Southwest Transitway Alternatives Analysis

Technical Memorandum No. 4
Evaluation Process and Results

Prepared for:
Hennepin County Regional Railroad Authority

Prepared by:

PB Americas, Inc. (PB)

January 2007

Table of Contents

1. Introduction 1
2. Background and Assumptions 1
3. Methodology 1
4. Summary Description of Alternatives 5
5. Projected Ridership 15
6. Estimated Capital Costs 17
7. Estimated Operating and Maintenance Costs 19
8. Station Area Characteristics: Land Use 21
9. Station Area Characteristics: Environment 22
10. Evaluation Results 24
11. Preliminary Recommendation 35

Appendix A: Summary of Comprehensive Plans ..... A-1 – A-13
Appendix B: FTA New Start Criteria: Land Use ..... B-1 – B-7
Appendix C: Annotated References ..... C-1 – C-11
Appendix D: Environmental Screening ..... D-1 – D-4
Appendix E: Environmental Reseources Maps ..... E-1 – E-21
Appendix F: Southwest Policy Advisory Committee and HCRRA Resolutions F-1 – F-5

List of Tables

Table 1 FTA New Starts Criteria (FFY2007) 2
Table 2 Route Length and Number of Stations 13
Table 3 Stations 14
Table 4 Summary of Total Capital Cost Estimates 17
Table 5 Summary of Per Mile Capital Cost Estimates 18
Table 6 2015 Estimated Operating and Maintenance Cost, Increment over Enhanced Bus 20
Table 7 Goal 1 Evaluation Data 25
Table 8 Goal 2 Evaluation Data 26
Table 9 Goal 3 Evaluation Data 27
Table 10 Goal 4 Evaluation Data 28

Table 11 Goal 5 Evaluation Data 29
Table 12 Goal 1 Evaluation Ratings 30
Table 13 Goal 2 Evaluation Ratings 31
Table 14 Goal 3 Evaluation Ratings 32
Table 15 Goal 4 Evaluation Ratings 33
Table 16 Goal 5 Evaluation Ratings 34
Table 17 TAC Revised Summary Evaluation Matrix 36

Appendix Tables

Table B-1 Ratings Applied in Assessment of Land Use B-1
Table B-2. Quantitative Element Rating Guide B-7
Table D-1 Base Corridor Alternatives, Evaluation of Goal 1, Measures 7 & 8 ..... D-1
Table D-2 Base Corridor Alternatives, Evaluation of Goal 3, Measures 3 & 4 ..... D-2
Table D-3 Base Corridor Alternatives, Evaluation of Goal 4, Measures 2 & 3 ..... D-2
Table D-4 Base Corridor Alternatives, Evaluation of Goal 5, Measures 2 & 3 ..... D-3
Table D-5 Corridor Segments, Evaluation of Goal 3, Measures 3 & 4 ..... D-3
Table D-6 Corridor Segments, Evaluation of Goal 4, Measures 2 & 3 ..... D-4
Table D-7 Corridor Segments, Evaluation of Goal 5, Measures 2 & 3 ..... D-4

List of Figures

Figure 1 Enhanced Bus Alternative 7
Figure 2 BRT Alternatives 9
Figure 3 LRT “A” Alternatives 11
Figure 4 LRT “C” Alternatives 12
Figure 5 Average Weekday Total Study Area Transit Boardings, Year 2030 15
Figure 6 Average Weekday LRT and BRT Boardings, Year 2030 16
Figure 7 New Riders - LRT and BRT Alternatives, Year 2030 16
Figure 8 Preliminary Recommended Alternatives 38

Appendix Figures

Figure D-1 Initial Alternatives: Bus Rapid Transit BRT-1 end of App. D

Figure D-2 Initial Alternatives: Bus Rapid Transit BRT-2 end of App. D

Figure D-3 Initial Alternatives: Light Rail Transit LRT-1A end of App. D

Figure D-4 Initial Alternatives: Light Rail Transit LRT-1C end of App. D

Figure D-5 Initial Alternatives: Light Rail Transit LRT-2A end of App. D

Figure D-6 Initial Alternatives: Light Rail Transit LRT-2C end of App. D

Figure D-7 Initial Alternatives: Light Rail Transit LRT-3A end of App. D

Figure D-8 Initial Alternatives: Light Rail Transit LRT-3C end of App. D

Figure D-9 Initial Alternatives: Light Rail Transit LRT-4A end of App. D

Figure D-10 Initial Alternatives: Light Rail Transit LRT-4C end of App. D

Figure D-11 Environmental Resources end of App. D

Figure D-12 Environmental Resources end of App. D

Figure D-13 Environmental Resources end of App. D

Figure D-14 Noise and Vibration: Potentially Affected Structures end of App. D

Figure D-15 Noise and Vibration: Potentially Affected Structures end of App. D

Figure D-16 Noise and Vibration: Potentially Affected Structures end of App. D

Figure D-17 Community Facilities within ½ Mile of Proposed Station Locations end of App. D

Figure D-18 Community Facilities within ½ Mile of Proposed Station Locations end of App. D

Figure D-19 Community Facilities within ½ Mile of Proposed Station Locations end of App. D

1. Introduction

This technical memorandum documents the methodology, assumptions and results of the Evaluation of Alternatives task prepared for the Southwest Transitway Alternatives Analysis Study (Southwest Transitway AA).

The purpose of the evaluation process is to identify key benefits, costs and impacts of each alternative in order to identify those alternatives that are most likely to successfully address the Southwest Transitway AA goals, which were adopted by the Southwest Policy Advisory Committee on March 2, 2005. The alternatives identified as most likely to meet the Southwest Transitway AA goals are recommended for more intense study during further steps in the project development process.

2. Background and Assumptions

In developing the Southwest Transitway AA evaluation measures the Southwest Transitway Technical and Policy Advisory Committees first reviewed the Federal Transit Administration's (FTA) New Starts Evaluation Criteria. The intent was to develop local evaluation measures that address the adopted Southwest Transitway AA goals, but also are consistent with the FTA New Starts Evaluation Criteria.

3. Methodology

FTA New Starts Evaluation Process

For transitway projects requesting Federal Transit Administration (FTA) New Starts funds there is a set of guidelines and an evaluation process used by the FTA. Projects seeking FTA New Starts funding are "rated" in a phased process.

Currently, the FTA gives New Starts candidate projects three ratings:

1. Project Justification Rating
2. Local Financial Commitment Rating
3. Overall Project Rating

Both the Project Justification and Local Financial Commitment ratings consist of five categories: high, medium-high, medium, medium-low, and low. The FTA then combines the Project Justification rating and the Local Financial Commitment rating to determine an Overall Project Rating.

Project Justification Ratings consists of six criteria. These are known as the "FTA New Starts Criteria". They are listed and discussed below, as well as summarized in Table 1:

- Mobility Improvements
- Cost Effectiveness
- Operating Efficiencies
- Environmental Benefits
- Existing Land Use, Transit Supportive Land Use Policies, and Future Patterns
- Other

Table 1 FTA New Starts Criteria (FY2007)

FTA Project Justification New Starts Criteria	FTA New Starts Evaluation Measures	Threshold for Medium Rating
Mobility Improvements	• System User Benefits (travel time savings)Per Passenger Mile • Jobs within 1/2 mile of stations • Low income population within 1/2 mile of stations	Ranked relative to other New Starts Projects
Cost Effectiveness	• Incremental Cost per Hour of Transportation System User Benefit (travel time savings)	Cost effectiveness value below $22
Operating Efficiencies	• Regional Transit System Operating Cost Per Passenger Mile	Compared to other relevant national systems
Environmental Benefits	• Change in emissions: CO, NOX, VOC, CO2, & PM10 • Change in EPA regional air quality designation • Change in regional energy consumption in the forecast year	For attainment areas, demonstrated reduction in transportation-related pollutants
Existing Land Use, Transit Supportive Land Use Policies, and Future Patterns	• Existing Land Use • Transit Supportive Plans and Policies • Performance and Impact of Policies	Weighted average of these three evaluation measures a medium rating or above
Other	• Degree of Local Financial Commitment • Degree that institutions are in place and are assumed in the forecasts • Multi-modal emphasis of the locally preferred investment strategy • Environmental justice considerations and equity issues • Opportunities for increased access to employment for low income persons, and welfare to work initiatives	Potential special-case factors presented by project sponsor.

Source: Parsons Brinckerhoff, 2006.

A comprehensive discussion of the FTA process for project rating is found at www.fta.gov at the site's Planning and Environment tab. The complete Federal evaluation process for the Southwest Transitway will need to occur during a future phase of project development; however, as discussed in the next subsection, many of the local evaluation measures mirror the FTA measures and the results for those items are reported in section 10 of this technical memorandum.

Local Evaluation

After reviewing the FTA New Starts Criteria, the Southwest Transitway Technical and Policy Advisory Committee members developed local evaluation criteria that reflect the then current FTA criteria and the Southwest Transitway goals. In several cases, the evaluation criteria are the same, for example, ridership projected in the study year (2030), jobs and population within ½ mile of stations, and existing and projected development within ½ mile of stations. In other cases the local evaluation measures are more detailed and relevant to the goals established specifically for the Southwest Transitway. The local criteria are based on the approved project goals, and tie evaluation measures under each project goal to specific project objectives identified under each goal.

The Southwest Transitway AA goals are to:

1. Improve Mobility
2. Provide a Cost-Effective and Efficient Travel Option
3. Protect the Environment
4. Preserve the Quality of Life
5. Support Economic Development

The Southwest Transitway Policy Advisory Committee (PAC) divided the Southwest Transitway goals into two tiers. The first tier includes the Improve Mobility and Provide a Cost-effective and Efficient Travel Option goals, and are considered essential for a project to exist. The second tier includes the Protect the Environment, Preserve the Quality of Life, and Support Economic Development goals, and should be achieved assuming a project exists from the application of the tier one goals.

The evaluation criteria developed for the Southwest Transitway AA reflect the values of the Southwest communities, and incorporate critical evaluation measures of the FTA New Starts process. Such FTA measures are noted by an asterisk (*) in the material which follows. Where quantitative measures were available, such as ridership and cost, these measures were used. In other instances, qualitative measures were identified.

Evaluation Measures

The following evaluation measures were approved by the Southwest Transitway Policy Advisory Committee (PAC) on March 2, 2005.

Tier 1 Goals: Mobility and Cost Effective/Efficient Travel Option

Goal 1 - Improve Mobility

- Provide a travel option competitive with other modes in terms of journey time.
- Provide a reliable travel option that improves mobility throughout the day.
- Provide a travel option that serves population and employment concentrations.
- Provide a travel option that adds capacity and access to the regional and local transportation system.
- Provide a travel option that serves the people who depend upon transit.
- Provide a travel option that enhances pedestrian and bicycle activity and access to community.

Evaluation Measures
1. Transit Ridership Forecast (year 2030) 2. New Transit Riders (year 2030) 3. Travel Time Savings (vehicle hours of travel) (Year 2030) 4. Transportation Capacity Provided (vehicle capacity & frequency of service) 5. Travel Time Competitiveness (transit vs. SOV travel time) 6. System Integration (connections to planned transitways & extensions) 7. Transit Dependent Populations (Elderly -65+, Youth under 16, disabled, low-income and zero car households) within ½ mile of stations (Year 2030) 8. Jobs and Population within 1/2 mile of station* (Year 2030)

** Also an FTA New Starts Evaluation Measure*

Goal 2 - Provide a cost-effective, efficient travel option

- Provide a travel option with acceptable capital and operating costs.
- Provide a travel option that efficiently and effectively moves people.
- Provide a travel option that integrates efficiently with other modes and avoids major negative impacts to the existing roadway system.
- Provide a travel option that supports regional transportation system efficiency.

Evaluation Measures
1. Capital Costs (year 2006 and 2015) 2. Operating Costs (year 2006 and 2015) 3. Operating costs/passenger mile* relative to comparable systems in U.S. 4. Operating cost/trip relative to comparable systems in U.S. 5. Operating cost/hour relative to comparable systems in U.S. 6. Passengers/hour relative to comparable systems in U.S. 7. Potential for travel time delays on adjacent and intersecting roadway network

** Also an FTA New Starts Evaluation Measure*

Tier 2: Environment, Quality of Life, and Economic Development

Goal 3 - Protect the Environment

- Provide a travel option beneficial to the region's air quality.
- Provide a travel option that avoids or minimizes alterations to environmentally sensitive areas.
- Provide a travel option that supports efficient, compact land use that facilitates accessibility.
- Provide a travel option that avoids major environmental impacts on adjacent properties, such as noise and vibration.

Evaluation Measures
1. Change in vehicle miles of travel (VMT) (Year 2030) 2. Reduction in HCVOC, NOX, and CO in annual metric tons* (Year 2030) 3. Potentially affected natural environment (wetlands, water bodies, parklands & floodplains) within 100 feet of the proposed route 4. Potentially affected population (dwelling units within 100 feet) by noise or vibration 5. Inventory of efficient, compact land use at station locations (1/2 mile radius) 6. Potential for reduction in emissions at station locations

** Also an FTA New Starts Evaluation Measure*

Goal 4 - Preserve and protect the quality of life in the study area and region

- Provide a travel option that contributes to the economic health of the study area and region through improving mobility and access.
- Provide a travel option that is sensitively designed with respect to existing neighborhoods and property values.
- Provide a travel option that protects and enhances access to public services and recreational facilities.

- Provide a travel option that supports sound planning and design of transit stations and park and ride lots.
- Provide a travel option that enhances the image and use of transit services in the region.

Evaluation Measures
1. Anticipated impact of vehicle technology on property values based upon national studies 2. Access to community amenities (libraries, parks, trails) within ½ mile of station locations 3. Access to employment opportunities for low-income households, jobs and low-income households within ½ mile of stations (Year 2030) 4. Intermodal connections at station locations 5. Integration and documentation of transit oriented development (TOD) opportunities/plans in local comprehensive plans 6. Regional transit ridership in forecast year 2030 including new riders 7. National data regarding intensification of land use around stations by mode 8. Consistency with regional growth plans (i.e. Blueprint/Transit 2030) (qualitative) 9. Impact of park/ride lots on existing & planned development at stations 10. Access to and accommodation of the existing and future trail system

Goal 5 - Support Economic Development

- Provide a travel option that supports economic development and redevelopment with improved access to transit stations.
- Provide a travel option that supports local sustainable development/redevelopment goals
- Provide a transportation system element that facilitates more efficient land development patterns and saves infrastructure costs
- Provide a travel option that accommodates future regional growth in locations consistent with local plans and the potential for increased ridership

Evaluation Measures
1. Existing & Planned TOD potential at station locations (qualitative) 2. Existing & Planned Jobs within 1/2 mile of station* (Year 2030) 3. Existing & Planned Other generators (schools, medical facilities, entertainment venues, etc.) within ½ mile of stations 4. Consistency with local comprehensive plan goals regarding economic development & redevelopment at stations including park/ride sites

** Also an FTA New Starts Evaluation Measure*

4. Summary Description of Alternatives

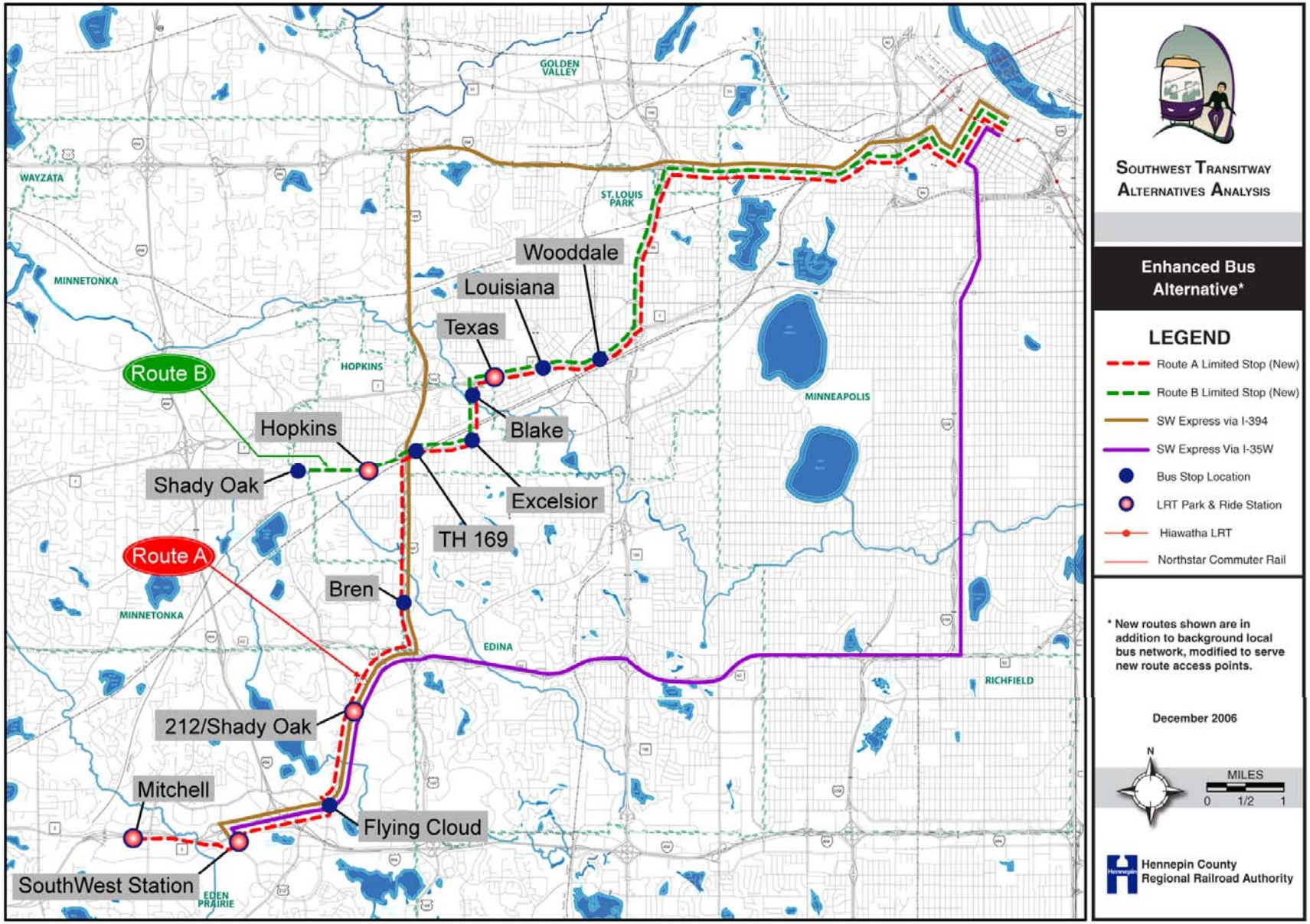
The Southwest Transitway study area extends from Trunk Highway 312 (TH 312) in Eden Prairie to downtown Minneapolis. It includes the Cities of Eden Prairie, Minnetonka, Hopkins, St. Louis Park, and portions of southwest Minneapolis as well as downtown Minneapolis. Alternatives developed to address Southwest Transitway needs are briefly described below and illustrated on the figures which follow each description. In developing the alternatives, the study team relied on previous studies conducted by

Hennepin County, Metro Transit, and the Minnesota Department of Transportation (MnDOT). A more extensive description of each alternative is available in *Technical Memorandum No. 3, Definition of Alternatives*.

Enhanced Bus Alternative

The Enhanced Bus alternative includes minor modifications to the existing express service, and augments Metro Transit and Southwest Metro Transit service with two limited-stop bus routes providing bi-directional service to Eden Prairie, Minnetonka, Hopkins and St. Louis Park. Local service is restructured to provide access to the new limited stop service. These routes would begin by serving selected stops, then travel non-stop on the regional highways using bus shoulder lanes and/or the I-394 HOV lane into downtown Minneapolis. This allows the limited stop services to offer more attractive travel times, and increases options for commuters in the corridor.

Figure 1 Enhanced Bus Alternative



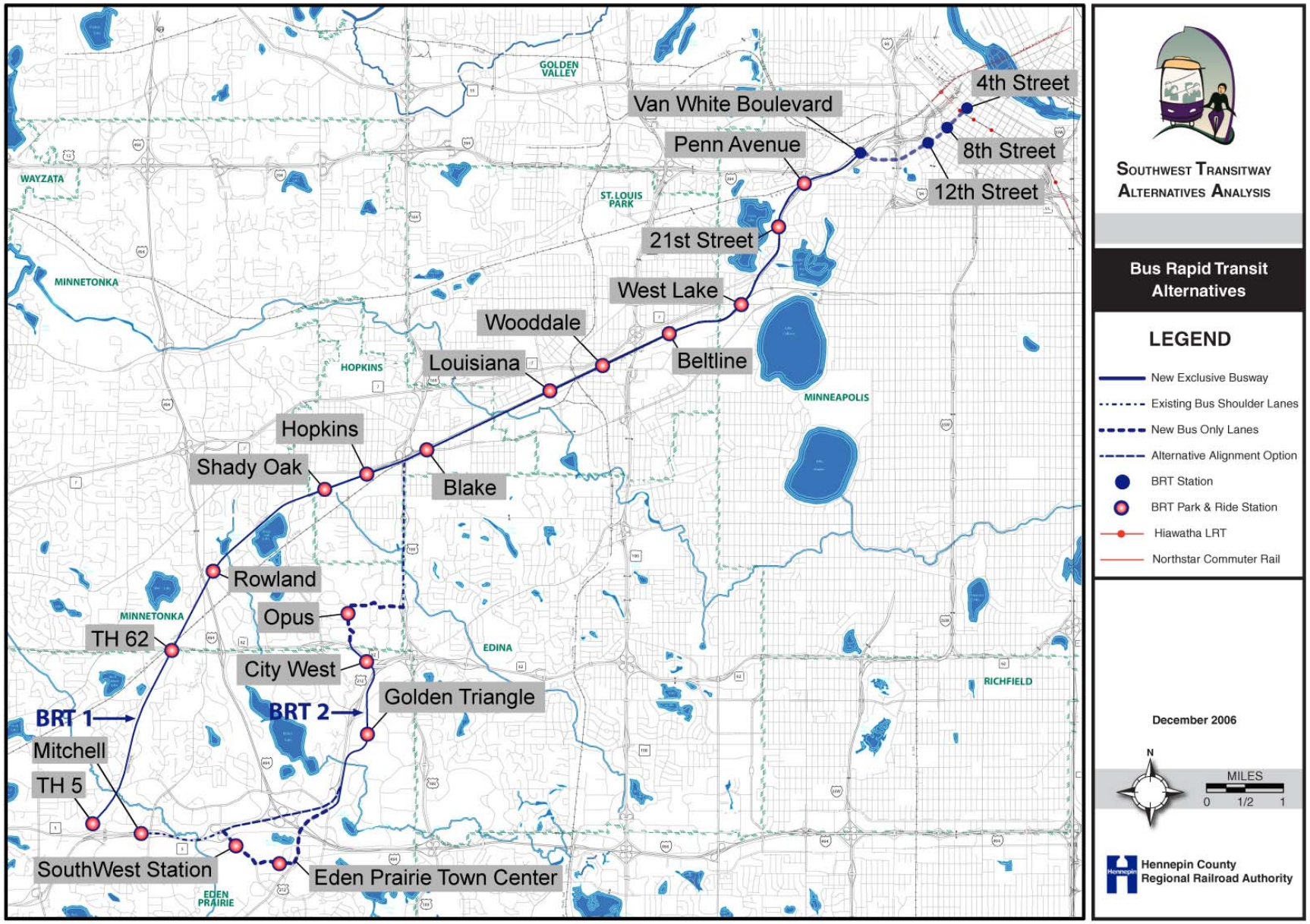
Source: Parsons Brinckerhoff, 2006.

