

CROSS-COUNTY METROLINK EXTENSION

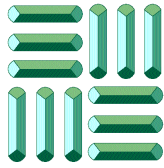
Segment I Conceptual Design

**Staff Recommendation
to the Board of Directors**



**East-West Gateway
Coordinating Council**

June 30, 1999



East-West Gateway Coordinating Council

Linking the cities and counties of the Gateway Region since 1965

June 23, 1999

Chairman
Rudolph J. Papa
Chairman, Madison County Board

Vice Chairman
Buzz Westfall
County Executive, St. Louis County
Executive Committee

John Baricevic
Chairman, St. Clair County Board
Joseph R. Ortwerth
County Executive, St. Charles County

Clarence Harmon
Mayor, City of St. Louis
Samuel Rauls
Presiding Commissioner
Jefferson County

Gene Scott
Presiding Commissioner
Franklin County

Robert Rippelmeyer
Chairman, Board of Commissioners
Monroe County

Members
Debra Powell
Mayor, City of East St. Louis

Lester Schneider
President, Southwestern
Illinois Council of Mayors

Francis G. Slay
President, Board of Aldermen
City of St. Louis

Gustave Degardin
President, St. Louis County
Municipal League

Gary Niebur
Vice-President, Southwestern
Illinois Council of Mayors

Hollie Willmann
President, Southwestern Illinois
Metropolitan & Regional
Planning Commission

Elizabeth Van Uum
Chair, Bi-State Development Agency

Donald Bennett
Milton Bischof
Pierre Blaine
Judith Nelson

Larry Reinneck
C. Byron Snider

Non-voting Members
Henry Hungerbeeler
Missouri Transportation Commission

Linda Wheeler
Illinois Department of Transportation

Richard A. Hanson
Missouri Office of Administration

Mark Spizzo
Illinois Department of
Commerce and Community Affairs

Executive Director
Les Sterman

10 Stadium Plaza
St. Louis, MO 63102-1714

314-421-4220
618-274-2750
Fax 314-231-6120

Postmaster@ewgateway.org
www.ewgateway.org

To the Board of Directors:

At your June 30 meeting, you will be asked to make a decision about the future of MetroLink, a decision which is important not only to the future of the directly affected communities, but to the entire region. This is a responsibility that comes to East-West Gateway in our role as a Metropolitan Planning Organization and as the area's Council of Governments. It is a responsibility that was accepted by the Board when, in September 1997, you made the decision to extend the previously completed two-year planning process to deal with the unfinished business of a number of difficult conceptual design decisions for Segment I of the Cross-County MetroLink extension.

During the last 18 months, staff and a multidisciplinary team of consultants have conducted a thorough process of conceptual design. At the same time, we have carried out an unprecedented array of activities to engage the public for the purpose of creating two-way communication with our design team about this important project. As you know, this process has resulted in the involvement of a wide variety of public and private groups, many formed solely for the purpose of affecting the outcome of this project. The media coverage has been extensive and public awareness almost universal.

The community engagement process has, at times, been shrill, but it has been productive. It has resulted in numerous changes in our design alternatives and, as the design process moves forward, will result in greater acceptance of the project. The result of community engagement is evident in our recommendations.

We have hoped that a competent design process, linked to an ongoing and interactive community process, would result in consensus not only around specific design issues, but about important goals and objectives for MetroLink. It was our expectation that, after completion of this process, your decision would simply confirm that consensus. Unfortunately, the consensus we were seeking has not completely emerged. Strongly held, but often opposing, positions on key issues have resulted in many voices emerging in the debate. The lines between fact and opinion have become indistinct as the focus for many has gradually shifted toward "winning" or "losing" the debate, rather than achieving important regional goals. The telephone calls and mail that each of you have received in recent months should give you a sense of the passions about this project on all sides.

The decision you are about to make is critically important for a number of reasons. It will affect whether and how much the highly successful MetroLink light rail system will be expanded. In 1989, the Board adopted a plan to extend MetroLink throughout the region. Without the Cross-County extension, the future of that plan is clearly in jeopardy. Without a MetroLink system, the St. Louis region will lack a critical asset to compete economically in the next century, and many of our citizens will lack access to our region's key economic and community opportunities.

Board of Directors
June 23, 1999
Page Two

This decision will call on you, as elected officials and policy-makers, to weigh fact and opinion. As staff, it is our job to provide you with the relevant information, fact and opinion, that you need to make an informed decision. The attached paper is our effort to distill thousands of pages of technical studies done over the last four years, to summarize the communication resulting from the public engagement process, to amplify critical issues, and to provide a recommendation which is consistent with Council goals and policies and which reflects our best professional judgement and experience.

Staff would like to acknowledge the generous participation of key staff members of the Bi-State Development Agency and the Missouri Department of Transportation in all of the design and community engagement activities. This partnership will be essential to further progress on MetroLink expansion as well as other main transportation projects throughout the region. However, the recommendation we make to you is ours alone.

While it would be easy to provide you with an abbreviated memo simply stating a recommendation for you to consider, we believe that we have a responsibility to explain and justify that recommendation both to you and to the public. We will try to describe not just the "how" of MetroLink expansion, but the "why."

One of the effects of the impending deadline (one that you imposed over a year ago) has been to stimulate some new design proposals by affected communities very late in the process. Even at this late date, we and our consultants have been able to successfully evaluate each of those proposals and, where necessary, produce the required design materials. We now believe that the range of design alternatives has been effectively exhausted.

All of the information is now in place to make a good decision for the region and for the communities directly affected. While some have called for a delay in your decision, doing so would produce no more useful information and would simply delay the inevitable choices that must be made.

We hope that the attached paper will provide you with the information you need to form a position. We will be available at any time in the week before the Board meeting to answer your questions and to provide additional information.

Sincerely,

A handwritten signature in black ink, appearing to read 'Les Sterman', with a large, sweeping flourish at the end.

Les Sterman
Executive Director

Attachment

Table of Contents

	<u>Page</u>
<u>Letter of Transmittal</u>	<i>i</i>
<u>Table of Contents</u>	<i>iii</i>
<u>List of Figures and Tables</u>	<i>iv</i>
<u>Executive Summary</u>	<i>v</i>
<u>I. The Planning Context</u>	I-1
<u>A. The Regional Setting</u>	I-1
<u>B. A Vision of MetroLink</u>	I-1
<u>C. History of Prior Council Actions Affecting the Cross-County Corridor</u>	I-3
<u>II. The Planning/Design Process</u>	II-1
<u>A. Design Activities</u>	II-1
<u>B. Financial Analysis</u>	II-2
<u>C. Public Engagement Process</u>	II-2
<u>III. The Recommended Design Concept</u>	III-1
<u>A. Introduction</u>	III-1
<u>B. Critical Decision Factors</u>	III-1
<u>C. The Recommended Design</u>	III-3
<u>D. Cost and Finances</u>	III-8
<u>Design Details by Section</u>	III-10
<u>a. St. Louis/University City</u>	III-10
<u>b. Clayton</u>	III-15
<u>c. Richmond Heights</u>	III-21
<u>d. Brentwood/Maplewood</u>	III-25
<u>e. Shrewsbury</u>	III-30
<u>IV. Moving Forward</u>	IV-1
<u>A. Transition of Project Management</u>	IV-1
<u>B. Participation by the City of St. Louis and St. Louis County</u>	IV-1
<u>C. Potential Legal Challenges</u>	IV-2
<u>Appendix A - Project Documents</u>	A-1
<u>Appendix B - Reading List</u>	B-1

List of Figures and Tables

<u>Figure</u>		<u>Page</u>
<u>S-1</u>	<u>Recommended Alternative and Options</u>	v
<u>III-1</u>	<u>Recommended Alternative and Options</u>	III-4
<u>III-2</u>	<u>Section Map - St. Louis/University City</u>	III-10
<u>III-3</u>	<u>Millbrook Blvd. at Hoyt Dr.</u>	III-11
<u>III-4</u>	<u>Section Map - Clayton</u>	III-15
<u>III-5</u>	<u>Meramec Ave. at Carondelet Ave.</u>	III-16
<u>III-6</u>	<u>At-Grade Forest Park Pkwy. at Proposed County Parking Structure</u>	III-18
<u>III-7</u>	<u>Section Map - Richmond Heights</u>	III-21
<u>III-8</u>	<u>Galleria Station East of I-170</u>	III-22
<u>III-9</u>	<u>Section Map - Brentwood/Maplewood</u>	III-25
<u>III-10</u>	<u>Manchester Rd. Station III-26</u>	
<u>III-11</u>	<u>Section Map - Shrewsbury/St. Louis</u>	III-30

<u>Table</u>		<u>Page</u>
<u>S-1</u>	<u>Recommended Design Alternative and Options</u>	vi
<u>III-1</u>	<u>Critical Decision Factors</u>	III-2
<u>III-2</u>	<u>Evaluation of Recommended Alternative/Options</u>	III-5
<u>III-3</u>	<u>Recommended Design Alternatives Cross-County Segment I</u>	III-6
<u>III-4</u>	<u>Cost of Alternative/Options</u>	III-8
<u>III-5</u>	<u>Section Information - St. Louis/University City</u>	III-10
<u>III-6</u>	<u>Section Information - Clayton</u>	III-15
<u>III-7</u>	<u>Section Information - Richmond Heights</u>	III-21
<u>III-8</u>	<u>Section Information - Brentwood/Maplewood</u>	III-25
<u>III-9</u>	<u>Section Information - Shrewsbury/St. Louis</u>	III-30

Executive Summary

On June 30, the Board of Directors of the East-West Gateway Coordinating Council will determine the conceptual design of the first segment extending MetroLink into the Cross-County transportation corridor. The Board will be acting in its capacity as the region's designated Metropolitan Planning Organization, using a decision-making process and a set of policies adopted in the 20-year plan, *Transportation Redefined*.

Far more is at stake in the Board's decision than simply the physical appearance of MetroLink or the design decisions which are necessary to build the system. The short-term consequences of the immediate, difficult decisions should not eclipse the real MetroLink vision that the Council has shaped over the last seventeen years.

Based on the results of technical modeling, staff believes that the recommended conceptual design and each of the remaining options will satisfy our design objectives (about ridership, air quality, safety, congestion mitigation, for example). But the vision goes well beyond these measures to position MetroLink as a key regional asset to stimulate economic development, enhance access to opportunity, and build 21st Century communities. With the light rail system soon to stretch beyond its original alignment eastward in St. Clair County and north and south in the City of St. Louis and St. Louis County, the options for both workers and employers expand significantly. MetroLink can be used to better connect economic centers, increasing efficiencies and interactions as workers, customers, and service providers move more easily between firms. MetroLink will extend the horizons of the lives of the disabled by expanding the reach of the only reliable, accessible, transportation system which can be used independently. MetroLink will bind together the communities that house the region's major institutions of post-secondary education. In older neighborhoods, like many of those touched by the expanding MetroLink system, we may see the restoration of urban living patterns similar to those that preceded the Interstate highway era, when street cars were an integral part of community life.

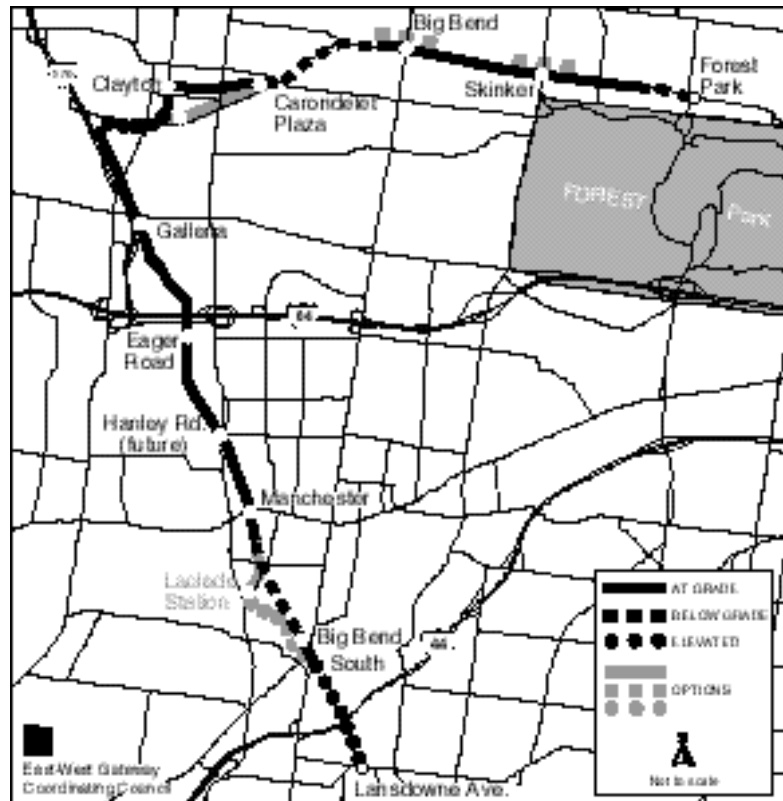


Figure S-1 Recommended Alternative and Options

The decision at hand now is the conclusion of over four years of study, analysis and debate. A Major Transportation Investment Analysis begun four years ago sorted out a variety of transportation improvements in the Cross-County Corridor, which in turn led to a Strategic Alignment Analysis which concluded in September 1997 with the selection of an alignment for Segment I of the Cross-County MetroLink extension. Together with a Business Plan adopted in December 1997 (which set

forth the general management structure and financial plan for the extension), the MTIA and Strategic Alignment Analysis form the basis for the conceptual design study which is now concluding. The focus of the current decision is on the conceptual design of Segment I.

- ▶ *Richmond Heights*: from just north of the Galleria shopping mall south along the Citizens for Modern Transit rail right-of-way until Interstate I-64.
- ▶ *Brentwood/Maplewood*: from I-64 south to the southern boundary of Maplewood near Big Bend Blvd.
- ▶ *Shrewsbury/City of St. Louis*: from Big Bend Blvd. south to the terminus at Landsdowne Ave. in Shrewsbury/City of St. Louis.

Recommended Alternatives				
Alignment Section	Basic	+System Development Options	+Community Preference Options	Alternatives Not Recommended
City of St. Louis/ U. City	Median at-grade	Median at-grade	<i>Skinker/ Big Bend LRT underpass</i>	Tunnel/ Side-running at-grade
Clayton	Median at-grade Carond./Meramec	<i>Forest Park Pkwy. at-grade</i>	Forest Park Pkwy. at-grade	Tunnel/ Forest Park Pkwy. elev.
Richmond Heights	CMT at-grade	CMT at-grade	CMT at-grade	Tunnel/ Elev.
Brentwood/ Maplewood	CMT at-grade/ Sunnen below-gr.	<i>Laclede Station Rd. station</i>	Laclede Station Rd. station	Sunnen elev.
Shrewsbury	Lansdowne elev.	Lansdowne elev.	Lansdowne elev.	Elev. Deer Creek
Cost	\$377.4 million	\$378.5 million	\$404.3 million	

Table S-1 Recommended Design Alternative and Options

The approximately 7.5 mile route known as Segment I of the Cross-County Corridor extends through developed residential and commercial areas of widely varying character. For convenience, it is useful to divide this diverse corridor into distinct sections sharing similar geographic and development characteristics. They are:

- ▶ *City of St. Louis/University City*: between the existing Forest Park MetroLink station and running along Forest Park Pkwy./Millbrook Blvd. to a point at the eastern end of downtown Clayton.
- ▶ *Clayton*: extending through downtown Clayton along various alternative alignments to the city limits of Clayton at a point north of the Galleria shopping mall.

In each of these sections a number of design concepts were developed, ranging from completely grade-separated to partially grade-separated, considering a variety of specific horizontal alignments. The recommended design concept is a combination of alternatives and options carefully selected from each of the five sections of the route. Each of the alternatives were evaluated according to six major design objectives including 26 criteria. The evaluation criteria were then further defined by establishing 64 performance measures that were used to quantify the effect of the alternatives, for example, daily transit ridership, projected changes in traffic accidents, number of dwelling units displaced, driveways impacted, change in trade area for key activity centers.

The recommended conceptual design alternative, or more accurately, the series of recommendations, is summarized in Table S-1. In developing these recommendations, staff has assumed that there are two principal constraints. First, the alignment must be a complete, operable segment that has independent utility. The Board concluded, by action on September 17, 1997 and later on December 10, 1997 with the adoption of the project's *Business Plan*, that the termini of the segment would be the Forest Park station on the existing MetroLink route and the vicinity of I-44 in Shrewsbury. Second, the cost of the project can be paid for with reasonably expected local revenues from the proceeds of the Proposition M sales tax (i.e. the ¼ cent sales tax collected in the City of St. Louis and St. Louis County). This principle too was derived from previous Board action, specifically the adoption of the Business Plan. Current estimates are that a capital project of approximately \$410 million can be supported (along with future operating costs for MetroLink), assuming project completion in the year 2005. In developing the recommendation staff also considered the equity of the investment as it regards each section of the alignment.

Given these constraints and the consideration of equity, staff constructed a “basic” recommended alternative which best meets the design objectives at the lowest cost. This alternative is safe and effective and would be built to a very high standard. However, there are other alternatives/options which meet the design objectives and fit within the aforementioned constraints. These alternatives/options are not essential for the effective operation of the system, but may have certain operational or economic advantages or may address key community concerns or objectives. The selection of these alternatives is therefore recommended at the discretion of the Board of Directors. These discretionary recommendations are described in this report under two categories: *system development* and *community preference*.

