76 % of this amount is accounted for by New York City

Source: 1980 U.S. Census.

Federal funding has deepened the fiscal crisis that it was supposed to resolve. The inevitable operating losses have made political lobbying for funds every agency's priority (Table 8). It is difficult to see how the long-term decline of the transit industry can be reversed with these arrangements remaining.

Referring to publicly supplied transit, Charles Lave has recently reported that, "... if transit productivity had merely remained constant since 1964, the year the federal subsidy program began, total operating expenses would be more than 40 percent lower. To put that figure in perspective, that is enough cost-reduction to erase most of the operating deficit--without raising fares."[10] The author cites the fact that productivity in the private bus industry rose 8.3 percent in the 1970-85 period. Don Pickrell demonstrated that, in the 1970-82 period, increased operating expenditures per vehicle-mile of transit service accounted for more than 60 percent of the increase in subsidies.[11]

Numerous other studies have reinforced the same conclusions. Conventional transit is a declining industry that is being inefficiently administered. Past policies have done more harm than good. Subsidized monopolies are not likely to react to changing demands by testing and offering new services. The long-term industry decline cannot be reversed as long as the incentives embodied in the STRB remain in place.

C. The Slow Pace of Transit Privatization

Transit "privatization" as it is widely discussed can take a number of forms. First, publicly owned properties can be sold on the open market. If so, the monopoly status of the enterprise may or may not continue to be legally enforced. Second, private provision rights can be sold on the basis of competitive bidding. This process often includes continued subsidization, the terms of which make a considerable difference to costs and service quality and are usually determined in the bidding process. This arrangement usually also means that the same mode of transportation will continue to be provided. Finally, deregulation can make private provision of new services possible.

Most of the U.S. literature on transit privatization really refers to the second type of service change. This innovation has come in fits and starts, usually taking the form of contracting by established operators for feeder services, peak-hour overload service and supplements in low-density areas.[12] Roger F. Teal and colleagues report that only 5 percent of the nation's transit expenditures were for private sector service contracting.[13] This accounted for just 8.5 percent of transit service miles. The cost savings from contracting that were identified by Teal's group were in the range of 20-30 percent. Obviously, if these savings could be applied to the large portion of the industry that has yet to exploit them, public expenditures could be reduced considerably. Indeed, many authors (see, for example, the various contributors to

Table 8
FISCAL PROBLEMS OF U.S. TRANSIT AGENCIES

SYSTEM	DAILY TRIPS	FARE*	1991 BUDGET (Millions)	FEDERAL OPERATING SUBSIDY (Millions)	% OF BUDGET
New York	4,800,000	$1.15	$3,000	$71.0	2.4%
Chicago	1,800,000	1.25	746	38.0	5.1%
Los Angeles	1,500,000	1.10	734	50.0	6.8%
Philadelphia	1,200,000	1.50	670	28.0	4.2%
San Francisco	756,000	.85	262	8.0	3.0%
Boston	680,000	.75	689	18.2	2.6%
Washington	500,000	.85	605	16.0	2.6%
Atlanta	485,000	1.00	188	7.5	4.0%
Baltimore	350,000	1.10	164	9.1	5.5%
New Jersey	270,000	1.00	638	38.0	6.0%

* Minimum. In some cities, longer trips cost more.

Source: *The New York Times*, April 16, 1991, p. A12.

Lave's 1985 anthology) have argued that the precarious state of the transit industry implies that privatization is the remedy whose time has come. Yet, the optimists may be wrong. It is difficult to imagine how there could be a significant increase in the current rate of privatization given: 1) the incentives cited by John Kain, and their reinforcement in the STRB; 2) the business-as-usual nature of STRB that precludes transit management reforms and rewards that would, "align managers' incentives with public transit objectives";[14] 3) the fact that transit agencies in large cities have recently experienced considerable success in gaining locally dedicated sales and property taxes.

D. Deregulation

Trains are almost always the wrong mode for modern American cities and conventional bus service is less and less appropriate as urban population and employment densities continue to fall. The introduction of other services that are more likely to meet the demands of riders has not been on the agenda of monopoly providers and has been stymied by the regulatory structure of most cities and states when providers outside of the monopoly have attempted it. Although taxis are regulated (almost always for the worse) in most cities of the world, their regulation is particularly wasteful in U.S. cities. This also has to do with most cities' spread-out form. In decentralized metropolitan areas, most trips are from low-density origins to low-density destinations.