BRT Alternatives

BRT 1 provides an exclusive guideway for buses from Trunk Highway 5 (TH 5) in Eden Prairie to downtown Minneapolis, providing service to Eden Prairie, Minnetonka, Hopkins, St. Louis Park, and Minneapolis. BRT 1 uses the Hennepin County Regional Railroad Authority (HCRRA) Southwest Corridor, entering downtown Minneapolis on existing streets near Dunwoody Avenue.

BRT 2 operates from Mitchell Road in Eden Prairie to downtown Minneapolis, providing service to Eden Prairie, Minnetonka, Hopkins, St. Louis Park, and Minneapolis. BRT 2 uses a combination of existing streets and shoulder lanes between Eden Prairie and Hopkins, then enters the HCRRA Southwest Corridor as an exclusive guideway for buses, following the same route used by BRT 1 to enter downtown Minneapolis.

Figure 2 BRT Alternatives



Source: Parsons Brinckerhoff, 2006.

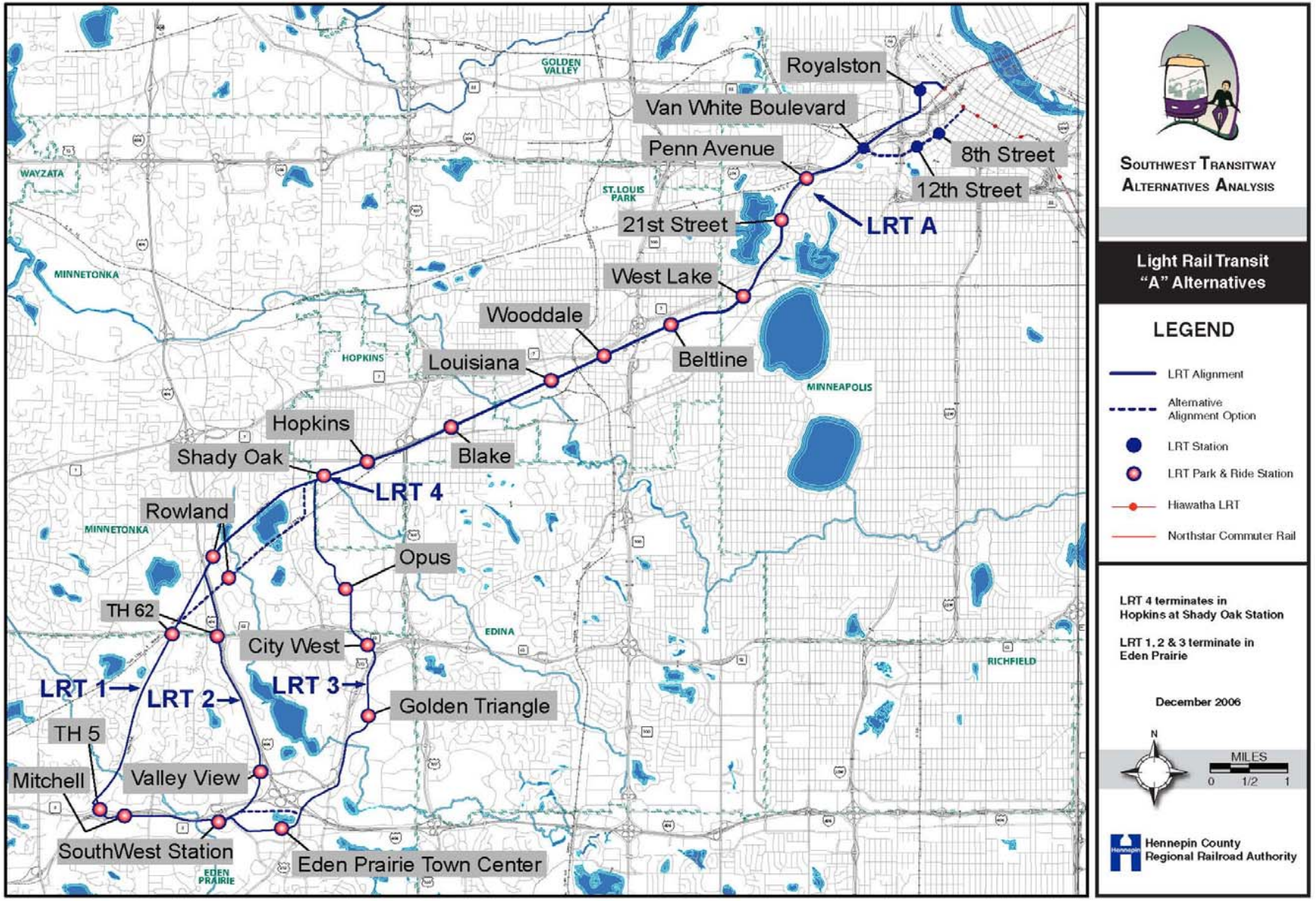
LRT Alternatives

Eight LRT alternatives have been defined using a combination of two designations: 1, 2, 3 or 4; and A or C (e.g. 1A, 2A, 1C, 2C, etc.). The numbers designate the four possible routings west of Louisiana Avenue in St. Louis Park. The letters (A or C) designate the two possible routes east of Louisiana Avenue in St. Louis Park.

Alternatives numbered "1" designate routes that use the HCRRA's Southwest Corridor exclusively through Eden Prairie, Minnetonka, Hopkins, and St. Louis Park. Alternatives numbered "2" designate routes that use TH 5 and I-494 right-of-way predominantly in Eden Prairie and Minnetonka, then use HCRRA's Southwest Corridor through Hopkins and St. Louis Park. Alternatives numbered "3" use a combination of new exclusive rights of way through Eden Prairie, Minnetonka and part of Hopkins, then use the HCRRA's Southwest Corridor through Hopkins and St. Louis Park.

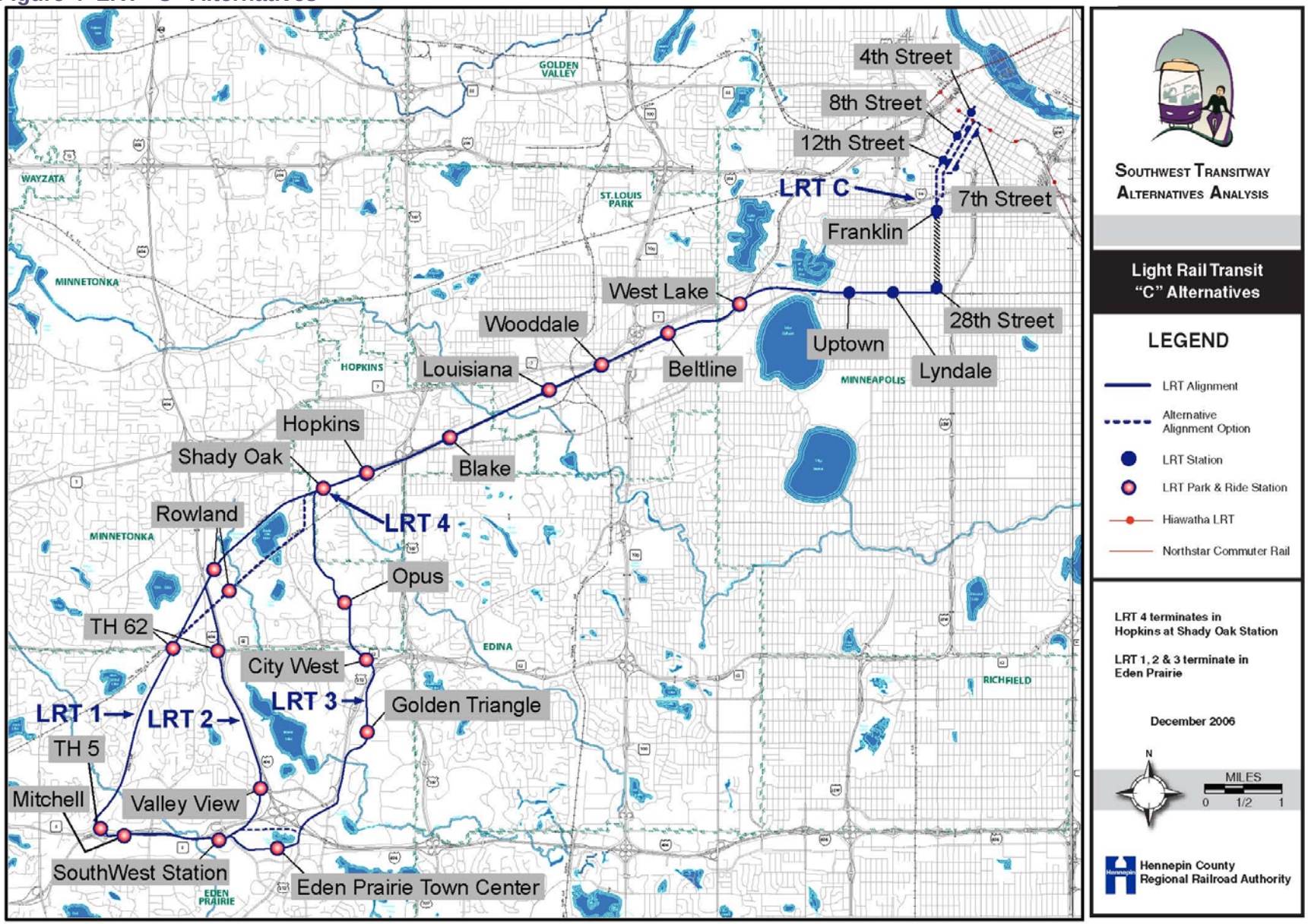
The letter "A" designates routes that use the HCRRA's Southwest Corridor through St. Louis Park, and the HCRRA's Kenilworth and Cedar Lake Corridors in Minneapolis. The letter "C" designates routes that use the HCRRA's Southwest Corridor in St. Louis Park, the HCRRA's Midtown Corridor in Minneapolis, and a shallow tunnel under Nicollet Avenue in Minneapolis. LRT "A" alternatives connect to the Intermodal Station, planned to be constructed by the Northstar commuter rail service and Hiawatha LRT line extension. That station is assumed to be already constructed prior to any Southwest Transitway development and is not included in the Southwest Transitway alternatives.

Figure 3 LRT "A" Alternatives



Source: Parsons Brinckerhoff, 2006.

Figure 4 LRT "C" Alternatives



Source: Parsons Brinckerhoff, 2006.

Build Alternative Characteristics

Technical Memorandum No. 3, Description of Alternatives, discusses the evolution of the conceptual alternatives evaluated in the Southwest Transitway AA. Tables 2 and 3 identify route characteristics and station locations for each alternative.

Table 2 Route Length and Number of Stations

Alternative	Length (mi.)	Stations
BRT 1	13.9	16
BRT 2	18.3	19
LRT 1A	13.8	14
LRT 2A	15.1	16
LRT 3A	15.7	17
LRT 4A	9.1	11
LRT 1C	14.6	17
LRT 2C	16.0	19
LRT 3C	16.6	20
LRT 4C	9.7	14

Source: LTK, 2006.

Table 3 Stations

Station (EB Stop)	Enhanced Bus Alternative	BRT Alternatives		LRT Alternatives							
		1	2	1A	2A	3A	4A	1C	2C	3C	4C
TH 5/HCRRA		x	x	x				x			
TH 5/Mitchell Rd.	x		x		x	x			x	x	
TH 62/HCRRA		x		x				x			
TH 62/Baker Rd					x				x		
Southwest Station	x		x		x	x			x	x	
Valley View					x				x		
Eden Prairie Town Ctr.			x			x				x	
Flying Cloud Dr/TH 212	x										
Golden Triangle			x			x				x	
City West			x			x				x	
Rowland Rd./HCRRA		x		x	x			x	x		
Shady Oak Rd./TH-212	x										
Opus/Bren	x		x			x				X	
Shady Oak Rd./HCRRA	x	x		x	x	x	x	x	x	x	x
8th Ave./HCRRA		x		x	x	x	x	x	x	x	x
8th Avenue	x										
TH-169/Excelsior	x										
Excelsior/Blake	x										
Blake Road / TH-7	x										
Texas/TH 7	x										
Blake Road/HCRRA		x	x	x	x	x	x	x	x	x	x
Louisiana Av./HCRRA		x	x	x	x	x	x	x	x	x	x
Louisiana Ave/TH-7	x										
Wooddale Av/HCRRA		x	x	x	x	x	x	x	x	x	x
Wooddale Ave/TH-7	x										
Beltline Blvd./HCRRA		x	x	x	x	x	x	x	x	x	x
Beltline Blvd.											
West Lake St./HCRRA		x	x	x	x	x	x	x	x	x	x
West Lake Street											
21st St./HCRRA		x	x	x	x	x	x				
Penn Ave./HCRRA		x	x	x	x	x	x				
Van White Blvd/HCRRA		x	x	x	x	x	x				
Royalston Avenue				x	x	x	x				
Intermodal Station				x	x	x	x				
Hennepin Ave. Route Option (replaces the Royalston & Intermodal Stations)											
12th/Hennepin		x	x								
8th/Hennepin		x	x								
Uptown Station								x	x	x	x
Lyndale/Midtown								x	x	x	x
28th/Nicollet								x	x	x	x
Franklin/Nicollet								x	x	x	x
12th/ Nicollet or 2nd/Marquette								x	x	x	x
8th/Nicollet or 2nd/Marquette								x	x	x	x
4th Street		x	x					x	x	x	x

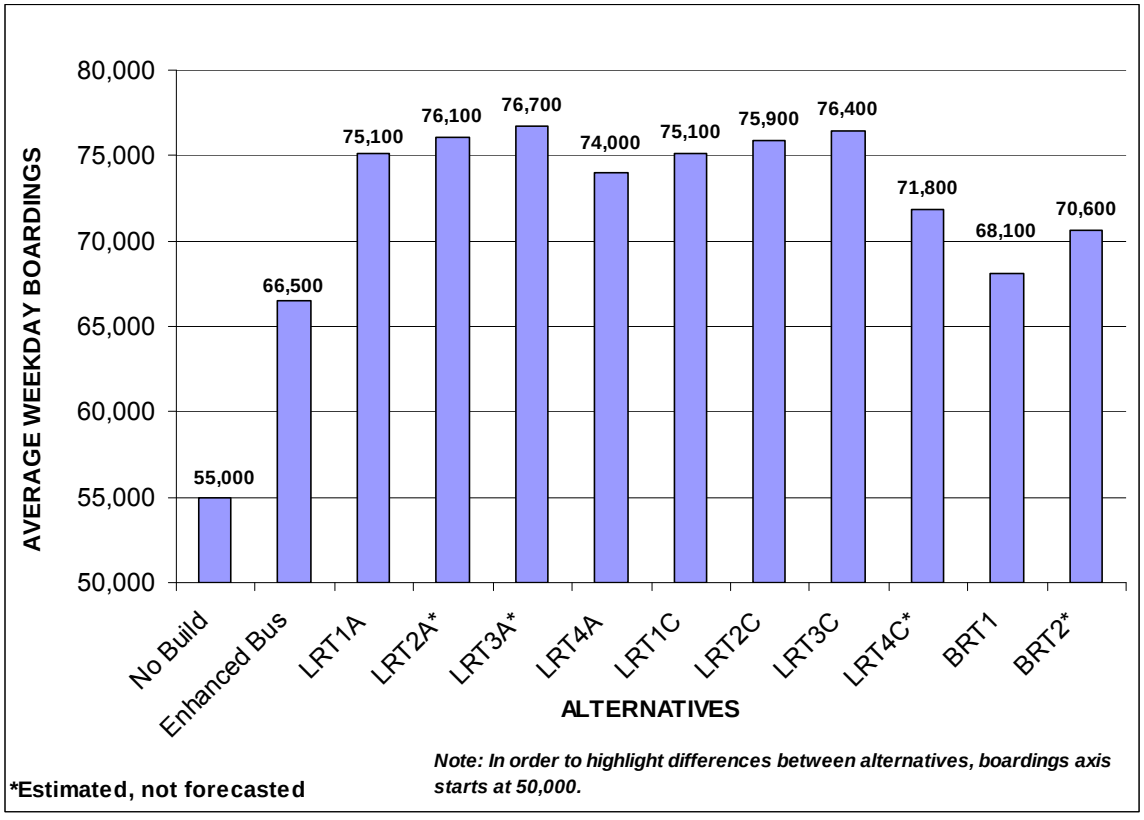
Source: Parsons Brinckerhoff, 2006.

5. Projected Ridership

The following three figures summarize the projected ridership information for each of the alternatives. The first figure has the total transit ridership information for the Southwest study area, and the second for the guideway - LRT and BRT - alternatives. The third figure indicates the number of new transit riders under each alternative. Detailed information is provided in *Technical Memorandum No. 6 Travel demand Forecasting Methodology and Ridership Results*.

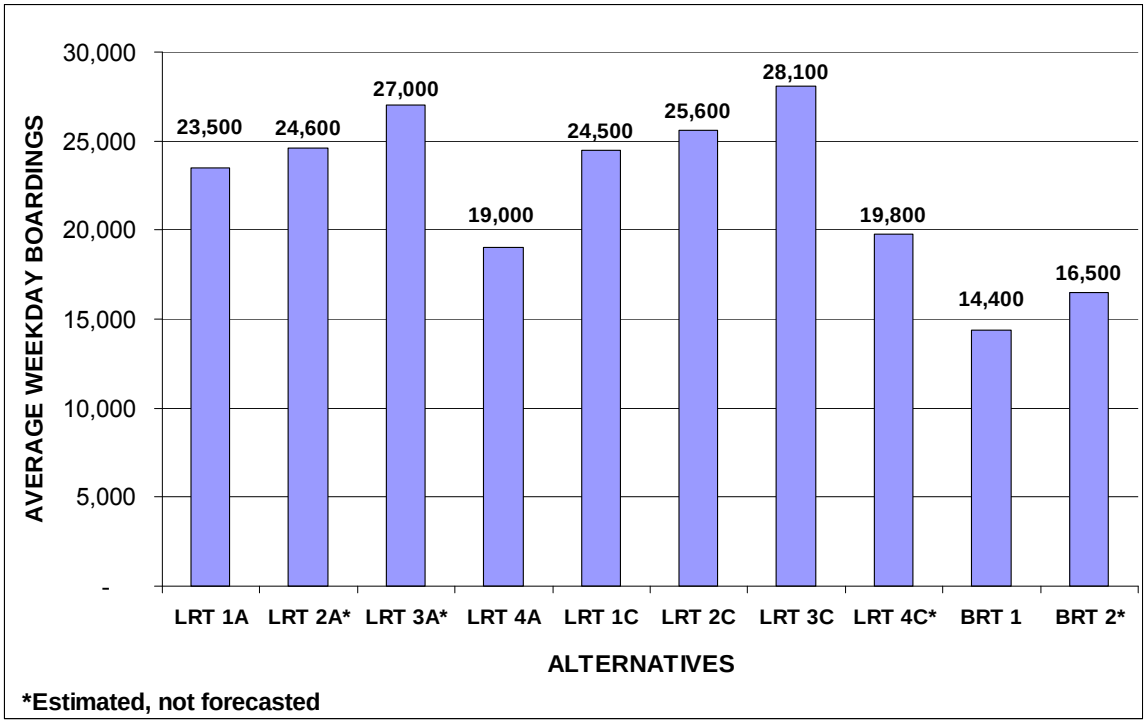
The regional travel demand model includes only land use plans that are currently in Comprehensive Plans approved by the Metropolitan Council, Metropolitan Planning Organization for the Twin Cities. More recent planning and development efforts underway in individual cities are not yet reflected in the model. The resulting development planned is expected to have a positive impact on ridership.

