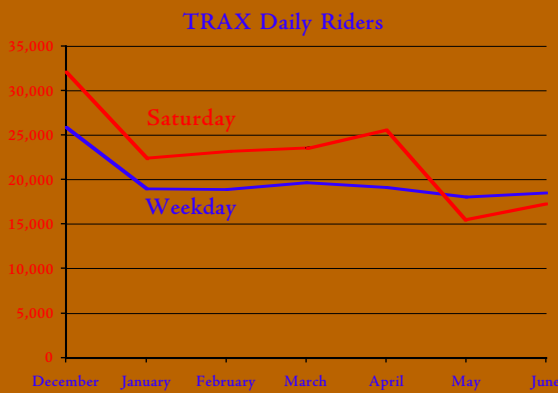
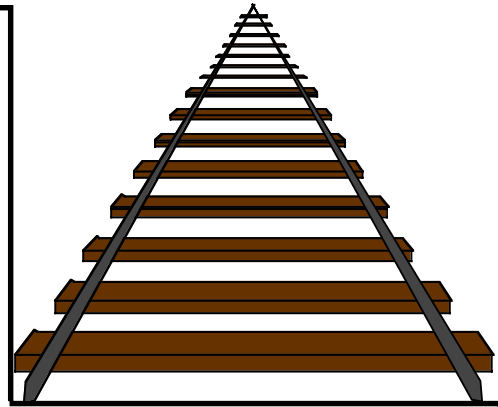


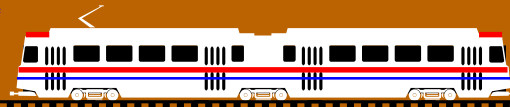
Rails to Nowhere

The Utah Transit Tax



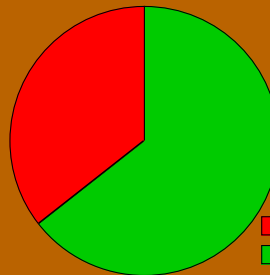
by Randal O'Toole

October, 2000



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Regional transportation funds



Passenger miles of travel

Rails to Nowhere

The Utah Transit Tax

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Thanks to Ben Coifman for the Transit, Cars-40s, and Modern Passenger Trains fonts used on the cover of this report. Thanks also to Tom Berens of Go-Utah.com, whose photograph was used as the source of the silhouette of the Wasatch Front on the cover.

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Executive Summary

The Utah Transit Authority has asked Salt Lake, Davis, and Weber county voters to approve a doubling of the current, one-quarter-cent sales tax for mass transit. The agency says that this tax increase is needed to allow the region's transit system to keep up with growth and that the current tax is only half the average tax supporting transit in other urban areas.

The Sales Tax is a Rail Tax

In fact, UTA's transit plans show that the new tax is needed solely for rail transit: The projected costs of proposed new rail investments is at least \$400 million more than total amount that the tax is expected to raise. Without the new tax, UTA will be able to accomplish all of its planned transit improvements *except* for light and commuter rail, and have funds left over to make additional improvements to bus service that could be far superior to the proposed light- and commuter-rail lines.

The additional quarter-cent sales tax would be worthwhile only if rail transit is worthwhile. But it is not. Rail transit will not reduce urban congestion. It will not provide better transit service than buses. Rail transit's main justification is that it might attract a few middle-class auto commuters out of their cars. But its cost is so high that many transit agencies that have recently built rail have been forced to cut bus transit service to transit-dependent people.

Rail Transit Does Not Reduce Congestion

UTA predicts that, with the tax increase, it can triple transit ridership by 2020. But it currently carries less than two-thirds of a percent of all passenger miles in the Ogden-Salt Lake region. Since auto driving is increasing, even after a tripling in transit ridership UTA would still carry less than 1.3 percent of all passenger miles in the region. This is far too small a share for UTA to have any significant effect on congestion.

UTA brags that it takes 81,000 cars off the road each day. This is exaggerated, but even if true, it is

insignificant compared with the 3.5 million auto trips taken in the region each day. UTA's light-rail line has even less of an impact on traffic. The TRAX line takes so few cars off the road that UTA would have to build a new line every month, at a cost of \$4 billion per year, just to keep up with the growth of regional traffic. Contrary to UTA's ads, people who don't use TRAX do not benefit from it in any way.

Rails Threaten Transit-Dependent People

The automobile has given most Americans unprecedented opportunities and benefits. People who cannot drive deserve efficient transit service so they can enjoy similar opportunities. Rail transit, which is designed to attract middle-class people out of their autos, effectively transfers mobility from poor people to relatively wealthy people. Given limited resources, providing rail transit on one route means denying bus improvements on many other routes. Indeed, rail transit is so expensive that passage of the sales tax increase and construction of more rail lines will probably lead to less transit service, regionwide, than if the measure is not passed and no new rail lines are built.

Rail Transit Is Not Suited to Utah

Rail transit works in New York City because that city has millions of jobs concentrated in the relatively small area of Manhattan. The New York urban area also has many high-density suburbs, including Newark and Jersey City, all of which are three to six times as dense as Sandy, one of Salt Lake City's densest suburbs. Rails can only effectively serve residents of dense suburbs commuting to dense employment centers.

Jobs in the Wasatch Front are dispersed throughout the area, not concentrated in the city center. The average population density of the area is less than half that of the New York urban area, and the densest suburbs are only half to a quarter as dense as many of the suburbs of New York. Rail transit makes no sense in these conditions.

UTA Subsidies Nearly Twice National Average

Subsidies to UTA bus transit are already far higher, per transit ride, than to the average transit agency.

- UTA transit fares covered just 18 percent of transit operating costs in 1998, less than half the national average of 41 percent.
- UTA's 1998 operating subsidy per bus rider was \$2.34, nearly 70 percent more than the national average of only \$1.40.
- UTA's 51-cent operating subsidy per passenger mile was nearly 90 percent greater than the national average of 27 cents.
- At \$1.37 per rider, the share of subsidies paid by state and local taxpayers are 44 percent greater than the national average of 95 cents per rider. Almost all of Utah's state-and-local subsidy comes from the transit sales tax.

Rail Transit Requires Huge Subsidies

Rather than provide efficient service to transit-dependent people, UTA has elected to spend huge amounts on rail transit, which costs far more to build and no less to operate than buses. The existing TRAX line requires subsidies of more than \$6.60 per ride, or nearly three times the subsidies to buses. When only new transit rides are counted—rides that previously were not by bus—the subsidies exceed \$16 per ride.