Melvin Webber has concluded that "random-access" modes, such as the private auto and the telephone, are successful because of their ability to connect all origins with all destinations in low-density settings. More than simply echoing the reasons for conventional transit's poor performance, this line of argument suggests that the range of para-transit options that offer competitive service--those that lie between the private auto and fixed-route systems--are the modes attractive to enough users to present profitable supplier opportunities. The irony is that conventional transit cannot compete with private automobiles even though it is subsidized and promoted. At the same time, more convenient options that might be attractive enough to be profitable without subsidies are outlawed.

Many writers have shown that the unresponsiveness that typifies monopolies explains the limited services that the transit industry offers. The privatization alternatives discussed in the previous section have not made much difference and have limited prospects.[15] In addition, competitive alternatives, provided in defiance of established monopolies, have usually been squeezed out whenever they have managed to appear.

A current market success story (involving a mode that comes close to the random access prescription for modern cities) is represented by airport shuttle vans, essentially shared-ride taxis. When first allowed, these private and unsubsidized services competed for business in an environment of only moderate regulation. The

number of competitors testified to the viability of the concept. Yet, cities and airport authorities are imposing restrictions on operators that are harmful to consumers.

First, in many cities the shuttle industry is now at a point where, after the start-up of a large number of small competing firms, the large providers are using political influence to promote regulations that limit entry and competition. At the Los Angeles International Airport, where shuttle vans have relentlessly demonstrated their usefulness, the City's Board of Airport Commissioners has implemented a moratorium that limits the number of private shuttle vans allowed to operate. "The moratorium was enacted after shuttle companies complained of chaos at pickup curbs and slashed profits as a result of a dramatic increase in the number of vans in recent years."[16] Now, those that do operate can only pick up passengers with confirmed reservations. This favors the larger carriers that have reservation systems.

In addition, as a political gift to existing transit and taxi providers, the shuttles remain restricted to airport service in most of the U.S. cities where they are permitted at all. Were these restrictions to be lifted, operators would adapt their services to the many sub-markets that characterize U.S. cities. Some might use larger vans or buses, others might offer fixed-route, fixed-schedule service. Still others might experiment with novel hybrids. It is a near certainty that more appropriate service-cost combinations would be fielded than those offered by the subsidized monopolies.

While New York City's taxicab regulations are notorious for the gypsy cab industry that they have spawned, mainly in poor neighborhoods where demand is most likely to be unmet, the newest pirates are unlicensed shuttle vans.[17] As is usually the case with informal suppliers, these providers are there in spite of law enforcement efforts to stop them and thrive because they are responsive to citizen demands. All of this goes on in America's subway capital.

Taxi regulations are local matters about which the STRB may be expected to say little. Yet the Bush administration favors an education policy that includes opportunities for local school districts to experiment with programs of "choice" and privatization. Similarly, the federal government might suggest local taxi deregulation experiments to jurisdictions with traffic problems. The parallel is based on the fact that public education and public transit are both large subsidized monopolies experiencing crises of performance. Both have a well developed network of political lobbyists and supporters. Each has benefitted from widespread acceptance of the idea that they are "underfunded" and would fulfill their mission with ever larger infusions of aid. Kenneth C. Orski[18] has itemized ten alternatives to conventional fixed-route fixed-schedule service. Few of these would voluntarily be implemented by the monopoly providers as long as their fiscal shortfalls are made up by programs such as the STRB.

E. Road Pricing

Much has been written about the fact that congestion is an inefficient way to ration scarce road space. In the absence of rational pricing, individuals have no way to compare the benefits of their trip with the true costs that it is likely to impose on fellow road users. As a result, everyone has an incentive to oversubscribe. The crowding that follows ensures inefficient levels of road use. The resulting traffic problems are also the perennial basis for arguments to expand conventional (often rail) transit. Of course, transit of any sort has little chance of success as long as automobile users receive the implicit subsidies embedded in current auto-highway system management.

While generating a large literature and, recently, an impressive string of endorsements, road pricing has not been seriously considered by U.S. politicians.[19] Many writers have pointed out that in politics, an old tax is a "good" tax while a new tax is to be avoided. If so, then even a straight trade of congestion tolls for, say, the gasoline tax might be politically problematic. Public roads, it seems, may not be the place where pricing gets its first major U.S. demonstration (internationally, Singapore has long been the only place where time-of-day pricing is practiced). Robert W. Poole reports that even when the Urban Mass Transit Administration stood ready to pay cities to be pricing demonstration sites, in the 1970s, there were no takers.[20]

Fortunately, today's severe levels of traffic congestion and vehicle-related air pollution have prompted new interest in "congestion pricing." Both the Bush administration proposal and the Senate version (S. 1204) of the STRB make provision for projects that would demonstrate congestion pricing in large urban areas. The Senate bill appears to permit such demonstration projects on Interstate segments in large cities (though the language is not completely clear) while the administration version retains the ban on any prices being charged on Interstate segments. The House bill does not raise the issue of congestion pricing at all, though it does include provision for federally aided private toll roads.