Figure 5 Average Weekday Total Study Area Transit Boardings, Year 2030



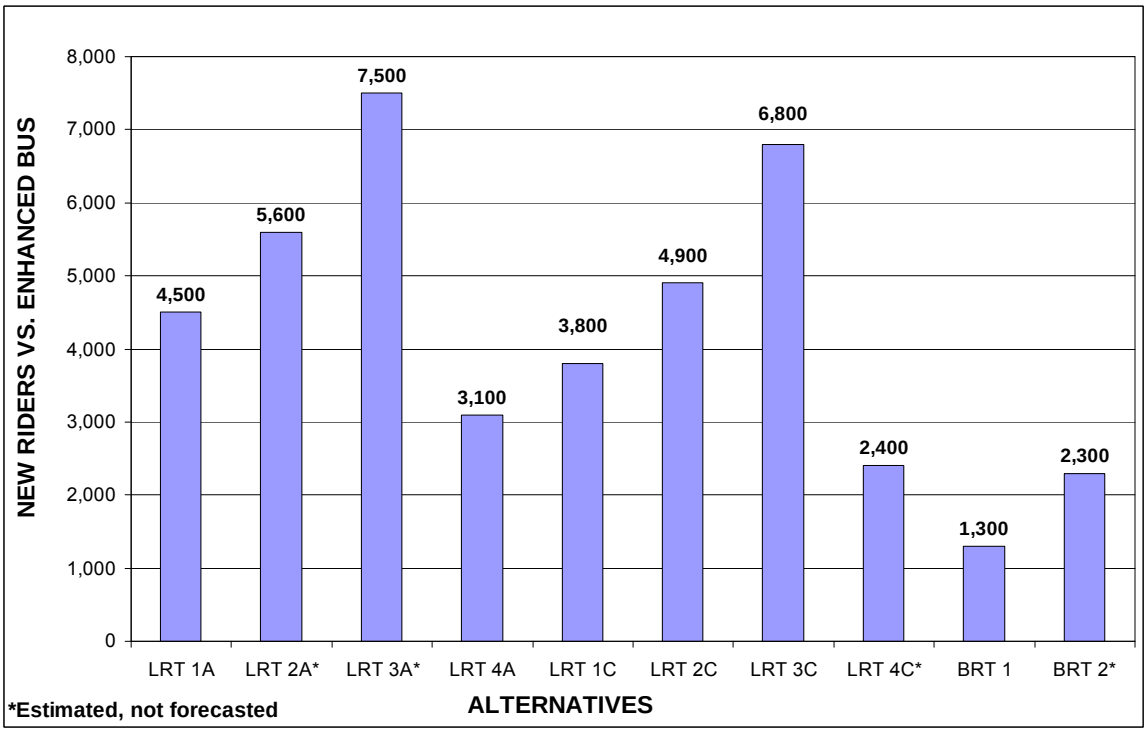
Source: Parsons Brinckerhoff, 2006.

Figure 6 Average Weekday LRT and BRT Boardings, Year 2030



Source: Parsons Brinckerhoff, 2006

Figure 7 New Riders - LRT and BRT Alternatives, Year 2030



Source: Parsons Brinckerhoff, 2006

6. Estimated Capital Costs

Capital cost estimates have been prepared using the format and procedures currently required for Federal project evaluation by the Federal Transit Administration (FTA). The FTA methodology includes the use of standard cost categories (SCC) and groupings for organization of the data, and detailed spreadsheets for development of forecast year estimates and annualized capital costs. Further information is found in *Technical Memorandum No. 7 Capital Cost Estimates.*

Capital cost estimates include the one-time expenditure to build the system and typically include guideways, tracks, stations, structures, signalization and communications systems, maintenance center and fleet storage yard, vehicles, right of way acquisition, and unallocated contingency. Also included are "soft costs" for items such as designs, construction services, insurance, and owner's costs.

Table 4 contains summaries of the total capital cost estimates for the Southwest Transitway alternatives. For each alternative the summaries include the Base Year (2006) total estimate, the unallocated contingency (20%), the Base Year (2006) project total, and the Forecast Year (2015) project total.

Table 4 Summary of Total Capital Cost Estimates

Alternative	Year 2006 Estimate (thousands)	Unallocated Contingency (thousands)	Year 2006 Project Total (thousands)	Year 2015 Project Total (thousands)
Enhanced Bus	$ 52,376	$ 10,475	$ 62,851	$ 79,882
BRT 1	$ 354,057	$ 70,811	$ 424,869	$ 539,994
BRT 2	$ 461,580	$ 92,316	$ 553,896	$ 703,983
LRT 1A	$ 566,786	$ 113,357	$ 680,143	$ 864,438
LRT 2A	$ 647,578	$ 129,516	$ 777,093	$ 987,659
LRT 3A	$ 758,842	$ 151,768	$ 910,611	$ 1,157,355
LRT 4A	$ 414,963	$ 82,993	$ 497,956	$ 632,885
LRT 1C	$ 732,908	$ 146,582	$ 879,490	$ 1,117,801
LRT 2C	$ 814,692	$ 162,938	$ 977,630	$ 1,242,535
LRT 3C	$ 921,938	$ 184,388	$ 1,106,326	$ 1,406,103
LRT 4C	$ 582,877	$ 116,575	$ 699,453	$ 888,981

Source: LTK, 2006

In addition to total project costs, the capital cost estimates have been computed on a per mile basis. Table 5 contains a summary of the estimated costs per mile for the BRT and LRT alternatives. The table lists the overall length of each alternative, the number of

stations, the Base Year (2006) total project cost per mile, and the Forecast Year (2015) total project cost per mile.

Table 5 Summary of Per Mile Capital Cost Estimates

Alternative	Length (miles)	Stations	Capital Cost per Mile	
			Year 2006 (thousands)	Year 2015 (thousands)
BRT 1	13.9	16	$ 30,657	$ 38,964
BRT 2	18.3	19	$ 30,245	$ 38,441
LRT 1A	13.8	14	$ 49,374	$ 62,752
LRT 2A	15.1	16	$ 51,448	$ 65,389
LRT 3A	15.7	17	$ 57,895	$ 73,583
LRT 4A	9.1	11	$ 54,728	$ 69,558
LRT 1C	14.6	17	$ 60,088	$ 76,370
LRT 2C	16.0	19	$ 61,233	$ 77,825
LRT 3C	16.6	20	$ 66,686	$ 84,756
LRT 4C	10.0	14	$ 70,226	$ 89,255

Source: LTK, 2006.

7. Estimated Operating and Maintenance Costs

Annual operating and maintenance (O&M) costs consist of the ongoing costs of operating, maintaining, and managing the regional transit system. These costs include:

- Labor costs (wages, fringe benefits, and other costs) for bus and rail operators, vehicle and facility maintainers, and other personnel directly engaged in providing transit service
- Fuel and electricity for motive power
- Parts, fluids and materials for maintaining the vehicles
- The non-labor operating costs of operating facilities (such as rail stations or bus park-and-ride lots) or maintenance facilities (such as bus and rail storage and maintenance facilities. These include utilities and materials for cleaning and maintaining the facilities.
- Administrative costs—labor and other costs associated with the management and direction of the transit agency.
- Insurance

The annual O&M cost estimates are developed on a system-wide basis, disaggregated into rail and bus services, to see that all changes to the transit system associated with a given alternative -- whether the change is in the addition or modification of the rail system, or is in the underlying bus transit system -- are reflected in the cost estimates.

This methodology is consistent with the requirements of the Federal Transit Administration's New Starts process, which requires that projected annual system-wide operating costs be a component in the calculation of user benefit statistics used by FTA for ranking potential projects seeking Federal funding support.

Full details of the estimated operating and maintenance costs are provided in *Technical Memorandum No. 8, Operating and Maintenance Cost Estimates*. To calculate the cost effectiveness index, the increment of additional cost above the future baseline alternative is used. Table 6 identifies the estimated incremental O&M costs above the Enhanced Bus alternative in Year 2015 dollars.

Table 6 2015 Estimated Operating and Maintenance Cost, Increment over Enhanced Bus

Alternative	Estimated Year 2015 Operating & Maintenance Cost Increment over Enhanced Bus
BRT 1	$1.8 million
BRT 2	$2.5 million
LRT 1A	$11.5 million
LRT 2A	$14.8 million
LRT 3A	$15.9 million
LRT 4A	$7.6 million
LRT 1C	$13.3 million
LRT 2C	$15.5 million
LRT 3C	$17.1 million
LRT 4C	$8.5 million

Source: Parsons Brinckerhoff, 2006.

8. Station Area Characteristics: Land Use

An analysis was conducted to identify the station area concept plans and land use characteristics evaluated in conjunction with project goals. The project team followed the process described in the August 29,2006 Land Use report to document and review station area planning and transit oriented development potential for the Southwest Transitway alternatives. In the process summarized below, the project team:

- Documented the station locations and reviewed the station evaluations from previous study alignments
- Reviewed the previous station locations with each municipality along the corridor, and identified new station locations along proposed alignment variations
- Reviewed and documented existing comprehensive plans and transit supportive policies of each affected community
- Reviewed, documented and discussed specific station area plans with each community and identified transit supportive development potential around station areas
- Developed station area concept plans consistent with community goals and technical criteria
- Documented the Local Evaluation Measures for land use criteria in a manner consistent with FTA New Starts criteria measures
- Developed land use evaluation measures in the overall evaluation

The adopted Comprehensive Plans of the affected cities along the proposed transitway are the enforceable policy instruments that guide land use. Transit supportive policies have been adopted by each city. A summary description of the policies is included in Appendix A of this memorandum.

The FTA's New Starts Land Use Criteria consider the following transit supportive land use categories and factors:

- Existing Land Use
- Transit Supportive Plans and Policies
- Performance and Impacts of Policies

The FTA takes into consideration the stage of project development, and identifies the planning and policy oriented factors as most relevant in early project development. FTA Land Use guidelines are addressed in Appendix B of this memorandum.

The evaluation methodology identified the quantifiable or qualitative measures and equated them with corresponding FTA New Starts criteria as applicable. Specific evaluation methodologies formed the basis of the land use and development evaluation measures.

9. Station Area Characteristics: Environment

An environmental screening was conducted to identify the social and natural environmental resources included in the evaluation measures which could potentially be affected by the project alternatives. These measures are listed below by study goal:

- Goal 1 – Improve Mobility
  - Measure 7 – Transit dependent populations within ½-mile of stations (Year 2000)
  - Measure 8 – Jobs and population within ½-mile of station (Year 2000 and 2030)
- Goal 3 – Protect the Environment
  - Measure 3 – Potentially affected natural environment (wetlands, water bodies, parklands, and floodplains) within 50 feet and 100 feet of centerline
  - Measure 4 – Potentially affected population (dwelling units within 100 feet) by noise and vibration
- Goal 4 – Preserve and protect the quality of life in the study area and region
  - Measure 2 – Access to community amenities (libraries, parks, trails) within ½-mile of station locations
  - Measure 3 – Access to employment opportunities for low-income households within ½-mile of stations (Year 2000 and 2030)
  - Measure 10 – Access to and accommodation of the existing and future trail system
- Goal 5 – Support Economic Development
  - Measure 2 – Existing and planned jobs within ½-mile of stations (Year 2000 and 2030).
  - Measure 3 – Existing and planned other generators (schools, medical facilities, entertainment venues, etc.) within ½-mile of stations

The GIS-based evaluation was based on existing data sources including information from Hennepin County, the Metropolitan Council, the Minnesota Department of Natural Resources, and the US Census. Metro GIS endorsed datasets where used whenever possible. Data sets that were used include:

- Metropolitan Council
  - Hennepin County Parcel Layer
  - 2000 Digital Orthophotos
  - Railroads
  - Transportation Analysis Zones; 1990 – 2000
  - Mississippi River Critical Area (MN DNR) and MNRRA (US NPS) Boundaries
  - Census Geography 2000 - TLG Aligned; Blocks, Block Groups & Tracts
  - Profile of General Demographic Characteristics for Census Tracts: 2000
  - Profile of Selected Social Characteristics for Census Tracts: 2000
  - Profile of Selected Economic Characteristics for Census Tracts: 2000
  - Profile of Selected Housing Characteristics for Census Tracts: 2000
  - Major Shopping Centers
  - Regional and State Trails - Existing and Proposed
  - Regionally Significant Ecological Areas
  - Lakes (from 1990 Land Use and Other Sources)
  - Water Features from 2000 Land Use Data
  - Streams Network
  - Rivers (from 1990 Land Use Layer)

    - TLG Landmarks - Points of Interest
    - TLG Landmarks - Lines of Interest
    - TLG Landmarks - Areas of Interest
    - Geographic Names Information System (USGS Place Names)
    - Road Network
    - Regional Parks, Parks, Open Space
    - Official TAZ Forecasting Spreadsheet (Bob Paddock, Transportation Research)
- Minnesota Department of Natural Resources
    - National Wetlands Inventory Polygons
    - FEMA Floodways
- Hennepin County Library Website
    - Library Locations
- U. S. Bureau of the Census Website
    - Poverty Thresholds in 2000
- LTK Engineering Services
    - Alternative Alignments
    - Station Locations
    - Station Footprints

Recognizing the number of alternatives and evaluation measures, an approach was developed to facilitate the data assessment and presentation through using a series of matrices, included in the Appendix of this memorandum. A matrix was established for each study goal. Each of these matrices included the corresponding evaluation measures for the goal compared against the full range of potential alternatives. For Goals 1, 4, and 5, the information reflects data within ½-mile of each station. For Goal 3, the information is based on buffers built off the alignment centerline. For Measure #10 under Goal 4, the information is non-quantitative and, therefore, is represented graphically. Given the varied nature of the data sources in terms of level of refinement and age, this evaluation was used to identify trends and order of magnitude differences between alternatives as one component of the overall evaluation of alternatives.

To provide context and reference, graphics were established for each alternative highlighting the alignment, the station locations, and the ½-mile buffer radius used for compiling the data. The graphics, included in the Appendix, also illustrate existing and proposed trails in response to Measure #10 (access to and accommodations of the existing and future trail system).

Following FTA New Starts procedures, “build” alternatives (BRT 1 and 2, and all the LRT alternatives) are compared to the Enhanced Bus alternative -- which is assumed to become the FTA required “baseline” alternative during the next phase of project development. The Enhanced Bus alternative includes modifications to existing express bus service and new limited stop bus routes. This alternative uses existing roadways, shoulder lanes, and park and ride facilities in many cases already in place or planned for construction by others by 2030. Since the Enhanced Bus alternative does not include expansion of transit or highway facilities it does not introduce the potential for impacts to the social or natural environment and was not assessed in the comparison.

10. Evaluation Results

All of the data and qualitative information developed in defining the alternatives were summarized in matrix format. Tables 7 through 11 provide the quantitative or qualitative data for each goal's measures.

Using the data to compare the alternatives, the alternatives were then ranked according to how successfully each meets the project goals. Tables 12 through 16 rank the alternatives using the following categories:

- Does not support goal
- Supports goal
- Strongly supports goal

Both matrix evaluations were reviewed by the Technical and Policy Advisory Committees during August and September, 2006. Tables 7 through 16 follow. The findings and preliminary recommendation of the Technical and Policy Advisory Committees are presented in Section 11.

A. Evaluation Data Matrices

Table 7 Goal 1 Evaluation Data

Alternatives	Forecast Southwest Transitway BRT and LRT Boardings (Year 2030)	New Transit Riders (Year 2030)	Travel Time Savings (vehicle hours of travel) (Year 2030)	Transitway Transportation Capacity Provided in Peak Hour	Travel Time Competitiveness vs. Auto (A) From (F) and To (T)										System Integration (connections to planned transitways & extensions)	Transit Dependent Populations within 1/2 mile of stations (2000 Census)[3]	Jobs and Population within 1/2 mile of station[3,4] (Year 2030)
					F	T	F	T	F	T	F	T	F	T			
					Southwest Metro Station 2	Minneapolis CBD (6th and Nicollelt)	Southwest Metro Station	U of M Twin Cities (East Bank)	Hopkins Station	Minneapolis CBD (6th and Nicollelt)	Woodale Station	Minneapolis-St. Paul Internt'l Airport	Hopkins Station	Uptown Station			
					34 (A)		44 (A)		25 (A)		28 (A)		22 (A)				
Enhanced Bus (Baseline - includes Hiawatha, Central LRT)	N/A	Baseline for comparison to Build Alternatives	Baseline for comparison to Build Alternatives	640	28		40		12		40		22		Not interlined; Transfer required at north end	Low-Income Households: 1995 Population over age 65: n/a Population under age 18: n/a Zero-car households: n/a Disabled population: n/a	Pop: 69,000 Emp: 255,000
BRT 1 - Eden Prairie to Minneapolis, HCRRA	14,400	1,300	0.05% Savings	640	42		54		25		41		19		Not interlined; Transfer required at north end	Low-Income Households: 2,120 Population over age 65: 5,410 Population under age 18: 6,790 Zero-car households: 4,100 Disabled population: 6,260	Pop: 52,000 Emp: 190,000
BRT 2 - Eden Prairie to Minneapolis, Golden Triangle/Opus/ TH 169/HCRRA	16,500[1]	2,300[1]	0.06% Savings[1]	640	36		48		25		41		19		Not interlined; Transfer required at north end	Low-Income Households: 2,120 Population over age 65: 5,460 Population under age 18: 6,860 Zero-car households: 4,130 Disabled population: 6,280	Pop: 52,000 Emp: 210,000
LRT 1A - Eden Prairie to Minneapolis, HCRRA/Kenilworth/ Royalston	23,500	4,500	0.04% Savings	2796	36		48		21		38		17		Interlined with Hiawatha LRT	Low-Income Households: 1,780 Population over age 65: 4,230 Population under age 18: 6,530 Zero-car households: 2,210 Disabled population: 4,960	Pop: 42,000 Emp: 91,000
LRT 2A - Eden Prairie to Minneapolis, I-494/ HCRRA /Kenilworth/ Royalston	24,600[1]	5,600[1]	0.01% Savings [1]	2796	32		43		21		38		17		Interlined with Hiawatha LRT	Low-Income Households: 1,850 Population over age 65: 4,310 Population under age 18: 6,710 Zero-car households: 2,250 Disabled population: 5,020	Pop: 44,000 Emp: 98,000
LRT 3A - Eden Prairie to Minneapolis, Golden Triangle/Opus/HCRRA/ Kenilworth/Royalston	27,000[1]	7,500[1]	0.05% Savings [1]	2796	33		45		21		38		17		Interlined with Hiawatha LRT	Low-Income Households: 1,830 Population over age 65: 4,280 Population under age 18: 6,540 Zero-car households: 2,250 Disabled population: 4,950	Pop: 43,000 Emp: 114,000
LRT 4A - Hopkins to Minneapolis, HCRRA/ Kenilworth/Royalston	19,000[1]	3,100	0.01 Savings%	2796	35		47		21		38		17		Not interlined; Transfer required at north end	Low-Income Households: 1,620 Population over age 65: 3,860 Population under age 18: 5,390 Zero-car households: 2,170 Disabled population: 4,460	Pop: 37,000 Emp: 84,000
LRT 1C - Eden Prairie to Minneapolis, HCRRA/ Midtown/Nicollet	24,500	3,800	0.07 % Savings	2796	35		47		20		42		11		Not interlined; Transfer required at north end	Low-Income Households: 4,450 Population over age 65: 6,490 Population under age 18: 10,360 Zero-car households: 9,180 Disabled population: 11,050	Pop: 82,000 Emp: 210,000
LRT 2C - Eden Prairie to Minneapolis, I-494/HCRRA / Midtown/Nicollet	25,600	4,900	0.02% Savings	2796	31		43		20		42		11		Not interlined; Transfer required at north end	Low-Income Households: 4,520 Population over age 65: 6,580 Population under age 18: 10,550 Zero-car households: 9,220 Disabled population: 11,110	Pop: 84,000 Emp: 218,000
LRT 3C - Eden Prairie to Minneapolis, Golden Triangle/Opus/HCRRA/Midtown/ Nicollet	28,100	6,800	0.08% Savings	2796	33		45		20		42		11		Not interlined; Transfer required at north end	Low-Income Households: 4,500 Population over age 65: 6,550 Population under age 18: 10,380 Zero-car households: 9,220 Disabled population: 11,040	Pop: 83,000 Emp: 233,000
LRT 4C - Hopkins to Minneapolis, HCRRA/Midtown/ Nicollet	19,800[1]	2,400[1]	0.02% Savings[1]	2796	35		47		21		42		13		Transfer required at north and south end	Low-Income Households: 4,280 Population over age 65: 6,120 Population under age 18: 9,230 Zero-car households: 9,140 Disabled population: 10,550	Pop: 78,000 Emp: 203,000

[1] Estimated not forecasted

[2] LRT 1A requires bus transfer from SW Station before trip begins on LRT

[3] Because LRT A alternatives end at the Intermodal Station, these alternatives access downtown employment via the Hiawatha line. Downtown employment is therefore not reflected in "A" station area numbers.

[4] FTA New Starts Criterion

n/a = not available

Source: Parsons Brinckerhoff, 2006.