Transit advocates argue that increased transit subsidies are needed to balance the subsidies given to auto drivers. In 1998, Utah automobile users enjoyed highway subsidies of 0.2 cents per passenger mile. By comparison, the UTA is spending \$1.22 per passenger mile on light-rail transit, more than 600 times as much as highway subsidies. If there is an imbalance in transportation funding, then too much is being spent on rail transit.

Rail Transit Needlessly Burdens Taxpayers

If the proposed sales tax increase is approved, the UTA will spend more than 35 percent of the Wasatch Front region's surface transportation budget over the next two decades on less than 1 percent of passenger travel. Subsidies to UTA bus and rail riders together will average nearly \$5 per ride, which is twice the subsidy to UTA bus riders alone. Such gigantic subsidies are needed only because rail transit is so costly. Buses can provide transit service that is as good as or superior to rail transit at a far lower cost.

Buses Work Better than Rails

To achieve its goal of tripling transit ridership by 2020, the Utah Transit Authority should rely on improvements in bus services, not rail construction. Such improvements include:

- Increasing frequencies on existing bus routes;
- Adding more express bus routes;
- Adding "buses on light-rail schedules": high-frequency, semi-express bus routes that stop every mile or so;
- Providing comfortable, long-distance bus service in place of commuter rail;
- Providing jitney or demand-responsive bus services in low-density areas.

The funds required to start a single light-rail or commuter-rail line could be used to provide equivalent improvements in bus service on dozens of different routes. Wasatch Front taxpayers, auto drivers, and transit riders would all be better off without the increased sales tax and the rail transit it will fund. The UTA should focus on providing efficient and effective bus transit to transit-dependent people, not on vain attempts to attract relatively wealthy people out of their automobiles with high-cost rail transit.

The Sales Tax Is a Rail Tax

The Wasatch Front Regional Council (WFRC) and Utah Transit Authority say that a doubling of the existing transit sales tax is needed to allow transit to keep up with future growth in the Wasatch Front region. In fact, the revenues from the new sales tax are exclusively needed to build more high-cost, low-yield rail transit lines. Without the new sales tax, UTA can make all the transit improvements it needs to accommodate future growth—relying on buses, not rails.

Table One: Projected Transit Revenues 1998 to 2020
(millions of dollars)

Federal funds	\$1,678.1
Local sales taxes	4,132.3
Fares	1,016.4
Other	386.7
Total	<u>\$7,213.5</u>

Source: WFRC, Regional Transportation Plan, table III-5.

The WFRC's *Regional Transportation Plan* projected that, if the new sales tax began in 2000, UTA would have \$7.2 billion to spend through 2020 (table one). Because the tax, if passed, will not begin until 2001 and because part of the tax will be dedicated to highways, the new tax will raise only about \$1.5 billion. This will leave UTA with a small revenue shortfall if it carries out all of the activities shown in table two.

Table Two: Projected Transit Costs, 1998 to 2020
(millions of dollars)

Bus operating costs	\$3,253.1
Bus capital costs	924.5
Rail operating costs	914.0
Rail capital costs	1,513.4
Other costs	608.5
Total	<u>\$7,213.5</u>

Source: WFRC, Regional Transportation Plan, table IV-2.

Table two shows how UTA expects to spend this money. About \$1.5 billion is dedicated to rail construction, of which \$223 million has already been spent on TRAX, \$1.1 billion is for more light rail, and \$180 million is for commuter rail. Another \$914 million will be spent operating rail transit, of which

\$264 million is needed for the existing TRAX line, \$361 million is for other light rail, and \$289 million is for commuter rail.¹

This means the costs of proposed new rail construction and operations are \$1.94 billion, or well over \$400 million more than the expected revenues from the new sales tax. Federal and other transit funds are flexible and can be spent on either buses or rails. Thus, the sales tax is solely needed for new rail construction and operations, not for proposed improvements in bus service. If the tax does not pass and UTA adds no new rail lines, it would have enough money to make all planned bus improvements plus additional bus improvements along the routes of proposed rail lines.

Bus transit improvements that UTA wants to make, and which it could afford without the new sales tax, include:

- Doubling frequency on at least eighteen major and several minor bus routes;
- Adding at least nine new major bus routes and extending service on many more routes; and
- Extending bus service during nighttime hours and on weekends and holidays.

The rail improvements that would be funded by the sales tax include:

- Four relatively short extensions to the existing light-rail line; and
- Commuter rail service between Brigham City and Payson City.

The relatively short light-rail extensions could be served by improved bus service without significantly adding to the cost of the plan. Comfortable, long-distance buses could efficiently serve potential commuter rail passengers as well. Buses have the added advantage of allowing multiple origins and multiple destinations instead of being confined to a rail corridor.

In short, the Utah Transit Authority is asking Wasatch Front voters to support a doubling of transit sales taxes so that it can build a few miles of light-rail line and operate commuter rail trains. Yet these rail lines will not significantly improve transit service or reduce congestion on the region's highways.

UTA Transit Has Little Effect on Congestion

The Utah Transit Authority brags that it “takes 81,000 cars [i.e., trips] off the road on an average day.”² This is a tremendous exaggeration: The UTA doesn’t mean that it takes 81,000 cars off the road all day, only that 81,000 transit trips substitute for as many as 81,000 auto trips per day. Yet many of the people who ride UTA cannot drive, so without transit they would carpool or find other means of transport.

Even 81,000 auto trips per day is less impressive than it sounds when compared with the 3.5 million auto trips taken each day in the region.³ “Automobiles now serve about 98 percent of all trips,” says the Wasatch Front Regional Council, and they “will continue to be the major mode of travel in the region in the future.”⁴

The best measure of the congestion relief that can be provided by transit is not trips but *passenger miles of travel*. Transit trips tend to be shorter than auto trips and so are not a good measure of congestion relief.

The Federal Highway Administration estimates that in 1998 people in the Ogden-Salt Lake metropolitan areas drove about 26.2 million miles per day, or about 9.5 billion miles per year.⁵ Nationwide, the average auto carries 1.6 people.⁶ Since auto occupancy is strongly related to household size, which in Utah averages 17 percent larger than the rest of the nation, 1.6 people per auto is probably an underestimate for Utah.⁷ This means Wasatch Front highways carried well over 15 billion passenger miles in 1998. This doesn’t even count the Provo-Orem area, where people drive another 6.1 million miles per day or more than 3.5 billion passenger miles per year.