F. Private Roads and Highways

A publicly owned and operated highway system brings with it several problems, including the wrong investment rules, myopic maintenance procedures and inefficient operations. Some of the consequences of highway mismanagement are regularly on display in the form of traffic congestion. Yet, as Gabriel Roth notes, most observers misconstrue this as the inevitable concommitants of size, growth, modernity, etc.[21] They fail to place blame where it belongs, on wasteful management, specifically the failure to price, leaving congestion to equate supply and demand.

The conventional response, including that of the STRB, is to allege an "infrastructure crisis" as well as "gridlock" and the "need for more funding." Yet, these complaints

will never go away if inefficient pricing rules are maintained. Any relief, whether achieved by the facility expansions promised by the STRB or by clever system management (such as the roving public tow-trucks now being deployed on Los Angeles freeways), will be short-lived in the absence of pricing. The "iron law" of freeway congestion insures that new capacity will quickly be exploited and, eventually, oversubscribed.

Researchers have developed economic management rules (congestion taxes, pavement-wear charges, optimal investment guidelines) that could be implemented by public highway authorities.[22] The problem with this approach is that it skips over the reasons that highway planners behave as they do; their methods are probably no accident but explained by the incentives that face bureaucrats.[23] Just as the monopoly transit providers are not expected to make reforms as long as they are repeatedly bailed out by rising subsidies, public highway agencies should not be expected to opt for economically rational management rules.

Many highway routes could generate enough profits to be attractive to private investors and operators. The STRB offers some help in the form of 35 percent federal matching funds for the construction of toll roads. The draft Act adds two toll projects to the previously authorized seven and allows that they could be privately operated. But the proposed law also stipulates that existing toll-free highways not be converted to toll roads.

Policies that attract private capital introduce three advantages. They are:

1. An infusion of private capital would ease the fiscal burden on taxpayers. We would be spared, for example, the "infrastructure crisis."

2. Private management is more likely to be efficient. It seems reasonable to suppose that profit-making entrepreneurs would introduce peak-load pricing. (Resort owners, theater operators and others facing regular and predictable cycles of demand have implemented the appropriate fee structures to clear markets at various times of day or year.) Whereas, transport economists argue that there are a number of principles of private efficiency (including peak-load pricing and rational investment decisions) that public managers could implement, in effect mimicking private sector practices, this is an unlikely (indeed, practically nonexistent) sequence of events. It seems overly optimistic that the discipline of the market can routinely and regularly be simulated. The choke-points that exist in any city's highway system (John Kain observes that, "90 percent of the urban transportation problem (and congestion) was caused by the gross mispricing of perhaps five percent of the nation's highway capacity."[24]) are, therefore, prime candidates for privatization.

3. Private management could operate without the politicized work rules that legislatures are prone to impose on highway authorities. This could make a major difference to highway construction costs. Current law mandates expensive politically inspired bidding procedures. (The Los Angeles Century Freeway project may be an extreme example of what results. It requires housing additions and relocations that have been micro-managed to the point that they cost five times the amount usually paid by the Los Angeles renewal agency.) HR 2950 even requires meal delivery services to homebound persons (Sec. 312) albeit, "if the meal delivery services do not conflict with the provision of transit services."

G. Transportation Vouchers

With diminished entry barriers on the supply side, transit demand could be expanded with the use of vouchers. Target groups are easy to identify. Many studies have identified transit's disproportionate use by minorities, females and the elderly. Vouchers could offer price reductions that are deemed appropriate by policy makers for various communities.

To feed lower-income Americans, Congress has seen fit to implement food-stamp programs rather than set up a burdensome system of federal food kitchens and state stores. Though there are strings, food-stamp recipients exercise personal choices when shopping alongside others. A high price has been paid for the failure to extend a similar program to groups with mobility constraints. Instead, Congress has consistently saddled transit policies with an anti-poverty mission. As a result, transit fares are kept low for everyone regardless of income. One of the consequences is middle and upper-middle class commuters getting $8.75 rides on the Washington Metro for a little over $1. This is ironic when it is considered that the average user of systems like Washington's Metro is better off than the average taxpayer who pays for the subsidy (John Pucher discusses a number of similar funding anomalies[25]). Transportation policy that seeks to keep fares below costs for selected groups should mimic the food-stamp program, offering transit vouchers that are targeted to specific groups. If the supply side is deregulated, then the Medicare mistake (expanding demand while retaining bottlenecks on the supply side) would not be repeated, and non-traditional price-service combinations that cater to the voucher holders would materialize.