The recommended alternative and the discretionary recommended options, reflected in Table S-1, provide for an alignment which is generally at-grade, except where terrain or other design considerations require below-grade or elevated construction. The basic recommended alternative costs \$377.4 million; it will increase transit usage by 23,000 riders per day; will support existing land uses, development opportunities and economic growth as well, if not better than more costly grade-separated alternatives; and will provide comparable accessibility and mobility improvements. *System development options* that merit consideration include an alternative to provide for a station at Laclede Station Road, which is more compatible with local development plans, and for an at-grade alternative along Forest Park Parkway in Clayton, which will provide enhanced joint-development opportunities and allow for faster, more efficient MetroLink service. *Community preference options* include grade-separated crossings of Skinker Blvd. in the City of St. Louis and Big Bend Blvd. in University City. Inclusion of all options will increase capital cost to \$404.3 million, a sum that can be sustained by existing revenue sources.

The fully grade-separated alternative costs \$518 million; it will increase transit usage by 25,800 riders per day and would eliminate small safety, congestion and noise impacts associated with the recommended alternative. The benefits derived from this alternative do not, in the view of staff, justify the additional added \$141 million expenditure, even if those funds were available.

After the selection of the project’s design concept by East-West Gateway, the responsibility for final design, construction and operation will be assumed by the Bi-State Development Agency. The Policy Committee will remain intact and be staffed by Bi-State. Through the Policy Committee, the affected local governments will continue to play a role in the implementation of the project. The City of St. Louis and St. Louis County will also make key funding and other decisions essential to the successful implementation of the project.

I. The Planning Context

A. The Regional Setting

On June 30, the Board of Directors of the East-West Gateway Coordinating Council will determine the conceptual design of the first segment extending MetroLink into the Cross-County transportation corridor. The Board will be acting in its capacity as the region's designated Metropolitan Planning Organization, using a decision-making process and a set of policies adopted in the 20-year plan, *Transportation Redefined*. This long-range plan bases transportation investment decisions on goals of regional economic vitality, community health and well-being, and environmental responsibility. It requires that investment decisions be informed by a careful analysis of costs, benefits, and impacts; motivated by principles of cooperation, equity, and sustainability; and constrained by a realistic and ongoing assessment of available resources. For major capital investments such as an extension of light rail, the plan requires that all feasible alternatives be evaluated and considered before funds are committed and engineering begins.

Seen through the lens of *Transportation Redefined*, the decision about Segment I of the Cross County extension has both immediate and long-term implications. Most immediately, making the right choice requires that the proposed transportation infrastructure will be productive, affordable, cost-effective, and can be blended harmoniously with existing uses of the built and natural environment. The longer-term considerations (which are dynamic and much more difficult to quantify) require that future economic, community, and regional opportunities be anticipated. The longer-term vision also positions Segment I within the larger system that will exist when the St. Clair and Cross-County extensions are fully operational in 2005, and considers the synergies that might result from connections between multiple activity centers all along the line.

The attention of the regional community to the challenges of the MetroLink expansion has been uneven. The immediate, linear aspects of the decision have been clearly drawn and debated in numerous public forums over the course of several years. The longer-term vision, however, has been much less sharply focused. As one interested business leader commented about the process: "We have spent two years so focused on the *how* that we have lost sight of the *why*."

In the section that follows, staff has used a variety of relevant materials to remind us about the "why." These materials include the policies and strategies of *Transportation Redefined*, findings from the regional strategic assessment *Where We Stand*, perspectives from three ad hoc transportation advisory committees, and ideas emanating from the Cross-County public engagement process. Both the immediate and the "big-picture" considerations come together in detail in the recommendation contained in Section III.

B. A Vision of MetroLink

In the future so envisioned, the bar has been raised in assessing the performance of the region's public transportation system. The results of technical modeling confirm that the recommended conceptual design and each of the remaining options will satisfy the basic design objectives (about ridership, air quality, safety, congestion mitigation, etc.). But the vision goes well beyond these measures to position MetroLink as a key regional asset to stimulate economic development, enhance access to opportunity, and build 21st Century communities. Making such a future actually happen will require more than just building and operating the system, of course. It will necessitate the ongoing and consistent engagement of public and private interests at the metropolitan and community levels, with attention to opportunities such as those that are described below.

► **Stimulating economic development**

In the highly mobile, service-based economy of the new century, the region's modern public transportation system can be used to link economic centers and real economic growth in the urban core. A starting point will be with the development of small business enterprises around MetroLink station areas, tapping new markets created by the concentration of commuters boarding and leaving the trains. These enterprises, likely in the retail and personal services categories, will radiate from the station centers, providing a mix of entry- and mid-level employment, generating income for local community residents, and tax revenues for local governments along the corridor.

More broadly, MetroLink can be used to better connect economic centers, increasing efficiencies and interactions as workers, customers, and service providers move more easily between firms. Several major industry clusters can be expected to benefit. These clusters are comprised of firms naturally connected in the market as suppliers and consumers of business services and products. Among the most promising are those hubbed in the downtowns of Clayton and St. Louis—such as financial, communications, and government service—as well as others specializing in advanced manufacturing and biomedical services that are spread throughout the expanded corridor. These are among the industry leaders targeted by development officials to move the region competitively forward in the global marketplace.

To maximize the potential of job creation opportunities, it will be important to ensure adequate connections to other transportation modes that serve the regional economy. MetroLink stations at Lambert International and Mid-America airports will soon give St. Louis an unparalleled advantage in the convenience of transit/air connections for business travelers. Ongoing development of park-and-ride facilities will also be important.

► **Enhancing access to opportunity**

Employers throughout the St. Louis economy identify “a skilled workforce” as one of the most essential ingredients for business location and expansion. With the light rail system soon to stretch beyond its original alignment eastward in St. Clair County and north and south in the City of St. Louis and St. Louis County, the options for both workers and employers expand significantly. The modern, new commuting service will be most important to those job-seekers who are dependent on public transportation—like those without cars or unable to drive—but an efficiently operating system will also provide a preferred alternative to professionals and workers who have other mobility choices, as well.

For individuals who must depend on transit, light rail services increase opportunities to access preventive and other outpatient health-care services. These individuals include important customers in growing subsets of the population—such as older persons, members of low-income families, many of whom may be more likely to be consumers of other human services, as well. For the expanded system to perform at maximum utility for these customer groups, linkages to accessible bus and paratransit services must be a part of the continuing expansion of the system.

This vision of the future acknowledges the critical importance of lifelong learning, enhanced and challenged by rapidly-expanding computer technologies, as the cornerstone of economic and community development. When the St. Clair and Cross-County extensions are fully operational MetroLink will join the communities that house the region's major institutions of post-secondary education. Further linked by shuttle buses and circulator vans to the cultural resources of Forest Park and the myriad of workforce development and adult education programs in the corridor, MetroLink can become a

“transportation corridor for learning” that is unexcelled nationwide.

► **Building 21st Century communities**

As the region turns the corner into the 21st Century, communities will be redefined by multiple demographic trends. Smaller households, an increase in the proportion of residents who are either very old or very young, more diverse family configurations, and continuing immigration from other countries and cultures, will be likely future trends.

Older neighborhoods like many of those touched by the expanding MetroLink system, may see the restoration of urban living patterns, not unlike those that preceded the Interstate highway era, when street cars were an integral part of community life. In these neighborhoods individuals of all ages and socioeconomic levels were very mobile, with good pedestrian access, safe venues for cycling, and choices of public transportation. When housing, services, and natural amenities (such as parks and open spaces) are clustered close together, these travel modes work very well in combination.

In other respects, vibrant neighborhoods in the 21st Century will differ from those of the earlier era, however, because decades of familiarity with the automobile and the universal availability of new technologies have permanently expanded community expectations about quality of life. Now safer, quieter, and cleaner than before, light rail will support both neighborhood life and regional access more efficiently than any other single travel mode. At the neighborhood level, planners must adopt best urban design practices for aesthetics, accessibility, and harmonious uses of space if this reintegration is going to successfully take place.

Clearly, far more is at stake in the Board's decision than simply the physical appearance of MetroLink or the design decisions which are

necessary to build the system. The long-term outcomes are too important to this region to allow the short-term consequences of the immediate, difficult choices to eclipse the real MetroLink vision that the Council has shaped over the last 17 years.

C. History of Prior Council Actions Affecting the Cross-County Corridor

The Council's commitment to MetroLink began on February 24, 1982, when the Board accepted the conclusions of a study that demonstrated that a light rail system for the region was feasible and justified. The study determined that the first priority should be a route between downtown St. Louis and Clayton, the second priority was designated as a route between DeBaliviere Ave. in the City of St. Louis and Lambert Airport, and the third priority was a route extending north and south along the Innerbelt (then designated as Mo. Rte. 725). While many decisions have been made since that time to bring MetroLink to fruition and then expansion, there has been a remarkable consistency and purpose in the actions of the Board of Directors over the 17 years since their first action on the project. Importantly, not a single member of the Board of Directors present in 1982, when that first vote was taken, is on the Board today, but the continuity of decision-making remains intact.

In August 1984, the Board authorized staff to undertake Preliminary Engineering for the light rail route from East St. Louis to Lambert Airport. As part of the resolution authorizing this work, the Board directed staff to explore the implementation of the next corridor in Illinois. Over the next several years, staff and consultants completed both the preliminary engineering for what was to become MetroLink, and the systems analysis which led to the area's plan for the ultimate expansion of MetroLink throughout the region. In September 1989, the expansion plan for MetroLink was approved by the Board of Directors. It designated two routes as the first priority for expansion: St. Clair in

Illinois and Cross-County in Missouri. Several months later the Board authorized the beginning of studies necessary to expand MetroLink in the St. Clair corridor.

In 1990, the cities of Clayton, Brentwood and Webster Groves passed resolutions supporting the development of light rail service in the Cross-County corridor. St. Charles County also requested that the corridor between St. Louis and St. Charles County be ranked as a higher priority in the Council's MetroLink expansion plan. The Board subsequently took action to advance the St. Charles corridor. Following a detailed study of alternatives, a local vote for a transit tax necessary to support the local cost share in St. Charles was defeated twice in 1996, and the plan was shelved.

MetroLink opened in July 1993 and was immediately successful. In St. Clair County, a ½ cent sales tax was passed in November 1993 to provide the local share of the cost to extend MetroLink to Belleville and Mid-America Airport. The Board selected the preferred route in the St. Clair corridor in February 1994, and later authorized preliminary engineering. This route is now under construction and is scheduled to open in 2001.

In early 1994, the Missouri General Assembly passed legislation to authorize the City of St. Louis and St. Louis County to levy up to a ½ cent sales tax to support public transit. The leadership of the City and County decided to move ahead with ¼ cent proposal, Proposition M, that was passed overwhelmingly by the voters in August 1994.

Staff was authorized in 1995 to proceed with federally mandated studies of multimodal transportation improvements in the Cross-County corridor. This work was jointly sponsored by East-West Gateway, the Missouri Department of Transportation and the Bi-State Development Agency and considered major highway and transit improvements in the corridor.

In June 1996, staff convened a peer review panel of national experts to review some of the conflicting priorities for MetroLink expansion. By then, it was apparent the Cross-County, St. Charles, and a new proposal by Bi-State for commuter rail service could not all be funded from the existing funding sources. The panel's report was delivered at an all-day Board retreat.¹

In February and March 1997, the Board approved MetroLink expansion in the Cross-County corridor, as well as improvements to I-64 and I-170. Recognizing that the general recommendation regarding the Cross-County MetroLink extension did not specify an alignment or funding sources, the Council commissioned further consulting services to evaluate alignment issues and funding options and to assist the Board in coming to an alignment decision. The consultant reported in August 1997 on the results of that analysis.² The Board then requested a staff recommendation, which was the basis for action at a special Board meeting in September. A route running north of Forest Park along Millbrook Blvd. to Clayton and south to Shrewsbury in the vicinity of I-44 was selected. East-West Gateway retained NationsBank to determine how the next MetroLink expansion might be financed from local funds, since it had become clear that federal funds would not be forthcoming until the St. Clair corridor was complete. NationsBank reported that an expenditure of about \$350 million could be sustained using Proposition M monies.

The second ¼ cent installment of the Proposition M sales tax was put on the ballot in the City of St. Louis and St. Louis County. It was defeated in November 1997.

¹ Aldaron, Inc., Report of the Peer Review Panel on Major Transportation Investments for the St. Louis Region, East-West Gateway Coordinating Council, July 8, 1996.

² Gannett Fleming, Cross-County Strategic Alignment Analysis, East-West Gateway Coordinating Council, August 15, 1999.

A *Business Plan* for the Cross-County corridor was adopted by the Board in December 1997.³ It sets forth the organization and management of the planning and design work for the corridor and specified that Proposition M funds would be used as the exclusive funding source for the project.

By June 1998, the Council had selected consulting firms to provide community engagement, design and demand estimation work, and other services in the Cross-County corridor. In July, firms were hired to carry out similar functions for three additional corridors, Northside, Southside, and Daniel Boone (west St. Louis County). Also in July, the Board approved a Community Engagement Plan for the Cross-County project. At the meeting in October, the Board selected the alternatives for the design concept for the corridor.

The design decision to be made in June 1999 has its roots in the Board's action in February 1982, when this corridor was first designated as a priority. Many years of study and analysis of this project, the last four of which have been quite intensive, bring us to this point. With each step, the Board's actions have been strategic, consistent, and purposeful. The challenge now is to maintain the resolve and purpose which built MetroLink, the most successful new light rail system in the nation.

³ Gannett Fleming, Cross-County MetroLink Segment I Business Plan, East-West Gateway Coordinating Council, December 10, 1997.

II. The Planning and Design Process

A. Design Activities

The project development process usually involves a seamless transition between planning studies and the engineering and design. The planning and design of the Cross-County MetroLink extension has not followed a typical process. Because of important community concerns that were left unresolved in previous planning work, the Council made a decision to undertake a conceptual design study for the Cross-County corridor, combined with an ambitious public engagement process.

Building on previous studies and Board decisions, the conceptual design study was initiated to provide the information necessary for the Board to make a decision on a specific alignment for MetroLink in the corridor. The study was designed to first reconsider the range of light rail alignments being examined, screening those alignments and selecting the most promising for detailed analysis. Although a rigorous technical study was envisioned, it was conceived to take place within the context of broad community engagement and involvement.

Detailed conceptual design work began in July, 1998 when the Council entered into a contract with Parsons Transportation Group (PTG) for planning and design services. Under that contract, staff directed the PTG team to develop final design options with sufficient detail to allow the preferred alternative to advance to engineering design at the study's conclusion; to prepare reliable estimates of costs, benefits, and impacts at a level of detail consistent with a federal Environmental Impact Statement; and to provide the community and decision-makers with the information needed to have a clear understanding of the alignment alternatives and their relative impacts. PTG's work has met each of those objectives.

Through late summer and early fall of last year, work proceeded on identifying and screening a range of alignment concepts. Multiple alignment options were developed and tested for implementation feasibility and consistency with the goals and objectives established for the project. The results of this screening process and a recommendation of alignments warranting detailed analysis were adopted by the Board in October, 1998.

These recommended alternatives were then subjected to a more detailed engineering and evaluation process. Through the early months of this year the PTG team worked to establish operational and design characteristics for each alternative, including horizontal and vertical profiles, structural elements, and station plans. Once those design details were completed, each alternative underwent an extensive evaluation of its environmental, socio-economic, community, and transportation impacts. The analysis examined such issues as urban design and the compatibility of light rail with surrounding land uses, construction impacts, displacements, ridership, natural, cultural and historic resource impacts, and potential development opportunities. It included an assessment of light rail safety, detailed traffic analyses to assess the impact of light rail on roadway operations, and noise and vibration studies to evaluate how the alignments might affect surrounding properties and what mitigation measures would be required. The analysis culminated in an exhaustive 275 page report detailing the socio-economic and environmental impacts of the alternatives, along with a companion report summarizing the evaluation results.¹ Staff's recommendation is based on the findings detailed in those reports.

¹ Parsons Transportation Group, Socio-Economic and Environmental Draft Technical Report and Evaluation Results Draft Technical Report, May 1999.

B. Financial Analysis

With the decision to locally fund the Cross-County extension, the critical financial issue is the level of capital expenditure that the existing ¼ cent transit sales tax in St. Louis City and County support. A detailed financial analysis was conducted to address that issue. The analysis, performed by KPMG, involved a comprehensive assessment of the region's transit system (both existing and future conditions), the system's long-term capital and operating needs, and the revenue sources available or potentially available to meet those needs.²

While the decision not to use federal funds for the project has, of late, generated some controversy, that decision was made by the Board more than two years ago. The reasons for that decision, which remain valid today, were detailed in a recent memo to the Board and will not be fully rehearsed here.³ The primary issues affecting that decision were the existing commitment to fully fund the St. Clair MetroLink extension before seeking federal funds for other extensions and the extended time frame for the construction of the Cross-County extension if federal funds were used. If federal funds were sought, it could be more than a decade before the extension would be built.

Aside from timing, the mere challenge of obtaining federal funds is often underestimated, perhaps because of the region's past success. New major transit investments are funded out of the "New Starts" program administered by the Federal Transit Administration (FTA). The recent federal transportation law – the Transportation Equity Act for the 21st Century (TEA-21) – authorized \$8.2 billion for the New

² KPMG, Financial Analysis Draft Technical Report, May 1999.

