

Union Station is  
MetroLink's fourth  
busiest station.  
WARREN



# WHY SUCCESS IN ST. LOUIS?

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At the beginning of the century seven rail commuter lines and thirteen streetcar routes fanned out from St. Louis's central business district into St. Louis County. Numerous additional trolley routes served the metropolitan region. Many of the city's streetcar routes were sited on private rights-of-way that meet the description of light rail transit Class B alignments. After World War I large federal subsidies were made available for highway construction. The retrenchment of rail and streetcar lines was well under way by 1930. The city's last rail commuter line terminated service in 1961, and in 1966 the last streetcar route was abandoned.

Almost 30 years later the Bi-State Development Agency (Bi-State) secured funding to construct St. Louis's MetroLink in the late 1980s. Despite vocal detractors, among them several prominent politicians, Bi-State proceeded with construction. Since MetroLink opened in July 1993, patronage has been noticeably higher than planners originally predicted. Even more surprising than the system's high weekday ridership was the volume at its busiest station: the Fifth and Missouri station in East St. Louis generated 15.4 percent of the line's patronage during the first year of operation. Light rail transit and the Casino Queen gambling boat have provided two important new economic stimuli for one of the nation's most depressed commu-

nities, where unemployment rates have been known to rise above 20 percent.

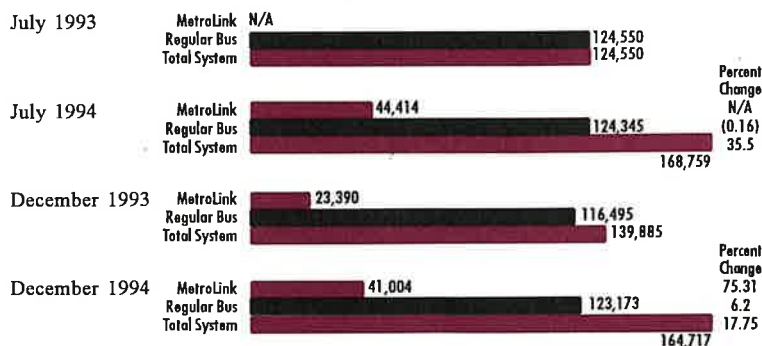
## DEFINING SUCCESS

Many parameters may be examined as indicators of success. Some can be quantified whereas others must be considered circumstantially. In a business evaluation, profit or loss defines success and failure. MetroLink does not generate a profit, nor does any metropolitan transit system in the United States. Transit systems frequently are compared with urban freeways, with the assumption that "freeways pay for themselves." However, substantial road subsidies exist in the United States, and many of the costs associated with road construction and use are borne by all taxpayers, not just drivers.

The increase in patronage is a second indicator of success or failure. Ridership should be considered from several perspectives: What are predicted ridership values? What patronage trends are generated by light rail transit? Does the introduction of light rail service merely cause riders to switch from bus to rail transit?

Bus ridership has increased since the introduction of MetroLink in St. Louis, as indicated in Figure 1. Bi-State projected 13,000 MetroLink riders

FIGURE 1 Bus, MetroLink, and total system ridership increases 1993-1994.



for initial service, increasing to 17,000 at the end of the first year. By July 1994—the twelfth month of service—weekday ridership was 44,414. Average Saturday and Sunday ridership for July 1994 was 50,725 and 50,623. Projected ridership values were clearly exceeded. The projected patronage values may have been too conservative. Before the system was completed, however, many public officials and media commentators suggested that the projection of 17,000 patrons for weekdays after one year was ludicrously high.

Patronage could have averaged more than 50,000 patrons per workday during July 1994 if several major stations had opened earlier in the year. The Casino Queen's East Riverfront station only opened in May 1994. The new Airport station, which is immediately adjacent to the airport's check-in counters, had only been open for five days when the tally was taken. With more time these stations will develop enhanced ridership. Circumstances and special events could also have made a difference. The Busch Stadium station could have produced more patrons if the St. Louis baseball team had been more successful. The St. Louis Cardinals were in last place on July 20, 1994. The new Kiel Center at Kiel station, completed in October 1994, has generated additional riders since the July 1994 tally. The Airport South station remains unfinished. Finally, the system's best day was not included because it was not a weekday: on Saturday, July 2, MetroLink transported 108,000 revenue passengers.

The ridership values for MetroLink are shown in Figure 2. December and the summer months have tended to produce higher values. The patronage figures for August 1994 through April 1995 reflect the impact of the hockey and baseball strikes. Overall, measured by projected and actual ridership, St. Louis's MetroLink is a distinct success.

The stimulation of economic development is a third measure of success. Economic development has been a strategic objective for many transit plans. The Metropolitan Express (MAX) light rail system in Portland, Oregon, provides the standard for enhanced economic development. The decision to build the MAX line to Gresham was made in 1979. Between 1979 and 1989 33 new business developments were constructed, representing investments of \$693 million. Most of this new investment occurred in the central business district.