Table 8 Goal 2 Evaluation Data

Alternatives	Transitway Capital Cost (2015$) Total[1]	Transitway Capital Costs (2015) Per Mile[1]	Transitway Operating Costs (Increment over Enhanced Bus) (2015)	Preliminary Cost Effectiveness Index (CEI)[4] (2006$)	Operating cost/passenger mile[2] relative to comparable U.S. systems ($2004)	Operating cost/trip relative to comparable U.S. systems (unlinked) ($2004)	Operating cost/revenue vehicle hour relative to comparable U.S. systems ($2004)	Passengers/ hour relative to comparable U.S. systems	Intersections identified for analysis during EIS
					LRT Peer Range: $0.25-$1.30 (2004 NTDB)	LRT Peer Range: $1.60-$5.60 (2004 NTDB)	LRT Peer Range: $100-$330 (2004 NTDB)	LRT Peer Range: 50-100 (2004 NTDB)	
Enhanced Bus (Baseline)	$80m	n/a	$529m	n/a	n/a	n/a	n/a	n/a	Hopkins: Excelsior/8th Avenue
BRT 1 - Eden Prairie to Minneapolis, HCRRA	$540m	$39m	$1.8m	$66	Cost within range	Cost within range	$106	Passengers Above Range	Hopkins: 11th Avenue,Blake St Louis Park: Woodale,Beltline Minneapolis: 21st Street
BRT 2[3] **-** Eden Prairie to Minneapolis, Golden Triangle/Opus/TH	$704m	$38m	$2.5m	$74	Cost within range	Cost within range	$106	Passengers Above Range	St Louis Park: Woodale,Beltline Minneapolis: 21st Street
LRT 1A - Eden Prairie to Minneapolis, HCRRA/Kenilworth/Royalston	$864m	$63m	$11.5m	$30	Cost within range	Cost within range	$258	Passengers Above Range	Hopkins: 11th Avenue,Blake St Louis Park: Woodale,Beltline Minneapolis: 21st Street, Cedar Lake Pkwy
LRT 2A[3] **-** Eden Prairie to Minneapolis, I-494/HCRRA / Kenilworth/Royalston	$988m	$65m	$14.8m	$31	Cost within range	Cost within range	$259	Passengers Above Range	Hopkins: 11th Avenue,Blake St Louis Park: Woodale,Beltline Minneapolis: 21st Street, Cedar Lake Pkwy
LRT 3A[3] **-** Eden Prairie to Minneapolis, Golden Triangle/Opus/HCRRA/ Kenilworth/Royalston	$1,157b	$74m	$15.9m	$26	Cost within range	Cost within range	$260	Passengers Above Range	Eden Prairie: Valley View Hopkins: 11th Avenue,Blake St Louis Park: Woodale,Beltline Minneapolis: 21st Street, Cedar Lake Pkwy
LRT 4A - Hopkins to Minneapolis, HCRRA/Kenilworth/Royalston	$633m	$70m	$7.6m	$28	Cost within range	Cost within range	$249	Passengers Above Range	Hopkins: 11th Avenue,Blake St Louis Park: Woodale,Beltline Minneapolis: 21st Street, Cedar Lake Pkwy
LRT 1C - Eden Prairie to Minneapolis, HCRRA/ Midtown/Nicollet	$1,117b	$76m	$13.3m	$37	Cost within range	Cost within range	$255	Passengers Above Range	Hopkins: 11th Avenue,Blake St Louis Park: Woodale,Beltline Minneapolis: Humboldt, Irving, Franklin, 19th, 18th, 16th, Vineland, 13th, 12th, 11th, 10th, 9th, 8th, 7th, 6th
LRT 2C - Eden Prairie to Minneapolis, I-494/HCRRA /Midtown/Nicollet	$1,243b	$78m	$15.5m	$38	Cost within range	Cost within range	$256	Passengers Above Range	Hopkins: 11th Avenue,Blake St Louis Park: Woodale,Beltline Minneapolis: Humboldt, Irving, Franklin, 19th, 18th, 16th, Vineland, 13th, 12th, 11th, 10th, 9th, 8th, 7th, 6th
LRT 3C - Eden Prairie to Minneapolis, Golden Triangle/Opus/HCRRA/Midtown/ Nicollet	$1.1b/ $1,406b	$85m	$17.1m	$30	Cost within range	Cost within range	$257	Passengers Above Range	Eden Prairie: Valley View Hopkins: 11th Avenue,Blake St Louis Park: Woodale,Beltline Minneapolis: Humboldt, Irving, Franklin, 19th, 18th, 16th, Vineland, 13th, 12th, 11th, 10th, 9th, 8th, 7th, 6th
LRT 4C[3] **-** Hopkins to Minneapolis, HCRRA/Midtown/Nicollet	$889m	$89m	$8.5m	$41	Cost within range	Cost within range	$252	Passengers Above Range	Hopkins: 11th Avenue,Blake St Louis Park: Woodale,Beltline Minneapolis: Humboldt, Irving, Franklin, 19th, 18th, 16th, Vineland, 13th, 12th, 11th, 10th, 9th, 8th, 7th, 6th

[1] Includes unallocated contingency
[2] FTA New Starts Evaluation Measure
[3] Estimated not modeled
[4] Estimated for non-modeled alternatives

Source: Parsons Brinckerhoff, LTK, SEH, 2006.

Table 9 Goal 3 Evaluation Data

Alternatives	Change in vehicle miles of travel (VMT) (Year 2030)	Reduction in VOC, NOX, CO in annual metric tons[1] (Year 2030)	Potentially affected natural environment within 100 feet	Dwelling units potentially affected by noise or vibration	Inventory of efficient, compact land use at station locations (1/2 mile radius)[3,4]
Enhanced Bus (Baseline)	108,686,994	42.2/41.2/750.1	Wetlands: n/a Parklands: n/a Floodplain: n/a	n/a	Population density: 3,699 Employment : 255,256
BRT 1 - Eden Prairie to Minneapolis, HCRRA	Down 0.05%	0.04/0.03/0.49	Wetlands: 15 acres Parklands: 7 acres Floodplain: 19 acres	152 units	Population density: 4,403 Employment: 189,501
BRT 2[2] **-** Eden Prairie to Minneapolis, Golden Triangle/Opus/TH 169/HCRRA	Down 0.06%	0.05/0.04/0.07	Wetlands: 27 acres Parklands: 8 acres Floodplain: 27 acres	119 units	Population density: 4,135 Employment: 210,322
LRT 1A - Eden Prairie to Minneapolis, HCRRA/Kenilworth/ Royalston	Down 0.04%	0.01/0.01/.22	Wetlands: 6 acres Parklands: 7 acres Floodplain: 17 acres	162 units	Population density: 3,796 Employment: 91,299
LRT 2A[2] **-** Eden Prairie to Minneapolis, I-494/HCRRA / Kenilworth/Royalston	Down 0.01%	0.0/0.0/0.13	Wetlands: 24 acres Parklands: 7 acres Floodplain: 22 acres	146 units	Population density: 3,465 Employment: 98,447
LRT 3A[2] **-** Eden Prairie to Minneapolis, Golden Triangle/Opus/HCRRA/ Kenilworth/Royalston	Down 0.05%	0.01/0.01/0.30	Wetlands: 39 acres Parklands: 7 acres Floodplain: 26 acres	161 units	Population density: 3,191 Employment: 114,190
LRT 4A - Hopkins to Minneapolis, HCRRA/Kenilworth/ Royalston	Down 0.01%	0.0/0.0/0.0	Wetlands: 1 acre Parklands: 7 acres Floodplain: 13 acres	130 units	Population density: 4,324 Employment: 83,623
LRT 1C - Eden Prairie to Minneapolis, HCRRA/Midtown/Nicollet	Down 0.07%	0.04/0.03/0.51	Wetlands: 7 acres Parklands: 5 acres Floodplain: 17 acres	253 units	Population density: 6,961 Employment: 210,382
LRT 2C - Eden Prairie to Minneapolis, I-494/HCRRA / Midtown/Nicollet	Down 0.02%	0.01/0.02/0.31	Wetlands: 25 acres Parklands: 5 acres Floodplain: 22 acres	237 units	Population density: 6,277 Employment: 217,601
LRT 3C - Eden Prairie to Minneapolis, Golden Triangle/Opus/HCRRA/ Midtown/ Nicollet	Down 0.08%	0.05/0.04/0.69	Wetlands: 40 acres Parklands: 5 acres Floodplain: 26 acres	252 units	Population density: 5,862 Employment: 233,343
LRT 4C[1] **-** Hopkins to Minneapolis, HCRRA/Midtown/Nicollet	Down 0.02%	0.0/0.0/0.0	Wetlands: 2 acres Parklands: 5 acres Floodplain: 13 acres	221 units	Population density: 8,236 Employment: 202,777

[1]FTA New Starts Evaluation Measure. Note: HC, a component of VOC, not picked up separately by Mobile6 model

[2] Estimated not modeled

[3] Population density per square mile; length of corridor reduces density

[4] Because LRT A alternatives end at the Intermodal Station, these alternatives access downtown employment via the Hiawatha line. Downtown employment is therefore not reflected in "A" station area numbers.

Source: Parsons Brinckerhoff, SEH, 2006.

Table 10 Goal 4 Evaluation Data

Alternatives	Anticipated impact on property values[1]	Community amenities within 1/2 mile of stations[2]	Employment opportunities for low income households within 1/2 mile of stations[2,3]	Intermodal connections at stations				Integration and documentation of TOD in local comprehensive plans	2030 daily transit boardings	Intensification of land use around stations by mode	Consistency with regional growth plans (qualitative)	Impact of park/ride lots on development at stations[5]	Future and existing trail access and accommodation
				Pedestrian	Bicycle	Other Transit	Auto						
Enhanced Bus (Baseline)	No impact	Parks: 0 Libraries: n/a Trail access: Low	Low Income Households 1,995 Jobs 255,000					No	11,500	No impact	Yes until SW Corridor implemented - 2030 TPP	Unconstrained demand: 1,280 spaces	Very limited access to existing trail
BRT 1 - Eden Prairie to Minneapolis, HCRRA	If well designed fixed guideway, generally positive at stations but less than LRT	Parks: 46 Libraries: 2 Trail access: High	Households: 2,120 Jobs: 189,500	High	High	Medium	Medium	Yes	14,400	Well designed fixed guideway generally promotes intensification	Yes - SW Corridor in 2030 TPP	Unconstrained demand: 2,114 spaces	Full access to existing trails: SW, Midtown
BRT 2[4] **-** Eden Prairie to Minneapolis, Golden Triangle/Opus/TH 169/HCRRA	If well designed fixed guideway, generally positive at stations but less than LRT	Parks: 45 Libraries: 2 Trail access: Medium	Households: 2,163 Jobs: 210,300	Medium	Lower	Medium	Medium	Yes	16,500	Well designed fixed guideway generally promotes intensification	Yes - SW Corridor in 2030 TPP	Unconstrained demand: 2,645 spaces	Partial access to existing trails: SW, Midtown
LRT 1A - Eden Prairie to Minneapolis, HCRRA/Kenilworth/ Royalston	Positive at well-designed stations	Parks: 43 Libraries: 2 Trail access: High	Households: 1,783 Jobs: 91,200	High	High	Medium	Medium	Yes	23,500	Well designed fixed guideway generally promotes intensification	Yes - SW Corridor in 2030 TPP	Unconstrained demand: 2,430 spaces	Full access to existing trails: SW, Midtown
LRT 2A[4] **-** Eden Prairie to Minneapolis, I-494/HCRRA /Kenilworth/Royalston	Positive at well-designed stations	Parks: 45 Libraries: 2 Trail access: Medium	Households: 1,851 Jobs: 98,400	Medium	Lower	Medium	Medium	Yes	24,600	Well designed fixed guideway generally promotes intensification	Yes - SW Corridor in 2030 TPP	Unconstrained demand: 2,680 spaces	Partial access to existing trails: SW, Midtown
LRT 3A[4] **-** Eden Prairie to Minneapolis, Golden Triangle/Opus/HCRRA/ Kenilworth/Royalston	Positive at well-designed stations	Parks: 42 Libraries: 2 Trail access: Medium	Households: 1,831 Jobs 114,200	Medium	Lower	Medium	Medium	Yes	27,000	Well designed fixed guideway generally promotes intensification	Yes - SW Corridor in 2030 TPP	Unconstrained demand: 3,040 spaces	Partial access to existing trails: SW, Midtown
LRT 4A - Hopkins to Minneapolis, HCRRA/Kenilworth/ Royalston	Positive at well-designed stations	Parks: 38 Libraries: 2 Trail access: Medium	Households: 1,617 Jobs: 83,600	High	High	High	Medium	Yes	19,000	Well designed fixed guideway generally promotes intensification	Yes - SW Corridor in 2030 TPP	Unconstrained demand: 1,640 spaces	Partial access to existing trails: SW, Midtown
LRT 1C - Eden Prairie to Minneapolis, HCRRA/Midtown/Nicollet	Positive at well-designed stations	Parks: 44 Libraries: 3 Trail access: High	Households: 4,451 Jobs: 210,400	High	High	Medium	n/a	Yes	24,500	Well designed fixed guideway generally promotes intensification	Yes - SW Corridor in 2030 TPP	Unconstrained demand: 2,320 spaces	Full access to existing trails: SW, Midtown
LRT 2C - Eden Prairie to Minneapolis, I-494/HCRRA /Midtown/Nicollet	Positive at well-designed stations	Parks: 46 Libraries: 3 Trail access: Medium	Households: 4,518 Jobs: 217,600	Medium	Lower	Medium	n/a	Yes	25,600	Well designed fixed guideway generally promotes intensification	Yes - SW Corridor in 2030 TPP	Unconstrained demand: 2,630 spaces	Partial access to existing trails: SW, Midtown
LRT 3C - Eden Prairie to Minneapolis, Golden Triangle/Opus/HCRRA/ Midtown/ Nicollet	Positive at well-designed stations	Parks: 43 Libraries: 2 Trail access: Medium	Households: 4,499 Jobs: 233,300	Medium	Lower	Medium	n/a	Yes	28,100	Well designed fixed guideway generally promotes intensification	Yes - SW Corridor in 2030 TPP	Unconstrained demand: 2,990 spaces	Partial access to existing trails: SW, Midtown
LRT 4C[4] **-** Hopkins to Minneapolis, HCRRA/Midtown/Nicollet	Positive at well-designed stations	Parks: 39 Libraries: 2 Trail access: Medium	Households: 4,284 Jobs: 202,800	High	High	High	n/a	Yes	19,800	Well designed fixed guideway generally promotes intensification	Yes - SW Corridor in 2030 TPP	Unconstrained demand: 1,590 spaces	Partial access to existing trails: SW, Midtown

[1] Based on national studies or national data

[2] Because LRT A alternatives end at the Intermodal Station, these alternatives access downtown employment via the Hiawatha line. Downtown employment is therefore not reflected in "A" station area numbers.

[3] Low Income Households from 2000 Census; 2030 jobs from regional forecasts

[4] Estimated not modeled

[5] Exact location and integration of p/r lots with development to be addressed in station area master planning process

Source: Parsons Brinckerhoff, SEH, LSA Design, 2006.

Table 11 Goal 5 Evaluation Data

Alternatives	Existing & Planned TOD Potential at Station Locations (Qualitative)	Planned Jobs within 1/2 mile of station[1,2] (Year 2030)	Existing Other Generators within 1/2 mile of Stations[4]	Consistency with local comprehensive plan goals regarding economic development & redevelopment at stations
Enhanced Bus (Baseline)	n/a	27,953	n/a	n/a
BRT 1 - Eden Prairie to Minneapolis, HCRRA	Cities not planning for TOD west of West Hopkins/Shady Oak. Planning underway at Van White, Woodale, Blake, downtown Hopkins, West Hopkins/Shady Oak	189,500	Schools: 31 Medical Facilities: 2 Entertainment Venues: 16 Government Centers: 14 Major Shopping Centers: 20	All station locations are consistent with all cities' Comprehensive Plans. Planning for redevelopment at stations not underway west of West Hopkins/Shady Oak station.
BRT 2[3] **-** Eden Prairie to Minneapolis, Golden Triangle/Opus/TH 169/HCRRA	Cities planning for TOD throughout corridor : Van White, Woodale, Blake, downtown Hopkins, West Hopkins/Shady Oak, Opus, Golden Triangle, Town Center	210,300	Schools: 30 Medical Facilities: 2 Entertainment Venues: 16 Government Centers: 14 Major Shopping Centers: 29	All station locations are consistent with all cities' Comprehensive Plans. Planning for redevelopment at station locations underway in 3 alignments, and through Hopkins, St. Louis Park and Minneapolis.
LRT 1A - Eden Prairie to Minneapolis, HCRRA/Kenilworth/ Royalston	Cities not planning for TOD west of West Hopkins/Shady Oak. Planning underway at Van White, Woodale, Blake, downtown Hopkins, West Hopkins/Shady Oak	91,200	Schools: 21 Medical Facilities: 1 Entertainment Venues: 13 Government Centers: 11 Major Shopping Centers: 14	All station locations are consistent with all cities' Comprehensive Plans. Planning for redevelopment at stations not underway west of West Hopkins/Shady Oak station.
LRT 2A[3] **-** Eden Prairie to Minneapolis, I-494/HCRRA / Kenilworth/Royalston	Cities not planning for TOD west of West Hopkins/Shady Oak. Planning underway at Van White, Woodale, Blake, downtown Hopkins, West Hopkins/Shady Oak	98,400	Schools: 20 Medical Facilities: 1 Entertainment Venues: 12 Government Centers: 15 Major Shopping Centers: 19	All station locations are consistent with all cities' Comprehensive Plans. Planning for redevelopment at stations not underway west of West Hopkins/Shady Oak station.
LRT 3A[3] **-** Eden Prairie to Minneapolis, Golden Triangle/Opus/HCRRA/ Kenilworth/Royalston	Cities planning for TOD throughout corridor : Van White, Woodale, Blake, downtown Hopkins, West Hopkins/Shady Oak, Opus, Golden Triangle, Town Center	Jobs 114,200	Schools: 19 Medical Facilities: 1 Entertainment Venues: 12 Government Centers: 15 Major Shopping Centers: 18	All station locations are consistent with all cities' Comprehensive Plans. Planning for redevelopment at station locations underway in 3 alignments, and through Hopkins, St. Louis Park and Minneapolis.
LRT 4A - Hopkins to Minneapolis, HCRRA/Kenilworth/ Royalston	Cities planning for TOD throughout corridor : Van White, Woodale, Blake, downtown Hopkins, West Hopkins/Shady Oak	83,600	Schools: 18 Medical Facilities: 1 Entertainment Venues: 11 Government Centers: 10 Major Shopping Centers: 13	All station locations are consistent with all cities' Comprehensive Plans. Planning for redevelopment at station locations underway through Hopkins, St. Louis Park and Minneapolis.
LRT 1C - Eden Prairie to Minneapolis, HCRRA/Midtown/Nicollet	Cities not planning for TOD west of West Hopkins/Shady Oak Station. Planning underway at Woodale, Blake, downtown Hopkins, West Hopkins/Shady Oak. TOD already in place in C segment	210,400	Schools: 36 Medical Facilities: 3 Entertainment Venues: 18 Government Centers: 14 Major Shopping Centers: 19	All station locations are consistent with all cities' Comprehensive Plans. Planning for redevelopment at stations not underway west of West Hopkins/Shady Oak station.
LRT 2C - Eden Prairie to Minneapolis, I-494/HCRRA /Midtown/Nicollet	Cities not planning for TOD west of West Hopkins/Shady Oak Station. Planning underway at Woodale, Blake, downtown Hopkins, West Hopkins/Shady Oak. TOD already in place in C segment	217,600	Schools: 35 Medical Facilities: 3 Entertainment Venues: 17 Government Centers: 18 Major Shopping Centers: 24	All station locations are consistent with all cities' Comprehensive Plans. Planning for redevelopment at stations not underway west of West Hopkins/Shady Oak station.
LRT 3C - Eden Prairie to Minneapolis, Golden Triangle/Opus/HCRRA/Midtown/ Nicollet	Cities planning for TOD throughout corridor : Woodale, Blake, downtown Hopkins, West Hopkins/Shady Oak, Opus, Golden Triangle, Town Center. TOD in place in C segment	233,300	Schools: 34 Medical Facilities: 3 Entertainment Venues: 17 Government Centers: 18 Major Shopping Centers: 23	All station locations are consistent with all cities' Comprehensive Plans.; Planning for redevelopment at station locations underway in 3 alignments, and through Hopkins, St. Louis Park and Minneapolis.
LRT 4C[3] **-** Hopkins to Minneapolis, HCRRA/Midtown/Nicollet	Cities planning for TOD throughout corridor : Woodale, Blake, downtown Hopkins, West Hopkins/Shady Oak, Opus, Golden Triangle, Town Center. TOD in place in C segment	202,800	Schools: 33 Medical Facilities: 3 Entertainment Venues: 16 Government Centers: 13 Major Shopping Centers: 18	All station locations are consistent with all cities' Comprehensive Plans. Planning for redevelopment at station locations underway through Hopkins, St. Louis Park and Minneapolis.

[1] FTA New Starts Evaluation Measure

[2] Because LRT A alternatives end at the Intermodal Station, these alternatives access downtown employment via the Hiawatha line. Downtown employment is therefore not reflected in "A" station area numbers.

[3] Estimated not modeled

[4] See attached

Source: Parsons Brinckerhoff, SEH, LSA Design, 2006.

B. Evaluation Ratings Matrices

Table 12 Goal 1 Evaluation Ratings

Alternatives	Forecast Ridership (2030)	New Transit Riders (2030)	Travel Time Savings (2030)	Transitway Transportation Capacity Provided in Peak Hour	Travel Time Competitiveness (Transit vs. Auto)	System Integration	Transit Dependent Populations	Population and Employment[2] (2030)	
BRT 1 Eden Prairie to Minneapolis, HCRRA	●	●	◑	●	●	●	◑	◑	○
BRT 2[1] **-** Eden Prairie to Minneapolis, Golden Triangle/ Opus/ TH 169/HCRRA	◑	○	◑	●	●	●	◑	◑	○
LRT 1A - Eden Prairie to Minneapolis, HCRRA/Kenilworth/ Royalston	○	○	◑	○	◑	○	◑	◑	◑
LRT 2A[1] **-** Eden Prairie to Minneapolis, I-494/HCRRA/ Kenilworth/Royalston	○	○	◑	○	◑	○	◑	◑	◑
LRT 3A[1] **-** Eden Prairie to Minneapolis, Golden Triangle/ Opus/HCRRA/ Kenilworth/ Royalston	○	○	◑	○	◑	○	◑	◑	◑
LRT 4A - Hopkins to Minneapolis, HCRRA/ Kenilworth/Royalston	◑	◑	◑	○	◑	◑	◑	◑	◑
LRT 1C - Eden Prairie to Minneapolis, HCRRA/ Midtown/ Nicollet	○	◑	◑	○	◑	◑	○	○	○
LRT 2C - Eden Prairie to Minneapolis, I-494/HCRRA / Midtown/Nicollet	○	○	◑	○	○	◑	○	○	○
LRT 3C - Eden Prairie to Minneapolis, Golden Triangle/ Opus/HCRRA/ Midtown/Nicollet	○	○	◑	○	◑	◑	○	○	○
LRT 4C[1] **-** Hopkins to Minneapolis, HCRRA/Midtown/ Nicollet	◑	◑	◑	○	◑	●	○	○	○
[1] Estimated not modeled									
[2]Because LRT A alternatives end at the Intermodal Station, these alternatives access downtown employment via the Hiawatha line. Downtown employment is therefore not reflected in "A" station area numbers.									
Evaluation Breakpoints									
● Does not support goal	< 15 thousand	<2 thousand	Increased VHT	<1000 seats	>2 min slower than auto in 3 or more O/D pairs	Transfer required at north and south end	Below baseline alternative	<35 thousand	<75 thousand
◑ Supports goal	15-20 thousand	2-4 thousand	0-1% savings	1000-2000 seats	Equivalent to auto (w/in 2 min) in 3 or more O/D pairs	Transfer required at either north or south end	Moderate improvement over baseline alternative	35-70 thousand	75-175 thousand
○ Strongly supports goal	> 20 thousand	>4 thousand	>1% savings	>2000 seats	>2min faster than auto in 3 or more O/D pairs	Interlined with existing/planned transitway	Significant improvement over baseline alternative	>70 thousand	>175 thousand

Source: Parsons Brinckerhoff, SEH, 2006.