³ Les Sterman, Memo to the Board of Directors, "Federal Funding for the Cross-County MetroLink Extension," May 26, 1999.

Starts program, and it further authorized over 190 projects in that funding category. According to recent FTA information, \$4 billion of the total has already been committed in 14 Full Funding Grant Agreements and 7 proposed agreements. Sponsors of 42 additional projects preparing to enter preliminary engineering and final design are now seeking another \$12 billion, and FTA is tracking 100 other new start projects totaling \$40 billion. Because the competition for these funds is so intense, the likelihood is remote that the region would receive funds for a new corridor in the next few years.

Although a large number of components went into the financial analysis, the primary assumptions were: the Cross-County extension would begin revenue service in 2005; the project would be funded entirely out of the existing ¼ cent Proposition M sales tax, with two-thirds of the tax revenues being available for MetroLink capital and operating expenses; debt financing would be required; and projected annual operating expenses for the extension would be taken out of the future revenue stream before the amount available for debt retirement was determined. Based on these assumptions, and employing a series of debt coverage targets and financial indicators, the analysis concluded that future revenue streams associated with the sales tax could fund a project with capital cost as high as \$410 million.

C. Public Engagement

The Cross-County conceptual design process was structured to ensure that the public could be involved through a variety of avenues: Community Working Group meetings, public open houses, issues workshops, and neighborhood/civic organization meetings, stakeholders along the corridor and throughout the region. Literally thousands of interested individuals have had opportunities to learn about the project, review technical documents and analyses, and share ideas and concerns with staff, members of the design team, and local officials.

Three issues of project newsletters, a brief video presentation, press announcements, a web site, and a hotline were used to keep interested parties informed and aware of opportunities for direct engagement. In addition, East-West Gateway staff and members of the consultant team participated in numerous meetings with local officials. A summary of engagement activities follows:

Process Planning Interviews & Meetings.

During the process planning stage, consultants conducted nearly 40 interviews with 61 key community and civic leaders to obtain information on public perceptions, concerns and ideas. In addition, two stakeholder meetings were held July 13 and 14, 1998 to review with citizens the plan to ensure their ongoing engagement. Approximately 50 people attended.

Community Working Group Meetings. At the beginning of the project, a Community Working Group composed of 28 citizens appointed by municipalities and stakeholder groups was formed. The Community Working Group provided a forum for the exchange of information and ideas between the public, interest groups, and the design team. The group met nine times during the study (seven regular meetings, one work session with members of the design team and a Saturday morning tour of the route). The meetings were open to the public.

Initial Forum & Workshops. An initial Public Forum was held on September 28, 1998. Designed as a public open house, the forum provided stakeholders with an opportunity to learn more about the study process and ask questions of staff and consultants. Approximately 275 people attended the forum. Following the forum, three Community Issues Workshops were held at sites along the proposed route in order to provide participants with opportunities to share ideas and concerns in small group settings. Approximately 540 people attended.

Neighborhood/Civic Meetings. In January 1999, 54 letters were mailed to neighborhood, civic and regional groups encouraging them to sponsor meetings or workshops on the design study. To date, 36 presentations have been made to more than 1200 people. East-West Gateway staff members, responding to unsolicited invitations, have attended numerous meetings of local groups and municipal MetroLink committees as well.

Public Open Houses. In early June, four final public open houses were held to provide additional opportunities for people to learn more about the final design alternatives and the evaluation results. Approximately 185 individuals attended.

Public Opinion Surveys. Two public opinion surveys were conducted during the study, one at the beginning and one close to the end. The surveys were designed to gauge the opinions of residents living within one-half to three-quarters of a mile of the proposed route.

Meetings with Local Officials. Council staff and members of the consultant team have participated in over 60 meetings with officials from localities along the route. In early June, the Council sponsored a briefing for elected officials. Fifteen officials attended the luncheon.

Print Material. A project brochure, newsletter, and a series of fact sheets were prepared to provide information on the study. The brochure and first two issues of the study newsletter, *Cross-County Update*, were mailed and distributed at public meetings. Copies of the first two editions of the newsletter were also made available for distribution by interested groups or individuals. Two special issues of the newsletter were prepared in advance of community meetings sponsored by the Skinker-Debaliviere Community Council and the City of Clayton MetroLink Committee.

The final issue of *Cross-County Update* was mailed to approximately 40,000 addresses located within one-half to three-quarters of a mile of the route. Fact sheets were also prepared throughout the study to provide information on the study process and to answer frequently-asked-questions.

Technical documents and public communication pieces prepared during the study were distributed to 18 libraries and city halls along the alignment including MetroRide at St. Louis Centre downtown. Residents could purchase their own copies of technical reports at the Kinko's on Ladue Rd. or contact the Council to arrange for printing.

Video Presentation. A brief video presentation was prepared to provide an overview of the study and answers to general questions regarding the design alternatives and evaluation results. The video was prepared and screened during the final open houses and distributed to elected officials in the region.

Mailing List. The mailing grew to include more than 3,000 individuals and organizations. Persons on the mailing list received copies of the project brochure and issues of the study newsletter.

Web Site. The project web site provided periodic updates on the study and links to electronic versions of technical reports and memoranda prepared by Council staff and the design team. Since its opening in June 1999, 4,200 hits have been recorded.

Hotline & Public Correspondence. A project hotline, e-mail address, and postal address were established for the project. Calls and correspondence were monitored throughout the study and reviewed by Council staff and members of the design team.

III. The Recommended Design Concept

A. Introduction

The route known as Segment I of the Cross-County corridor extends approximately 7.5 miles through developed residential and commercial areas of widely varying character. Some are areas of great prosperity, while others are more modest and are candidates for growth, development and redevelopment. It extends over city streets, existing rail rights-of-way, and new right-of-way.

For convenience, it is useful to divide this eclectic corridor into distinct sections sharing similar geographic and development characteristics. They are:

- ▶ City of St. Louis/University City: between the existing Forest Park MetroLink station and running along Forest Park Pkwy./Millbrook Blvd. to a point at the east end of downtown Clayton.
- ▶ Clayton: extending through downtown Clayton along various alternative alignments to the city limits of Clayton at a point north of the Galleria shopping mall.
- ▶ Richmond Heights: from north of the Galleria shopping mall south along the Citizens for Modern Transit rail right-of-way until I-64.
- ▶ Brentwood/Maplewood: from I-64 south to the southern boundary of Maplewood near Big Bend Blvd.
- ▶ Shrewsbury/City of St. Louis: from Big Bend Blvd. south to the terminus at Lansdowne Ave. in Shrewsbury/City of St. Louis.

In each of these sections a number of design concepts were developed, ranging from completely grade-separated to partially grade-sepa-

rated, considering a variety of specific horizontal alignments. These alternatives were developed without regard to cost. Staff and consultants considered a large number of potential alternatives, including many suggested by citizens and local governments. These alternatives were reviewed to determine feasibility and practicality.

In October 1998, the Board of Directors selected the alternatives to be fully evaluated during the remainder of the design process. Since that time, a few localized options have been developed to augment several of the alternatives.¹ There are in excess of 200 possible unique combinations of alternatives/options, each having associated costs, benefits and impacts. The recommended design concept is a combination of alternatives and options carefully selected from each of the five sections of the route.

B. Critical Decision Factors

Consistent with the decision-making framework of the region's long range plan, Transportation Redefined, each alternative was evaluated on the basis of a hierarchical series of design objectives, criteria, and performance measures.² The evaluation took place within a framework of six objectives that guided the design of MetroLink toward desired outcomes. Briefly stated, the design objectives were:

1. *Transportation*: Provide high quality public transportation service to improve mobility and accessibility and enhance MetroLink as a mode of choice in the corridor without diminishing the performance of other transportation system components.

¹ A detailed description, including plans, profiles and other drawings, of these alternatives is included in the draft technical report Definition of Alternatives issued in March, 1999.

² Ibid.

2. *Urban Design:* Design facilities that are compatible with the character of the corridor and that are coordinated with existing and planned land uses.
3. *Economic:* Contribute to desirable economic and community development in both the corridor and the region.
4. *Environmental Impact:* Maximize positive and minimize negative impacts on the environment and quality of life in the corridor and avoid disproportionately adverse effects on children and minority or low-income populations.
5. *Cost and Finances:* Make cost-effective investments that are affordable within reasonably anticipated financial resources.
6. *MetroLink Compatibility:* Design facilities that are consistent and compatible with the existing and future MetroLink system.

To evaluate how well each alternative would achieve the design objectives, the six objectives were translated into 26 evaluation criteria.

Design Objective	Original Criteria	Recommended Criteria
Transportation	Maximize transit ridership	Ridership
	Improve accessibility	Accessibility/Mobility
	Increase mobility	
	Maximize safety	Safety
	Minimize traffic capacity reductions	Traffic congestion
Urban Design	Support existing or planned land use	Community/development compatibility
	Compatibility in design quality with surrounding area	
	Specific enhancement to planned/developing major activity centers	Development/redevelopment opportunities
Economic Impact	Foster development/redevelopment in strategic locations	
Economic Impact	Enhance economic viability of key activity centers	Economic growth/job creation
	Environmental Impact	Minimize noise, vibration, and electromagnetic impacts
Cost and Finances	Maximize cost-effectiveness	Cost-effectiveness
	Minimize costs while achieving basic design objectives	Cost

Table III-1 Critical Decision Factors

Each criterion interpreted the related objective in a more quantifiable way (e.g., maximize transit ridership, maximize safety, minimize displacements, maintain viable access to adjacent sites, enhance economic viability of key activity centers, etc.). The evaluation criteria were then further defined by establishing 64 performance measures that were used to quantify the effect of the alternatives in a very specific area (such as daily transit ridership, projected changes in traffic accidents, number of dwelling units displaced, driveways impacted, change in trade area for key activity centers, etc.).

The information derived from this evaluation framework is too extensive for easy summation. Multiplying the 64 performance measures by the large number of possible alternatives creates thousands of data items to sift through and compare. Many of the criteria and performance measures, however, did not discriminate between alternatives, meaning all alternatives performed at similar levels; others were addressed in positive ways in the design process, effectively eliminating concerns about the issue they were intended to measure; and some proved incidental to the values expressed by the affected community and the larger regional objectives for this project.

In formulating the recommendation, staff winnowed this large evaluation framework to ten recommended criteria covering five of the design objectives. The sixth design objective—MetroLink Compatibility—was ensured through the design process. These ten criteria, shown in Table III-1, are built upon the original criteria and measures, although without always duplicating the precise language. The intent of reducing the criteria to ten cardinal points was to focus attention on the issues most critical to making this alignment decision.

C. The Recommended Conceptual Design

1. Summary

The recommended conceptual design, or, more accurately, the series of recommendations, is summarized in Table III-3, and shown in Figure III-1. In developing these recommendations, staff have assumed that there are two principal constraints. Both of these were specified by Board action with the adoption of the project's *Business Plan* in the fall of 1997.

First, the alignment must be a complete, operable segment that has independent utility. In other words, it must have the capacity to successfully meet the design objectives (functioning together with the existing MetroLink route) without depending on any further extension of the system. The termini of the segment will be the Forest Park station on the existing MetroLink route and the vicinity of I-44 in Shrewsbury.

Second, the cost of the project can be paid for with reasonably expected local revenues from the proceeds of the Proposition M sales tax, which is a ¼ cent sales tax collected in the City of St. Louis and St. Louis County. Current estimates are that a capital project of approximately \$410 million can be supported (along with future operating costs for MetroLink) assuming project completion in the year 2005.

In developing the recommendation, staff also considered the equity of the investment as it regards each section of the alignment. While it is important that MetroLink design elements reflect the variations in the character of their surroundings, some communities have asked for additional enhancements of the system which, in the best judgement of staff, would not provide regional benefits consistent with their costs. These alternatives are not recommended as part

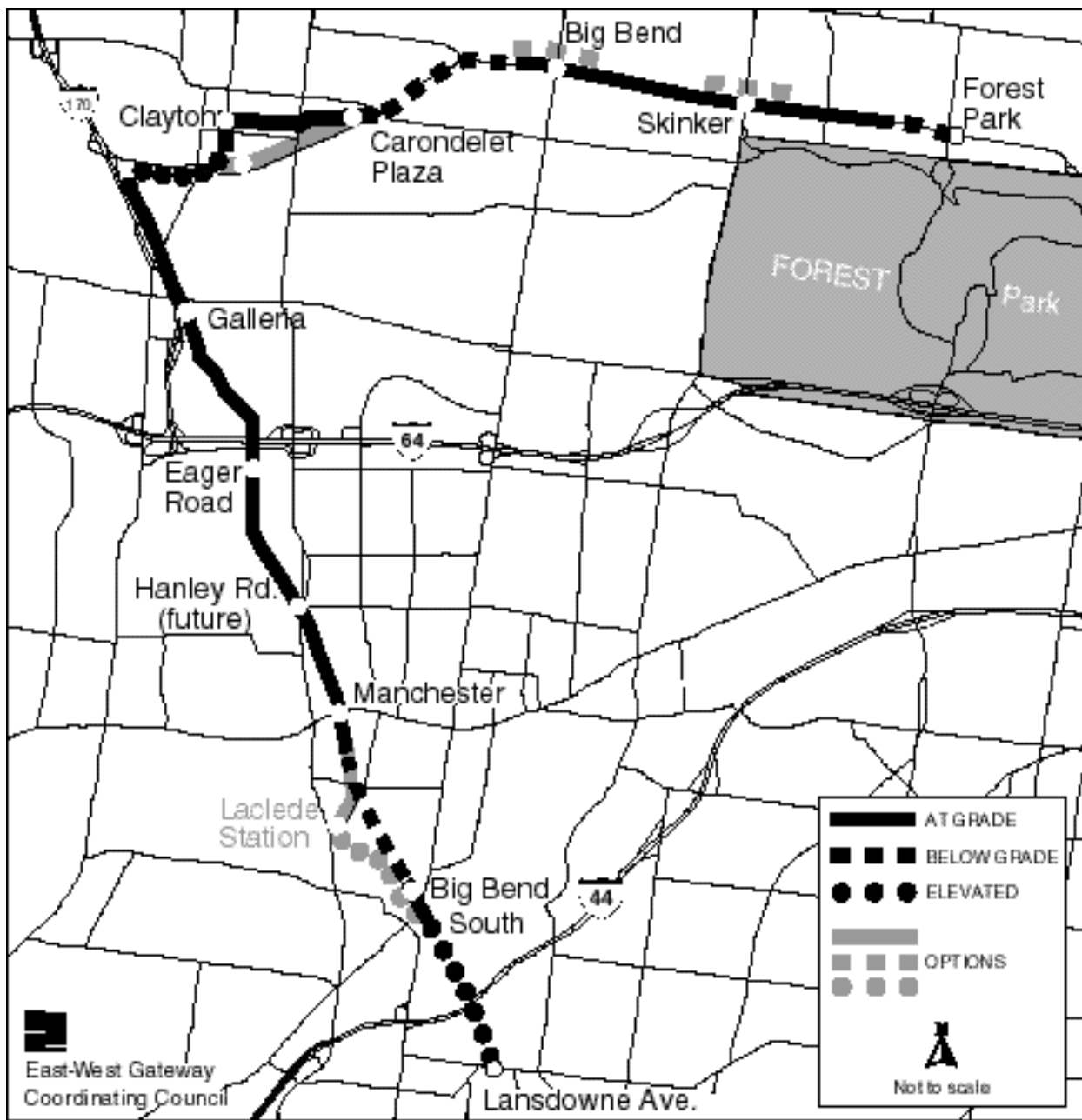


Figure III-1 Recommended Alternative and Options

of the specified financial plan. At the Board’s discretion, the project might include partial funding of these alternatives, perhaps reflecting the marginal regional benefits of the investment.

Given these constraints and the consideration of equity, staff constructed a “basic” recommended alternative which meets the design objectives at the lowest cost. This alternative

is safe and effective and would be built to a very high standard. It would allow for some excess revenue, either to reduce borrowing or to support future extensions of the system. However, there are other alternatives/options which meet the design objectives and fit within the aforementioned constraints. These alternatives/options are not necessary to the effective operation of the system, but may have

Key Criteria	Recommended Alternative/Options		
	Basic	System Options Development Options	Community Preference Options
Ridership	23,000 new boardings a day; 15,600 new trips a day	▼▼	●●
Accessibility/Mobility	18:30 minute travel time from Lansdowne to Forest Park; 8,733 residents and 36,172 jobs within station walking distance	▲	●
Safety	Potential for 6-7 accidents a year; 15 at-grade intersections and crossings	▲	▲
Traffic Congestion	Minor congestion increases at Skinker and Big Bend; station area congestion at Lansdowne	●	▲
Development/Redevelopment Opportunities	12.6 million square feet of proposed or potential development within 1/4 mile of stations	▲	●
Noise	No noise impacts with mitigation; mitigation required in four areas	●	●
Cost-Effectiveness	104,000 annual trips per \$1 million in annual cost; \$9.65 in annual cost per new annual trip	▼	▼
Cost	\$377.4 million	▼	▼

Legend

- ▲▲ positive difference
- ▼▲ minor negative difference
- ▲ minor positive difference
- ▼▼ negative difference
- no significant difference

Table III-2 Evaluation of Recommended Alternative/Options

certain operational or economic advantages, or may address key community concerns or objectives. The selection of these alternatives is therefore recommended at the discretion of the Board of Directors.