III. TRANSIT IN THE STRB: BUSINESS AS USUAL

Federal legislation of the early 1960s that began the program of transit support was based on views that disregarded most of the trends that even then were beginning to be acknowledged, in favor of the idea that lavishly supported conventional transit systems could be made attractive. Not surprisingly, the urban transportation policies

that were based on this approach failed. In 1991 we know much more. In that case, sticking with failed models and maintaining hands-on authority can only be explained by the politics of large expenditures and control. For example, the House Committee's report states that "New Starts" of fixed guideway projects using the Act's Section 3 funds, be judged by criteria that include "cost-effectiveness". Yet, concerned over previous "excessively narrow" applications of cost-effectiveness, the lawmakers go on to enumerate specific New Start projects that are to be built (including extensions of systems criticized in the Pickrell report). In 1993, the House Committee on Public Works and Transportation promises to give directions for additional projects.

While STRB is still evolving, here are some of its current proposals that deserve special scrutiny:

1. The House version is generous to established providers and expensive for everyone else. It contains a tax increase and increased funding for almost all federal transportation programs.

2. The states will have an easier time diverting highway moneys to transit projects and vice versa.

3. Federal participation in transit facility construction is increased and operating subsidies are put back up to the 50 percent level.

4. Funding is provided for research on "smart cars" and related innovations.

Just as there has been enormous wastefulness over the span of federal involvement in urban transportation (while the mobility improvements that have come about are those which policy has had little to do with), STRB, for the most part, promises more of the same.

IV. A NEW PARADIGM FOR URBAN TRANSPORTATION

Twenty-five years of research in urban transportation (much of it funded by the federal government) reinforces the view that policies that violate the laws of economics are doomed to be ineffective and wasteful. In dispersed metropolitan areas, individuals are asked to be irrational consumers when they are expected to travel via fixed-route systems. The higher speeds that rail offers do not make up for the large time costs needed to get to and from train stations. The political appeal of the porkbarrel must be tempered by the economic realities.

Markets will provide solutions even when policies fail. The decentralization of housing and jobs in U.S. urban areas acts to reduce commuting costs (even as it diminishes markets for conventional transit). Yet, we could do much better.

For example, it is well known that transit resources will not be used efficiently if prices do not reflect opportunity costs. We cannot expect to have efficient transportation systems as long as most prices remain hidden. *Congestion tolls, emissions charges and full-cost parking are, therefore, the basis of any sensible transportation policy.* Time-of-day road charges are most likely to be implemented on private roads. Therefore, *road privatization must be encouraged.* New technologies make emissions charges easy to apply. *Minor tax code changes would encourage employers to offer employees the choice of cash or subsidized parking.*[26] These three policies would also boost the demand for alternate modes. *The best supply response would be forthcoming if entry barriers are removed.*

Transportation vouchers for the poor, the handicapped or any other group deemed to be deserving would also add to demand. Expanded demand complemented by deregulation would also prompt innovators to test the water. After a period of consolidation, a variety of services would establish themselves in the various urban settings. Regular route services would continue to be appropriate in a few high-density areas. Subscription buses, buspools, vanpools, shuttle services, taxis and assorted hybrids (that we cannot and need not predict) will occupy the many niches that make up the market. Regulations should be restricted to safety and policing. The service costs of tight regulations must be carefully considered each time the urge presents itself.

Rather than further tax increases (the current draft Act notes that, "Even with the Nickel for America we cannot meet our current transportation needs"[27]), the new paradigm would significantly reduce taxpayers' liabilities. Mobility would be enhanced, congestion diminished and air quality improved. Many jobs in the monopolies and throughout their support system of vendors would be lost but many more would be gained in the taxi-like enterprises that would be spawned.

The lessons are clear. Planning that denies market forces will not work; policy makers will do their best work when they develop plans that harness market forces. Whereas the literature offers several examples of gradual moves to private transit supply and "public-private partnerships" designed to fill in where conventional transit has withdrawn, these have had a marginal role. Likewise, there is no reason to be optimistic about public highway authorities implementing economic operating rules such as time-of-day pricing. In that case, the privatization of transit *and* highways must be high on the agenda. It is far more likely that competing private groups will deliver services the public wants at reasonable costs and appropriate prices.