Table 13 Goal 2 Evaluation Ratings

Alternatives	Transitway Capital Cost (2015)		Transitway Operating Costs (Annual Increment over Enhanced Bus) (2015)	Preliminary Cost Effectiveness Index (CEI) (2006$)[1]	Peer City Comparison (2004)				Intersections identified for analysis during EIS
	Total	Per Mile			Operating cost / passenger mile[2]	Operating cost / trip	Operating cost / revenue vehicle hour	Passengers / hour	
BRT 1 - Eden Prairie to Minneapolis, HCRRA	○	○	○	●	◑	◑	◑	○	◑
BRT 2[1] - Eden Prairie to Minneapolis, Golden Triangle/ Opus/ TH 169/ HCRRA	○	○	○	●	◑	◑	◑	○	◑
LRT 1A - Eden Prairie to Minneapolis, HCRRA/ Kenilworth/ Royalston	◑	◑	○	◑	◑	◑	◑	○	◑
LRT 2A[1] - Eden Prairie to Minneapolis, I-494/ HCRRA / Kenilworth/ Royalston	◑	◑	◑	◑	◑	◑	◑	○	◑
LRT 3A[1] - Eden Prairie to Minneapolis, Golden Triangle/ Opus/ HCRRA/ Kenilworth/ Royalston	◑	◑	◑	○	◑	◑	◑	○	◑
LRT 4A - Hopkins to Minneapolis, HCRRA/ Kenilworth/ Royalston	○	◑	○	○	◑	◑	◑	○	◑
LRT 1C - Eden Prairie to Minneapolis, HCRRA/ Midtown/ Nicollet	◑	◑	◑	●	◑	◑	◑	○	●
LRT 2C - Eden Prairie to Minneapolis, I-494/ HCRRA / Midtown/ Nicollet	◑	◑	◑	●	◑	◑	◑	○	●
LRT 3C - Eden Prairie to Minneapolis, Golden Triangle/ Opus/ HCRRA/ Midtown/ Nicollet	◑	◑	◑	◑	◑	◑	◑	○	●
LRT 4C[1] - Hopkins to Minneapolis, HCRRA/ Midtown/ Nicollet	◑	◑	◑	●	◑	◑	◑	○	●
[1] Estimated not modeled									
[2]FTA New Starts Evaluation Measure									
Evaluation Breakpoints									
● Does not support goal	>$1.5 billion	>$90 million	>$23 million (2015)	>$35.00 Exceeds FTA New Starts Threshold by >20%	Cost above range of peer systems	Cost above range of peer systems	Cost above range of peer systems	Below range of peer systems	Potentially significant impact to street network
□ Supports goal	$750-1.5 billion	$40-90 million	$12 million - $23 million (2015)	$20-35 Within 20% of FTA New Starts Threshold	Cost within range of peer systems	Cost within range of peer systems	Cost within range of peer systems	Within range of peer systems	Some impact to street network likely
○ Strongly supports goal	<$750 million	<$40 million	<$12 million (2015)	<$29.00 Consistent w/FTA New Starts Threshold	Cost below range of peer systems	Cost below range of peer systems	Cost below range of peer systems	Above range of peer systems	Avoids impact to street network

Source: Parsons Brinckerhoff, SEH, 2006.

Table 14 Goal 3 Evaluation Ratings

Alternatives	Change in vehicle miles of travel (VMT) (Year 2030)	Reduction in VOC, NOX, CO in annual metric tons[2] (Year 2030)	Potentially affected natural environment within 100 feet	Dwelling units potentially affected by noise or vibration	Inventory of efficient, compact land use within 1/2 mile of stations FTA New Starts Criteria	
					Population Density per Square Mile	Employment[3]
BRT 1 - Eden Prairie to Minneapolis, HCRRA	◑	◑	◑	◑	◑	○
BRT 2[1]**-** Eden Prairie to Minneapolis, Golden Triangle/ Opus/ TH 169/ HCRRA	◑	◑	●	◑	◑	○
LRT 1A - Eden Prairie to Minneapolis, HCRRA/ Kenilworth/ Royalston	◑	◑	◑	◑	◑	◑
LRT 2A[1] **-** Eden Prairie to Minneapolis, I-494/ HCRRA / Kenilworth/ Royalston	◑	◑	●	◑	◑	◑
LRT 3A[1] **-** Eden Prairie to Minneapolis, Golden Triangle/ Opus/ HCRRA/ Kenilworth/ Royalston	◑	◑	●	◑	●	◑
LRT 4A - Hopkins to Minneapolis, HCRRA/ Kenilworth/ Royalston	◑	●	○	◑	◑	◑
LRT 1C - Eden Prairie to Minneapolis, HCRRA/ Midtown/ Nicollet	◑	◑	◑	●	◑	○
LRT 2C - Eden Prairie to Minneapolis, I-494/ HCRRA / Midtown/ Nicollet	◑	◑	●	●	◑	○
LRT 3C - Eden Prairie to Minneapolis, Golden Triangle/ Opus/ HCRRA/ Midtown/ Nicollet	◑	◑	●	●	◑	○
LRT 4C[1] **-** Hopkins to Minneapolis, HCRRA/ Midtown/ Nicollet	◑	●	○	●	◑	○
[1]Estimated not modeled						
[2] FTA New Starts Evaluation Measure. Note: HC, a component of VOC, not picked up separately by Mobile6 model						
[3]Because LRT A alternatives end at the Intermodal Station, these alternatives access downtown employment via the Hiawatha line. Downtown employment is therefore not reflected in "A" station area numbers.						
Evaluation Breakpoints						
● Does not support goal	0% Reduction	0% Reduction	>50 acres of combined potentially affected wetland, parkland and floodplain	>200 units	<3,333	<75,000 FTA Threshold for Low ranking
◑ Supports goal	0-5% Reduction	0-5% Reduction	25-50 acres	50-200 units	3,333-10,000	75,000-175,000 FTA Threshold for Low-Medium/ Medium ranking
○ Strongly supports goal	>5% Reduction	>5% Reduction	<25 acres	<50 units	>10,000	>175,000 FTA Threshold for High-Med/ High ranking

Source: Parsons Brinckerhoff, SEH, 2006.

Table 15 Goal 4 Evaluation Ratings

Alternatives	Anticipated impact on property values[2]	Community amenities within 1/2 mile of stations	Employment opportunities for low income households within 1/2 mile of stations[3]		Intermodal Connections at Stations				Integration and documentation of TOD in local comprehensive plans	Intensification of land use around stations by mode	Forecast Ridership (2030)	Consistency with regional growth plans (qualitative)	Impact of park/ride lots on development at stations
			Low Income Households	Employment[4]	Pedestrian	Bicycle	Other Transit	Auto					
BRT 1 - Eden Prairie to Minneapolis, HCRRA	◑	○	◑	○	○	○	◑	◑	●	◑	●	○	◑
BRT 2[1] **-** Eden Prairie to Minneapolis, Golden Triangle/ Opus/ TH 169/HCRRA	◑	○	◑	○	◑	◑	◑	◑	◑	◑	◑	○	◑
LRT 1A - Eden Prairie to Minneapolis, HCRRA/ Kenilworth/ Royalston	○	○	◑	◑	○	○	◑	◑	●	○	○	○	◑
LRT 2A[1] **-** Eden Prairie to Minneapolis, I-494/ HCRRA/ Kenilworth/ Royalston	○	○	◑	◑	◑	◑	◑	◑	●	○	○	○	◑
LRT 3A[1] **-** Eden Prairie to Minneapolis, Golden Triangle/ Opus/ HCRRA/ Kenilworth/ Royalston	○	○	◑	◑	◑	◑	◑	◑	◑	○	○	○	◑
LRT 4A - Hopkins to Minneapolis, HCRRA/ Kenilworth/ Royalston	○	○	◑	◑	○	○	◑	◑	◑	○	◑	○	◑
LRT 1C - Eden Prairie to Minneapolis, HCRRA/ Midtown/ Nicollet	○	○	○	○	○	○	◑	n/a	◑	○	○	○	◑
LRT 2C - Eden Prairie to Minneapolis, I-494/ HCRRA / Midtown/ Nicollet	○	○	○	○	◑	◑	◑	n/a	◑	○	○	○	◑
LRT 3C - Eden Prairie to Minneapolis, Golden Triangle/ Opus/ HCRRA/ Midtown/ Nicollet	○	○	○	○	◑	◑	◑	n/a	○	○	○	○	◑
LRT 4C[1] **-**Hopkins to Minneapolis, HCRRA/ Midtown/ Nicollet	○	○	○	○	○	○	◑	n/a	◑	○	◑	○	◑

[1]Estimated not modeled

[2]Based on national studies or national data

[3]Low Income Households from 2000 Census and defined as 60% of 7-county median family income ($59,358/$35,615); 2030 jobs from regional forecasts

[4]Because LRT A alternatives end at the Intermodal Station, these alternatives access downtown employment via the Hiawatha line. Downtown employment is therefore not reflected in "A" station area numbers.

Evaluation Breakpoints

● Does not support goal	Research does not support positive impact at stations	No amenities w/in 1/2 mi.	<1,000	<75,000	Poor at majority of stations	No TOD planning in major portions of the alternative	Research does not support intensification	< 15 thousand	Not consistent	Stations unable to accommodate demand
◑ Supports goal	Research supports general positive impact at stations	Amenities w/in 1/2 mi. of several stations	1000-4,000	75,000 - 175,000	Moderate at majority of stations	TOD exists and is planned in a majority of the alternative	Research limited but supports intensification for bus transit if fixed guideway	15-20 thousand	Partially consistent	Station demand indicates shift to adjacent station required
○ Strongly supports goal	Research supports definite postive impact at stations	Amenities w/in 1/2 mi. of all stations	>4000	>175,000	High at majority of stations	TOD exists and is planned throughout alternative	Research documents significant intensification	> 20 thousand	Fully consistent	Stations able to accommodate demand in planned area

Source: Parsons Brinckerhoff, SEH, 2006.

Table 16 Goal 5 Evaluation Ratings

Alternatives	Existing & Planned TOD Potential at Station Locations (Qualitative)	Planned Jobs within 1/2 mile of station[2,3] (Year 2030)	Existing Other Generators within 1/2 mile of Stations	Consistency with local comprehensive plan goals regarding economic development & redevelopment at stations
BRT 1 - Eden Prairie to Minneapolis, HCRRA	●	○	◑	○
BRT 2[1] **-** Eden Prairie to Minneapolis, Golden Triangle/ Opus/ TH 169/ HCRRA	◑	○	○	○
LRT 1A - Eden Prairie to Minneapolis, HCRRA/ Kenilworth/ Royalston	●	◑	◑	◑
LRT 2A[1] **-** Eden Prairie to Minneapolis, I-494/ HCRRA/ Kenilworth/ Royalston	●	◑	◑	●
LRT 3A[1] **-** Eden Prairie to Minneapolis, Golden Triangle/ Opus/ HCRRA/ Kenilworth/ Royalston	◑	◑	◑	○
LRT 4A - Hopkins to Minneapolis, HCRRA/ Kenilworth/ Royalston	◑	◑	◑	○
LRT 1C - Eden Prairie to Minneapolis, HCRRA/ Midtown/ Nicollet	◑	○	○	○
LRT 2C - Eden Prairie to Minneapolis, I-494/ HCRRA/ Midtown/ Nicollet	◑	○	○	●
LRT 3C - Eden Prairie to Minneapolis, Golden Triangle/ Opus/ HCRRA/ Midtown/ Nicollet	○	○	○	○
LRT 4C[1] **-** Hopkins to Minneapolis, HCRRA/ Midtown/ Nicollet	◑	○	◑	○

[1] Estimated not modeled

[2] FTA New Starts Evaluation Measure

[3] Because LRT A alternatives end at the Intermodal Station, these alternatives access downtown employment via the Hiawatha line. Downtown employment is therefore not reflected in "A" station area numbers.

Evaluation Breakpoints

● Does not support goal	Local comprehensive plans contain transit supportive policies. TOD already present and/or multiple special area studies completed	<75K	<50	Comprehensive plans do not support development in significant segment of alignment
◑ Supports goal	Local comprehensive plans contain transit supportive policies, special area studies proposed	75-175K	50-90	Comprehensive plans support development at stations in all segments of alignment
○ Strongly supports goal	Limited TOD potential and/or planning	>175K	>90	Comprehensive plans support TOD in all segments of alignment; redevelopment planning underway throughout alignment

Source: Parsons Brinckerhoff, SEH, 2006.

11. Preliminary Recommendation

The Technical Advisory Committee (TAC) compared the benefits, costs, and impacts of a range of alternatives to address mobility needs in the Southwest Corridor. The range of transit alternatives considered included an enhanced bus, two bus rapid transit (BRT), and eight light rail transit (LRT) alternatives. From those alternatives, the TAC recommended three light rail transit (LRT) and the enhanced bus alternative be retained for detailed analysis in an environmental impact statement, the next phase of project development:

- Enhanced Bus (as the FTA required baseline alternative)
- LRT 1 A
- LRT 3A
- LRT 3C

The TAC recommendations were received by the Policy Advisory Committee (PAC) on September 27, 2006. The PAC directed that public comment be solicited on the draft technical committee recommendations during October and November, 2006.

Background

The evaluation measures developed by the Southwest Technical Advisory Committee (TAC) and approved by the Southwest Policy Advisory Committee (PAC) reflect the goals established for a Southwest Transitway and the Federal Transit Administration's (FTA) New Starts evaluation criteria.

The Southwest Transitway goals are divided into two tiers, Tier 1 and Tier 2. For a transitway alternative to be considered viable it must meet the Tier 1 goals: improve mobility, and provide a cost-effective, efficient travel option. Assuming a transitway alternative meets the Tier 1 goals it is then evaluated to determine how well it fulfills the Tier 2 goals: protect the environment, preserve and protect the study area's quality of life, and support economic development.

All alternatives were evaluated in terms of equivalent service frequency, length of service day, and area of coverage. Both BRT and LRT alternatives have comprehensive feeder bus components as part of their service plan.

Table 17, the Summary Evaluation Matrix shows how each alternative was rated by the TAC against evaluation measures; it follows below.

Table 17 Summary Evaluation Matrix

Alternatives	Tier 1 Goals			Tier 2 Goals			Recommendation
	Goal 1: Improve Mobility	Goal 2: Provide a Cost-Effective, Efficient Travel Option	Results	Goal 3: Protect the Enviroment	Goal 4: Preserve and Protect the Quality of Life in the Study Area and Region	Goal 5: Support Economic Development	
Enhanced Bus (Baseline)	**Carry forward as Baseline alternative (Required)**			**Carry forward as Baseline alternative (Required)**			**Carry forward as Baseline Alternative**
BRT 1 - Eden Prairie to Minneapolis, HCRRA	●	●	Does not meet Tier 1 Goals; Do not carry forward				
BRT 2[1] - Eden Prairie to Minneapolis, Golden Triangle/Opus/TH 169/HCRRA	●	●	Does not meet Tier 1 Goals; Do not carry forward				
LRT 1A - Eden Prairie to Minneapolis, HCRRA/ Kenilworth/ Royalston	◑	◑	Meets Tier 1 Goals; Carry Forward to Tier 2	◑	◑	◑	**Carry forward for further analysis**
LRT 2A[1] - Eden Prairie to Minneapolis, I-494/HCRRA /Kenilworth/Royalston	◑	◑	Meets Tier 1 Goals; Carry Forward to Tier 2	◑	◑	◑	**Other alternatives better meet Tier 2 Goals. Do not carry**
LRT 3A[1] - Eden Prairie to Minneapolis, Golden Triangle/ Opus/ HCRRA/ Kenilworth/ Royalston	◑	◑	Meets Tier 1 Goals; Carry Forward to Tier 2	◑	◑	○	**Carry forward for further analysis**
LRT 4A - Hopkins to Minneapolis, HCRRA/ Kenilworth/ Royalston	●	◑	Part of full alternative. Do not carry forward				
LRT 1C - Eden Prairie to Minneapolis, HCRRA/ Midtown/ Nicollet	◑	●	Does not meet Tier 1 Goals; Do not carry forward				
LRT 2C - Eden Prairie to Minneapolis, I-494/ HCRRA/ Midtown/ Nicollet	◑	●	Does not meet Tier 1 Goals; Do not carry forward				
LRT 3C - Eden Prairie to Minneapolis, Golden Triangle/ Opus/ HCRRA/ Midtown/ Nicollet	◑	◑	Meets Tier 1 Goals; Carry Forward to Tier 2	◑	◑	○	**Carry forward for further analysis**
LRT 4C[1] - Hopkins to Minneapolis, HCRRA/ Midtown/ Nicollet	●	●	Part of full alternative. Do not carry forward				
[1]Estimated not modeled							
Evaluation Breakpoints							
● Does not support goal				Supports goal on fewer than 4 of 6 measures	Supports goal on fewer than 7 of 10 measures	Supports goal on fewer than 3 of 4 measures	
◑ Supports goal				Supports goal on 4 of 6 measures	Supports goal on 7 of 10 measures	Supports goal on 3 of 4 measures	
○ Strongly supports goal				Supports goal on all measures	Supports goal on all measures	Supports goal on all measures	

Source: Parsons Brinckerhoff, SEH, 2006.

The map on the next page (Figure 8 Preliminary Recommended Alternatives) shows the routes proposed to be retained by the TAC. The rationale for the TAC preliminary recommendations is discussed in the following pages.

Enhanced Bus Alternative

The Enhanced Bus alternative includes minor modifications to existing express bus service, and augments Metro Transit and Southwest Metro service with two new limited-stop bus routes. The new limited-stop routes provide bi-directional service to Eden Prairie, Minnetonka, Hopkins and St. Louis Park. Local bus service is restructured to provide access to the new routes. These routes would begin by serving selected stops, then travel non-stop on the regional highways using bus shoulder lanes and/or the I-394 HOV/HOT lane into downtown Minneapolis

The Enhanced Bus alternative represents the proposed future baseline alternative. It represents a significant increase in transit service and facilities without a major guideway investment. It is the baseline against which "build" alternatives, in this case Bus Rapid Transit (BRT) and Light Rail Transit (LRT) alternatives, are measured. A baseline alternative such as the Enhanced Bus alternative is required by the Federal Transit Administration (FTA) for transitway projects seeking Federal funding.

TAC Recommendation:

The Enhanced Bus alternative is required by the Federal Transit Administration (FTA) and as such is recommended for retention for further evaluation.

BRT Alternatives

Two BRT alternatives were developed for the Southwest Transitway. Both serve the cities of Eden Prairie, Minnetonka, Hopkins, St. Louis Park and Minneapolis. Both alternatives assume special low-floor, hybrid vehicles and high-amenity stations.

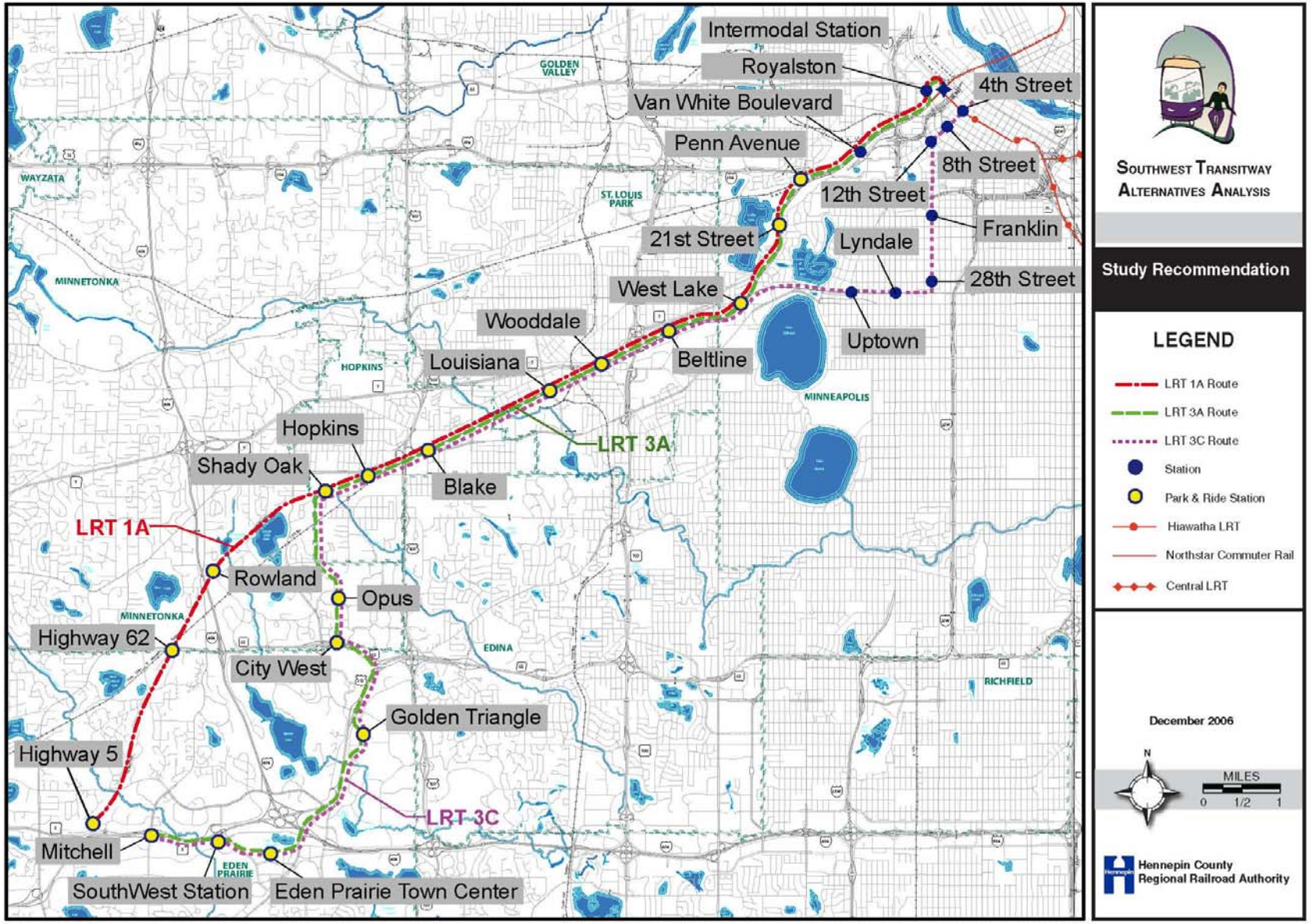
Tier 1 Goals: Improve Mobility and Provide a Cost-Effective/Efficient Travel Option
Key Evaluation Measures

Ridership and New Riders: BRT 1 and BRT 2 have the lowest ridership at 14,400 and 16,500, respectively, of all the build alternatives. Both BRT alternatives attract fewer new transit riders than other build alternatives: 1,300 new riders with BRT1; 2,300 new riders with BRT 2.