The recommended alternative and the discretionary recommended options reflected in Table III-3 provide for an alignment which is generally at-grade, except where terrain or

other design considerations require below-grade or elevated construction. The discretionary recommendations are included in two categories: *system development and community preference*. The former refers to those alternatives which either contribute to more efficient operation of the system or enhance site-specific development opportunities. The latter refers to alternatives which address the most strongly held community concerns that have

emerged throughout the planning process. These alternatives would provide marginal benefits to the system and to the region which are reasonably consistent with their costs.

System development options that merit Board consideration include an alternative to provide for a station at Laclede Station Rd., which is consistent with local development plans, and for an at-grade alternative along Forest Park Pkwy. in Clayton, which will provide enhanced joint-development opportunities and allow for faster, more efficient MetroLink service. *Community preference* options include grade-separated crossings of Skinker Blvd. in the City of St. Louis and Big Bend Blvd. in University City.

The basic recommended alternative costs \$377.4 million; it will increase transit usage by 23,000 riders per day; it will support existing land uses, development opportunities and economic growth as well, if not better than, more costly grade-separated alternatives; and will provide comparable accessibility and mobility improvements. While the basic at-grade alternative imposes slight risks of collisions at intersections, those risks are far less than those commonly accepted for highway design or for other modes of transportation. The optional at-grade section along Forest Park Pkwy. and the grade-

separated crossings of Skinker Blvd. and Big Bend Blvd. will further reduce even those small risks.

The fully grade-separated alternative costs \$518 million; it will increase transit usage by 25,800 riders per day; it will eliminate small safety, congestion and noise impacts associated with the recommended alternative. The benefits derived from this alternative do not, in the view of staff, justify the additional \$141 million expenditure, even if those funds were available. Judging solely on the basis of the cost-effectiveness (annual capital and operating costs per new transit trip), the at-grade alternative is superior. The annualized cost per new transit trip for the at-grade alternative is \$9.65 compared to \$10.82 for the fully grade-separated alternative. Even more revealing, the annualized cost of each additional trip on the fully grade-separated alternative compared to the at-grade alternative would be \$21.98.

Unlike other types of rail systems, light rail is a technology capable of operating in a variety of urban settings, along city streets, within business districts, or in separated rights-of-way. Light rail's flexibility is one of its most attractive characteristics. The recommended alternative follows the logic – common to most

Recommended Alternatives

Alignment Section	System		Preference Options	Not Recommended
	Development Basic	Community Options		
City of St. Louis/ U. City	Median at-grade		<i>Skinker/ Big Bend LRT underpass</i>	Tunnel/ Side- running at-grade
Clayton	Median at-grade Carond./Meramec	<i>Forest Park Pkwy. at-grade</i>		Tunnel/ Forest Park . Pkway. elev
Richmond Heights	CMT at-grade			Tunnel/ Elev.
Brentwood/ Maplewood	CMT at-grade/ Sunnen below-gr.	<i>Laclede Station Rd. station</i>		Sunnen elev.
Shrewsbury	Lansdowne elev.			Elev. Deer Creek

Table III-3 Recommended Design Alternatives Cross-County Segment I

What about safety?

The issue of safety of the proposed MetroLink extension has become a topic of active public discussion during the public engagement process. A number of citizens have widely asserted that an at-grade alternative would seriously compromise public safety, leading to numerous collisions, injuries, and fatalities. The issue of public safety was given the highest priority during the design. The alternatives proposed designs are all very safe. Between intersections in at-grade alternatives, MetroLink rights-of-way are protected by barriers, so there is no possibility of collision. At intersections, the recommended alternative is the safest median configuration with clear, unambiguous traffic controls. Careful statistical comparisons with cities *having similarly designed systems* reveal excellent safety records. As the experience with new light rail systems increases, safety records continue to improve along with design standards and practices. The safety risks associated with the recommended at-grade alternative are very small, far smaller than for vehicular traffic on any of the surrounding roadways. Interested readers who would like to learn more about light rail safety and current design practice should read: Integration of Light Rail Transit into City Streets, Transit Cooperative Research Program Report 17, Transportation Research Board, Washington, DC, 1996. (The Transportation Research Board is the nation's leading transportation research organization, widely known for its authoritative and objective work).

light rail systems—that grade separation should be pursued only when necessary or when the benefits of doing so clearly outweigh the costs.

Two other options that are not recommended at this time merit future consideration. In both cases the timing of adjacent development is not compatible with the initial planning of this MetroLink extension. First, an elevated alternative, serving the redevelopment area east of Brentwood Blvd. and directly across from the Galleria shopping mall, might be considered at such time as complete development plans are developed and finalized. This alternative should be developed through an appropriate public/private partnership reflecting the benefits both to the system and to the developer. Second, a future station might be sited in what is now the Hanley Industrial Court along Hanley Rd. in the City of Brentwood. It is apparent that this area will develop to a higher and better use, perhaps with higher densities, in the future. While the area will not support a station at this time, we believe that one should be considered, consistent with the future development plans by the City of Brentwood for this location.

2. Details of the Design

The recommended alternative extends from the Forest Park MetroLink station west through the Clayton business district and south to Lansdowne Avenue in Shrewsbury. For most of its length, the route will be located in existing transportation rights-of-way, adding a new element to those rights-of-way but not changing the basic character of surrounding areas. The route will operate from Lansdowne to a turnaround in East St. Louis, which allows for a continuous trip from the corridor into downtown St. Louis; corridor trips to Lambert will have to make a transfer at the Forest Park station. Trains will run every eight minutes during peak periods and every fifteen minutes during off-peak times.

A thorough environmental analysis disclosed two potential impacts that will be mitigated. Limited noise impacts might be experienced, particularly in quiet residential areas or in other areas where ambient noise from adjacent highways is already greater than the Federal Transit Administration guidelines. Light rail,

being powered by electric motors, is relatively quiet, especially when compared to noise levels experienced along a typical urban highway. There are a number of strategies for reducing noise, depending on the cause. In downtown Clayton where a sharp curve at the intersection of Carondelet and Meramec might cause the train wheels to squeal, a track lubrication system is needed to reduce the friction between the wheels and tracks. On the south edge of Forest Park Parkway in Clayton, mitigation would be done using noise walls. Along the CMT right-of-way between the Galleria and I-64 where the train will operate through a relatively quiet residential area, noise walls and landscaping will be used. Noise walls would also be used to buffer neighborhoods and activities near the new rail yard north of Lansdowne. Noise mitigation will be provided in all areas where project-related noise impacts occur, and those mitigation measures have been included in the project cost estimates.

The second potential environmental impact affects laboratories at Washington University alongside Millbrook Blvd. Electromagnetic interference may affect ongoing experiments and may therefore require mitigation. Further studies will be performed during preliminary engineering to determine the most effective mitigation method.

Beginning on page III-10 is a more detailed description of the design of each section and the issues raised and addressed during the design process.

D. Costs and Finances

Detailed capital cost estimates were prepared for all the alternatives evaluated in the Conceptual Design study.³ The cost estimates, expressed in current (1999) dollars, represent the expenditures necessary for project engineering and design, right-of-way acquisition and

³ Parsons Transportation Group, Draft Capital Cost Estimates, April 1999.

Alternative	Net Cost (\$millions)
Recommended Basic	\$377.4
System Development Options:	
At-Grade Forest Park	(\$1.5)
Laclede Station Road	\$2.6
Option Subtotal	\$1.1
Community Preference Options:	
Skinker Transit Underpass	\$14.4
Big Bend Transit Underpass	\$11.4
Option Subtotal	\$25.8
Total Basic and Options	\$404.3

Table III-4 Cost of Recommended Alternative/Options

impact mitigation, rail system construction, contingencies, start-up and vehicle acquisition. Estimates also include costs for the Forest Park Circulator.

The capital cost of the recommended alignment is \$377.4 million, which includes \$278.8 million for construction-related costs and \$98.6 million for the purchase of new light rail vehicles and other transit vehicles needed for feeder routes and the Forest Park Circulator.

Constructing the *System Development* options would increase the cost to \$378.5 million; constructing the *Community Preference* options would increase the cost to \$403.8 million. Implementing all of the options would bring the cost to \$404.3 million.

⁴ Because none of the options would increase ridership, and the At-Grade Forest Park option would decrease ridership, the cost-effectiveness of the alignment declines with the implementation of any option. Declines are greatest for the At-Grade Forest Park and the transit underpasses.

Operating and maintenance costs were also estimated based on Bi-State's current experience with MetroLink and the bus system. The annual operating and maintenance cost for the alignment is estimated at \$15.3 million (current dollars). That cost covers MetroLink operations and the additional expenses associated with the feeder bus network and the Forest Park Circulator. Implementation of the above options would have a negligible effect on these annual costs. Between 40 and 50 percent of the annual operating and maintenance costs will be recovered through fares.

The previously discussed financial analysis indicated that a capital project of \$410 million was feasible under the proposed funding plan. Comparing that \$410 million to the cost of the recommended alternative leaves a balance of nearly \$33 million. That balance could be used to fund some or all of the recommended options, or it could be used as part of a larger funding package for a future extension of MetroLink in another corridor.

Serving the Forest Park Area:

A plan for a Forest Park transit circulator was developed as a component of the Cross-County MetroLink extension. This circulator will serve the institutions and activity centers in Forest Park, as well as the institutions, organizations and other land-uses surrounding the Park. It will be an improvement to the existing Bi-State Shuttlebug service in terms of convenience, flexibility, expanded linkages to MetroLink, and increased coverage area. Capital and operating costs for the circulator are included in cost estimates for the MetroLink alternatives.

The circulator plan includes a multi-route transit service system deploying a mix of vehicle types. There are two basic routes. The first route provides access to destinations in the Park and the Central West End/St. Louis Cathedral area. It will connect to MetroLink at both the Forest Park and Central West End stations. The second route operates along the perimeter of the Park, directly linking activities along Euclid Avenue, Oakland Avenue and Skinker Boulevard with two MetroLink stations (Central West End and Skinker.). Both routes will operate 12 hours a day with vehicles arriving every 5-15 minutes. Special supplemental routes will be used to connect Park activity centers to MetroLink for special events like the MUNY productions and to specified parking facilities on high demand summer days. The plan could be expanded to include a summertime tram ride which would provide visitors with a guided tour of the park (not included in costs estimates).

SECTION: ST. LOUIS/UNIVERSITY CITY

Summary of Recommended Alternatives/Options

Beginning at a reconfigured Forest Park MetroLink station—the station is moved slightly to the west under DeBaliviere Ave., a third station platform is added, and the DeBaliviere bridge is reconstructed and widened to allow station access from both sides of the roadway—the alignment heads west in a tunnel under the middle lanes of Forest Park Pkwy.

Between DeBaliviere and Des Peres Aves. the alignment rises to the surface where the trains will operate at grade in the median of Forest Park Pkwy./Millbrook Blvd. through the Big Bend Blvd. intersection. West of Big Bend Blvd., the tracks again enter a tunnel and remain below the west-bound lanes of Forest Park Pkwy. to the eastern edge of downtown

Clayton. Stations are located at both the Skinker and Big Bend Blvds. intersections.

Applying lessons learned from other cities that operate light rail through similar intersections will enable MetroLink to operate safely along Forest Park Pkwy./Millbrook Blvd. The median at-grade segment will be separated from other traffic by a barrier. Vehicular traffic and pedestrians will be able to cross the tracks only at intersections which will be controlled by computerized, coordinated traffic signals.

Because of the wide right-of-way available (80'-90') along most of Forest Park Pkwy./Millbrook Blvd., the double-track light rail alignment can be built in the middle of the road without reducing the number of existing traffic lanes for automobiles or encroaching on private property, except at one location—Des Peres Ave. To accommodate light rail at Des Peres Ave. without taking private property, the left turn lanes on Forest Park Pkwy. will be removed.

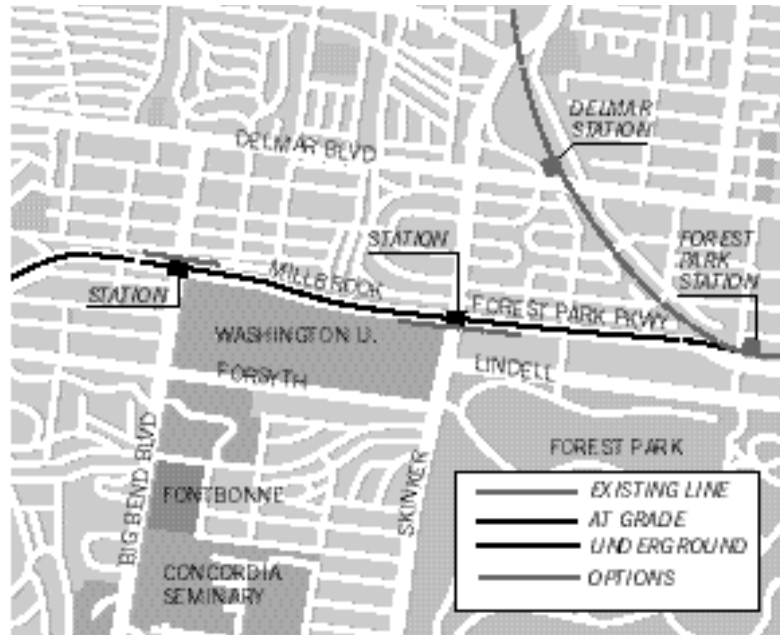


Figure III-2 Section Map

Section length	2.5 miles
Travel time (including station times)	5:21 (minutes)
Construction cost	\$79.3 million
Construction cost/mile	\$31.7 million
Total cost (construction & vehicles)	\$110.8 million
Total cost/mile	\$44.32 million
Stations & daily boardings	
Forest Park	3,384 (added to existing route)
Skinker	173
Big Bend (north)	883

**Table III-5 Section information
St. Louis/University City**

The alignment will cross through three minor and two major intersections. At the minor intersections—Des Peres Ave., Hoyt Dr., and Throop Dr.—the train will preempt the traffic signal, meaning that traffic from those cross streets will be stopped by a signal as the train approaches. Eastbound and westbound traffic on Forest Park Pkwy./Millbrook Blvd. will move through the intersection along with the train. At the major intersections—Skinker and Big Bend Blvds.—signals will be operated by a computerized controller which will anticipate the arrival of a train, optimizing signal timing to

There are two community preference options in this section. Both options involve building transit underpasses at intersections to completely separate light rail from potential conflicts with other traffic. These underpasses could be built at the Skinker and Big Bend Blvds. intersections. The Skinker Blvd. underpass begins to the east of the intersection and returns to the surface before Hoyt Dr.; the Big Bend Blvd. alignment would go below the surface to the east of Big Bend Blvd. and then remain underground, emerging east of Forsyth Blvd.

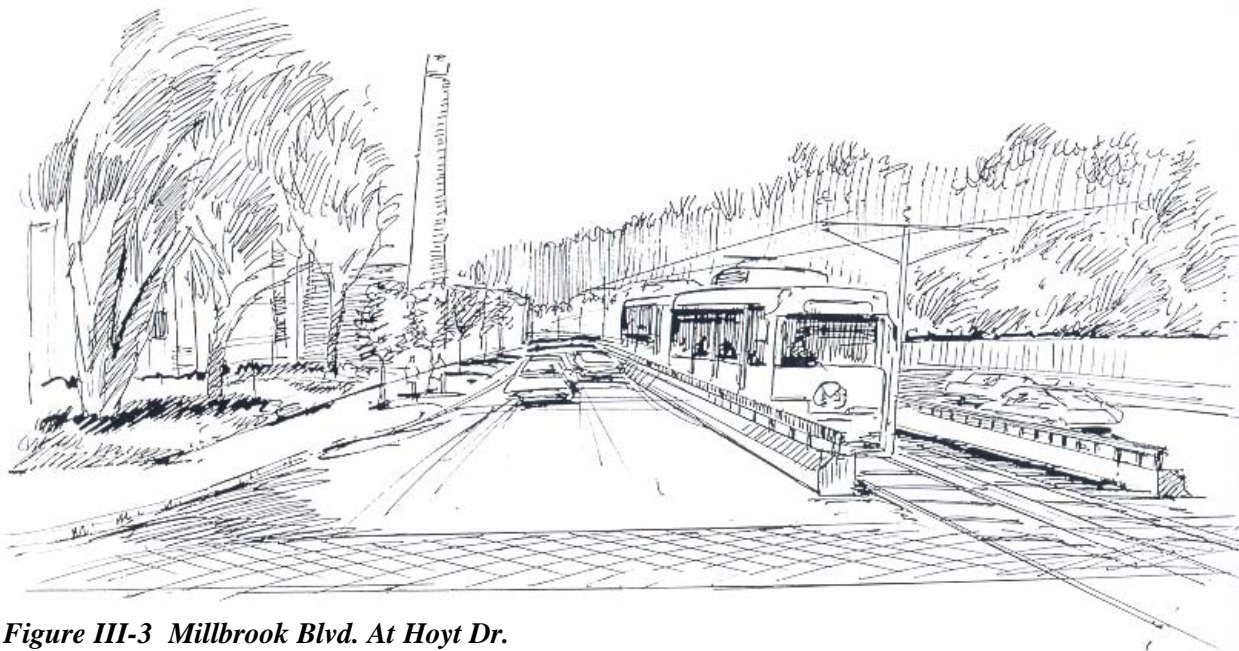


Figure III-3 Millbrook Blvd. At Hoyt Dr.

reduce delay. Left turns from Forest Park Pkwy./Millbrook Blvd. will be handled in a separate signal phase. Split platform stations will be used at the major intersections. At Skinker and Big Bend Blvds., the westbound stations for the train are located on the west side of the intersections and the eastbound stations are located on the east side. As trains enter the intersections they will be slowing to stop at the station on the far side. Train operating speeds through the intersection will be as low as 5 mph.