By comparison, UTA carries so few passenger miles that it has virtually no effect on weekday congestion. In 1998, UTA carried people about 105 million passenger miles, which is no more than seven-tenths of a percent of passenger travel in the region.⁸

The Utah Transit Authority predicts that, with the new sales tax, the number of cars it “removes from the road” each weekday will increase from 81,000 today to 250,000 in 2020.⁹ In other words, it is predicting

that ridership will slightly more than triple. This is a brave prediction considering that UTA’s ridership did not increase at all (and in fact decreased slightly) between 1993 and 1998.¹⁰ But even if UTA could triple its ridership, it would still carry an insignificant share of local passenger travel.

Table Three: Travel in the Ogden-Salt Lake

	Region		
	(millions per year)		
	Auto	Transit	% Transit
	1998		
Trips	1,205	25	2.0
Passenger miles	15,359	105	0.7
	2020		
Trips	2,044	78	3.7
Passenger miles	25,496	325	1.3
	1998–2020 Cumulative Total		
Trips	37,358	1,184	3.1
Passenger miles	469,833	4,945	1.0

Sources: 1998 motor vehicle miles and passenger miles from Highway Statistics 1998, table HM72. Motor vehicle trips assume average trip length of 7.78 miles, based on the Wasatch Front Regional Council’s Long-Range Transportation Plan, page 43. 2020 motor vehicle numbers based on estimates from the same source. 1998 transit data from National Transit Database 1998, table 27. 2020 transit data based on UTA projections. Transit trips shown are linked trips, meaning a trip where someone transfers from one bus to another is counted as one trip. Cumulative total of 1998 through 2020 presumes constant rate of increase over the time period.

The Wasatch Front Regional Council predicts that by 2020 auto traffic will increase by 66 percent from about 3.5 million to 5.8 million trips per weekday.¹¹ If trips stay the same average length, this would represent 43.4 million miles of driving per day, or about 25 billion passenger miles per year in the Ogden-Salt Lake area. If it triples ridership, UTA will carry about 325 million passenger miles per year in 2020, giving transit about 1.3 percent of the market for motorized travel. This is nearly twice the current share but still insignificant. Over the entire period of 1998 to 2020, UTA will only carry 3.1 percent of the region’s trips and 1 percent of the passenger miles.

Rail Transit Has No Effect on Congestion

The number of cars UTA takes off the road each day is even less impressive when considering only rail transit. In the first half of 2000, the TRAX light rail carried an average of less than 19,000 people per weekday. There has been no upward trend in ridership (see table four), so this is likely to be the average for the year 2000.

Table Four: TRAX Ridership

	Weekday	Saturday
December	25,904	32,193
January	19,039	22,561
February	18,945	23,138
March	19,742	23,591
April	19,210	25,621
May	18,113	17,356
June	18,597	21,300

Source: UTA Monthly Ridership Performance Reports.

UTA passenger counts are based on a sampling method. During the first five months of TRAX operations, UTA reported that Saturday ridership was about 20 percent higher than weekday ridership. But a “corrected” report for May suddenly revealed a 40 percent decline in Saturday ridership, which suggests that UTA discovered and corrected a mistake in its sampling.

Nationally, the average light-rail trip is about 4 percent longer than the average bus trip. Since UTA bus trips average 4.2 miles long, light-rail trips are likely to be about 4.4 miles long. At 19,000 trips per day, six days a week, TRAX will carry people about 26 million passenger miles in 2000. This is well under two-tenths of a percent of regional travel.

Even if TRAX carries 19,000 riders per weekday, it doesn’t take 19,000 cars per day off the road because most of its riders were previously bus riders. UTA surveys found that 44 percent of TRAX riders, or about 8,400 riders per weekday, were new transit riders, that is, people who may have been using autos before TRAX.¹²

This still doesn’t mean that TRAX takes 8,400 cars off the road per day. Since the average automobile car-

ries about 1.6 people, TRAX may take only 5,250 vehicles off the road per day. Nor are all of these cars removed from the road during congested rush-hour periods. UTA ridership tallies indicate that 49 percent of TRAX riders take trains during off-peak hours and only 40 percent of TRAX users ride inbound during the morning peak or outbound during the afternoon peak.¹³ Thus, TRAX takes as few as 2,100 autos off the road during peak hours in the busiest direction of travel.

The 5,250 auto trips that TRAX may save during a weekday represents just fifteen one-hundredths of a percent (0.15 percent) of all auto trips in the region. Yet the Wasatch Front Regional Council conservatively predicts that driving in the region will grow by 2.1 percent per year.¹⁴ This means that, in less than a month after TRAX opened, ordinary growth in auto traffic made up for all of the cars taken off the road by TRAX.

UTA would have to spend more than \$4 billion per year building more than a dozen new TRAX lines each year just to keep up with the growth in regional travel. That’s more than thirteen times as much money as UTA expects to spend on its entire transit system even if voters approve the quarter-cent sales-tax increase. Light rail is not a cost-effective means of reducing congestion.

Table Five: Freeways and Rail Transit Productivity
(Daily passenger miles per mile of rail or freeway lane-mile)

	Light Rail	Commuter Rail	Freeway
Average	7,612	7,459	23,724
Highest	17,328	12,294	37,091
Highest city	San Diego	New York	Los Angeles
Second highest	14,518	8,105	30,946
Second city	St. Louis	Chicago	San Fran.

Sources: Freeway data from FHWA, Highway Statistics 1998, table HM-72; transit data from FTA, Transit Profiles 1998. Vehicle miles in Highway Statistics are converted to passenger miles by multiplying by 1.6.

Rail transit advocates often argue that a single railway track can carry as many people as several lanes of freeway. But no light-rail line in the country carries as

many people as even a single lane of a freeway. This can be seen by comparing the passenger miles carried by rail per mile of rail line with the passenger miles carried by freeways per freeway lane mile (table five).

The table shows that the average urban freeway carried nearly 24,000 passenger miles per lane mile each day in 1998. By comparison, the average light-rail line carried only 7,600 passenger miles per route mile (which usually includes tracks in both directions), less than a third of a freeway lane. The most productive light-rail line in the country carried less than three-quarters as many people as a lane of freeway.