Capital and Operating Costs: BRT 1 and BRT 2 have the lowest capital and operating costs. Capital costs are estimated at $540 million for BRT 1 and $706 million for BRT 2. Operating costs are estimated at $1.8 million and $2.5 million, respectively, over the baseline cost.

Travel Time Advantage: Neither BRT 1 nor BRT 2 provides a travel time advantage compared to the single occupant automobile traveling during the p.m. peak.

Figure 9 Preliminary Recommended Alternatives



Source: LTK, 2006.

Transit Capacity: Neither BRT 1 nor BRT 2 can provide the peak capacity of an LRT alternative at the assumed peak hour frequency of 7.5 minutes (640 BRT passengers/peak hour vs. 2975 LRT passengers/peak hour). To accommodate the estimated peak hour demand of 2,400 passengers the BRT buses would need to operate every 2 to 3 minutes and/or operate in tandem, increasing the number and frequency of buses at intersections and on downtown Minneapolis streets.

Cost-Effectiveness Index (CEI): Based on preliminary calculations, neither BRT 1 nor BRT 2 is within a reasonable range of meeting the FTA's current CEI threshold for New Starts Preliminary Engineering, which is $29.

TAC Recommendation:

BRT 1 and BRT 2 do not meet the Tier 1 Goals of improving mobility and providing a cost-effective and efficient travel option. They are therefore not recommended for further evaluation.

LRT Alternatives

LRT alternatives are defined using a combination of two designations: 1, 2, 3 or 4, and A or C. The numbers designate four possible routings west of Louisiana Avenue in St. Louis Park. The letters designate the two possible routes east of Louisiana Avenue in St. Louis Park.

LRT A ALTERNATIVES (LRT 1A, 2A, 3A, AND 4A)

The letter "A" designates routes that use the HCRRA's Kenilworth and Cedar Lake Park Corridors in Minneapolis. Under the "A" option, four light rail transit alternatives enter Minneapolis via the HCRRA Kenilworth and Cedar Lake Park Corridors. The "A" alternatives access downtown via Glenwood, Royalston, 7th and 5th Streets, connecting to Hiawatha LRT at the proposed new Intermodal Station near the proposed new baseball stadium.

Tier 1 Goals: Improve Mobility and Provide a Cost-Effective/Efficient Travel Option

Key Evaluation Measures

Ridership and New Riders: While the estimated ridership for the LRT 1A, 2A, 3A and 4A is slightly lower, by approximately 1,000 trips/day, than their "C" routing counterparts, they all are anticipated to carry a significant number of passengers. When compared to one another, LRT 3A has the highest estimated ridership at 27,000; followed by LRT 2A at 24,600; followed by LRT 1A at 23,500; followed by LRT 4A at 19,000.

In terms of attracting new riders to the transit system, all four alternatives attract a significant number of new riders to the system. When compared to one another, LRT 3A is projected to attract the highest number of new riders at 7,500; followed by LRT 2A at 5,600; followed by LRT 1A at 4,500; followed by LRT 4A at 3,100.

Capital and Operating Costs: LRT 1A, 2A, 3A and 4A have lower capital and operating costs than the comparable C alternatives. When compared to one another, LRT 3A has the highest estimated capital cost at $1.2 billion; followed by LRT 2A at $988 million; followed by LRT 1A at $864 million; followed by LRT 4A at $633 million. LRT 3A has the

highest estimated operating cost at $15.9 million; followed by LRT 2A at $14.8 million; followed by LRT 1A at $11.5 million; followed by LRT 4A at $7.6 million.

Overall LRT 4A has the lowest capital and operating costs due to its shorter route, but has a relatively high per mile capital cost. LRT 1A is the least costly in terms of capital and operating costs of the full corridor "A" alternatives. LRT 3A is the most costly.

Transit Capacity: All LRT "A" alternatives are assumed to have a peak hour rider capacity of 2,976 passengers, which is sufficient to accommodate the projected peak hour demand.

Cost-Effectiveness Index (CEI): LRT 1A, 2A, 3A and 4A have lower estimated cost effectiveness ratings than the comparable "C" alternatives (lower ratings on the CEI designate better performing alternatives). When compared to one another, LRT 3A has the lowest at $26; followed by LRT 4A at $28; followed by LRT 1A at $30; followed by LRT 2A at $31. LRT 1A, 2A, 3A, and 4A have estimated CEIs that fall within 20% of the current FTA threshold for preliminary engineering.

System Integration: LRT 1A, 2A, 3A, and 4A are assumed to operate on 5th Street through downtown Minneapolis and be through-routed ("interlined") with Hiawatha trains. The ability to interline the Southwest and Hiawatha LRT lines increases the efficiency of the light rail system. Interlining eliminates the need for riders traveling to the Airport or Mall of America to transfer in downtown Minneapolis, avoids potential traffic impacts at downtown cross-streets, does not require relocating buses in downtown, and does not reduce roadway capacity in downtown for private vehicles. Interlining does not introduce new construction impacts on downtown businesses, and avoids the need for utility relocation in downtown Minneapolis.

LRT 4A does not directly serve the entire corridor. LRT 4A requires a transfer at the south end to serve the cities of Minnetonka and Eden Prairie.

Traffic impacts: Although LRT 1A, 2A, 3A, and 4A avoid potential impacts to the downtown street system, they will likely impact other major cross streets including Cedar Lake Parkway, Beltline Boulevard, Wooddale Avenue, Blake Road, 11th Avenue, Shady Oak Road, Valley View Drive, and Eden Prairie Center Drive.

The shortened route, LRT 4A, introduces special impacts within the City of Hopkins. The street network in this fully-developed community would need additional detailed analysis to identify how Hopkins could successfully function as the route terminus. Locating an overnight maintenance facility in the immediate area would introduce an additional challenge.

TAC Recommendation:

LRT 1A, 2A, and 3A meet the Tier 1 Goals of Improving Mobility and Providing a Cost-Effective and Efficient Travel Option. Therefore, they should be carried forward through the Tier 2 evaluation.

LRT 4A does not meet the Tier 1 Goals because it does not adequately serve the travel demand that exists in the Southwest metro area. LRT 4A is already encompassed in the full-length A alternatives. A shortened version of the preferred alignment(s) may be identified as a future minimum

operating segment (MOS) if required in the future. In the event an MOS is required as the initial phase of staged implementation of the full alternative selected, detailed analysis of impacts and mitigation required to serve as an interim route terminus will be undertaken. Therefore, LRT 4A should not be retained for further evaluation.

Tier 2 Goals: (3) Protect the Environment, (4) Preserve Quality of Life, and (5) Support Economic Development
Key Evaluation Measures

Employment/Population: When compared to their "C" counterparts, the LRT "A" alternatives do not serve as many employment centers or population concentrations. This is due to the fact that the "A" alternatives are routed through the Cedar-Isles Dean Parkway (CIDNA) and Kenwood Isles neighborhoods in Minneapolis which are lower density and have fewer employment sites than the Uptown, Lyn-Lake, and Nicollet Avenue neighborhoods served by the "C" alternatives. Of the "A" alternatives, LRT 4A serves the fewest number of employment and population concentration because it does not offer direct service to Minnetonka and Eden Prairie, and as such is not adequate to address the overall travel demand projected for the study area.

Activity Centers: The LRT "A" alternatives, which are routed through lower-density neighborhoods in Minneapolis and enter downtown behind the Target Center, serve fewer activity centers than LRT "C" alternatives. LRT 4A serves fewer activity centers than the other "A" options.

Special Generators: The LRT "A" alternatives provide direct service to the proposed Twins baseball stadium, located adjacent to the proposed Minneapolis Intermodal Station, and to the Minneapolis Farmers Market located adjacent to the Royalston Station. The LRT "C" alternatives do not provide direct access to either of these special trip generators.

Transit Service: The LRT "A" alternatives will provide transit service to the Bryn Mawr, Kenwood, and Cedar Isles Dean Parkway areas of Minneapolis that currently have low levels of transit service because of significant topographic constraints. Providing new transit service to these areas will improve their travel alternatives.

Freight Rail Relocation: Due to space constraints in the Kenilworth Corridor, the LRT "A" alternatives require that the existing freight rail service be rerouted through St. Louis Park.

Future Transit Connections: Due to their southern terminus at or near the intersection of the HCRRA property and Highway 5, all LRT "A" alternatives can be easily extended to serve Carver and Scott Counties in the future. The LRT "A" alternatives also provide the opportunity for an LRT or streetcar connection in the Midtown Corridor from West Lake Street to the Hi-Lake Station along the Hiawatha LRT line.

Transit Dependent Populations: When compared to the "C" alternatives, the LRT "A" alternatives do not serve as many transit dependent populations, defined as populations who are low-income, younger than 16 or older than 65, disabled, or who do not have an

automobile. Of the "A" alternatives, LRT 4A serves the fewest number of transit dependent populations.

Economic Development: LRT 3A is considered to have the highest economic development potential of the three remaining LRT "A" alternatives. This is due to the access it will provide to areas the cities have identified for redevelopment, which include the Eden Prairie Major Center Area, Golden Triangle, and Opus. LRT 2A is considered to have the lowest economic development potential due to its location within Interstate 494 right-of-way. LRT 1A is considered to have slightly better economic development potential than LRT 2A, but both are surpassed by LRT 3A. LRT 3A is also projected to have the highest reverse commute ridership of the LRT "A" alternatives.

In evaluating the "A" alternatives the TAC not only considered the economic development potential of the alternative, but also the estimated capital cost. The TAC decided that they could not recommend moving forward with LRT 2A because, while it exhibits performance comparable to LRT 1A, it is more expensive than LRT 1A yet does not yield the potential economic development benefits of LRT 3A.

TAC Recommendation:

LRT 1A and LRT 3A meet the Tier 2 Goals of (3) Preserving the Environment, (4) Protecting the Quality of Life, and (5) Supporting Economic Development. LRT 1A and LRT 3A should be retained for detailed evaluation during the Environmental Impact Statement (EIS) study phase.

LRT 2A does not meet the Tier 2 Goals and is therefore not recommended for retention. While LRT 2A does perform well in terms of ridership and attracting new riders, it does not provide adequate opportunity for economic development.

LRT C ALTERNATIVES (LRT 1C, 2C, 3C, AND 4C)

Routes identified by "C" use the HCRRA Midtown Corridor in Minneapolis, and a shallow tunnel under Nicollet Avenue to return to grade at Franklin Avenue. From Franklin Avenue north into downtown Minneapolis, LRT C alternatives operate on streets, using either Nicollet Avenue or Marquette and Second Streets in a one-way pair to reach Hiawatha LRT at 5th Street. At 5th Street, LRT 1C provides the opportunity to transfer to Hiawatha and the proposed Central LRT lines.

Tier 1 Goals: Improve Mobility and Provide a Cost-Effective/Efficient Travel Option

Key Evaluation Measures

Ridership and New Riders: LRT 1C, 2C, 3C and 4C have higher ridership than the comparable "A" alternatives, by approximately 1,000 trips per day. LRT 4C has the lowest ridership due to the shortened route. When compared to one another, LRT 3C has the highest estimated ridership at 28,100; followed by LRT 2C at 25,600; followed by LRT 1C at 24,500; followed by LRT 4A at 19,000.

All four "C" alternatives traverse areas of Minneapolis already well served by transit. As a result, the "C" alternatives are less successful in attracting new riders to the system

than their "A" counterparts, although of all the alternatives, LRT 3C is exceeded only by LRT 3A in attracting more new riders to the system. When compared to one another, LRT 3C is projected to attract the highest number of new riders at 6,800; followed by LRT 2C at 4,900; followed by LRT 1C at 3,800; followed by LRT 4C at 2,400.

Capital and Operating Costs: LRT 1C, 2C, 3Cand 4C have higher capital and operating costs than the comparable "A" alternatives. When compared to one another, LRT 3C has the highest estimated capital cost at $1.4 billion; followed by LRT 2C at $1.2 billion; followed by LRT 1C at $1.1 billion; followed by LRT 4C at $889 million. LRT 3C has the highest estimated operating cost at $17.1 million; followed by LRT 2C at $15.5 million; followed by LRT 1C at $13.3 million; followed by LRT 4C at $8.5 million. LRT 1C is the least costly in terms of capital and operating costs of the full corridor C alternatives; LRT 3C is the most costly. Overall LRT 4C has the lowest capital and operating costs due to its shorter route, but has a relatively high per mile capital cost.

Transit Capacity: All LRT C alternatives are assumed to have a peak hour rider capacity of 2,976 passengers, sufficient to accommodate projected demand.

Cost-Effectiveness Index (CEI): When compared to one another, LRT 3C has the lowest estimated CEI at $30; followed by LRT 1C at $37; followed by LRT 2C at $38; followed by LRT 4C at $41. LRT 3C has an estimated CEI within 20% of the current FTA threshold for PE. LRT 1C, 2C and 4C have estimated CEIs that exceed the threshold by more than 20%.

System Integration: LRT 1C, 2C, 3C, and 4C cannot be through-routed ("interlined") with Hiawatha trains. All "C" alternatives require a transfer to access the Hiawatha line in downtown Minneapolis. LRT 4C requires a transfer at the south end to serve the cities of Minnetonka and Eden Prairie.

Traffic impacts: the LRT "C" alternatives enter downtown Minneapolis via new rail tracks in the existing street system. Impacts would occur to Nicollet or Marquette and Second Avenues, along with intersections at downtown cross streets between Franklin Avenue and 5th Street. Impacts may also occur at other major intersections along the alignments including Cedar Lake Parkway, Beltline Boulevard, Wooddale Avenue, Blake Road, 11th Avenue, Shady Oak Road, and for LRT 3C, along Valley View Drive and Eden Prairie Center Drive.

LRT 4C, like LRT 4A, introduces special impacts within the City of Hopkins. The street network in this fully-developed community would need additional detailed analysis to identify how Hopkins could successfully function as the route terminus. Locating an overnight maintenance facility in the immediate area would introduce an additional challenge.

TAC Recommendation:

LRT 3C meets the Tier 1 Goals of (1) Improving Mobility and (2) Providing a Cost-Effective and Efficient Travel Option. Therefore LRT 3C is recommended to be retained for further evaluation.

LRT 1C, 2C, and 4C do not meet the Tier 1 Goals of (1) Improving Mobility and (2) Providing a Cost-Effective and Efficient Travel Option. Therefore LRT 1C, LRT 2C, and LRT 4C are not recommended for Tier 2 evaluation.

Tier 2 Goals: (3) Protect the Environment, (4) Preserve Quality of Life, and (5) Support Economic Development
Key Evaluation Measures

Employment/Population: LRT 3C serves employment centers and population concentrations throughout the corridor.

Activity Centers: LRT 3C serves a higher number of activity centers than the "A" alternatives. These include Southwest Metro Transit Station, Eden Prairie Center Mall, Golden Triangle, Opus, Downtown Hopkins, Wooddale Area, Excelsior & Grand, Methodist Hospital, Calhoun Commons, Uptown, Lyn-Lake, Eat Street, and Nicollet Mall.

Special Generators: LRT 3C provides service to the Minneapolis Convention Center.

Transit Service: LRT 3C provides transit service to the Uptown, Lyn-Lake, and Nicollet areas of Minneapolis that are well-served by bus transit.

Freight Rail Swap: LRT 3C does not require freight rail relocation from Kenilworth to St. Louis Park. However, the "C" routing does require a grade separation and reconfiguration of the Canadian Pacific/Twin Cities and Western railroad tracks east of Louisiana Avenue. The reconfiguration would exchange the positions of the freight tracks and the existing trail, with LRT constructed in the location currently occupied by the existing freight tracks.

Future Transit Connections: LRT 3C uses the Midtown Corridor west of Nicollet Avenue, which may complicate plans by Minneapolis to use the Midtown Corridor for streetcar operations from West Lake Street to the Hi-Lake station along the Hiawatha LRT line.

Transit Dependent Populations: The area served by LRT 3C is higher in transit dependent populations than any of the "A" alternatives. Transit dependent populations are defined as populations who are low-income, younger than 16 or older than 65, disabled, or who do not have an automobile.

Economic Development: LRT 3C has the highest potential for economic development of all the "C" alternatives.

TAC RECOMMENDATION:

LRT 3C meets the Tier 2 Goals of (3) Preserving the Environment, (4) Protecting the Quality of Life, and (5) Supporting Economic Development. Therefore, LRT 3C should be retained for further evaluation.

Additional TAC Recommendations

The TAC also approved two other recommendations to forward to the PAC:

- ***That the Southwest Transitway PAC request that the Metropolitan Council move the Southwest Transitway to a Tier 1 corridor when updating the Transit Plan component of the Transportation Policy Plan(TPP) in 2008.***

- ***That the Southwest Transitway PAC request that the HCRRA proceed into the Environmental Impact Statement (EIS) process for the Southwest Transitway.***

All recommendations passed unanimously with the exception of the dismissal of LRT 4A, which was not approved by St. Louis Park and Minnetonka staff. Metropolitan Council, Metro Transit, and Mn/DOT staff chose to abstain from voting on all recommendations. Twin Cities and Western (TCW) staff chose to abstain from voting on the LRT "A" recommendations due to unresolved issues regarding the proposed freight rail relocation.

Appendix A: Summary of Comprehensive Plans

City of Eden Prairie

Comprehensive Plan – Vision Goals and Policies (December 17, 2002)

Planning, Development and Growth Goals

- Planning, Development and Growth Goal 4:
  - Support continued development of Eden Prairie's Major Center Area, including a focus on the Marketcenter Area and the Eden Prairie Center. (Eden Prairie Town Center Station).
    - Support transit and pedestrian accessibility and connectivity as part of all redevelopment projects.
- Planning, Development and Growth Goal 6:
  - Support the development of the SouthWest Metro Transit Hub land area. (*Southwest Station*)
    - Support the efforts of SouthWest Metro Transit to develop a transit hub on its property at the southwest corner of Highway 5 and Prairie Center Drive in Eden Prairie.
    - Promote and encourage the types of mixed use development in the Eden Prairie Center and Marketcenter areas that would be conducive to and supportive of the development of a transit hub.
    - Consider, through the PUD process on a case by case basis, the granting of bonuses and incentives to allow for the higher intensity uses that will be supportive of a transit hub.
    - Encourage compact and pedestrian friendly mixed use development that offer the type of retail and convenience services that will be utilized by both transit customers and destination shoppers.
    - Consider opportunities for shared parking between transit parking lots that would predominantly be used during daytime business hours and those land uses (such at entertainment and dining) that could utilize these parking facilities during evening and weekend hours when transit is not running its peak service.

Transportation Goals

- Transportation Goal 2:
  - Provide and maintain a safe, convenient, effective, and energy efficient local transportation system for the movement of people, goods and services. (All stations)
    - Promote public transit in Eden Prairie that serves all residents and provides special transit services for commuters, the elderly and handicapped with regular service from neighborhood sectors to the Major Center, commuter routes and park-n-ride service facilities.
    - Continue to cooperate with the Minnesota Department of Transportation, Hennepin County, SouthWest Metro Transit, the Metropolitan Council, other regional agencies involved in transportation planning, adjacent cities and counties, and the private sector to continue to provide the most effective transportation system for the city.

- Transportation Goal 3:
  - Promote the development of a SouthWest Metro Transit Hub. (Southwest Station, Golden Triangle)
    - Support the efforts of SouthWest Metro Transit to develop a transit hub on its property at the southwest corner of Highway 5 and Prairie Center Drive in Eden Prairie.
    - Support the projected growth of the Golden Triangle Area with adequate transportation infrastructure and build upon the proximity of the area to the SouthWest Metro Transit Hub in pursuing development projects.
    - Pursue the appropriate links in the transportation system to provide access to and from the SouthWest Metro Transit Hub to other points throughout the City.

- Transportation Goal 4:
  - Reduce single occupant vehicle demand on the transportation system by providing a variety of valid transportation alternatives.
    - Promote and support the development of the Golden triangle Transportation Management Association (GTTMA).
    - Promote and support the efforts of SouthWest Metro Transit to provide quality, efficient and low-cost transit services.
    - Encourage compact and pedestrian friendly mixed-use developments that offer the type of retail and convenience services that will minimize peak hour traffic demand.
    - Support regional transit initiatives such as High Speed Busways, Light Rail Transit and Commuter Rail.

Public Services and Facilities Goals

- Public Services and Facilities Goal 4:
  - Seek new revenue sources and alternative funding mechanisms for transportation initiatives.
  - Promote the development of the Marketcenter Area.