MetroLink has not yet equaled the economic impact of MAX, partly because of the two cities' vastly different growth rates. Growth in metropolitan Portland between 1970 and 1990 was 41.1 percent. Growth in the St. Louis region was 0.6



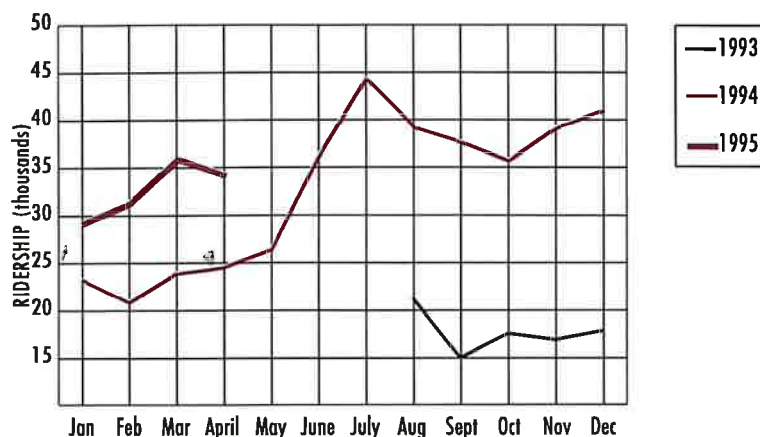
percent for the same time frame. During this period the population of the city of St. Louis declined by more than one-third from 622,236 to 396,685.

However, in its first year of operation the system shows indications of stimulating new revenues. In October 1994 the new 21,500 seat Kiel Center opened, and the new \$260 million football stadium opens in October 1995. Both of these projects were initiated after the decision to build MetroLink had been made. Managers at existing facilities such as St. Louis Centre and Union Station have indicated that business has improved since the service was introduced.

The final measure of success is the favorable response of the citizens of St. Louis to the system. They speak highly of it, but more important, they use it. The region's population has approved new taxes to support the extension of MetroLink. In November 1993, three months after MetroLink opened, the citizens of St. Clair County, Illinois, voted 67.5 percent in favor of a half-cent sales tax

Convention Center Station serves four primary magnets for ridership: St. Louis Centre, Dillard's Department Store, Convention Center, and new \$260 million stadium.  
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FIGURE 2 Weekday MetroLink ridership.





providing the local match to extend MetroLink from East St. Louis to Belleville and Scott Air Force Base, an outstanding tax victory. As County Board Chairman John Baricevic remarked, "Nobody wins by that much." Then in August 1994, just three months before the Republican party swept both Houses of Congress on a "get the government off our backs" platform, the citizens of St. Louis voted 65 percent—and St. Louis County voted 61 percent—in favor of a quarter-cent sales tax to expand MetroLink and improve other transit services.

#### DETERMINANTS THAT INFLUENCE SUCCESS

Many features contribute to the success or failure of light rail projects. In St. Louis four elements functioned as prominent features: urban morphology, construction costs, effectiveness of bus feeder routes, and publicity.

Urban morphology or structure consists of several components, including the land use pattern. Some cities have a radial corridor land use pattern,

MetroLink train exits rail tunnel as it departs Busch Stadium.  
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and other cities spread out along a grid of freeways and arterial roadways (Figure 3). Cities that develop a radial corridor structure encourage transit development. Population densities in these corridors tend to be greater, which is favorable to higher potential transit patronage.

The U.S. Geological Survey's Topographic Quadrangle Sheet for St. Louis from 1904 indicated two land use corridors. One followed the Washash commuter line to Normandy and Ferguson,

and the second traced the Missouri Pacific and the St. Louis & San Francisco commuter routes to Webster Groves, Kirkwood, and Valley Park. MetroLink re-established commuter services in the northwest corridor in 1993. In May 1995 Bi-State awarded a contract to Booz-Allen & Hamilton to begin planning for commuter rail service in the southwest corridor. During the past 30 years Interstate 70 served as the spine of the northwest corridor, and Interstate 44 (located immediately adjacent to the St. Louis & San Francisco's former commuter line) has served the southwest corridor.

Magnets or traffic generators should be within walking distance of transit stations. In automobile-oriented cities traffic generators tend to be distributed across the metropolitan landscape. In radial corridor cities traffic generators tend to focus on the corridors. Downtown St. Louis contains a large array of magnets. These include Union Station (a festival mall), St. Louis Centre (a large shopping mall), LaCledes Landing (a historic district), the Arch (a national monument and museum), two gambling casino boats, and two stadiums, with a third scheduled for completion in October 1995. In addition downtown St. Louis has a full complement of central business district commercial land uses.