At an average trip of 4.4 miles, the TRAX line carries just 5,225 passenger miles per route mile each weekday. Yet freeways in the Ogden-Salt Lake urban area carried 19,500 passenger miles per lane mile each day in 1998, and no doubt more in 2000. Thus, a single lane of freeway carries nearly four times as many people as the TRAX line.

Commuter rail is no better. UTA expects to spend \$180 million purchasing cars, locomotives, and other equipment plus \$381 million on operations through 2020. Yet commuter rail typically carries even fewer passengers than light rail, partly because it only operates a few times each day instead of all day long. San Diego's light rail carries twenty times as many riders and five times as many passenger miles as its commuter rail. Dallas' light rail carries 45 times as many riders and 28 times as many passenger miles as its commuter rail. This doesn't mean that light rail in San Diego or Dallas is any more successful than in Salt Lake City: It isn't. But commuter rail in these cities is even less successful.

The average commuter rail line in the United States carries less than 7,500 passenger miles a day per mile of track (table five).¹⁵ New York heavily skews this average: Take New York commuter trains off the list and the average drops to 4,600 passenger miles per mile of track. As described below, New York commuter trains are heavily used mainly because New

York has a concentrated employment center with more than 2 million jobs in a small area—something found in no other U.S. city.

Many of the other cities that have commuter lines—Chicago, San Francisco, Boston, and Philadelphia—also have concentrated employment centers. All but one of these cities are much more densely populated than the Wasatch Front. With low population densities and widely dispersed employment, the Wasatch Front more closely resembles San Diego or Dallas than New York or Chicago. Thus, Utah commuter trains will almost certainly carry fewer than 2,000 passenger miles per mile of track.

Table Six: Urban Areas with Commuter Trains

	Population	Density	Daily Pass. Mi./Mi.
New York	16,407	4,141	12,294
Chicago	8,070	2,956	8,105
San Francisco	4,017	3,339	6,316
Boston	2,904	2,552	5,709
Philadelphia	4,546	3,367	4,022
Ft. Lauderdale	2,066	3,791	2,666
Washington	3,442	3,445	2,122
Los Angeles	12,600	5,648	1,966
San Diego	2,683	3,660	1,792
Dallas	3,722	2,174	1,782
Hartford	591	1,615	333
Wasatch Front	1,493	2,130	?

Sources: Daily passenger miles per mile of track is from the 1998 National Transit Database, table 27. Urbanized area populations and densities are from Highway Statistics 1998, table HM72.

The distance from Brigham City to Payson is about 112 miles. If UTA's commuter line carries 2,000 passenger miles per mile—which is more than is likely—it will carry about 224,000 passenger miles per day, or just 0.4 percent of all 2020 travel in the Ogden-Salt Lake-Provo area. Even if all of commuters travel during rush hour, this is not enough to have a detectable effect on congestion.

Why Cities Can't Railroad Their Way out of Congestion

Highway opponents often argue that “we can't build our way out of congestion.” As Brookings Institution economist Anthony Downs explains, some people respond to congestion by shifting their time of travel, their travel route, or their mode of travel. Building a new road in a congested area allows many of these people to shift back, thus making it appear that congestion is as bad as before the new road.

Rail transit advocates argue that the solution is not building new roads but instead spending money on transit. Yet the same logic applies to rails as to roads: To the extent that light rail convinces auto drivers to start using transit during rush hour, other drivers will take their places by driving during rush hour.

The can't-build-our-way-out-of-congestion argument's basic fallacy is assuming that there is no benefit to letting people travel when it is most convenient and least costly for them. In fact, if congestion relief allows some people to travel when it is more convenient, less time consuming, and less costly, then the benefits may exceed the costs of new travel capacities even if the roads are still congested during some peak hours. The question is not, “Should we try

to build our way out of congestion?” Instead, we should ask, “What is the most effective way of using our limited resources to deal with congestion?”

The environmental impact statement written for the TRAX light-rail line provided one answer to this question. The document indicated that saving auto users and transit riders time through light-rail construction would cost more than \$35 per hour saved. The statement also reviewed expansion of Interstate 15 and indicated that adding lanes to I-15 would save auto drivers and passengers time at a cost of just \$5 per hour saved. Thus, \$7 must be spent on light rail to provide as much congestion-reduction benefit as just \$1 spent on highways.¹⁶

The numbers in the environmental impact statement assumed that light-rail ridership would be 40 percent higher than it is today. Since ridership is lower, of course, the cost per hour saved by light rail is even greater than estimated. Unless light-rail ridership increases to at least ten times its current levels, light rail is not an effective way of reducing congestion. No one, not even the Utah Transit Authority, thinks that rails will increase transit ridership by ten times.

Why Rail Transit Doesn't Work in Utah

In the New York metropolitan area, rail transit carries more than 20 percent of all commuters and nearly 8 percent of all motorized travel.¹⁷ But there are several reasons why what works in New York won't work in the Wasatch Front area.

First, New York has 2.3 million jobs located in the 28-square-mile island of Manhattan. This makes it possible to use high-capacity rail transit to bring people to those jobs. By contrast, no part of the Wasatch Front region has anywhere near Manhattan's job densities and no single employment center has a significant percentage of the region's jobs. More than 60 percent of the jobs in the Salt Lake urban area are in the suburbs.¹⁸ Nowhere in Utah are jobs as concentrated as they are in Manhattan. High-capacity transit makes no sense in such an area.

Second, New York City had a 1990 population density of 23,000 people per square mile. Many of its suburbs, including Newark, Jersey City, Yonkers, and at least half a dozen other cities of more than 50,000 people have densities greater than 10,000 people per square mile. Densities such as these can support and benefit from rail transit.

By comparison, Salt Lake City had a 1990 density of less than 1,500 people per square mile. Its densest suburb, White City, had about 6,500 people per square mile, but most communities in the region had densities well below 4,000 people per square mile.¹⁹ High-capacity rail transit does not serve such low-density areas very well.

New York may be the only U.S. metropolitan area where rail transit makes much sense. No U.S. urban area other than New York has a combination of a high-density employment center and high-density suburbs. Although Washington, DC, San Francisco, and Los Angeles have each spent billions of dollars on rail transit, less than 3 percent of all travel in these regions is by rail.