Rather than sticking with current versions of STRB that may look good politically but are bound to fail in terms of Congress' stated transportation goals, which measures would start to move us towards the paradigm just summarized?

1. As John Kain and many others have shown, the federal discretionary capital grants program for transit must be downscaled rather than allowed to grow. There are no success stories associated with this program. Most researchers agree that it seduces local politicians and planners, wastes resources, and diverts attention from transportation strategies that are more appropriate to modern cities. Congress could phase out these grants, over a period of perhaps five years.

2. A hands-off policy, rather than an itemization of required rail transit construction, might give local citizens the opportunity to chose cost-effective alternatives. Current versions of STRB include lists of costly projects that Congress insists be built.

3. The administration's education policies (their introduction of vouchers and choice) may be a useful blueprint for transit policy reform. Funding should be directed to consumers rather than to agencies. Traditional funding approaches have not done much for the poor, the elderly, the mobility impaired. These people can be empowered with vouchers. Congress could convert existing transit operating subsidies to a program of transit vouchers for eligible groups.

4. Local deregulation would allow supply responses that go beyond anything the monopolies have been able to come up with. A condition of continuing to receive federal funding would be the enactment of local transit deregulation measures.

5. With voucher and deregulation programs in place, transit operating outlays can be gradually scaled down. (For most of the big-city systems, the federal operating assistance shown in Table 8 could be avoided with small fare increases.) The capital grants program should be converted into a single no-strings "block grant" program that does not necessarily go to established providers but, instead, rewards local reforms and improved mobility.

6. Federal income tax laws should be modified so that cash (or transit vouchers) in lieu of employer-paid parking does not mean an increased income tax liability for employees. This would be the beginning of rational pricing for commuters. Researchers have found that upwards of 90 percent of U.S. commuters have parking paid for by their

employers and that many would avoid the solo commute if that subsidy ended, making this reform an attractive one.[28]

7. Rational pricing on (and therefore rational use of) Interstate Highways remains a clouded issue as long as federal law gets in the way. Current versions of STRB continue the prohibition of tolls on "currently free" segments of the Interstate System. Removal of this prohibition would, at least, eliminate one of the excuses that local officials use for avoiding time-of-day pricing on urban freeways since numerous segments are covered by the ban.

8. Contracting to private providers by public transit agencies is limited by the various job shields that Congress has, over the years, included in various transportation bills. The new law, for example, continues the Section 13(c) labor protection clause. Slow privatization, generous labor contracts, and unproductive labor allocations should not be a surprise as long as these arrangements remain in place. Repeal of 13(c) would open the door to innovation and cost savings in existing transit systems.

V. CONCLUSION

The popular discourse on urban transportation emphasizes the "crises" and other dire consequences of not pursuing the traditional high-cost-low-benefit policies. Clearly, departures from that approach are in order. It is not a question of how much "equity" can or should be traded off for how much efficiency. Rather, abandoning the politicized allocations promises more of both.

Most Americans are ever less likely to take the existing public-private division of services for granted. Private schools, private delivery services and private security arrangements are utilized today in proportions that would have seemed implausible a generation ago. The reasons for the existing divisions of responsibilities, or for some of the changes, are only beginning to be examined. For the case of passenger transportation in U.S. urbanized areas, user-operated private vehicles and publicly owned transit vehicles traverse roads and highways that are predominantly public. At airports, we expect snack bars and shops to be operated by concessionaires but grant that the air traffic controllers are civil servants. Similarly, on America's open highways, we routinely patronize all manner of private franchises at truck stops but expect that the highways themselves and the toilets at the rest stops are run by the states. We are just beginning to examine these arrangements even though the use of private alternatives in many areas of our lives is becoming more popular and in spite of the fact that many of us realize that the private counterparts regularly outperform the publicly operated versions.

Though there have been large-scale moves toward privatization in the U.S., many of these have occurred in spite of rather than because of policy reforms. A loophole for "urgency mail" in the law that created the monopoly Postal Service gave rise to private overnight delivery services. Technological innovations gave us FAX. We use both all the time, often when the real "urgency" is to avoid dealings with the monopoly. Changeovers would be more common and less costly but for the force of laws or the availability of large grants (or, often both) that sustain monopoly status. Without these, private providers would fill the breach, in most cases doing a better job. In a society where property rights and contracts are enforced, entrepreneurs would compete to meet demand. Since most transport services are normal economic goods, whereby free riders are easily excluded, the identification of demand would not be a problem. The replacement of current non-competitive (and politicized) supply arrangements with markets would add demand responsiveness as well as cost containment where it is sorely needed.

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