The 2.5 mile section, dominated by residential land uses and Washington University, will generate over 4,400 new MetroLink boardings. Aside from the Washington University campus, which is a major destination, the area is largely an origin zone for trips. Residents from the neighborhoods, students, and bus users with destinations outside the section will account for the majority of trips. Because of the separation of rail from traffic (except at intersections), the train will operate at nearly 34 mph through the section, excluding station dwell times. Trains will pass through the section in just over five minutes, including stops.

Development/Redevelopment Opportunities

The urban setting for this section, which contains three proposed station locations, provides a unique opportunity for low-intensity, “convenience center” developments. The scale, character, and physical design of these centers should be compatible with the historical context of the surrounding neighborhoods and Washington University.

The first development opportunity lies at the existing surface parking lot at the reconfigured Forest Park Station. The construction of a multi-level parking structure containing first floor retail and service opportunities will be an asset to the adjacent residential area and to those who utilize this important station.

The second opportunity is located at the northeast corner of Skinker Blvd. and Millbrook Blvd./Forest Park Pkwy. A three-story structure which formerly housed a restaurant and apartments should be redeveloped at a slightly higher density to accommodate additional foot traffic generated by the Skinker Blvd. station. In addition, future development activity by Washington University adjacent to the southwest corner of this intersection will reinforce the demand for retail type services at this location. The third set of opportunities exists at the corner of Big Bend and Millbrook Blvds.

While the existing retail/service node located at the northwest corner could be intensified, the 17.86 acre “Old Channel 9” site on the southwestern corner offers the potential of over 2.3 million square feet of quality institutional and residential housing. All of these redevelopment opportunities are located within 100 ft. of proposed station locations and all will cater to a primarily pedestrian market. It is essential that local zoning and development controls provide the necessary flexibility (e.g., reduced parking requirements and increased densities) to facilitate transit oriented developments, while simultaneously ensuring architectural cohesion.

Community Issues and Resolutions

Residents of communities along this section of the proposed route generally support the extension, citing improved access to regional destinations as among the anticipated benefits, but expressed concern about the potential impacts of running the extension at grade along Millbrook Blvd./Forest Park Pkwy.

Specifically, residents cited concerns about noise and vibration, safety, increases in traffic congestion, vibration, right-of-way constraints, loss of vegetation, and parking on residential streets if the line were to run at grade. Potential negative effects on property values were also cited, as were concerns about aesthetics—the design of stations, track zones, visual/noise buffers, walls, cantenary poles, landscaping, and pedestrian crossing and sidewalks. Residents and interest groups also questioned the merits of running the extension north of Forest Park or spending limited resources to extend the line past Clayton. Several residents have expressed support for an at-grade extension, with transit underpasses beneath Skinker and/or Big Bend Blvds. For the underground alignment, affordability, personal safety and accessibility concerns were raised. Such concerns were expressed in comments received during the project, letters and calls sent from individuals, and position statements prepared by advocacy organizations.

The major transportation issues raised by the community in this section concern safety and traffic congestion. While these issues are fully addressed in all of the alternatives, there remains a perception of safety risks and increased congestion.

If approved, the two community preference options proposed for this section—transit underpasses at Skinker and Big Bend Blvds.—would eliminate both the minor safety risks and potential congestion problems associated with MetroLink operating through those intersections.

The Mayor and Council of University City passed a resolution (dated July 7, 1997) citing the city's support for an extension running underground along Forest Park Pkwy. and Millbrook. The resolution expresses support for the extension through the city, but only so long as the line runs underground in a cut-and-cover or bored tunnel, LRT underpasses are constructed at all intersections, visual buffers and landscaping are provided, commuter parking on residential streets is prohibited, existing pedestrian under- and overpasses are retained or replaced, no park-and-ride lots are constructed, and no "forced home or property sales" are required. More recently, however, the Mayor has offered a resolution (pending as of this time) which offers the city's support conditioned on an underground section limited to the Big Bend Blvd. transit underpass.

The City of St. Louis has not identified a preferred alternative, although the Board of Aldermen recently passed a resolution offering broad support for the extension of MetroLink, urging that it be done in a fiscally prudent manner. The Skinker-Debaliviere Community Council, a not-for-profit association of residents in the neighborhoods north of Forest Park Pkwy. has adopted a resolution expressing support for an underground alignment.

Representatives of Washington University have participated in the study and relayed the University's support for the extension and interest in working to minimize impacts on surrounding communities, preferably through an underground alternative.

A Vision for the Region: The Transportation Corridor for Lifelong Learning

When the first two extensions are fully operational, MetroLink will bind the communities that house the region's major institutions of post-secondary education: St. Louis and Washington Universities, Webster University, University of Missouri - St. Louis, Southern Illinois University - Edwardsville (East St. Louis campus), Belleville Area College and St. Louis Community College, as well as the resources for learning that are clustered in Forest Park.

In the 21st Century knowledge-based economy, competitive regions will promote learning as a continuing pursuit "from cradle to grave." New information and communications technologies have expanded our horizons for learning—enhancing even the opportunities we pursue for very young children. Longer life expectancies have left us dissatisfied with the kind of "retirement" years in which we cannot continue to develop and contribute to the world around us. These are among the pervasive and irreversible trends that leave traditional, short-term approaches to education inadequate for the changing expectations of the new Century.

MetroLink can be the backbone of a dynamic, national-class educational corridor where St. Louisans of all ages can access near-boundless opportunities to increase their knowledge and sharpen their skills. Cooperative marketing and program development among educational institutions; joint matriculation agreements; transit passes for "students" of all ages; circulator vans to transport students from light rail stations to the doorsteps of colleges, universities, libraries, and museums—these are but a few of the first simple steps that would lay the groundwork for a "regional transportation corridor for learning" that could be unexcelled nationwide. With the transit system soon to be in place to support it, this vision can become a reality—if the leaders of these educational institutions, the communities that host them, and their future patrons come together and make it happen.

Community and Economic Opportunities

The community surrounding the stations in this section of the Cross-County corridor is comprised of portions of the Skinker-DeBaliviere Ave. neighborhood in the City of St. Louis and University City. From a historical perspective, these are among the region's most interesting neighborhoods, with residential and commercial development patterns reminiscent of St. Louis during the 1904 World's Fair and soon after, when street cars helped keep the communities bustling and connected to the City's hubs.

Today, this section remains the most "urbanized" in character of the five in the corridor. It has the greatest population density and largest average household size, for example. And, with nearly half its population white, the same proportion African-American, and two percent Asian, it also enjoys the greatest racial and ethnic diversity of the corridor. In these communities, adults with relatively modest levels of educational achievement (i.e., 19 percent of the adults now living in the University City school district went no farther than a high school diploma) live not too far from those with graduate and professional degrees (22 percent) and income levels reflect a similar pattern. As is generally true for families in all sections of the corridor, 62 percent of family households have two or more breadwinners—a sign of both economic and social trends regionwide.

All sections of the corridor lost population between 1990 and 1996, including this section, where population fell by five percent during that period. This is not so much the result of the conversion of residential parcels to commercial uses, as has been the case in some other parts of the corridor; rather it is a part of the continuing suburbanization of the region's population. With MetroLink service soon to extend from the Forest Park station into the Cross-County Corridor, new mobility opportunities—for managers and blue-collar workers, for working parents, for the children of working parents, for students and older adults of every racial and ethnic groups—will increase potentially

resparking some of the vitality that may otherwise be waning in these older communities. Based on experiences with the existing MetroLink line, this eclectic mix of patrons should be nearly perfect to make light rail a success for the Skinker-Debaliviere and University City communities.

The real gem of opportunity in this section of the corridor, however, is in the new connections that will be made with Washington University—the section's largest employer and the destination of 11,600 students every day during the academic year. With Washington University and neighboring Fontbonne College and Columbia Seminary on the light rail line and with the nearby cultural resource in Forest Park accessible through shuttle and circulator service, the MetroLink line can become a "transportation corridor for learning" that is unexcelled nationwide.

SECTION: CLAYTON

Summary of Recommended Alternatives/Options

Continuing west from the tunnel under Forest Park Pkwy., MetroLink emerges to the surface east of Forsyth Ave., crossing Forsyth and Carondelet Plaza Dr. at gate-protected crossings as it sweeps around the north of the Ritz- Carlton. The alignment then crosses the westbound lanes of Carondelet Plaza Dr. (west of the hotel) and into the median of the roadway before passing through the Hanley Rd. intersection. West of Hanley Rd., the train will operate at grade in the median of Carondelet Ave. until it reaches the future transit plaza between Meramec and Central Aves. Beyond the County Government Center the alignment makes a wide turn to the south crossing to the west side of Meramec Ave. and becomes elevated as the roadway's elevation drops down toward Forest Park Pkwy. The now elevated alignment turns to the west over the Parkway, curves to the south just before reaching I-170 and enters the Citizens for Modern Transit (CMT) right-of-way, where it will again operate at the surface.

Stations are located along Carondelet Plaza Dr., just north of the Ritz-Carlton, and on Carondelet Ave. between Central and Meramec Aves. Thus constructed, the 1.7 mile section will generate over 5,200 new MetroLink boardings daily, most of these associated with the downtown station between Central and Meramec Aves.

Because of the multiple intersections through which the at-grade train passes and the general character of the downtown area, this will be the slowest operating section in the corridor, with trains running at less than 15 mph through downtown. Speeds increase significantly once



Figure III-4 Section Map

Section length	1.7 miles
Travel time (including station times)	5:36 (minutes)
Construction cost	\$67.13 million
Construction cost/mile	\$39.9 million
Total cost (construction & vehicles)	\$89.7 million
Total cost/mile	\$53.4 million
Stations & daily boardings	
Carondelet Plaza	615
Downtown Clayton	4,604

Table III-6 Section Information Clayton

through the section in five and one-half minutes, including stops.

Implementing the System Development option, an at-grade Forest Park Pkwy. alignment, would decrease travel time through the section by almost two minutes; however, ridership decreases somewhat because of the increased distance between the station at the proposed County parking garage and the center of activity in the

Development/Redevelopment Opportunities

With approximately 32,000 daytime jobs located in the core district, downtown Clayton ranks third behind the City of St. Louis and the Lambert Airport/Boeing area as regional employment hubs. Many of these jobs are in the retail, services, or governmental industry clusters and thus create a considerable customer base, many of whom are potential transit riders. Clayton also provides the highest number of

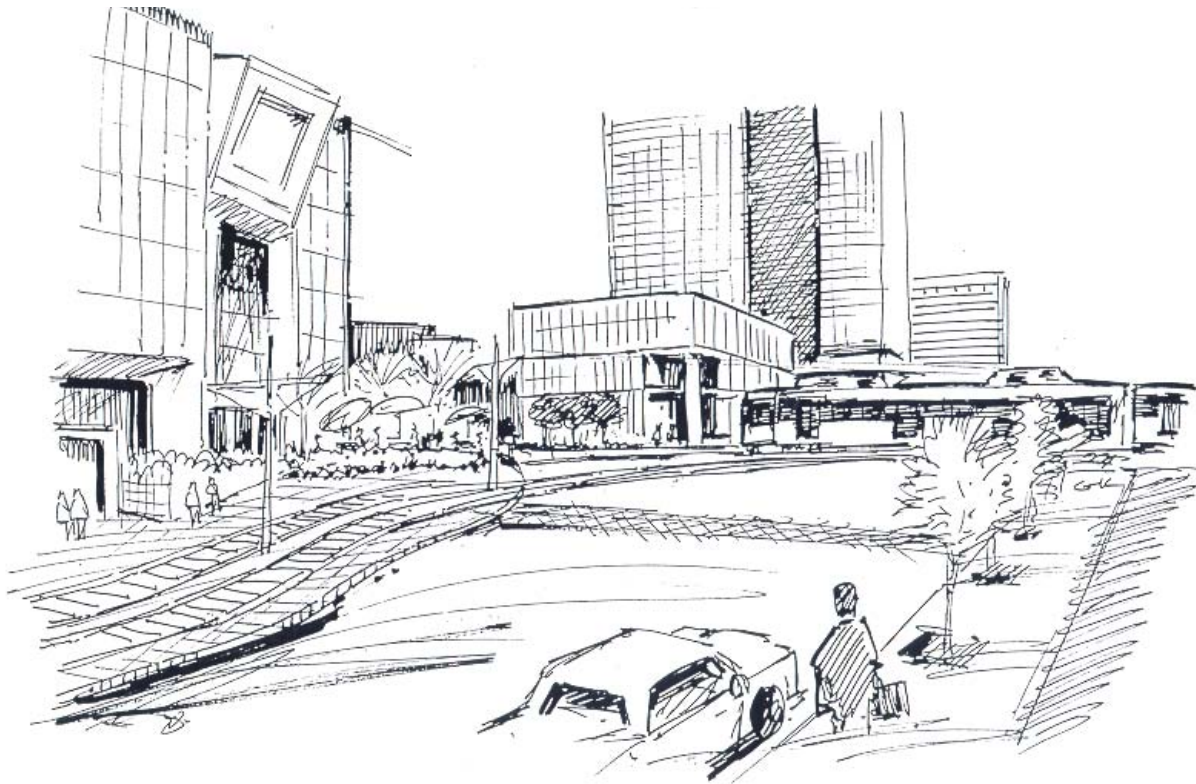


Figure III-5 Meramec Ave. at Carondelet Ave.

downtown area. Proximity to the neighborhoods south of Forest Park Pkwy. and the creation of an attractive pedestrian plaza between the Parkway and the core would somewhat offset the adverse ridership impact. Further, this option reduces the small safety risks even further, as well as eliminating concerns about congestion in the downtown core.

redevelopment opportunities along the corridor: 14 current and potential development sites, representing over 20 acres and the potential for more than 5,000,000 square feet of mixed use office, commercial and residential space. In accordance with the City's *Business District Master Plan*, these development sites will replicate the basic pattern of mid- to high-rise structures with strong streetscape design elements. Lower-level retail and hidden parking should be continued design goals for this area.

As described earlier, two stations are recommended for the Clayton section. Within a 500 foot radius of the first station, Carondelet Plaza, there is a potential for 2.8 million square feet of development space, based on allowable zoning. Implementation of the at-grade Forest Park Pkwy. option moves the station from the front of the Ritz-Carlton to a parcel located in the rear and to the east. Exercising this option will slightly increase walking distance for some transit users, but will not significantly affect the development potential of this area.

The second station is located on Carondelet Ave. between Meramec and Central Aves. in the core of downtown Clayton. Within 1,000 feet of this station light rail transit riders will be able to access the majority of downtown's activity nodes. Where the alignment turns south from Carondelet Ave. to Meramec Ave., the redevelopment of an existing low-rise commercial building located on the southwest corner of the intersection will be required. However, this will present a unique opportunity to develop the site at a higher intensity with the added amenity of a pedestrian plaza. Imaginative use of design techniques can tie the area together with the revamped Government Center plaza, creating one of the most vibrant public spaces in the region.

The implementation of the at-grade Forest Park Pkwy. option results in a different set of impacts. In this scenario, the first proposed station would be located at the northwest corner of the intersection of Shaw Dr. and Central Ave.—approximately 1,000 feet further south and downhill from the Carondelet station. Access to the downtown core would not be as attractive to pedestrians as with the basic recommendation. The location offers a unique opportunity, however. St. Louis County is planning the construction of a new parking garage north of Shaw Dr., between Meramec Ave. and Central Ave. The County should be encouraged to incorporate retail and service opportunities at the ground level of this facility. The light rail station should be physically linked, perhaps by

escalators and elevator, to the second level of the garage, where additional retail opportunities might be placed. In conjunction with covered walkways leading towards the core of downtown, this linkage would overcome some of the barriers posed by the downhill location of this station.

Community Issues and Resolutions

Residents and business owners in the City of Clayton have expressed support for an extension to the central business district, citing increased accessibility, the potential for development, and relief of parking demand as anticipated benefits. While generally supportive, they did express concerns about the different alternatives. For the underground alternative, affordability, lack of visibility, personal safety, construction impacts (if built as a cut-and-cover tunnel) and accessibility for persons with disabilities were cited as issues. For the at-grade alternative, aesthetics, vehicular and pedestrian safety, possible increases in congestion at the Forsyth Ave. and Hanley Rd. intersection, and the need to take private property were cited as concerns. For the Forest Park Pkwy. elevated alignment, visibility from adjacent residential neighborhoods and buildings, potential negative impact on property values, lack of opportunities for transit oriented development, poor accessibility to downtown, the creation of a barrier between neighborhoods and the core, and noise were cited. Residents also expressed concern about the adequacy of parking at station sites.

As staff and consultants interacted with members of the community about the conceptual design of this section, the principal transportation concerns had to do with safety and congestion. These issues will be resolved in a manner similar to what will take place in relation to Forest Park Pkwy./Millbrook Ave., discussed in the previous section. One element in the Clayton section that differs from the more eastern section, however, is that the train will cross several roadways at non-intersection sites—Forsyth Ave. and Carondelet Plaza Dr.

This will require gated crossings to stop traffic from entering the track zone. These sites will be designed similar to street crossings on the existing MetroLink route.