Table Seven: Transit & Rail Transit's 1998 Share of Urban Area Motorized Travel

	Transit	Rail	Light Rail
New York	10.1%	7.8%	0.01%
Boston	4.2	3.3	0.48
San Francisco	3.7	2.5	0.21
Chicago	3.6	2.6	n/a
Washington	3.4	2.3	n/a
Philadelphia	2.8	2.0	0.11
Baltimore	2.1	1.0	0.18
Portland	1.8	0.3	0.34
Pittsburgh	1.5	0.2	0.17
Los Angeles	1.4	0.3	0.11
San Diego	1.4	0.5	0.45
Denver	1.3	0.1	0.05
Atlanta	1.3	0.8	n/a
Cleveland	1.3	0.4	0.13
San Jose	1.1	0.2	0.15
Hartford	0.8	0.1	n/a
Sacramento	0.8	0.2	0.24
Buffalo	0.7	0.1	0.14
Salt Lake	0.7	n/a	n/a
Dallas-Ft. Worth	0.5	0.1	0.09

Sources: Federal Highway Administration, Highway Statistics 1998, table HM-72; Federal Transit Administration, National Transit Database 1998, table 27.

Third, even where rail transit does make sense, it is not light-rail transit, which is an obsolete technology. The New York area, for example, has almost no light rail: just a four-mile line in Newark and the recently-opened Bergen-Hudson light-rail line. Although the Bergen-Hudson line passes through some of the densest parts of New Jersey, ridership has been only a third of the official projections.²⁰ Table seven shows that light rail carries less than a 0.5 percent share of motorized travel even in the urban areas where it is claimed to be most successful, such as Boston and San Diego.

Rail Transit Harms Transit-Dependent People

Transit agencies mainly serve *transit-dependent* people who, due to age, income, or disabilities, cannot drive. Rail transit is aimed at people who ordinarily drive but whom the transit agency seeks to attract out of their cars for social or political reasons. Too often, rail transit reduces the mobility of transit-dependent people in order to provide a supposedly attractive transit option for people who already have sufficient mobility.

In city after city, rail transit has proven to be so expensive that transit agencies are forced to reduce bus service, or at least limit its growth. Since rail transit is aimed at getting middle-class people out of their autos while bus service is aimed at providing transportation to the poor and others who can't drive, rail transit represents a huge transfer in wealth and mobility from the poor to the relatively wealthy.

This is clearly visible in Los Angeles, which started building a huge, multi-billion dollar rail transit system in the 1980s. To pay for the rail lines, the Metropolitan Transit Authority (MTA) curtailed bus service and failed to replace worn-out buses. Since the rail lines were primarily serving white neighborhoods and the bus lines primarily served minority neighborhoods, the National Association for the Advancement of Colored People (NAACP) sued, charging discrimination. In 1996, the MTA reached a consent agreement to upgrade bus service and soon had to curtail rail construction in order to pay for new buses.

Even after cutting back its rail plans, MTA anticipates a \$438 million deficit in the next ten years. So it asked its bus drivers and other workers for wage concessions, primarily reducing the amount of overtime wages they can earn. In response, MTA employees went on strike in September 2000. The *Los Angeles Times* reported that this strike was "the direct result of the MTA's past decisions to build the nation's most expensive subway system."²¹ Incidentally, although transit carries a greater share of travel in Los Angeles than along the Wasatch Front, the strike has had no discernible effect on congestion.²²

Although not as dramatic, similar stories can be

told about other cities that have recently built rail lines, including Washington, DC, Portland, and Sacramento. In each case, the story is the same: The expense of building rail lines stretches transit resources thin and transit agencies are forced to raise fares, cut services, or both to keep the rail lines operating.

For example, rising operating costs forced Portland to reduce frequencies on one of its most popular bus routes from every ten minutes to every twelve minutes in 1997.²³ Portland is currently building a light-rail line to its airport, but can't afford to purchase new light-rail vehicles for that line. So it plans to cut service on other light-rail lines to serve the airport.

These service cuts should not be surprising. In 1995, Metro—Portland's equivalent of the Wasatch Front Regional Council—noted that the operating costs of new light-rail lines would "limit bus expansion."²⁴ With no new light-rail lines, the agency estimated that Portland could expand its bus system by about 3 percent per year and add innovative new bus services that would be as fast or faster than light rail. If, however, new light-rail lines were built, Portland would be able to expand its bus service by only 1.1 percent per year and would not be able to add any new express or semi-express buses.²⁵ Since Portland's population is growing at about 2 percent per year, the high cost of rail means that transit would not be able to keep up with growth, much less expand its share of the market.

The Utah Transit Authority itself has similar problems. After spending more than \$10 million per year on bus capital improvements in 1993 through 1997, UTA bus spending dropped to less than \$7 million in 1998. According to UTA's web site, one "frequently asked question" is "Why does UTA not add more trains on during peak commuting hours?" The answer, says the web site, is that "UTA does not have enough cars to do this."²⁶ New light-rail vehicles hold about twice as many passengers as a large bus, but cost ten times as much. By investing in light-rail, UTA has committed itself to an inflexible technology that cannot be readily expanded or rerouted.

Utah Transit Subsidies Are Far Greater Than the National Average

The Utah Transit Authority argues that an increase in the sales tax is needed because “Wasatch Front Counties’ investment in transit through sales tax is less than half the average for U.S. cities.”²⁷ In fact, as shown in table eight, the subsidy to Wasatch Front transit passengers paid by other taxpayers is far greater than the national average.

- UTA transit fares covered just 18 percent of transit operating costs in 1998, less than half the national average of 41 percent.²⁸
- UTA’s 1998 operating subsidy per bus rider was \$2.34, nearly 70 percent more than the national average of only \$1.40.²⁹
- UTA’s operating 51-cent operating subsidy per passenger mile was nearly 90 percent greater than the national average of 27 cents.
- At \$1.37 per rider, the share of subsidies paid by state and local taxpayers are 44 percent greater than the national average of 95 cents per rider. Almost all of Utah’s state and local subsidy comes from the transit sales tax.