Special Area Plans

Major Center Area (MCA) Study

- The Major Center Area study will be a strategic master plan that provides both near- and long-term recommendations. It is expected that the recommendations will include:
- Transportation and other public infrastructure improvements that maintain long-term functionality for residents, workers, shopper and visitors as they move within the Major Center Area, whether on foot, by bike, by transit or in cars.
- MCA Planning Principles (September 28, 2005)
- Increase efficiency of land uses within the MCA through:
  - Development of uses that use bus and light rail transit.
  - Mixed us development
  - Use of structured and shared parking to free up parking areas for new development.
- Transit Principle:
  - Transit-LRT

- The primary location for a walk to LRT station in the MCA should be within the Town Center, south of Lake Idlewild in the vicinity of the new north-south- main street. The secondary location for a LRT station, which would also serve as a park and ride station, should be at the site of the current day SouthWest Transit Station, integrated with bus transit service.
- The highest and most intense land uses, particularly mixed use projects, should be located within a half-mile radius of a centrally located LRT station to support the Town Center concept.
- Development located within the half-mile radius to the transit station should meet specific development standards that result in a high-amenity pedestrian environment. These standards should address build to lines, treatment of parking lots/facilities, pedestrian-scaled design features, landscaping, lighting and signage.
- Transit ridership should be supported by combining the SouthWest Transit bus station with a park and ride LRT station and thus retain a critical transportation alternative for commuters.
- LRT transit service should minimize impacts on adjacent street and pedestrian/bicycle network, such as by constructing grade-separated crossings at major intersections.
-

Note: The MAC study is expected to be adopted by the city in the beginning of 2006.

Golden Triangle Land Use/Multi-Modal Transportation Evaluation

- The Golden Triangle Land Use/Multi-Modal Transportation study evaluated the potential for a more mixed land use pattern in the Golden Triangle Area to satisfy the following four objectives:
- Reduce peak period traffic congestion
- Maintain or improve property tax benefits
- Increase transit choices and alternative transportation modes
- Explore opportunities for new regional commercial sites and housing sites.
  - Improved access to and from I-494 and light rail transit (LRT) are also being considered to improve future transportation options.
- The Golden Triangle Land Use/Multi-Modal Transportation study provides two alternative land use concepts based on LRT alignment options.
- LRT 3A-1 is built around a transit node at the center of the redevelopment area. This is a full transit oriented development with density most intense near the station and streets lead to the station area from all directions
- LRT 3A-3 is more of a half transit oriented development in the sense that the bulk of redevelopment opportunities are located on the west side of Shady Oak Road and new streets leading to the station are limited to the redevelopment site
- Both alternatives represent a pattern that creates a hub of activity centered on the LRT station.

Note: The document was adopted by the City Council and is used as an advisory tool and shared with developers.

City of Minnetonka

Comprehensive Plan (April 1999)

- Transportation Plan
- Provide an integrated multi-modal transportation system what will serve the needs of Minnetonka residents and businesses.
- Support the City's economic development plans and density goals.
- Increase the number and proportion of people who use transit or share rides, thus reducing the peak level of demand on the entire transportation system.
- Integrate alternative modes of transportation (transit, bicycle, and pedestrian) into the City's overall transportation network.
- Improve the safe and efficient movement of people and goods to and through the City of Minnetonka.
- Complement the metropolitan transportation system by providing a local system that serves non-regional trips, manages access to the regional highway system and provides a back-up system of reliever roadways to help manage traffic when major incidents occur on the regional highway system.

City of Hopkins

Comprehensive Plan (December 21, 1999)

Opportunities for Hopkins

- Access to and from Minneapolis via Light-rail Transit
  - Historically, two light rail stations were planned to serve Hopkins. At the present time, there is a great deal of regional debate on the future of light rail transit. Current options under consideration include light rail and commuter rail, which would utilize existing tacks on a shared basis. The rail link that passes through Hopkins roughly parallel to Excelsior Boulevard is still a candidate rail line. In order to preserve future options, the Comprehensive Plan update will continue to accommodate a light rail station along Excelsior Boulevard. If a light rail system is built in the future, this station would bring many people into Hopkins daily and improve access not only from Hopkins to Minneapolis but also from Minneapolis (and other locations) to Hopkins.

Implementation Strategies

- Transportation Strategies
  - Strategy #3 Improve the existing transit system (High Priority 2000-2005)
    - The City should work cooperatively with the Metropolitan Council Transit Operations and other agencies to improve mass transit. Transit service is a function of population and employment densities. Hopkins is a major employment center and accordingly, is being considered for future light rail transit (LRT) and/or dedicated bus way improvements.

Special Area Plans

East Hopkins Land Use and Market Study

- Transit Implications
- The Southwest Transit Corridor passes through the study area and this fact contributed strongly to the Metropolitan Council's initial interest in this study. Alternately identified as corridor for Light Rail Transit, designated Busway, or Diesel Motor Unit, the rail line the slices through the study area is controlled by the Hennepin County Regional Rail Authority and remains a potential of transit-oriented development was a contributing factor that impacted plan concepts throughout this study. Accordingly, this study examines a number of potential station locations and their impacts on surrounding land use.

West Hopkins Land Use and Market Study

A study of the Shady Oak station area and update of the Blake Road Station area is ongoing.

City of St. Louis Park

Comprehensive Plan (2000-2010)

Livable Communities

- Mixed Use Development
  - Mixed-use development means two or more uses are contained within the same building. Residential mixed-use also means mixed-income housing, mixed types of housing on the same block, and higher density development. There is a fear that high density means congested streets. Actually, high density often results in reduced automobile traffic, because higher densities can support local retail and service as well as transit, all of which reduce dependence on the automobile.
- Transit Oriented
  - Funds for building and expanding highways are not keeping up with congestion. Effective public transportation is an alternative to the automobile which is more sustainable both in long germ infrastructure costs and energy conservation. Design for and around transit is very important to the long –term viability of any community.
  - Zoning plays an important role when considering transit. Zoning should allow as many activities as possible to be located within easy walking distance of transit stops.

Redevelopment

- Highway 7 Redevelopment District
  - Improve transportation features of the Highway 7 corridor
    - Allow development of a light rail transit system in the Highway 7 corridor with appropriately located stations.
- Potential Future Districts
  - West 36th Street/Wooddale Area

        - A transit way (either busway or LRT) is recommended along the Hennepin County Regional Railway authority corridor that forms the northern boundary to this area.
    - Elmwood Area
        - Transit
            - Land use planning and circulation should anticipate implementation of LRT within the rail corridor.
            - Planning should assume a center-loaded transit patron platform east of Wooddale Avenue.
            - A multi-modal transit station should be sited within the northeast quadrant of Wooddale Avenue and West 36th street.
            - The transit station should accommodate patron connections to the rail corridor, bus circulator systems and walk to traffic.
            - Parking related to transit patrons should be limited to specific parcels or structures.
            - Parking impacts to adjacent neighborhoods should be limited by strict enforcement and management procedures.
            - Transit oriented development, land use patterns and building configurations should be considered within a five-minute walk of LRT loading platforms.
- Priority will be given to projects that:
    - Enhance Transit
        - The project will enhance mobility and increase the ability for residents to safely access local amenities and services. Projects preserve or enhance the "walkability" of neighborhoods and reduce the need for automobile trips by providing interconnected walking, bicycling and public transit opportunities.

Plan by Neighborhood #30 – Brooklawns (Louisiana station)

- Specific Development Guidelines
    - The railroad corridor which forms the northern boundary of the neighborhood is designated as a future LRT route. Any redevelopment of land uses adjacent to this corridor shall consider this possibility. A future station may be located at Louisiana Avenue. Redevelopment shall provide pedestrian access to this location.

Plan by Neighborhood #31 – Elmwood (Wooddale Station)

- Specific Development Guidelines
    - A land use study is recommended for the area bounded by TH 7, TH 100 and Wooddale Avenue. This area is subject to redevelopment and uses compatible with the future transit potential of the CP Rail Bass Lake Corridor are encouraged. This may include a transit station and a mixture of residential, work place and retail/service uses. One desirable result of a land use study would be to precisely locate the most favorable site for a transit station. Land use designation changes will fallow based on the study results.
- Desired Neighborhood Improvements
    - Improved transit, including hop-a-ride and LRT.

Plan by Neighborhood #25 Wolfe Park (Beltline Station)

- No reference to LRT or transit improvements.

Special Area Plans

Elmwood Area Land Use, Transit and Transportation Study (February 5, 2003)

Transit

- This study assumes that light rail transit (LRT) will be implemented within the Southwest Corridor, causing relocation of the freight rail in the adjacent CP Rail corridor. Should this occur, current CP Rail right of way would be available for alternative uses within the Elmwood Study Area. A center platform LRT station could be located within the Southwest Corridor immediately east of Wooddale Avenue. Parcels in the northeast quadrant of Wooddale Avenue and West 36th Street should then be used as a multi-modal transit facility interfacing circulator bus activity, a park and ride, and walk-to/bike-to traffic with LRT access.

Transportation

- Wooddale Avenue should be extended south and east, implementing a new crossing. If the Southwest Corridor is developed for LRT, it will not likely co-exist with the freight rail that currently operates on the parallel CP Rail corridor. The existing freight rail would therefore be relocated. This would make current CP Rail right of way available for redevelopment or alternative uses between Dakota Avenue on the west and the municipal boundary of St. Louis Park on the east. This includes the portion of the CP Rail corridor within the Elmwood Study Area. Assuming LRT is implemented in the Southwest Corridor, a center platform transit station could be located within the corridor as part of the LRT system, immediately east of Wooddale Avenue. Adjacent parcels to the south of the station should then be used as a multi-modal transit *facility* interfacing circulator bus activity, a park and ride, and walk-to/bike-to traffic with LRT access. This area may ultimately incorporate structured parking as a part of the transit complex, which could be considered as shared parking with multi-use properties located immediately east of the transit facility.

Transit Facilities

- Ongoing planning will determine future use of the Southwest Corridor for transit purposes. This study assumes that LRT will occur within the corridor with a center-loaded LRT platform located immediately east of Wooddale Avenue. This station would serve not only the Elmwood commercial and residential areas but also neighborhoods north of TH 7. A multi-modal transit facility should be developed in the northeast quadrant of Wooddale Avenue and West 36th Street to serve as an interface between the LRT platform and local circulator buses or walk-to patrons. As shown in Figure 13, the parcels should be developed as a multi-use facility and include retail or service elements complementary to transit patrons on the first level, fronting on West 36th Street. Bus service to and from the transit station would have curbside drop-off/pick-up areas on West 36th Street. Transit patrons could also be dropped off or picked up by passenger cars in the same location. Such a transit station could exist as a combined venture between Hennepin County, St. Louis Park, Metro Transit, other public agencies and private businesses with interest in tenancy or patron services. When LRT is operational, further analysis will need to be conducted by the County and City to accommodate transit-oriented parking that minimizes impacts to the residential neighborhood.

The parcel in the northeast quadrant of Wooddale Avenue and West 36th Street could ultimately be used as part of a district parking facility in conjunction with other adjacent parcels. Transit-oriented parking could also occur in structured parking located behind and in close proximity to mixed-use development and the Southwest Corridor. Assuming freight rail is abandoned, additional right-of-way could be reused as a part of the parking component.

City of Minneapolis

The Minneapolis Plan (Comprehensive Plan)

Chapter 3. Marketplaces: Growth Centers

- Intensive development will be encouraged and supported at selected growth centers which will be designated. All of these centers will be supported with improved amenities and transit.
- An area will be designated a growth center if it takes advantage of incentives to mix compatible land uses, such as office and residential, and maximizes transit patronage while providing adequate transportation access for the movement of goods and people.
    - Minneapolis will designate and develop selected Growth Centers which will be well served by transit and alternative transportation, have superior amenities, accommodate a range of housing needs and offer attractive employment opportunities.

Chapter 4. Marketplaces: Neighborhoods

- The Plan uses the terms “community corridors” and “commercial corridors” to describe streets characterized by types of mixed-use, linear development. The neighborhoods find many of their goods and services along these corridors.
    - Minneapolis will encourage reinvestment along major urban corridors as a way of promoting growth in all neighborhoods.
    - Minneapolis will coordinate land use and transportation planning on designated Community Corridors through attention to the mix and intensity of land uses, the pedestrian character and residential livability of the streets, and the type of transit service provided on these streets.
    - Minneapolis will identify and support Activity Centers by preserving the mix and intensity of land uses and enhancing the design features of each area that give it a unique and urban character.
    - Minneapolis will encourage both a density and mix of land uses in Transit Station Areas (TSAs) that both support ridership for transit as well as benefit from its users.
    - Minneapolis will require design standards for TSAs that are oriented to the pedestrian and bicyclist and that enforce traditional urban form.
    - Minneapolis will provide direct connections to transit stations for pedestrians, bicyclists, and bus riders.
    - Minneapolis recognizes that parking is a necessary part of the urban environment, but will limit the amount, location and design of parking in TSAs in order to encourage and support walking, bicycling and transit use.

Transit Station Areas (TSAs)

- Transit Station area (TSA) is a land use policy feature arising from regional investment in dedicated, fixed-route transit lines (e.g., LRT, commuter rail, busway). The purpose of identifying TSAs as a land use feature in the *Minneapolis Plan* is to emphasize that station areas represent unique opportunities and challenges that require special policy consideration. As such, TSAs call for tools that maximize potential community development benefits of transit while also strengthening and protecting the surrounding neighborhoods.
- The City will engage in activities that foster transit ridership. This will include redevelopment as well as regulations that prevent the introduction or expansion of uses that do not support transit (e.g., automobile repair services or low-density industrial uses).
- The City acknowledges its essential role in ensuring that critical public components of TSAs are realized. To achieve these public components, the City may need to acquire land and build or modify public infrastructure. The City further acknowledges that successful implementation will depend on partnerships with other units of government, neighborhood organizations, the not-for-profit sector, and the private sector.
    - Minneapolis will encourage both a density and mix of land uses in TSAs that both support ridership for transit as well as benefit from its users.
        - Explore and pursue opportunities to integrate development with transit stations.
        - Concentrate highest densities and mixed-use development nearest the transit station and/or along Commercial Corridors, Community Corridors and/or streets served by local bus transit.
    - Minneapolis will require design standards for TSAs that are oriented to the pedestrian and bicyclist and that enforce traditional urban form.
    - Minneapolis will provide direct connections to transit stations for pedestrians, bicyclists, and bus riders.
        - Design streets, sidewalks, and other public infrastructure to prioritize pedestrian, bus and bicycle access to transit stations.
    - Minneapolis recognizes that parking is a necessary part of the urban environment, but will limit the amount, location and design of parking in TSAs in order to encourage and support walking, bicycling and transit use.

Chapter 9 City Form

- Land Use Regulations and Planning Tools: Activity Centers
    - Activity Centers generally have a diversity of uses that draw traffic from citywide and regional destinations, but do not generally support automobile uses.
    - Activity Centers have a significant pedestrian and transit orientation, as service and features of these areas are already good.
    - Activity Centers have uses that are active all day long and into the evening.
    - 9.31 Minneapolis will identify and support Activity Centers by preserving the mix and intensity of land uses and enhancing the design features of each area that give it a unique and urban character.

Special Area Plans

Bryn Mawr Neighborhood Land Use Plan (September 23, 2005) – Penn Avenue Station

- Future LRT station:
  - According to Mn/DOT and Hennepin County Railway Authority, the North Star Railway (a planned commuter rail) will run on the existing track on the northern border of Bryn Mawr. Dan Patch Commuter Rail and Southwest Corridor Light Rail Transport (LRT) will run through the southern segment of the neighborhood. There have been discussions about a proposed LRT station near the interchange of Penn Avenue and I-394. An LRT station and commuter rail operations could present opportunities to the neighborhood, such as offering residents an alternative means of travel around the Twin Cities. The LRT would also bring people to the neighborhood and increase commercial opportunities for the neighborhood commercial nodes.
- Goals:
  - To provide and maintain safe and efficient transportation systems for private vehicles, public transportation, bicycles, and pedestrian traffic.
- South Gateway Site:
  - The site is located at a principal gateway into the Bryn Mawr neighborhood. It is located on the south frontage road to I-394, just past the interchange of I-394 and Penn Avenue. Madeira Avenue lies to the west, Wayzata Boulevard is to the north, to the east is Penn Avenue and to the south are the Burlington Northern Santa Fe Railway lines and parks.
    - Goals: Better utilize the opportunities provided by the LRT station that may be built at that location.
    - Site strengths/opportunities: Proposed LRT/commuter rail station near the site.
    - Recommendation: Site development should consider development of the gateway area as a whole, coordinating with future off-site improvements.
      - A connector among the neighborhood, the park and future LRT station
      - Development should also enhance the vertical circulation between the LRT station, the trails, and the park.
      - Future land use in the district should be a mixed-use of moderated dwellings and office with additional small-scale retail sales and services.

Bassett Creek Valley Master Plan (March 8, 2000) – Van White Station

- No specific language on transit/LRT or station location.
- Master Plans have indicated the incorporation of transit

Downtown East/North Loop Master Plan(Adopted: October 2003)

- The primary goal of the Downtown East/North Loop Master Plan is to develop a vision and a framework for how new growth should occur in the underdeveloped districts of Downtown Minneapolis, particularly in areas surrounding proposed rail transit stations.
- Transit-Oriented Development

- In pursuit of the larger goal of building Complete Communities, instituting land use policies that inherently reduce auto dependence is paramount. The central planning ingredient for TOD is convenient access to revitalized public transit service - commuter rail, light rail transit (LRT), bus rapid transit (BRT), and city bus systems - that directly serve medium- and/or high-density nodes of mixed use development. TOD promotes the increased use of transit, particularly rail transit, because it is located at the "hub" of neighborhood uses and activities.

- Based on the existing concentration of bus lines that feed Downtown Minneapolis, the construction of the LRT line, and the prospect of new commuter rail lines, the Central Business District (CBD) will continue to be the most highly served collection of real estate in the Upper Midwest. As such, the Project Area is an ideal location to develop a series of medium and high-intensity TOD nodes that provide both new places to live Downtown and new commercial spaces that will contribute to regional and neighborhood prosperity. TOD is particularly effective at capturing the benefits rapid transit can bring to communities. Successful TOD incorporates the following key objectives:

    - *Multi-Modal:* TOD allows for multiple modes of transit to access and use the same stations thereby facilitating easy transfers between different modes.

    - *Mixed-Use Development:* Different uses and activities are clustered within a single neighborhood, within a single city block, and in some cases within a single building.

    - *Compact Development:* Facilitating a wide range of land uses within a one-quarter to one-half mile radius of transit nodes means that most everything in the neighborhood is no more than a five or ten minute walk away. Smaller lots, reduced setbacks, and greater attention to infill development opportunities make it possible to assemble different uses in a relatively small amount of geographic space.

    - *Increased Density:* Intensification of land uses makes the most of expensive land and infrastructure, while facilitating greater population growth.

    - *Traditional Neighborhood Structure:* Incorporating the concept of "town centers" into downtown neighborhoods creates a series of strong individual neighborhoods, each of which is interconnected to the CBD as a whole.

    - *Connectivity:* An interconnected street grid facilitates easy linkages between places.

    - *Civic Identity / Public Realm:* A mix of safe public spaces including parks, plazas and active, at-grade storefronts lends a "sense of place" and character to each node.

    - *Pedestrian-Friendly:* Taking measures to enhance pedestrian safety, function and aesthetic character improve neighborhood livability.

- *Traffic Calming:* Widening sidewalks and reducing vehicular capacity on selected city streets "calms" vehicular traffic and creates a zone of activity designed to accommodate pedestrians, primarily, and to facilitate vehicular access to building sites, secondarily.

- Transportation, Transit and Parking
  - In order to create the kind of environment that will allow Complete Communities to germinate in the Project Area, the City must first seek ways to reduce automobile dependence. This challenge must be dealt with effectively at two different levels.

  - Surface lots that currently serve Downtown commuters must be re-developed for higher and better uses that are served by a mix of transportation modes. Given the value of downtown land, it is not possible to expect that each and every existing surface stall will be replaced by a stall in a new structured ramp. The commuter trips represented by at least some of those stalls must be replaced by commuters using public transit.

  - At issue is the pursuit of land use planning that promotes compact development, which in turn complements new rail transit infrastructure. In response to this challenge, land use planning efforts must be geared toward enabling residents to live in close proximity to where they work, shop, and play, thereby reducing unnecessary automobile trips.

- Policies for Transportation, Transit and Parking
  - Discontinue expansion of the City's existing Perimeter Parking Policy within the Project Area: The City's current perimeter parking policy should not be expanded any further because it discourages public transit ridership, promotes inefficient land use and is not pedestrian-friendly. In addition, the existing perimeter parking policy conflicts with the ability to discourage construction of future park and ride structures within close proximity to the LRT Corridor.

  - Eliminate or reduce required parking in specific circumstances: The City should eliminate or reduce required parking in new developments adjacent to LRT Stations within the Project Area. The City should prohibit construction of new commercial parking structures within a block of downtown LRT stations.

  - Phase-out existing surface lots within two blocks of all downtown LRT stations by instituting a five or seven year timeline for conversion to other uses.

- Development Precinct 13: Air Rights Development District over "The Cut"
  - A large swath of railway and highway lands cut through the North Loop and interrupts the fabric of Downtown Minneapolis. Within The Cut, the existing highway infrastructure is critical to the everyday function and overall economic competitiveness of Downtown. Likewise, when existing freight rail tracks along the Burlington Northern right of way are leased for commuter rail operations, it will be necessary to use land adjacent to these tracks for new rail sidings that will accommodate multiple commuter rail lines and inter-city lines (Amtrak).

- Siting of the multi-modal station: further detailed studies will need to be undertaken concerning the relationships between the components of the multi-modal station, including the rail yards, train platforms, and the exact location for the headhouse (which would include waiting areas, retail services, ticketing, and luggage handling). Moreover, these studies should address the relationship between the multi-modal rail station, the proposed LRT station, and the existing bus station on the 5th Street Ramp. In all cases, Amtrak and commuter rail platforms would be located beneath the new baseball stadium (or residential development). The interface between these new rail yards and the new street system on the deck above can be accomplished in a number of ways and therefore demands more detailed study.

Appendix B: FTA New Start Criteria: Land Use

The following criteria are excerpted from the *FTA Annual Report on New Starts:. Guidelines and Standards for Assessing Transit Supportive Land Use, May 2004*.

[Note: These 2004 Land Use criteria were used for the Southwest Transitway AA land use evaluations; however, it is important to note that Table B-1 information remains almost verbatim unchanged between 2004 and the FTA rating process for FFY2007 .