Stations along MetroLink's route also have their share of primary magnets, including the Washington University Hospital complex, St. Louis University, two stations at The University of Missouri at St. Louis, Powell Symphony Hall and the Fox Theater, Forest Park with its three museums and zoo, and Lambert-St. Louis International Airport, where MetroLink ends immediately adjacent to the check-in counters.

Construction costs should be a primary determinant of the decision to build light rail systems. Some projects have had "white elephant" price tags. Two cities that invested in expensive light rail were Buffalo, New York, which opened its system in 1984 and spent \$88 million per mile on its construction, and Los Angeles, California, which completed its system in 1990 at a cost of \$40 million per mile. By comparison the per-mile cost of MetroLink was \$19.5 million.

A large share of MetroLink's expenses involved rehabilitation instead of the more expensive new construction. Several considerations contributed to reduced construction costs. First, the city traded its MacArthur Bridge for the Eads Bridge, which had been owned by the Terminal Railroad Association. Bi-State then donated the Eads Bridge, with an assessed value of \$31.4 million, as

part of its required 25 percent matching share for the \$288 million grant from the Federal Transit Administration. In addition to making the match, MetroLink gained a bridge over the Mississippi River, the railway tunnel under downtown St. Louis, and access to downtown East St. Louis along a rail segment that had been in service between 1874 and 1974.

MetroLink also acquired the former Wabash Railroad's Union Depot Line from Ferguson to Union Station. This former commuter route served major trains such as the City of St. Louis, the Blue Bird, the City of Kansas City, and the Banner Blue. Between the University of Missouri-St. Louis North Station (Alderney) and Union Station there are only four grade crossings, and these are local streets. In addition to the safety benefits, the small number of at-grade crossings boosts efficiency by allowing trains to travel at optimum speeds. The former baggage tunnel under Union Station was used for that segment of the line, which further contributed to reduced costs.

Finally, a substantial section of the remaining route is located in the right-of-way of I-70. Development costs included construction of stations; emplacement of new rail, ties, and ballast; installation of catenary and signaling equipment; and the purchase of trainsets.

Rail transit systems should be networked with existing bus services, a feature that is often absent or ineffective in old and new rail systems. MetroLink interfaces directly with 46 Bi-State bus lines. Basic fares are \$1 and transfers are \$0.10. Many bus routes have at least two station connections with MetroLink.

Publicity is a major determinant of the success or failure of potential light rail systems. St. Louis excelled in this area. Bi-State has effectively advertised the new system. However, the agency's promotional activities were greatly enhanced by the work of Citizens for Modern Transit (CMT), a nonprofit group. CMT was on MetroLink's front line from the beginning of the effort to establish the service, producing a quarterly newsletter and other promotional materials. When MetroLink opened, CMT volunteers were posted at almost all MetroLink stations. They welcomed riders to the system and showed them how to use it.

The media in St. Louis have been mostly supportive of the MetroLink program, although a few radio talk shows aired programs that were critical of light rail. For example, *The St. Louis Post Dispatch* produced an entire Sunday magazine section on MetroLink six days before it opened, with details on how the system worked, station maps, fares, and scheduling.