UTA subsidies are greater than the national average both because UTA spends more per rider and because it collects less in fares per rider than the aver-

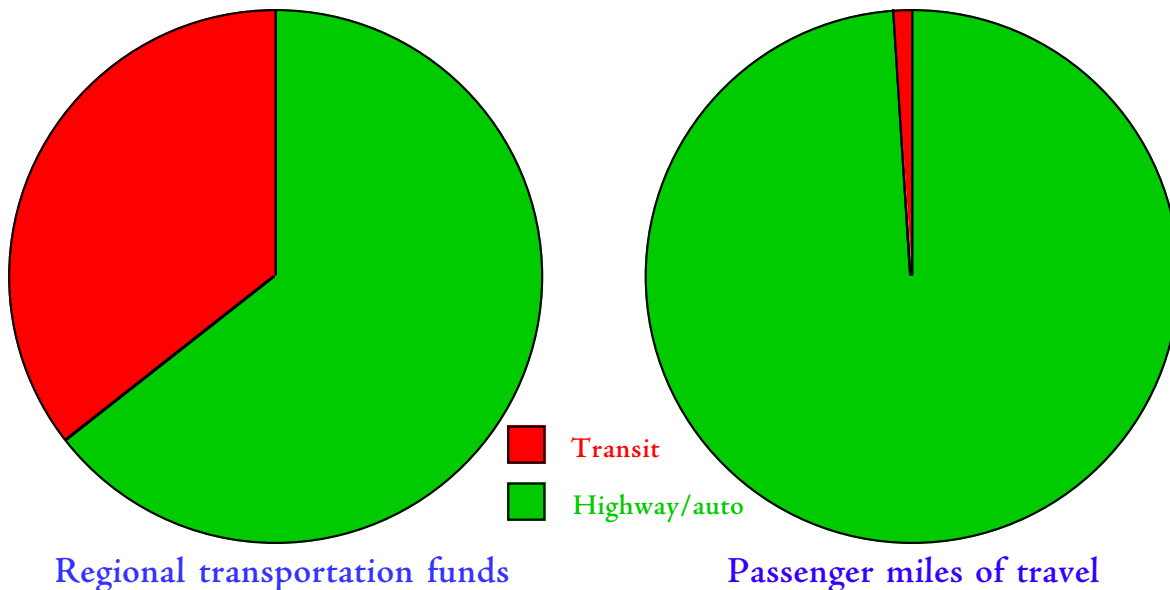
age U.S. transit system. Subsidies increase still further when the capital costs of buses and bus transit facilities are counted. In 1998, the UTA spent 28 cents per rider and 6 cents per passenger mile on bus-related capital costs. While this is closer to the national average, UTA’s decision to build rail transit has sent Utah transit subsidies skyrocketing.

Table Eight: 1998 Riders and Subsidy Per Rider
(thousands except percent, subsidy/rider & subsidy/pm)

	UTA	National
Fares	\$12,999	\$7,276,500
Operating costs	70,960	18,646,560
% covered by fares	18%	39%
Bus capital costs	\$6,815	\$2,225,000
Riders	24,722	8,115,118
Op. subsidy/rider	\$2.34	\$1.40
State/local op. funding	33,821	7,725,360
State-local op. subsidy/rider	1.37	0.95
Capital subsidy/rider	0.28	0.27
Passenger miles	112,743	41,605,039
Op. subsidy/pass. mile	\$0.51	\$0.27
Cap. subsidy/pass. mile	0.06	0.05

Source: FTA, 1998 National Transit Database, tables 1 and 27.

Figure One: Wasatch Front Transportation Budget and Passenger Miles of Travel, 1998–2020



The new sales tax will give UTA more than 35 percent of the region’s transportation dollars, yet it will carry just one percent of passenger travel.

Rail Transit Requires Huge Increases in Subsidies

Suppose the Utah Department of Transportation proposed to build a new highway in Salt Lake City that cost three to four times as much per mile as Interstate 15 yet promised to carry only one-fourth as much passenger traffic and no freight traffic. Most people would be outraged at such a waste of funds. Yet that is what the TRAX line costs and what it does.

Rail transit is not only the least effective transit solution for the Wasatch Front, it is the most expensive. Buses can drive on ordinary streets and share the cost of those streets with millions of automobiles and trucks. But light rail must have tracks dedicated to its use, and the cost of those tracks is not shared with any other form of transportation. Moreover, the cost of a mile of light-rail route (which includes one track in each direction) ranges from \$15 to \$50 million per mile. The TRAX system cost \$18 million per mile. By comparison, a single lane mile of freeway typically costs around \$5 million per mile, yet it carries many more people than a mile of light rail.

Even if the tracks were free, the cost of light-rail equipment is far greater than the cost of buses. A typical bus costs around \$200,000 to \$300,000. But a single light-rail vehicle costs around \$2 to \$3 million. While the light-rail vehicle has a higher capacity and longer life span than the bus, its cost is still several times more per passenger. The cost per passenger of commuter rail cars and locomotives is also several times greater than for buses.

Rail advocates argue that rail operating costs are lower than bus operating costs because one driver can handle vehicles carrying far more people. This ignores the fact that most rail operating costs are not vehicle drivers but in maintenance and upkeep. The Federal

Transit Administration reports that, in 1997, operating costs of bus transit in major urban areas were 54 cents per passenger mile while light rail costs were 46 cents per passenger mile (table nine). But light-rail lines are almost all built on heavily-traveled routes while many bus routes go through thinly populated areas and are little used. If the buses that light-rail lines replaced carried just 18 percent more riders than average, then those buses were less expensive to operate than light rail.

Table Nine: Transit Operating Costs in 1997

	Cost Per Passenger Mile	Cost Per Rider	Passengers /Vehicle
Bus	\$0.54	\$2.04	11
Light Rail	0.46	1.82	26
Commuter Rail	0.28	6.37	35

Sources: Federal Transit Administration, Transit Profiles: Agencies in Urbanized Areas Exceeding 200,000 Population, 1997, appendix A. Passengers per vehicle is calculated by dividing passenger miles by vehicle revenue miles.

Moreover, rail commits transit agencies to major costs that the Federal Transit Administration does not count as operating costs. Every few decades rail lines must be completely replaced or rebuilt at a cost of millions of dollars per mile. When this cost is added to everyday operations and maintenance, the cost of light rail is much greater than the cost of buses.

Another cost of light rail is the feeder bus routes that serve light-rail stations. These feeder buses typically carry far fewer people than the downtown-oriented buses they replaced because most light-rail riders prefer to go to the light-rail stations on foot or by auto. This low patronage drives up transit operating costs per passenger mile.