The Mayor and Board of Aldermen of the City of Clayton adopted two resolutions addressing the design alternatives: one opposing an elevated alignment along Forest Park Pkwy. and another offering conditional support for an underground alignment. The resolution opposing an elevated alignment (#99-24) cites concerns about the height of the alignment, negative visual impacts, the lack of centrally-located stations and the lack of development opportunities. The second resolution (#99-25) states the city's support for an underground alignment conditioned on several factors, including construction by boring rather than cut-and-cover construction, a commitment to the high quality station design, and approval of voter referenda to provide \$30 million in funding for underground construction. If going underground were to prove infeasible, the resolution states the city's support for an at-grade extension conditioned on several factors. These include

matching tracks to street grade; providing attractive streetscape improvements and high quality station design; mitigating noise, vibration, and construction impacts; prohibiting crossing gates and sound devices such as bells and horns; and providing visual buffering for the elevated sections where the line would transition from the core to the CMT alignment.

The Clayton Chamber of Commerce adopted a resolution on June 3, 1999 supporting an underground extension and calling for the mitigation of negative impacts during construction. Several neighborhood associations and advocacy organizations in Clayton have stated positions in favor of an underground alternative. The at-grade Forest Park Pkwy. option was not fully developed until very late in the planning process. Reaction to this alternative has therefore been limited. Recently, some businesses have expressed support for the at-grade Forest Park Pkwy. alternative, since it substantially addresses safety and congestion concerns.

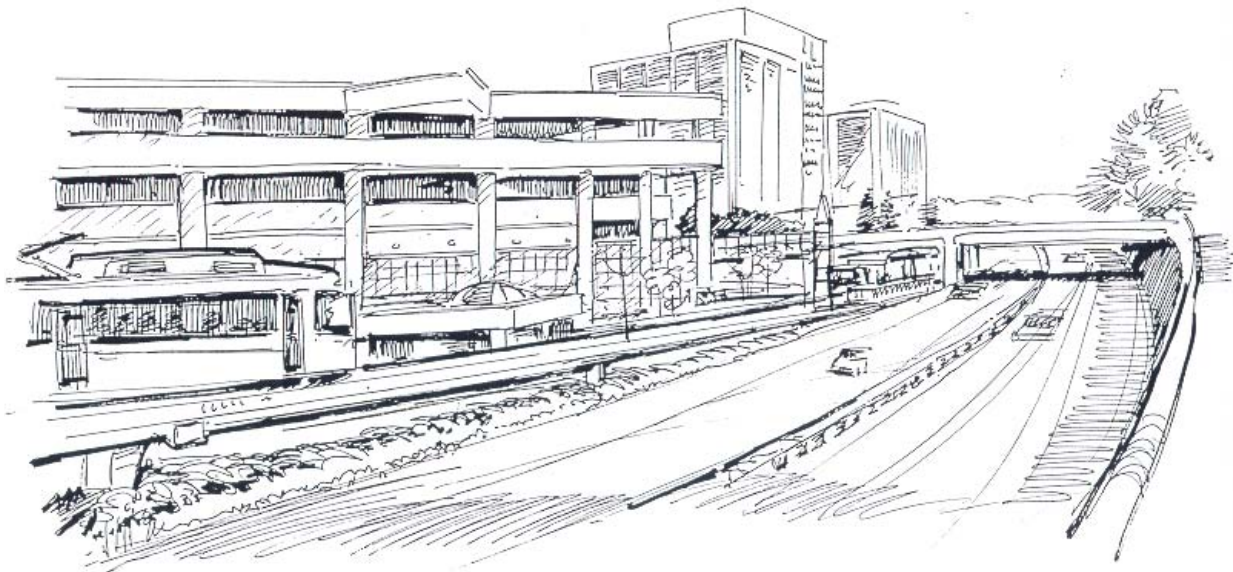


Figure III-6 At-Grade Forest Park Pkwy. at Proposed County Parking Structure

***A Vision for the Region: Two Downtowns
Linked for Financial Services Development***

With downtown Clayton linked directly to downtown St. Louis by light rail, MetroLink will provide the backbone for an economic development corridor of 21st Century proportions.

In this vision, the stretch of rail westward from the Convention Center station to Clayton will connect two of the region's most well-established hubs for financial services. This cluster includes core firms such as banks and other savings institutions, accounting firms, investment brokers, and others—several of which have national or regional headquarters within a four-block radius of three downtown stations and the recommended Clayton stations. The financial services cluster also includes many suppliers of services and goods to the industry that are based in both downtown areas: law and legal firms, courts, computer services businesses, government offices and others. Closely linked to the profitability of these firms are temporary staffing agencies, courier and express mail services, cleaning services, security firms, and more.

Downtown Clayton and downtown St. Louis will not be competitors, as has been suggested in the old development vernacular. Rather, they will be the two anchors of an interdependent and vibrant economic development corridor for the financial services industry. The convenience, speed, and efficiency of MetroLink service will create greater proximity between firms that share technical, workforce, and business service needs and abilities.

It will be one of the most important cooperative economic development investments that the City and St. Louis County will make as they turn the corner into the new Century. Whether or not the region reaps the full return on this investment will depend, however, on the foresight and determination of the public and private sectors to step forward as leaders, pull together, and harness the vision at hand.

Community and Economic Opportunities:

Approximately 13,500 residents live in the City of Clayton, but the Clayton “community” swells to nearly 80,000 every week day as non-residents seek the employment opportunities, government and financial services, dining and entertainment venues that downtown Clayton has to offer. The third largest employment center in the St. Louis metropolitan area and the seat of government for the region's largest jurisdiction, the Clayton section of the Cross County corridor has a number of distinguishing characteristics. The heightened density of activity with the in-and-out of its daytime population is one of these—including associated congestion, time delays, and parking frustrations. The introduction of light rail service through the city's core will make it unnecessary for many business visitors to drive into downtown Clayton, easing this problem significantly.

The orientation of the city as an employment destination is further reflected in the age profile of its residents. Compared to communities in the four other sections of the corridor, children under age 18 comprise a relatively low proportion of the city's population (15.5 percent) while the same is true for adults aged 65 and older (13.6 percent). Most remarkably, one of every four Clayton residents is between the ages of 18 and 24 and another 16 percent are between 25 and 34. These numbers include students at near-by Washington University as well as young professionals who are attracted to the urban/suburban qualities of Clayton.

Clayton's residents are among the most well-educated in the corridor (i.e., nearly one third of adults living in the Clayton School District have a graduate or professional degree) and they also are among the wealthiest. Interestingly, while family incomes rise significantly with additional breadwinners throughout the corridor, the picture here is somewhat different: the median income of family households with no workers in the Clayton district is higher than that for families with three workers in University City.

The high income of these no-worker families is typically derived from investments, savings, and other assets.

Clayton is a community where varying lifestyles and perspectives come together during the business settings of the day and the residential settings of the night. Although the concept of light rail received mixed reviews in the community, in the final analysis, the system will be a valued asset to the quality of community life. Additional positive impacts of truly regional significance will be measured in economic terms for the businesses and the tax coffers of Clayton. With downtown Clayton and downtown St. Louis soon to be only 22 congestion-free minutes apart, the possibilities for economic expansion in the area's business, finance, and government service sectors increases dramatically.

SECTION: RICHMOND HEIGHTS

Summary of Recommended Alternatives/Options

Coming south through Richmond Heights, the alignment is at grade and within the Citizens for Modern Transit (CMT) right-of-way, where a freight rail line once operated. North of the Galleria Pkwy. the route borders I-170 and a mix of commercial and residential areas. South of the Parkway to I-64 it traverses a largely residential area. Although the alignment is entirely at grade, it bridges over Brentwood Blvd., Clayton Rd., and Linden Ave. and passes beneath I-64. The only station in Richmond Heights is just north of the Galleria Pkwy. near the Tropicana Bowl.

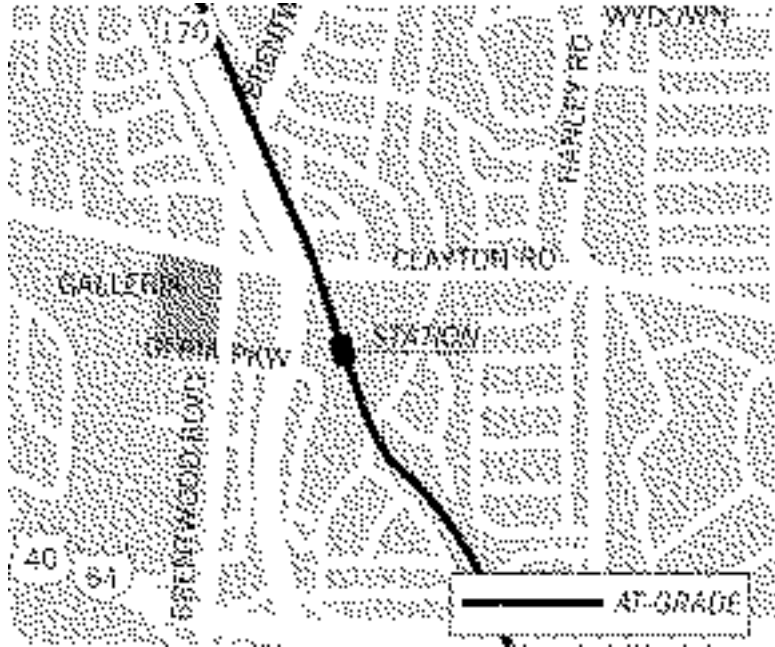


Figure III-7 Section Map

While not recommended at this time, an elevated alignment in the vicinity of the Galleria is presented as a future option. This option would leave the CMT right-of-way north of Clayton Rd. and loop westward around the University Club Tower. An elevated station would be located just east of Brentwood Blvd. and across from the Galleria at a mid-point between Clayton Rd. and the Galleria Pkwy. The alignment would then curve south of the Parkway and re-enter the CMT right-of-way near Linden Ave.

The 0.8 mile section, serving residential areas and business developments along Brentwood Blvd., including the Galleria, will generate nearly 800 MetroLink boardings per day. Reflecting the mix of land uses, the area is both an origin and destination zone for trips. The train will operate in an exclusive right-of-way, totally separate from other traffic. Because of that separation, the train will operate at over 29 mph through the section, excluding station dwell times. Trains will pass through the section in just over two minutes, including stops.

Section length	0.8 miles
Travel time (including station times)	2.11 (minutes)
Construction cost	\$15.8 million
Construction cost/mile	\$19.0 million
Total cost (construction & vehicles)	\$21.1 million
Total cost/mile	\$25.4 million
Stations & daily boardings	
Galleria (east)	764

**Table III-7 Section Information
Richmond Heights**

Development/Redevelopment Opportunities

Within the City of Richmond Heights the alignment follows the CMT right-of-way. The recommended alternative locates a single station behind the Tropicana Lanes bowling alley east of I-170. The current land uses in the immediate station vicinity (i.e., parking and the bowling alley) suggest the potential for future redevelopment. However, this station location, which will be linked to the Galleria district via the Galleria Pkwy. underpass, might be viewed as a temporary station. Once a plan for the development of properties along Brentwood Blvd. is accepted, a public/private venture to relocate the station to an elevated alignment west of the University Club Tower will become feasible and desirable. The idea of creating a “sky-walk” between the Galleria and a University Club Tower station is not beyond the realm of possibility. With approximately 10 acres currently available (not including any Galleria outparcels or parking which could be

converted to other uses), there are ample opportunities to redevelop this high-profile corridor. Furthermore, development within this area should be viewed as contributing to the stability of existing, inner-ring suburban communities.

The remainder of the alignment travels through residential areas. Here it will be important to provide proper screening and fencing to mitigate noise, visual intrusion, and encroachment along this old railroad corridor.

Community Issues

Economic development opportunities in the vicinity of the Galleria and potential impacts on residential neighborhoods were the issues most often cited by residents and officials in Richmond Heights. Officials have expressed interest in promoting transit-oriented development on vacant or underutilized parcels along the east side of Brentwood Blvd.

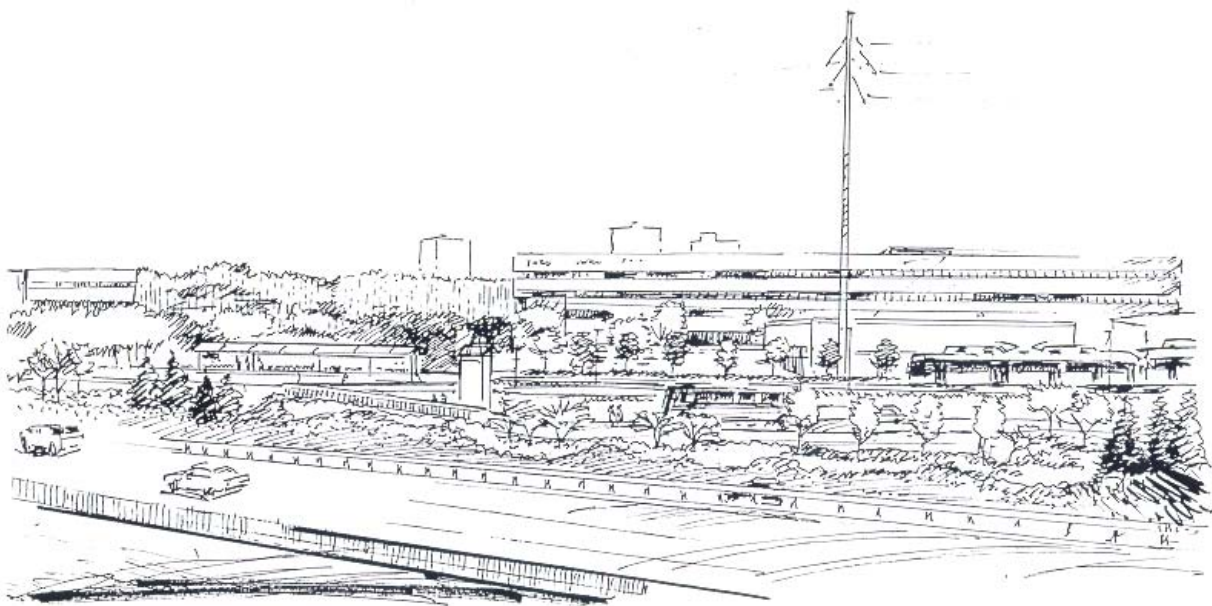


Figure III-8 Galleria Station East of I-170

Residents of neighborhoods close to the proposed alignment have expressed concern about the noise, vibration, safety, and visual impacts of running LRT vehicles on the existing railroad embankments adjacent to residential areas.

The Council of the City of Richmond Heights adopted a resolution (#99-13, dated May 17, 1999) offering conditional support for the extension in an at-grade alignment along the

CMT right-of-way or down the center of Brentwood Blvd. in a protected right-of-way. Should the CMT alignment be selected, the city would support the alignment only if: 1) track elevations were lowered and sound walls were constructed in areas adjacent to residential neighborhoods; 2) safety concerns were addressed; and 3) pedestrian access was provided. The resolution also stated that the

Benefits of Transit Oriented Development

The primary transportation benefit of building places that are more friendly to transit users and pedestrians is that they convert more automobile trips to transit trips. Such shifts also produce a number of secondary benefits:

- **Improved mobility and environmental conditions:** Ridership increases can relieve traffic congestion along roads paralleling transit lines and reduce tailpipe emissions. Communities with a mix of jobs, housing, and shops nearby within walking distance of transit stops further reduce air pollution to the degree there are fewer short automobile trips.
- **Increased supplies of affordable housing:** Virtually all transit-supportive developments feature higher-density housing which lowers the per unit dwelling cost. Most metropolitan areas suffer from a shortage of affordable housing, forcing many moderate-income people, young families, and first-time home buyers to reside on the exurban fringes. Those living and working in transit-supportive environments might not need to own a second car, freeing up more income for housing consumption.
- **Increase income to transit agencies:** Higher ridership increases farebox income, thus reducing the reliance on outside support. Income can also be generated from land and air rights leases, station connection fees, benefit assessments, and other forms of value capture. Local governments with transit-supportive developments may also receive more property tax due to higher land values.
- **More efficient form:** Transit-oriented developments also promote infilling and densification, thus helping to preserve natural resources, including open space and agricultural land. Infrastructure costs can also be contained to the extent that development is less dispersed.
- **Other social benefits:** Transit-oriented developments can also be a catalyst to urban redevelopment. When combined with other programs like job training, developments with good transit services can encourage more private investments in decaying urban centers. Transit-oriented development also provide more travel options for older Americans and empty-nesters, disabled persons, and other transit-needy groups. Rather than living in an auto-oriented suburbs, more Americans might opt to live or work in a transit-oriented traditional setting if given the choice.

city is concerned with the effects of the extension on traffic congestion on Brentwood Blvd. and the importance of coordinating plans for the extension with MODOT's plans for changes to I-64. Recently, the City Council is considering a more limited supportive resolution.

Community and Economic Opportunities

When Segment I of the Cross County extension is operational, MetroLink will serve one of the region's largest retail and office destinations: the University Club Tower, the Galleria Mall, and other stores, restaurants, and entertainment facilities up and down Brentwood Blvd.

Although there are some residential neighborhoods in this section of the corridor, commercial uses predominate. In fact, the Galleria functions as a regional retail hub, drawing other retail establishments into its zone of influence and attracting shoppers from every county of the bi-state region and many areas beyond. To support these activities, a small army of employees arrive each and every day.