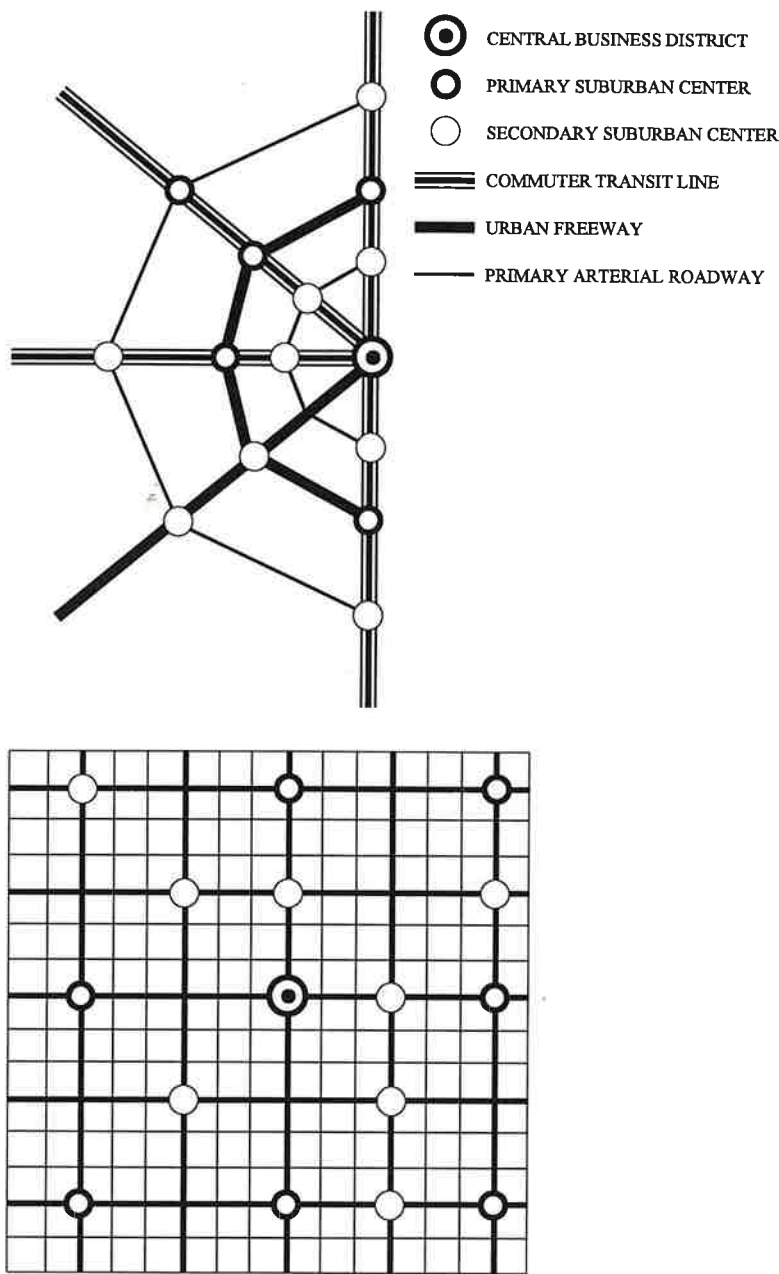
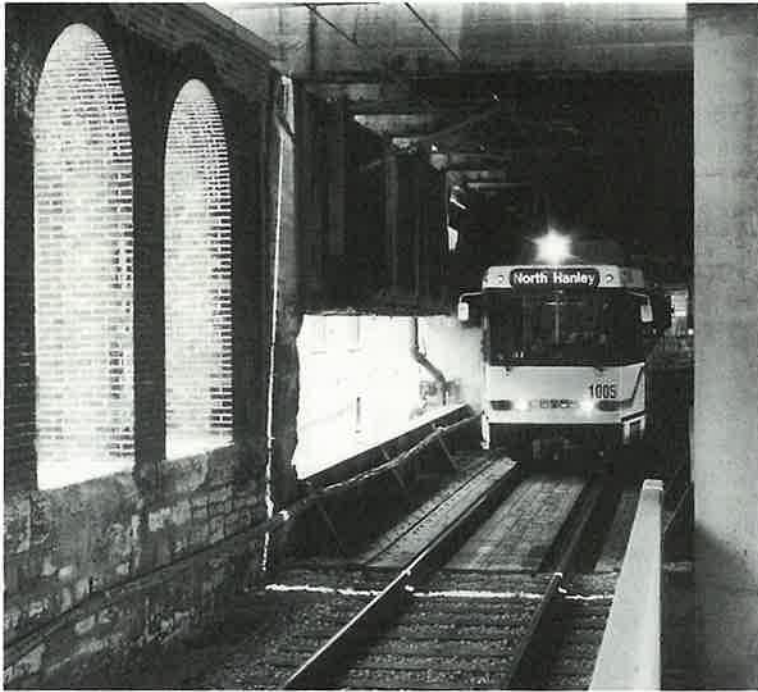


FIGURE 3 Transit corridor model (top) and roadway centers model (bottom).  
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## CONCLUSION

The most significant factor in the prompt success of the St. Louis MetroLink system was the land use pattern of the region, with its concentration of magnets that lend themselves well to public transportation. MetroLink also arrived with a distinctly lower price tag than many light rail systems. Effective advertising has helped boost a ridership that has already exceeded projections. MetroLink was projected to carry 35,000 workday riders by 2000. It took the system one year to accomplish the ridership expected in five years.



Acquisition of historic  
Eads Bridge saved  
St. Louis money.  
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The majority of citizens  
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MetroLink is a success.

In addition to the demonstrable measures of success, some benefits of the system are difficult to quantify. When commuters use MetroLink, traffic is deflected from some of the St. Louis area's congested freeways. The demand for downtown parking facilities is reduced. MetroLink uses less energy per mile to transport commuters than automobiles and produces less air pollution per passenger mile than automobiles. These features contribute to the success in St. Louis, but they are difficult to document.

MetroLink has certainly had its share of detractors along the way. Eminent critics labeled MetroLink a "loser" and derided MetroLink as a "boondoggle." Private comments were still more critical. But judging from the elevated ridership, increased bus patronage, and voter approvals of continued tax support, the majority of citizens in the St. Louis region are convinced that MetroLink is a success.

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