UTA Rail Subsidies Are Nearly Triple Its Bus Subsidies

Table eight showed that 1998 operating and capital subsidies to Utah bus transit riders were 75 percent greater than the national average at 57 cents per passenger mile. Rail transit, however, requires subsidies that are several times larger.

Construction of the existing TRAX line cost about \$300 million. This capital cost can be *annualized*, or converted to an equivalent annual cost, by multiplying by an appropriate interest rate. Using the rate in the 1990 draft environmental impact statement for the TRAX line, the annualized cost is about \$36 million per year. The annual operating costs are about \$9 million for a total cost of \$45 million per year.³⁰

At 19,000 riders per day, six days a week, this equals a cost of \$7.60 per rider. Since TRAX fares average less than \$1 per rider, TRAX requires a subsidy of more than \$6.60 per ride, which is nearly three times the subsidy per UTA bus ride. Since 56 percent of TRAX riders previously rode buses, the cost per new transit rider is more than double the average cost, requiring a subsidy of well over \$16 per new rider.

If the sales tax is increased, the Utah Transit Authority expects to continue to subsidize transit riders at nearly this rate over the next twenty years. The agency expects ridership to slightly more than triple between 1998 and 2020, which means over that time period it will transport people roughly 5 billion passenger miles. Total subsidies to transit over that period will be \$6.2 billion, which means an average subsidy for both bus and rail riders of about \$1.22 per passenger mile, or nearly \$5 per ride.

Rail transit advocates argue that transportation funding needs to be “balanced” in view of historic sub-

sidies to highways. But in what sense is funding unbalanced? The answer can be found by comparing transit and highway subsidies.

In 1998, Utah drivers paid \$587 million in gasoline taxes and other highway user fees. Of this, \$125 million was diverted to other uses, including mass transit and general purposes.³¹ At the same time, Utah spent \$165 million of non-highway revenues on highways, mostly from state general funds.³² This means that highways received \$40 million in federal, state, and local subsidies in 1998. Utah drivers went about 13 billion miles in 1998, which are approximately 21 billion passenger miles.³³ This means the subsidy per passenger mile was about 0.2 cents.

Rail transit subsidies, then, are 600 times as much per passenger mile as subsidies to auto drivers and passengers. If the sales tax is not increased, the subsidy will still be more than 80 cents per passenger mile, which is 400 times greater than highway subsidies.

If the sales tax passes, the Wasatch Front Regional Council’s long-range regional transportation plan calls for spending more than 35 percent of the region’s transportation resources on transit. Yet transit carries less than 1 percent of the region’s travel and will continue to carry less than 1.5 percent even under UTA’s optimistic projections for 2020.

Balanced transportation funding, then, implies less funding for transit rather than more and zero funding for rail transit. It may be appropriate to reduce highway subsidies as well. But highways come far closer to paying for themselves than transit, and bus transit comes far closer to paying for itself than rail transit.

UTA Is Selling the Sizzle, Not the Steak

Advertising experts say that businesses should “sell the sizzle, not the steak.” The Utah Transit Authority (UTA) follows this advice with respect to rail transit. A UTA television advertisement about the TRAX light-rail line suggests that the people riding TRAX each day would otherwise fill the freeway from Ogden to Provo. “Even if you don’t use it, you use it,” concludes the ad. Since the ad does not urge anyone to ride TRAX, it is clearly an appeal for votes for an additional quarter-cent sales tax for transit this November.

The reality is that TRAX has had an insignificant effect on congestion and that anyone who votes for an increase in the transit sales tax because they think that light rail will reduce congestion is wasting their vote and their money.

This fact is well covered up by UTA hype. TRAX ridership, says UTA, “has been astounding” and “has

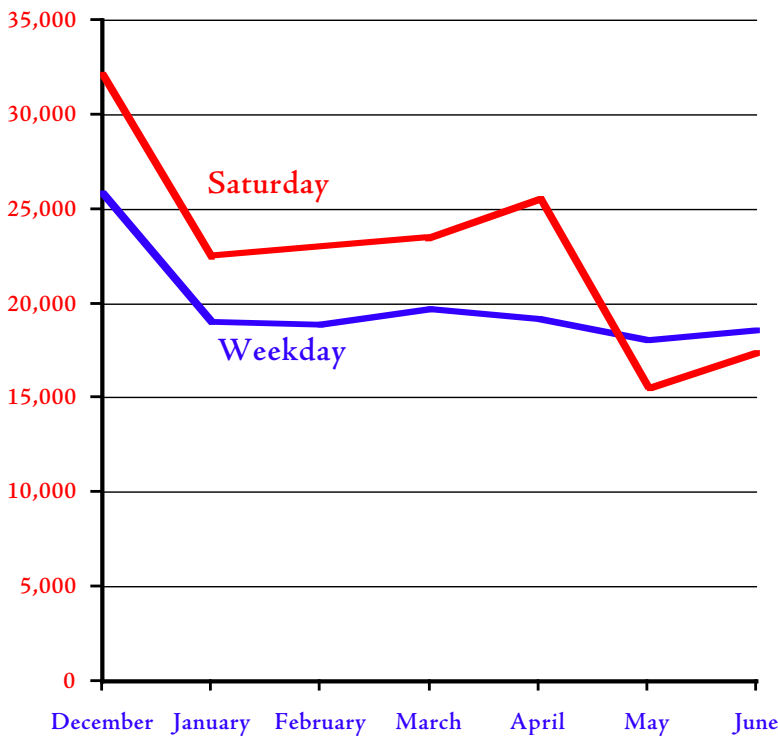
surpassed all initial projections.” Weekday ridership in December, 1999, averaged 25,904 passengers per day. In January, after the novelty wore off, UTA says that “an amazing 19,039 commuters boarded TRAX during weekdays.” This was more than a 26-percent decline from December, yet UTA calls it “a slight decrease.”³⁴ Since that time ridership has remained around 19,000 passengers per weekday.

Is this “astounding” and greater than “all initial projections”? The 1990 draft environmental impact statement for the light-rail line projected 26,500 riders per weekday, which is more than the December ridership and far more than ridership since December. UTA also stretches the truth by suggesting that all weekday riders are commuters, when in fact 49 percent of them board during non-rush-hour periods and only 40 percent ride during rush hour in the primary direction of rush-hour travel.