The Galleria Mall and the Brentwood Promenade just to the southwest are large-scale developments based on suburban design standards more naturally compatible with the automobile than other transportation modes. Any traveler along this stretch of Brentwood Blvd. will readily be able to describe the daily traffic congestion due to the success of this area—a pattern that is even more pronounced on weekends when leisure travel increases. Light rail provides the city and local developers with an important tool with which to combat some of this congestion—improving both business efficiencies, customer satisfaction, and wear-and-tear on the roadway system. Getting the most out of this resource, however, will require establishing intermodal linkages between the station and the major activity centers. These linkages will include shuttle vans, safe pedestrian thoroughfares, bicycle lockers, off-site parking, and others. It will also require that future development plans address both the impacts and the capacities of the expanding MetroLink system.

SECTION: BRENTWOOD/MAPLEWOOD

Summary of Recommended Alternatives/Options

After crossing under I-64, the alignment continues south at grade on the Citizens for Modern Transit (CMT) right-of-way, where it remains on the surface until after it passes over Manchester Rd. and enters the Sunnen Business Park. Because of topography and the need to be grade-separated from the Union Pacific (UP) tracks at the south end of the Business Park, the alignment goes below grade in a cut-and-cover tunnel several hundred feet south of Manchester Rd. and does not return to the surface until it clears the UP tracks just north of Big Bend Blvd. Stations are located at Eager Rd. (south of Eager Rd. and west of Hanley Rd.), Manchester Rd., and Big Bend Blvd.

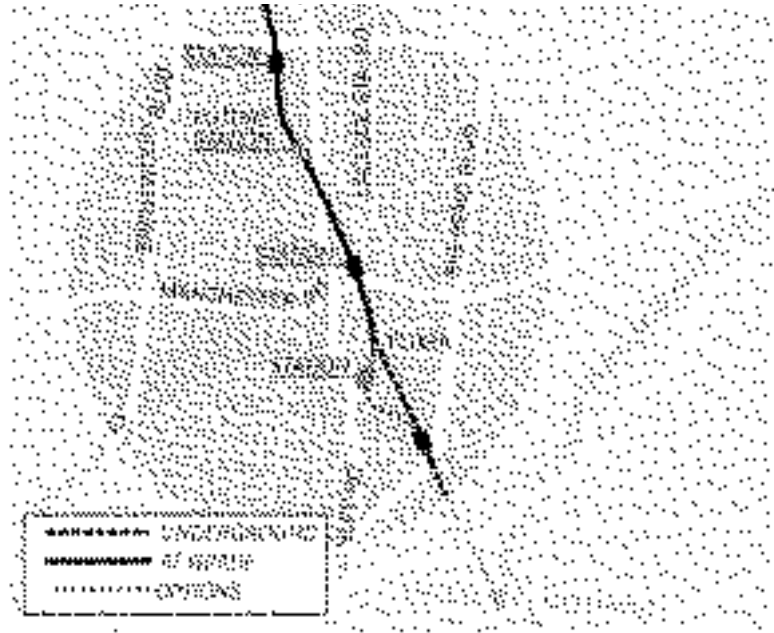


Figure III-9 Section Map

The alignment crosses two roads at grade—Big Bend Blvd. and Oxford Ave. Both crossings, which are at the extreme southern end of the section, will be gated with railroad signals.

The *System Development* option proposed in this section affects the route south of Manchester Rd. in the Sunnen Business Park. Instead of going below grade through the Business Park, the alignment remains at grade, angling along Laclede Station Rd. on the west side of the existing business development. The alignment will be on the surface of the road, which would be closed to automobile traffic, with a station just south of Sunnen Dr. South of the station, the alignment will become elevated and turn to the east along the UP tracks, crossing the tracks just before reaching Big Bend Blvd. The alignment will remain elevated across Big Bend Blvd. and Oxford Ave.

Section length	1.8 miles
Travel time (including station times)	3.59 (minutes)
Construction cost	\$61.4 million
Construction cost/mile	\$33.7 million
Total cost (construction & vehicles)	\$82.1 million
Total cost/mile	\$45.1 million
Stations & daily boardings	
Eager Rd Park'n'Ride	2,026
Manchester Rd.	477
Big Bend (south)	245

**Table III-8 Section Information
Brentwood/Maplewood**

The 1.8 mile section, characterized by residential and industrial land uses, will generate over 2,700 new MetroLink boardings. As with the Richmond Heights section to the north, the area is both an origin and destination zone for trips. Residents from the neighborhoods, bus riders,

(HIC). The first station, referred to as Eager Rd., will provide a regional park-and-ride facility with approximately 1,000 parking spaces. The station will also provide pedestrian access to a number of employment nodes, including Brentwood's Promenade Mall. In 1997 the City

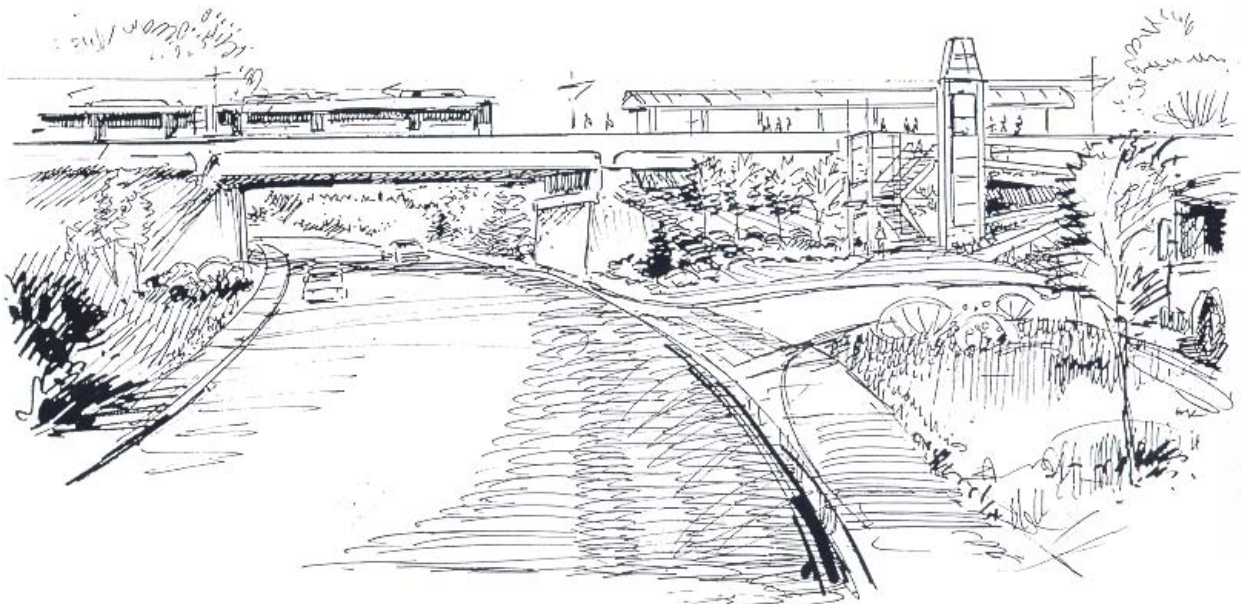


Figure III-10 Manchester Rd. Station

and people using the trains for commuting will account for the majority of trips. The major boarding point is the Eager Rd. park-and-ride station. Because the rail is in an exclusive right-of-way and totally separated from other traffic, the train will operate at 37 mph through the section, excluding station dwell times. Trains will pass through the section in just under four minutes, including stops.

Development/Redevelopment Opportunities

The recommended alignment follows the CMT right-of-way throughout the cities of Brentwood and Maplewood. While there is little variation in the alignment, a number of station options exist along the alignment.

After crossing under I-64 and Eager Rd., the alignment enters the Hanley Industrial Court

of Brentwood commissioned a study of the HIC. This study recommends, among other improvements, the redevelopment of large areas adjacent to the proposed MetroLink station. These improvements, in conjunction with regional trips generated by the park-and-ride facility, will provide market support for the inclusion of a neighborhood center transit-oriented development (TOD). This center could contain 25,000 to 100,000 square feet of convenience shopping and services (e.g., drugstore, restaurant, video store, daycare). While providing a sense of vibrancy to the station, the TOD would also help reduce vehicular trips while enhancing the attractiveness, marketability, and long-term stability of the HIC.

As a result of the planning process for the HIC, the City of Brentwood has suggested the relocation of the Eager Rd. station to a location approximately 2,500 feet south, a point more centrally located within the HIC. This proposal has merit if pursued within the context of a larger infrastructure project which relocates the southbound leg of Hanley Rd. and initiates the assemblage and redevelopment of several tracts into higher land uses (e.g., retail/commercial). In deference to the city's suggestion, the recommended alignment allows for possible future development of a station to be generally located half way between the Eager Rd. and Manchester Rd. stations.

The elevated station at Manchester Rd. presents a unique architectural profile by being located over the roadway. While the primary purpose of this station will be to provide a bus-transfer access point, the station will also serve employment nodes in the immediate area. In addition, there are a number of opportunities, principally located along Manchester Rd. both east and west of the station, for small infill developments (e.g., specialty retail). One of the major benefits of the station project will be to enhance the visual aesthetics of the area and to provide improved pedestrian facilities in the immediate vicinity.

After crossing Manchester Rd., the alignment follows the CMT right-of-way for approximately 600 ft. where it transitions to a tunnel (cut & cover). Crossing beneath Flora Ave., Laclede Station Rd., the Sunnen Business Park, and the Union Pacific railroad tracks, the line emerges to a station located just west of Big Bend Blvd. near the Deer Creek shopping center. This station provides good pedestrian access to the shopping center, but does not provide the most efficient location for employees of the Sunnen Business Park. While development opportunities occur throughout the corridor, especially on the outparcels of the shopping center or in the residential areas south of Flora Ave., they are not generally enhanced by the presence of a sub-surface rail line. Additionally, flood prone areas to the southeast of Big Bend Blvd. may further limit redevelopment potential at this sta-

tion location.

The Laclede Station Rd. option provides an attractive and viable option. Turning westward near Flora Ave. and following Laclede Station Rd., this at-grade alignment affects several homes and apartments which are currently slated for redevelopment. The location of the proposed station, approximately 600 feet from the existing intersection of Laclede Station and Hanley Rds., provides two significant benefits. First, this location is much closer to the Sunnen Business Park, thus the potential for transit commuting is greater. Discussions about and design of pedestrian-oriented linkages to the Business Park and surrounding areas are already in progress. Second, the Sunnen Products Co. has plans to redevelop approximately 12 acres adjacent to the station as a high-density/mixed-use retail node. The combination of the potential for 800,000 square feet of expansion on five sites in the Sunnen Business Park, expansion of the Deer Creek shopping center on its western outparcels, and the potential for redevelopment in areas west of Hanley Rd., makes this option highly attractive. Flexibility in the exercise of local development regulations, combined with a strong urban design code, will greatly enhance the employment opportunities and urban character of this area.

Community Issues and Resolutions

Many of the issues raised by residents and officials in Brentwood and Maplewood related to economic development opportunities and the merits of different station locations. In Brentwood, concerns about traffic impacts at the Eager Rd. and Hanley Rd. intersections and the accessibility of the proposed station at Eager and Hanley Rds. were raised. Officials and commercial property owners also called for the consideration of an additional future station in the vicinity of the HIC. In Maplewood, the alignment through the Sunnen Business Park was the focus of discussion, as were the merits of terminating this section of the extension at Deer Creek rather than in Shrewsbury. Residents also expressed concern about traffic congestion at the intersection of Big Bend Blvd. and Oxford Ave.

The City Council of the City of Maplewood adopted a resolution (#R99-35, dated June 8, 1999) citing the city's support for the Laclede Station Rd. alignment with stations located at Manchester Rd. (with bus transfer and kiss-and-ride facilities) and on Laclede Station Rd. (with bus transfer and kiss-and-ride facilities). The resolution offered support for the construction of a terminal station in Shrewsbury south of I-44 rather than at Deer Creek.

Community and Economic Opportunities

The Brentwood/Maplewood community comprises portions of two older St. Louis County municipalities, stretching south three miles from the Galleria and the Brentwood Promenade to I-44. This is the only section of the corridor to include significant industrial activity, concentrated in the HIC at the northern end, the Sunnen Business Park near the center of this section, and the Big Bend Industrial Park at the south. MetroLink will provide these economic centers with access to an expanded pool of qualified workers, and is a welcomed addition to their development plans.

Other complementary supports for economic development are also at play in this section. The City of Maplewood is the only municipality in the St. Louis County portion of the corridor that qualifies as a "distressed community" under Missouri state statute. This means that the median household income in the municipality is 70 percent or less than that of the region as a whole and that businesses and households who invest in economic and community development projects in the city may qualify for any of several tax credits and other public incentives. In June 1999, the city was also officially designated a "revitalization area" by the U.S. Department of Housing and Urban Development, which means that several federally-sponsored housing benefits will be available. These incentives will be important tools for public officials and businesses to use to craft the future economic and community stability of Maplewood. Light rail will be an important part of this mix.

A Vision for the Region: Workforce and Transportation Linked to Enhance Access to Jobs

With the St. Clair County extension and Segment I of the Cross County extension complete, more than 300,000 jobs at the core of our regional economy will be accessible by light rail and complementary bus service. Many of these will be high-skill, high-wage jobs in healthcare, advanced manufacturing, finance, communications and media, construction, transportation, research and development, and more. They will require the professional talent that the region must attract and retain if we are to compete with Atlanta, Charlotte, Seattle, and other major metropolitan centers. The convenience and efficiency of light rail should be an important selling point to firms seeking to attract this talent.

Also concentrated in the expanded corridor will be many entry-level positions that provide valuable support to commerce, production, and the distribution of goods and services. With appropriate training and reliable transit service, many unemployed and underemployed residents of the City, St. Louis County and St. Clair County will be better able to enter the workforce and start the climb to economic self-sufficiency.

The regional economy as a whole will benefit when the full-employment now experienced in many of our newer suburban communities is also a reality in the urban core neighborhoods traversed by MetroLink. To make such a vision happen, the region's workforce development officials, its major family and personal support agencies, and the Bi-State Development Agency must enter into partnership to ensure that light rail supports and enhances access to jobs.

There is much at stake for this small suburb of 9,934 persons. Of all the County municipalities in the corridor, Maplewood experienced the highest decline in population between 1990 and 1996 (-6.3 percent). The relatively low-home-ownership rate of the city (47 percent, compared to 65 percent for the region as a whole) makes this trend more difficult to arrest than in communities where residents have greater financial ties to the neighborhood. Another factor is the low level of educational attainment of residents, who may be moving to seek entry- or mid-level job opportunities in other parts of the

region. Forty-seven percent of the adults living in the Maplewood/Richmond Heights School District have a high school diploma or less, compared to 29 percent and 35 percent in the Brentwood and University City districts, respectively. Unemployment in the city is higher than the region as a whole. One of the greatest opportunities that MetroLink will provide to Maplewood is improved access to education and workforce training and to good jobs throughout the activity centers of the expanding system.

SECTION: SHREWSBURY/CITY OF ST. LOUIS

Summary of Recommended Alternatives/Options

Immediately south of the at-grade crossing of Oxford Ave., the alignment elevates and continues south to cross I-44 east of the Laclede Gas towers and the Burlington Northern & Santa Fe (BNSF) tracks. The route ends just south of Lansdowne Ave. with an elevated station and a major park-and-ride lot. A new light rail yard and related maintenance facilities will be constructed north of Lansdowne Ave., back toward I-44.

The 0.9 mile section, characterized by industrial land uses and the I-44 corridor, will generate over 5,300 new MetroLink boardings. Because the Lansdowne station is a terminus for the entire route and has a large park-and-ride lot, the area is primarily an origin zone for trips. The terminal station will serve residents from surrounding neighborhoods, bus riders with destinations outside the section, and commuters from destinations to the south or the west along the I-44 corridor. Because the rail is elevated from north of I-44 to the terminus, the train will operate at 39 mph through the section. Trains will pass through the section in just under one and one-half minutes.

Development/Redevelopment Opportunities

This section will be elevated over Deer Creek, I-44, and the BNSF railroad to a station located just south of Lansdowne Ave. at the City of Shrewsbury/City of St. Louis border. The current principal land use in the area immediately surrounding this location is largely light industrial/storage. As such, the area is significantly underutilized. Within 500 feet to the east of the proposed station the area becomes predominantly single family, with modest, well-kept homes. Approximately 500 feet to the west of the site lies the River des Peres, with its linear green space and occasional parkland. In general, this

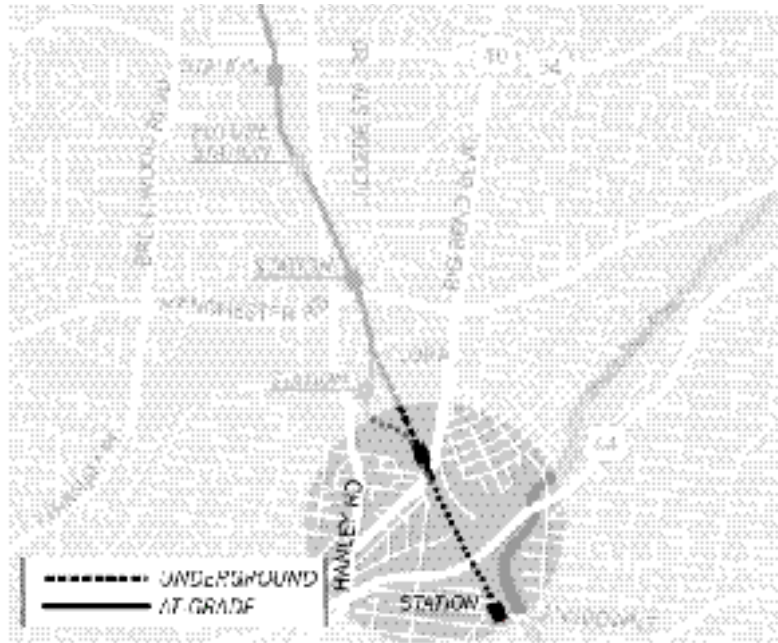


Figure III-11 Section Map

Section length	0.9 miles
Travel time (including station times)	1:24 (minutes)
Construction cost	\$55.2 million
Construction cost/mile	\$60.7 million
Total cost (construction & vehicles)	\$73.8 million
Total cost/mile	\$81.1 million
Stations & daily boardings	
Lansdowne	5,333

Table III-9 Section Information Shrewsbury/St. Louis

area represents the proverbial “blank slate” in terms of redevelopment potential. Current efforts to coordinate transportation improvements with MODOT, Shrewsbury's planning for a downtown business district, the availability of significant parcels of land, and the presence of a stable, but aging residential community provides a fertile environment for public/private investments.

Community Issues and Resolutions

While concerned about such issues as traffic congestion and access, residents and public officials from the City of Shrewsbury and the City of St. Louis have expressed strong support for an extension with a terminus south of I-44 at Lansdowne Ave. Economic development and improved access to Clayton and Downtown St. Louis were among the benefits cited as the basis for supporting the extension south of I-44. Some residents expressed concern about the noise, especially along elevated portions of the route and possible negative effects on property values.

There are two principal transportation issues associated with this section. The first issue is congestion. A major park-and-ride lot at the Lansdowne station will draw significant traffic into the area, overloading the existing roadway network. Accommodating this new traffic will require both local roadway and signalization improvements.

The second issue is whether the alignment should be terminated at Deer Creek (north of I-44) or extended to Lansdowne Ave. Extending the route to Lansdowne Ave. is analagous to the decision to extend the original MetroLink line to East St. Louis: it opens up an entirely new travel market. Part of the logic for the south extension of the Cross-County alignment is to improve north-south access through the interior of St. Louis County south of I-64. Because the roadway network in that area lacks continuity, north-south movements are difficult and time consuming. Extending the route beyond I-44, which effectively serves as a barrier for many north-south movements, opens up new travel markets for MetroLink in south St. Louis City and south/southwest St. Louis County.

The Board of Alderman of the City of Shrewsbury adopted a resolution (#99-1, dated April 13, 1999) stating the city's support for the extension with a station and major park-and-

ride and bus transfer facilities at Lansdowne Ave. Resolutions calling for the extension to Lansdowne Ave. were adopted by several business associations, including the Affton Chamber of Commerce (dated May 13, 1999), the Old Webster Trade Association (dated May 5, 1999), the Webster Grove Area Chamber of Commerce (dated April 14, 1999), the Shrewsbury Citizen's Advisory Committee (dated April 15, 1999), the City of Maplewood (dated June 8, 1999), the Regional Commerce and Growth Association (dated May 20, 1999), and Citizens for Modern Transit (undated).

Community and Economic Opportunities

The community surrounding the station in this section of the Cross-County corridor is comprised of portions of the City of Shrewsbury and the Lindenwood Park neighborhood in the City of St. Louis. The economic base of this area includes a number of small neighborhood-based businesses scattered throughout, as well as larger retail and industrial firms at the southern end. In relationship to workforce preparedness, 27 percent of adults did not complete high school; 33 percent have a high school diploma; 22 percent have some vocational or college experience; and 18 percent are college graduates. Unemployment is on par with the regional average.

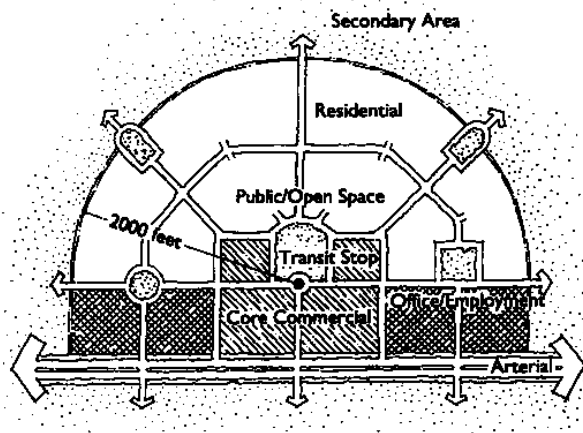
The greatest part of these communities at the southern end of the corridor are residential neighborhoods—a composite of neat, relatively compact urban streets with small brick homes and well-manicured lawns. The population in these communities is generally older than that in other sections. One of every four residents in Lindenwood Park is aged 65 or older, for example, and nearly one-third of these individuals live alone. Of total households, 57 percent are families, although only 27 percent of households have three or more persons in them.

The apparent stability of the Lindenwood Park community is complemented by trends underway in Shrewsbury—the only municipality in the corridor which gained population between 1980 and 1990 (up 26 percent from 5,077 to 6,416). Although the city's numbers declined by 2.2 percent between 1990 and 1996, this was the least significant change in the corridor. While other communities around it are losing residents more dramatically, something quiet, but positive, seems to be happening in Shrewsbury.

Familiarity with the street car system of decades gone by, compact neighborhoods, good sidewalks and easy pedestrian access—these characteristics will ensure that the older residents of the Lindenwood Park and Shrewsbury communities can take advantage of light rail when service begins from the Lansdowne station in 2005. They will be joined by hundreds of other south St. Louis City and County commuters who will take advantage of the park-and-ride facility at this new terminus on the MetroLink system.

Transit Oriented Development

In recent years, there has been a chorus of calls to redesign America's suburbs so that they are less dependent on automobile access and more conducive to transit usage, walking, and cycling. Phrases like neotraditional developments, traditional neighborhood designs (TNDs), pedestrian pockets, and transit-oriented developments (TODs) have been coined to describe a new design motif that creates attractive environments for walking and transit use. The neotraditional designs of architects like Andres Duany and Elizabeth Plater-Zyberk borrow many of the successful elements of turn-of-the-century transit communities and traditional towns like Princeton, New Jersey, and Annapolis, Maryland. Peter Calthorpe's Pedestrian Pocket schemes adopt many of these same principles, though the centerpiece of Calthorpe's projects is a rail transit station. Among the hallmarks of these transit-friendly and pedestrian friendly environments are a commercial core within walking distance of a majority of residents, a well-connected (typically gridiron) street network, narrow streets with curbside parking and back-lot alleys, mixed uses, and varying densities of housing.



IV. Moving Forward

A. Project Management

The MetroLink project organization includes a Policy Committee to make key decisions regarding the project's scope, design features, budget and schedule, and a project management structure to provide day-to-day technical oversight of the project. The Policy Committee consists of the following officials: St. Louis County Executive, City of St. Louis Mayor, Bi-State Board Chair, St. Louis County Municipal League representative and the East-West Gateway Board Chair. A Management Committee consists of representatives appointed by the Policy Committee members and a representative of the Missouri Department of Transportation. The project is now managed by the East-West Gateway Coordinating Council and supported by staff from the Bi-State Development Agency and the Missouri Department of Transportation.

At the conclusion of the current conceptual design work, Bi-State will assume the management of the project. The project's Business Plan calls for the project to be led by a Program Manager, which can be an individual or a firm selected by the Policy Committee and employed by Bi-State.¹ Bi-State will be the system "owner and operator" with the construction of the Cross-County Corridor becoming their responsibility. Bi-State will also maintain an appropriate process for engaging the public through the design and construction phases.

The Policy Committee will remain intact through the completion of construction to provide for engagement of local governments in the project as well as to assure that commit-

ments made during conceptual design are carried out in the remainder of the project. The transition of the project management from East-West Gateway to Bi-State should be a smooth one, given the ongoing cooperative relationship of the two agencies on the project and the continuity represented on the Policy Committee.

B. Roles of the City of St. Louis and St. Louis County

The two principal local governments affected by the Cross-County MetroLink extension will have pivotal ongoing responsibilities in the implementation of the project. First, the City and County will appropriate the necessary funds from Proposition M receipts to carry out the project. Second, action by both local governments will be necessary for MetroLink to use public street rights-of-way, either for construction or operation of the system. Third, local governments will play an ongoing role in project management and in making key decisions about the design and construction of the project. The relationship between St. Clair County and Bi-State for the design and construction of the St. Clair Corridor is instructive. In that case, a Memorandum of Agreement covers all relevant project management and oversight issues. A similar memorandum should be signed by the parties to the Cross-County project.

The City and County might also play a role in project financing, since they must together assure a continued flow of funding to support the issuance of bonds and other borrowing to support the project. St. Louis County, in particular, could play the principal role in financing, since 80 percent of Proposition M revenues are collected in the County, and most of the corridor is located there.

¹ Gannett Fleming, Cross-County MetroLink Segment I Business Plan, East-West Gateway Coordinating Council, December 1997.

C. Potential Legal Challenges

During the course of conceptual design many threats of legal action were made by individuals and interest groups. Since the outcome of the process will likely not satisfy all of these groups, it is possible that some will challenge the project through legal action. In fact, one such group, the Historic Neighborhoods Association, already has a lawsuit pending against East-West Gateway surrounding access to certain documents and other information alleged to be in East-West Gateway's possession. Attorneys for East-West Gateway and Bi-State have been exploring various legal issues raised by interest groups and individuals responsible for the threats of lawsuits. East-West Gateway and Bi-State staff believe that there are no legal impediments to the decisions concerning conceptual design, and we believe that the project can move forward expeditiously once those decisions are made.

Appendix A

Project Documents

Previous Studies and Reports

East-West Gateway Coordinating Council. St. Louis Systems Analysis for Major Transit Capital Investments. St. Louis: East-West Gateway Coordinating Council, October 1989; amended June 1991.

East-West Gateway Coordinating Council. Transportation Redefined. St. Louis: East-West Gateway Coordinating Council, 1994.

Sverdrup Civil, Incorporated. Cross-County Corridor Major Transportation Investment Analysis Final MTIA Report. St. Louis: East-West Gateway Coordinating Council, September 1997.

Gannett Fleming. Cross County MetroLink Strategic Alignment Analysis. St. Louis: East-West Gateway Coordinating Council, August 15, 1997.

East-West Gateway Coordinating Council. Staff Recommendation on MetroLink Alignment. St. Louis: East-West Gateway Coordinating Council, September 10, 1997.

East-West Gateway Coordinating Council. Follow-up Information on MetroLink Preferred Alignment in Segment I of the Cross County Corridor. St. Louis: East-West Gateway Coordinating Council, September 16, 1997.

Gannett Fleming. Cross-County MetroLink Segment I Business Plan. St. Louis: East-West Gateway Coordinating Council, December 2, 1997.

Community Engagement Reports

Mary Means and Associates. Situation Assessment for the Cross-County Corridor MetroLink Extension Community Engagement Process. St. Louis: East-West Gateway Coordinating Council, July 23, 1998.

Mary Means and Associates. Engagement Strategies for the Cross-County Corridor MetroLink Extension Community Engagement Process. St. Louis: East-West Gateway Coordinating Council, July 23, 1998.

Attitude Research Corporation. Cross-County MetroLink Extension Public Opinion Survey. St. Louis: East-West Gateway Coordinating Council, July 1998.

Attitude Research Corporation. Survey Sampling Methodology for Cross-County MetroLink Extension Public Opinion Survey of July 1998. St. Louis: East-West Gateway Coordinating Council, August 14, 1998.

Mary Means and Associates. Summary of Phase One Engagement Activities.
St. Louis: East-West Gateway Coordinating Council, October 1998.

East-West Gateway Coordinating Council. Designing the Cross-County Extension. (Brochure)
St. Louis: East-West Gateway Coordinating Council, 1998.

East-West Gateway Coordinating Council. The Cross-County MetroLink Update, Volume 1, Fall 1998.
St. Louis: East-West Gateway Coordinating Council, 1998.

East-West Gateway Coordinating Council. The Cross-County MetroLink Update, Volume 2, Winter
1999. St. Louis: East-West Gateway Coordinating Council, 1999.

East-West Gateway Coordinating Council. The Cross-County MetroLink Update, Neighborhood Special
Edition # 1 - Spring 1999. St. Louis: East-West Gateway Coordinating Council, 1999.

East-West Gateway Coordinating Council. The Cross-County MetroLink Update, Neighborhood Special
Edition # 2 (Clayton) - Spring 1999. St. Louis: East-West Gateway Coordinating Council, 1999.

East-West Gateway Coordinating Council. The Cross-County MetroLink Update, Volume I - Summer
1999 (tabloid). St. Louis: East-West Gateway Coordinating Council, 1999.

East-West Gateway Coordinating Council. FAQs (Frequently Asked Questions).
St. Louis: East-West Gateway Coordinating Council, May 8, 1999.

Planning & Design Reports

Parsons Transportation Group. Design Standards and Policies.
St. Louis: East-West Gateway Coordinating Council, August 1998.

Parsons Transportation Group. System and Alignment Design Concepts.
St. Louis: East-West Gateway Coordinating Council, September 1998.

Parsons Transportation Group. Forest Park Circulator Concepts.
St. Louis: East-West Gateway Coordinating Council, September 1998.

Parsons Transportation Group. Candidate Design Alternatives.
St. Louis: East-West Gateway Coordinating Council, October 1998.

Parsons Transportation Group. Evaluation Methodology Draft Technical Report.
St. Louis: East-West Gateway Coordinating Council, December 1998; Errata Sheet, March
1999.

Parsons Transportation Group. Capital, Operating and Maintenance Cost Estimation Methodology Draft
Technical Report. St. Louis: East-West Gateway Coordinating Council, November 1998.

- Parsons Transportation Group. Financial Analysis Methodology Draft Technical Report.
St. Louis: East-West Gateway Coordinating Council, December 1998.
- Parsons Transportation Group. Socio-Economic and Environmental Methodology Draft Technical Report. St. Louis: East-West Gateway Coordinating Council, December 1998; Errata Sheet, March 1999.
- Parsons Transportation Group. Definition of Alternatives Draft Technical Report - Revised.
St. Louis: East-West Gateway Coordinating Council, March 1999.
- Parsons Transportation Group. Forest Park Circulator Draft Preliminary Plan.
St. Louis: East-West Gateway Coordinating Council, February 1999.
- Parsons Transportation Group. Preliminary Operations Plan Draft Technical Report.
St. Louis: East-West Gateway Coordinating Council, March 1999.
- Parsons Transportation Group. Appendix to Preliminary Operations Plan Draft Technical Report.
St. Louis: East-West Gateway Coordinating Council, March 1999.
- Parsons Transportation Group. Draft Capital Cost Estimates.
St. Louis: East-West Gateway Coordinating Council, April 1999; Revision Sheet, May 1999.
- Parsons Transportation Group. Socio-Economic and Environmental Analysis Draft Technical Report
St. Louis: East-West Gateway Coordinating Council, May 1999; Errata Sheet, May 1999.
- KPMG and Parsons Transportation Group. Financial Analysis Draft Technical Report.
St. Louis: East-West Gateway Coordinating Council, May 1999.
- Parsons Transportation Group. Evaluation Results Draft Technical Report.
St. Louis: East-West Gateway Coordinating Council, May 1999; Errata Sheet, May 1999.

Staff Memoranda

- Memo to East-West Gateway Coordinating Council Board of Directors.
re: MetroLink Safety Issues. April 27, 1999.
- Memo to East-West Gateway Coordinating Council Board of Directors.
re: Update on the Cross-County MetroLink Extension Segment I. April 27, 1999.
- Memo to East-West Gateway Coordinating Council Board of Directors
re: Federal Funding for the Cross-County MetroLink Extension. May 26, 1999.

Appendix B Reading List

- Calthorpe, Peter. The Next American Metropolis - Ecology, Community, and the American Dream, Princeton: Architectural Press, New York, 1993.
- Bernick, Michael and Robert Cervero. Transit Villages in the 21st Century. New York: McGraw-Hill, 1996.
- Bernick, Michael and Robert Cervero. Transit-Supportive Development in the United States: Experiences and Prospects. Washington: Federal Transit Administration, 1993.
- Transportation Research Board. Rail Transit Capacity, Transit Cooperative Research Program Report 13. Washington: Transportation Research Board, 1996.
- Transportation Research Board. Transit and Urban Form, Volumes 1 & 2, Transit Cooperative Research Program Report 16. Washington: Transportation Research Board, 1996.
- Transportation Research Board. Integration of Light Rail Transit into City Streets, Transit Cooperative Research Program Report 17. Washington: Transportation Research Board, 1996.
- Transportation Research Board. Transit-Focused Development, Transit Cooperative Research Program Synthesis 20. Washington: Transportation Research Board, 1997.
- Transportation Research Board. The Role of Transit in Creating Livable Metropolitan Communities, Transit Cooperative Research Program Report 22. Washington: Transportation Research Board, 1997.
- Transportation Research Board. Transit-Friendly Streets: Design and Traffic Management Strategies to Support Livable Communities, Transit Cooperative Research Program Report 33. Washington: Transportation Research Board, 1998