Statements made to the press are sometimes as misleading as UTA’s advertising. One recent newspaper article reported that light-rail ridership numbers have “climbed consistently since TRAX began running full time.”³⁵ In fact, after dropping from nearly 26,000 riders per day in December 1999 to 19,000 in January 2000, ridership has if anything declined still further (see table four). While numbers have varied too much to establish a consistent trend, they are certainly not consistently climbing.

The fact is that TRAX is an expensive urban monument that has failed to do anything to reduce urban congestion. But UTA cannot afford to admit this, for doing so would not only raise questions about the light rail UTA has already built but make it more difficult to convince voters to increase the sales tax dedicated to transit. So UTA relies on hype and misrepresentations.

Figure Two: TRAX Daily Ridership



TRAX ridership has fallen far more than it has risen. Source: UTA.

Buses Work Better Than Rail

On September 28, 2000, a Portland light-rail vehicle struck a fire truck on its way to a fire. The accident not only delayed the fire fighters but also blocked Portland's light-rail line for two hours. Tri-Met, the city's transit agency, was forced to use buses to transport passengers around and beyond the accident.

Such accidents demonstrate one of the major disadvantages of rail transit: It is far less flexible in operation. Building rail lines to a new destination costs hundreds of millions of dollars; bus lines can be rerouted at nearly no additional cost to the operator. While light-rail lines are rarely built with passing tracks, and vehicles must therefore all operate at the same average speed, buses can easily pass one another in the streets so both express and local buses can run at the same time. If light-rail cars are full, people are denied entry, and new cars cost so much that the agency cannot readily add service. Buses cost only a tenth as much as light-rail cars, so they can easily be added to accommodate unexpected demand.

Rail advocates argue that streetcars and trains are more likely to attract people out of their autos than buses. "There's a social stigma attached to buses," claims Paul Weyrich of the Free Congress Research and Education Foundation, and he urges cities to build rail transit to attract middle- and upper-middle-class riders.³⁶ It is true that new rail transit lines often increase transit ridership in the rail corridor. But this is not because people like trains better than buses but because transit agencies usually offer significantly improved rail service over the previous bus service. These service improvements include greater frequencies, fewer stops and therefore faster trips, and easily identified destinations. Yet greater frequencies, fewer stops, and clear routes are not exclusive to rail, merely to the way cities operate rail service.

Conventional *local bus service* generally consists of buses every fifteen minutes to every hour that stop twelve or more times every mile. Such buses average around 10 miles per hour. A light rail that stops only once per mile may seem a major improvement: Light-rail speeds average around 20 miles per hour, or twice

as fast as local bus service. Yet they are still slower than automobile speeds: The fastest light-rail lines in the nation average a little more than 25 miles per hour, while auto commuting speeds average more than 35 miles per hour.³⁷ Autos also allow door-to-door service, something few transit users enjoy.

Express bus service easily exceeds light-rail speeds and can approach auto-commuting speeds. Express buses may run a short route of several stops at either end, and then travel long distances while making no stops, or perhaps only one or two stops. Their average speeds can easily exceed 30 miles per hour. While many cities offer express bus service, they usually operate only a few times a day during rush hour periods.

The Federal Transit Administration's Bus Rapid Transit program has the motto, "Think Rail, Use Buses." Bus Rapid Transit, says the agency, "combines the quality of rail transit and the flexibility of buses."³⁸ While the Federal Transit Administration promotes such expensive ideas as highway lanes dedicated to buses, no new construction is needed to make buses operate as well as or better than rail lines.

What is really needed is something intermediate between local and express buses. Like light rail, such a service would operate every five to fifteen minutes throughout the day, stop only every mile or so, and average 20 miles per hour or better. In short, this service would run buses on light-rail schedules. Portland's transit agency, Tri-Met, calls this *FastLink* service. FastLink service is far less costly than light rail: While UTA spent \$300 million building a single light-rail line, Tri-Met estimates that it can begin FastLink service on a dozen different routes for just \$75 million. Operating costs are comparable to or less than light rail. This makes FastLink superior to light rail on any route where light rail might be built.

Densities in much of the Wasatch Front region are too low to justify FastLink service. Low-density areas can benefit from low-capacity jitney or demand-responsive bus services. Such services could be priced higher than regular buses and cover a large share of their costs.

UTA Should Expand Bus Service Using Existing Resources

If the Utah Transit Authority is sincerely interested in better transit, it should improve its bus services in ways that replicate and improve on rail's apparent advantages without rail's cost or inflexibility. UTA should also take advantage of the bus's superiority as a low- to medium-capacity transit system in serving a low-density metropolitan area such as the Wasatch Front.

The Utah Transit Authority already plans to make many of these improvements, and it can implement these plans without asking voters for more taxes. All it needs to do is drop its plans for more rail construction and service in the Wasatch Front area. Even after making all of the planned bus improvements, this would leave the agency with funds that it could use to make even further bus improvements.

In the corridors where UTA proposes to add light rail, the agency could use some of this money to begin running buses on light-rail schedules: FastLink buses that operate every five to fifteen minutes and stop every mile or so. These buses could easily meet or exceed the average speed of light-rail lines and should attract as many new transit riders. Such buses should be clearly marked, perhaps by painting them in different colors, to plainly indicate their routes and destinations.

UTA should also provide comfortable, long-dis-

tance bus services in the Brigham City-to-Payson corridor where it proposes to begin running commuter trains. Unlike a rail commuter line, which is fixed by the location of the existing rail right of way, buses could be tailored to begin and end at several origins and destinations along the route, such as Brigham Young University, the University of Utah, Weber State University, various downtowns, and other employment centers.

In low-density areas, UTA should begin to experiment with jitney or demand-responsive bus services. Jitneys are low-capacity buses that follow regular routes but may vary from the routes to provide personalized drop off services. Demand-responsive buses serve generalized areas but follow no set route. Instead, they provide customized pick-up and drop-off service. Such services are midway between taxis and ordinary bus services.

Together, these sorts of improvements should make it possible for UTA to significantly increase transit ridership without an increase in sales taxes. On the other hand, if sales taxes are doubled and UTA invests in numerous expensive rail transit lines, it will not be able to afford as many bus improvements elsewhere and ridership will suffer. Taxpayers, auto drivers, and transit riders will therefore all benefit if the UTA abandons its plans for rail transit.

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