Table B-1 Ratings Applied in Assessment of Land Use

I. EXISTING LAND USE		
Existing Land Use		
Phase of Project Development	Land Use Assessment Ratings	
Preliminary Engineering and Final Design	HIGH	Current levels of population, employment, and other trip generators in station areas are sufficient to support a major transit investment. Most station areas are pedestrian-friendly and fully accessible.
	MEDIUM	Current levels of population, employment, and other trip generators in station areas marginally support a major transit investment. Some station areas are pedestrian-friendly and accessible. Significant growth must be realized.
	LOW	Current levels of population, employment, and other trip generators in station areas are inadequate to support a major transit investment. Station areas are not pedestrian-friendly.
Ratings based on assessment of the following: • Existing corridor and station area development; • Existing corridor and station area development character (i.e., residential, commercial, mixed-use); • Existing station area pedestrian facilities, including access for persons with disabilities; and • Existing corridor and station area parking supply.		

Table B-1 Ratings Applied in Assessment of Land Use, Cont'd

II. TRANSIT-SUPPORTIVE PLANS AND POLICIES		
Growth Management		
Phase of Project Development	Land Use Assessment Ratings	
Preliminary Engineering and Final Design	HIGH	Adopted and enforceable growth management and land conservation policies are in place throughout the region. Existing and planned densities and market trends in the region and corridor are strongly compatible with transit.
	MEDIUM	Significant progress has been made toward implementing growth management and land conservation policies. Strong policies may be adopted in some jurisdictions but not others, or only moderately enforceable policies (e.g., incentive-based) may be adopted regionwide. Existing and/or planned densities and market trends are moderately compatible with transit.
	LOW	Limited consideration has been given to implementing growth management and land conservation policies; adopted policies may be weak and apply to only a limited area. Existing and/or planned densities and market trends are minimally or not supportive of transit.
Ratings based on assessment of the following: • Concentration of development around established activity centers and regional transit; and • Land management.		

Transit-Supportive Corridor Policies		
Phase of Project Development	Land Use Assessment Ratings	
Final Design	HIGH	Conceptual plans for the corridor and station areas have been developed. Local jurisdictions have adopted or drafted revisions to comprehensive and/or small area plans in most or all station areas. Land use patterns proposed in conceptual plans and local and institutional plan revisions are strongly supportive of a major transit investment.
	MEDIUM	Conceptual plans for the corridor and station areas have been developed. Local jurisdictions have initiated the process of revising comprehensive and/or small area plans. Land use patterns proposed in conceptual plans and local and institutional plan revisions are at least moderately supportive of a major transit investment.
	LOW	Limited progress has been made toward developing station area conceptual plans or revising local comprehensive or small area plans. Existing station area land uses identified in local comprehensive plans are marginally or not transit-supportive.

Table B-1. Ratings Applied in Assessment of Land Use, Cont'd

Transit-Supportive Corridor Policies (continued)		
Phase of Project Development	Land Use Assessment Ratings	
Preliminary Engineering	HIGH	Conceptual plans for the corridor and station areas have been developed. Discussions have been undertaken with local jurisdictions about revising comprehensive plans. Land use patterns proposed in conceptual plans for station areas (or in existing comprehensive plans and institutional master plans throughout the corridor) are strongly supportive of a major transit investment.
	MEDIUM	Conceptual plans for the corridor and station areas are being developed. Discussions have been undertaken with local jurisdictions about revising comprehensive plans. Land use patterns proposed in conceptual plans for station areas (or existing in local comprehensive plans and institutional master plans) are at least moderately supportive of a major transit investment.
	LOW	Limited progress has been made toward developing station area conceptual plans or working with local jurisdictions to revise comprehensive plans. Existing station area land uses identified in local comprehensive plans are marginally or not transit-supportive.
Ratings based on assessment of the following: • Plans and policies to increase corridor and station area development; • Plans and policies to enhance transit-friendly character of corridor and station area development; • Plans to improve pedestrian facilities, including facilities for persons with disabilities; and • Parking policies.		

Supportive Zoning Regulations Near Transit Stations		
Phase of Project Development	Land Use Assessment Ratings	
Final Design	HIGH	Local jurisdictions have adopted zoning changes that strongly support a major transit investment in most or all transit station areas.
	MEDIUM	Local jurisdictions are in the process of adopting zoning changes that moderately or strongly support a major transit investment in most or all transit station areas. Alternatively: strongly transit-supportive zoning has been adopted in some station areas but not in others.
	LOW	No more than initial efforts have begun to prepare station area plans and related zoning. Existing station area zoning is marginally or not transit-supportive.

Table B-1. Ratings Applied in Assessment of Land Use Criteria, Cont'd

Supportive Zoning Regulations Near Transit Stations (continued)		
Phase of Project Development	Land Use Assessment Ratings	
Preliminary Engineering	HIGH	A conceptual planning process is underway to recommend zoning changes for station areas. Conceptual plans and policies for station areas are recommending transit-supportive densities and design characteristics. Local jurisdictions have committed to examining and changing zoning regulations where necessary. Alternatively, a "high" rating can be assigned if existing zoning in most or all transit station areas is already strongly transit-supportive.
	MEDIUM	A conceptual planning process is underway to recommend zoning changes for station areas. Local jurisdictions are in the process of committing to examining and changing zoning regulations where necessary. Alternatively, a "medium" rating can be assigned if existing zoning in most or all transit station areas is already moderately transit-supportive.
	LOW	Limited consideration has been given to preparing station area plans and related zoning. Existing station area zoning is marginally or not transit-supportive.
Ratings based on assessment of the following: • Zoning ordinances that support increased development density in transit station areas; • Zoning ordinances that enhance transit-oriented character of station area development and pedestrian access; and • Zoning allowances for reduced parking and traffic mitigation.		

Tools to Implement Land Use Policies		
Phase of Project Development	Land Use Assessment Ratings	
Final Design	HIGH	Transit agencies and/or regional agencies are working proactively with local jurisdictions, developers, and the public to promote transit-supportive land use planning and station area development. The transit agency has established a joint development program and identified development opportunities. Agencies have adopted effective regulatory and financial incentives to promote transit-oriented development. Public and private capital improvements are being programmed in the corridor and station areas that implement the local land use policies and which leverage the Federal investment in the proposed corridor.
	MEDIUM	Transit agencies and/or regional agencies have conducted some outreach to promote transit-supportive land use planning and station area development. Regulatory and financial incentives to promote transit-oriented development are being developed, or have been adopted but are only moderately effective. Capital improvements are being identified that support station area land use plans and leverage the Federal investment in the proposed major transit corridor.
	LOW	Limited effort has been made to reach out to jurisdictions, developers, or the public to promote transit-supportive land use planning; to identify regulatory and financial incentives to promote development; or to identify capital improvements.

Table B-1. Ratings Applied in Assessment of Land Use, Cont'd

Phase of Project Development	Land Use Assessment Ratings	
Preliminary Engineering	HIGH	Transit agencies and/or regional agencies are working proactively with local jurisdictions, developers, and the public to promote transit-supportive land use planning and station area development. Local agencies are making recommendations for effective regulatory and financial incentives to promote transit-oriented development. Capital improvement programs are being developed that support station area land use plans and leverage the Federal investment in the proposed major transit corridor.
	MEDIUM	Transit agencies and/or regional agencies have conducted some outreach to promote transit-supportive land use planning and station area development. Agencies are investigating regulatory and financial incentives to promote transit-oriented development. Capital improvements are being identified that support station area land use plans and leverage the Federal investment in the proposed major transit corridor.
	LOW	Limited effort has been made to reach out to jurisdictions, developers, or the public to promote transit-supportive land use planning; to identify regulatory and financial incentives to promote development; or to identify capital improvements.
Ratings based on assessment of the following: • Outreach to government agencies and the community in support of land use planning; • Regulatory and financial incentives to promote transit-supportive development; and • Efforts to engage the development community in station area planning and transit-supportive development.		

III. PERFORMANCE AND IMPACTS OF LAND USE POLICIES		
Performance of Land Use Policies		
Phase of Project Development	Land Use Assessment Ratings	
Final Design	HIGH	A significant number of development proposals are being received for transit-supportive housing and employment in station areas. Significant amounts of transit-supportive development have occurred in other existing transit corridors and station areas in the region.
	MEDIUM	Some development proposals are being received for transit-supportive housing and employment in station areas. Moderate amounts of transit-supportive development have occurred in other existing transit corridors and station areas in the region.
	LOW	A limited number of proposals for transit-supportive housing and employment development in the corridor are being received. Other existing transit corridors and station areas in the region lack significant examples of transit-supportive housing and employment development.

Table B-1. Ratings Applied in Assessment of Land Use Criterion, Cont'd

Preliminary Engineering	HIGH	Transit-supportive housing and employment development is occurring in the corridor. Significant amounts of transit-supportive development have occurred in other existing transit corridors and station areas in the region.
	MEDIUM	Station locations have not been established with finality, and therefore, development would not be expected. Moderate amounts of transit-supportive housing and employment development have occurred in other existing transit corridors and station areas in the region.
	LOW	Other existing transit corridors and station areas in the region lack significant examples of transit-supportive housing and employment development.
Ratings based on assessment of the following: • Demonstrated cases of development affected by transit-oriented policies; and • Station area development proposals and status.		
Potential Impact of Transit Project on Regional Land Use		
Phase of Project Development	Land Use Assessment Ratings	
Preliminary Engineering and Final Design	HIGH	A significant amount of land in station areas is available for new development or redevelopment at transit-supportive densities. Local plans, policies, and development programs, as well as real estate market conditions, strongly support such development.
	MEDIUM	A moderate amount of land in station areas is available for new development or redevelopment at transit-supportive densities. Local plans, policies, and development programs, as well as real estate market conditions, moderately support such development.
	LOW	Only a modest amount of land in station areas is available for new development or redevelopment. Local plans, policies, and development programs, as well as real estate market conditions, provide marginal support for new development in station areas.
Ratings based on assessment of the following: • Adaptability of station area land for development; and • Corridor economic environment.		

Source: LSA Design, 2006

Table B-2 presents the quantitative measures and thresholds FTA utilizes for *Existing Land Use*, *Corridor Policies,* and *Zoning Near Transit Stations* factors. This table is intended as a rough guide for assigning ratings for land use factors in which quantitative data are given some consideration. These thresholds reflect only the quantitative aspects of ratings, and are complemented by a range of qualitative measures described in Table 5. All quantitative measures may not be available for every project.

Table B-2. Quantitative Element Rating Guide [1]

	Existing Land Use			
	Station Area Development		Parking Supply	
Rating	Employment served by system[2]	Ave. Population Density (persons/sq. mi.)	CBD typical cost/day[3]	CBD spaces per employee[4]
High (5)	> 250,000	> 15,000	> $16	< 0.2
Medium-High (4)	175,000—250,000	10,000—15,000	$ 12—16	0.2—0.3
Medium (3)	125,000—175,000	6,667—10,000	$ 8—12	0.3—0.4
Low-Medium (2)	75,000—125,000	3,333—6,667	$ 4—8	0.4—0.5
Low (1)	< 75,000	< 3,333	< $ 4	> 0.5

	Corridor Policies and Station Area Zoning				
	Station Area Development			Parking Supply	
Rating	CBD comm.. FAR[5]	Other comm.. FAR[6]	Residential DU/acre	CBD spaces per 1,000 sq.ft.	Other spaces per 1,000 sq.ft.
High (5)	> 10.0	> 2.5	> 25	< 1	< 1.5
Medium-High (4)	8.0—10.0	1.75—2.5	15—25	1—1.75	1.5—2.25
Medium (3)	6.0—8.0	1.0—1.75	10—15	1.75—2.5	2.25—3.0
Low-Medium (2)	4.0—6.0	0.5—1.0	5—10	2.5—3.25	3.0—3.75
Low (1)	< 4.0	< 0.5	< 5	> 3.25	> 3.25

Source: LSA Design, 2006

1 This table is intended as a rough guide for assigning land use ratings for factors in which quantitative data are given primary consideration. The ranges shown were developed based on an analysis of land use characteristics and assigned ratings for New Starts projects rated for Fiscal Years 1999 through 2002. Measures of parking supply are the most commonly reported measures, but may not be available for every project.

2 Entire line with a no-transfer ride from the New Starts project stations (including the CBD), even if the New Starts project is an extension not located in CBD.

3 CBD core (not fringe parking).

4 Average across CBD.

5 CBD core area.

6 Elsewhere in corridor (typical for commercial districts).

Appendix C: Annotated References

The following is excerpted from Jeffery Smith and Thomas Gihring. *"Financing Transit Systems Through Value Capture, An Annotated Bibliography", Victoria Transport Policy Institute, 2006*

The annotations below summarize many of the issues regarding the benefits, impacts and opportunities of transit on their communities.

20) Litman, Todd, *Rail Transit In America: Comprehensive Evaluation of Benefits*, Victoria Transport Policy Institute (www.vtpi.org), 2004. Also see, *Evaluating Public Transit Benefits and Costs*, by the same author and publisher, which provides additional information on methods for evaluating benefits.
This study evaluates rail transit benefits based on a comprehensive analysis of transportation system performance in major U.S. cities. It finds that cities with large, well-established rail systems have significantly higher per capita transit ridership, lower average per capita vehicle ownership and annual mileage, less traffic congestion, lower traffic death rates, lower consumer expenditures on transportation, and higher transit service cost recovery than otherwise comparable cities with less or no rail transit service. It finds that monetized benefits exceed rail transit costs several times over. This indicates that rail transit systems provide economic, social and environmental benefits, and these benefits tend to increase as a system expands and matures. This report discusses best practices for evaluating transit benefits. It examines criticisms of rail transit investments, finding that many are based on inaccurate analysis.

29) Al-Mosaind, Musaad A., Kenneth J. Duecker, and James G. Strathman, "Light Rail Transit Stations And Property Values: A Hedonic Price Approach," *Discussion paper 92-04, Presented at Transportation Research Board 72nd Annual Meeting*, Center for Urban Studies, School of Urban and Public Affairs, Portland State University, December 1992.Proximity to LRT stations may improve the accessibility of residents to the CBD and the rest of the urban area, and may also result in transportation cost savings. These effects show up in higher property values. However, in the absence of attention to design qualities, LRT stations may impose negative externalities, depreciating nearby home values. Which of these two effects predominates? In metropolitan Portland, Oregon, two distance models to LRT stations were compared. The first showed a positive capitalization in sale prices for homes within 500 m (1600 ft or 1/4 mi) walking distance. This effect was equally felt for all homes within that distance zone. The second model found a statistically weak negative price gradient for homes within the 500-m zone. This implies a positive influence of proximity, where homes are priced about 10% higher. Zoning for higher density around stations also raised site values.

30) Anas, A., and Regina Armstrong, *Land Values and Transit Access: Modeling the Relationship in the New York Metropolitan Area: An Implementation Handbook*. Report No. FTA-NY-06-0152-93, U.S. Federal Transit Administration, Office of Technical Assistance and Safety, Springfield VA. (National Technical Information Service) September 1993.
This article presents findings of a multi-year study of the relationship between land values and transit access in the New York area, as precursor to capturing this value for public transit. Initiated as an element of the Third Regional Plan for the New York/New

Jersey/Connecticut Region, the results serve as a research prototype for transit systems throughout the US. Two economic models are presented – NYREG and NYSTA – which predict shifts in land values within the region and at a parcel scale in relation to transit stations. "The total benefits of reducing wait times on transit equal $3.7 billion ($1.57/trip). Taxing the producer surplus increases would raise $100 million/yr, enough to finance a doubling of the number of trains (an unknown cost)."

31) Armstrong, Robert J., "Impacts of Commuter Rail Service as Reflected in Single- Family Residential Property Values", *Transportation Research Record, 1466 (1994): 88-97.* Single-family residential properties in metropolitan Boston, Mass, are examined. Results indicate that there is an increase in single-family residential property values of approximately 6.7% by virtue of being located within a community having a commuter rail station. At the regional level there appears to be a significant impact on single-family residential property values resulting from the accessibility provided by commuter rail service.

32) Barker, William G., "Bus Service and Real Estate Values", *68th Annual Meeting of the Institute of Transportation Engineers, Toronto, Ontario, 1998.* (Available from ITE, 1099 14th Street, NW, Washington DC 20005-3438 U.S.A.).
Real estate developers and lending institutions are not willing to base investments on the location of easily changed bus routes. However, the availability of local bus service does increase the value of at least some urban real estate.

33) Baum-Snow, Nathaniel and Matthew E. Kahn, "The Effects of Public Transit Projects to Expand Urban Rail Transit," *Journal of Public Economics*, Vol. 77, 2001, pp. 241-63.
Study of land values in Boston, Atlanta, Chicago, Portland and Washington DC found that a decrease from three to one kilometer distance from transit stations increases rents by $19 per month, and housing values by $4,972.

34) Benjamin, John D., and G. Stacy Sirmin, "Mass Transportation, Apartment Rent and Property Values," *The Journal of Real Estate Research, Vol. 12, No. 1 (1996).*
This study examines the effects of transit access, measured in ground distance to the nearest station, on residential rent levels. From over 250 observations of 81 apartment complexes, the authors find that rents decrease by 2.4% to 2.6% for each one-tenth mile in distance from a Metro station in Washington, DC.

35) Bernick, M., R. Cervero, and V. Menotti, *Comparison of Rents at Transit-Based Housing Projects in Northern California*, Working Paper 624, University of California at Berkeley, Institute of Urban and Regional Development, 1994.
"Rents at the BART housing projects are higher than those of nearby projects."

36) Bollinger, C., K. Ihlanfeldt, and D. Bowes, "Spatial Variation in Office Rents Within the Atlanta Region", *1996 TRED Conference, Lincoln Land Institute, Cambridge, Mass*., Georgia State University, Policy Research Center, July 1998.
This is a hedonic rent study of office buildings in the Atlanta area from 1990 to 1996. Part of the rent differences among office buildings is due to differences in wage rates, transportation rates, and proximity to concentrations of office workers. The convenience of face-to-face meetings facilitated by office agglomerations is also reflected in office rents, providing evidence that agglomeration tendencies continue to be important in

explaining office concentrations, despite the ability of information technology designed to reduce the need for some such contacts.

37) Borhart, Robert J., *Corridor Reservation: Implications for Recouping a Portion of the 'Unearned Increment' Arising from Construction of Transportation Facilities,* Final Report, Virginia Transportation Research Council, Charlottesville, Va., Series title: VTRC; 94-R15, 1994.
Increases in land rents show up in higher property taxes, not only in property selling prices. The author quotes President Franklin D. Roosevelt supporting value capture.

38) Bowes, David R. and Keith R. Ihlanfeldt, "Identifying the Impacts of Rail Transit Stations on Property Values," *Journal of Urban Economics*, Vol. 50, 2001, pp. 1-25.
Found that properties between one and three miles of a rail transit station in Atlanta, Georgia have a higher value than otherwise comparable properties located more than three miles away, but properties within a quarter mile of a station are worth 19% less than homes beyond three miles.

39) Cambridge Systematics, *Economic Impact Analysis of Transit Investments: Guidebook for Practitioners*, TRB Report 35, Transit Cooperative Research Program, Transportation Research Board (www.trb.org), 1998.
This comprehensive guidebook describes various technical methods for measuring the economic impacts of transit investments, including changes in adjacent property values. It also includes a summary of research findings on the increases in property values found around BART stations in the San Francisco Bay area. Results are summarized in the table below. Tables 9.6 – 9.10 list 15 studies dating from 1970 to 1996 that calculate the premium effect of transit investments, measured in unit area of property.

40) Cervero, Robert, "Rail Transit and Joint Development: Land Market Impacts in Washington, D.C. and Atlanta," *Journal of the American Planning Association, Vol. 60, No. 1 (1994): 83-94.*
In addition to public-private cost sharing and the lease revenues derived from commercial space in rail stations, joint development projects generate more fare revenues as they stimulate more transit trips. This study examines how transit investments affect office market indicators. Evidence shows that J-D projects create measurable land value increases and other associated benefits. Among five dependent variables studied, office rent levels are most closely correlated with transit factors – especially ridership. Other benefits associated with transit centers are low vacancy rates, higher absorption rates, and larger office building size. In conclusion, urban rail transit will significantly benefit land use and site rents only if a region's economy is growing and supportive programs such as permissive zoning are in place.
Financing Transit Systems Through Value Capture 18

41) Cervero, R., "Transit-Based Housing in the San Francisco Bay Area: Market Profiles and Rent Premiums," *Transportation Quarterly Vol.* 50, No.3 (1996): 33-49.
Cervero's study evaluated apartment rents (most studies evaluate housing prices). Around the three BART stations studied, most residents lived in multi-unit complexes of 20-60 units, were young adults, professionals earning incomes comfortably higher than around some other stations, living alone or as couples, but without children (DINKs), most of whom owned just one car, not one car apiece. The housing near two of the

stations those residents lived in did lease at building rents that were 10%-15% higher; around the third (Richmond) no rent premium was found. Cervero did not explain if any characteristic of that neighborhood was different: more industrial or surrounded by lower-income residents or what. He concluded that, "In theory, the existence of a rent premium for multi-unit projects suggests value capture mechanisms (e.g., forming benefit assessment districts) could be used to help finance rail systems."

42) Cervero, Robert, "Benefits of Proximity to Rail on Housing Markets: Experiences in Santa Clara County," *Journal of Public Transportation, Vol. 5, No. 1 (2002).*
Hedonic price models show that nearness to light rail and commuter rail stops substantially add value to residential parcels. Large apartments within ¼ mile of LRT stations command land value premiums as high as 45 percent. Such market profits provide a potential source of local revenue from value capture programs.

43) Cervero, Robert, and Michael Duncan, "Transit's Value Added: Effects of Light Commercial Rail Services on Commercial Land Values," *Presented at TRB Annual Meeting, 2002.* (Available at www.apta.com/info/briefings/cervero_duncan.pdf)
This study models the value effects of proximity to light rail and commuter rail stations, as well as freeway intersections, in Santa Clara County, California. Substantial capitalization benefits to commercial-retail and office properties were found, on the order of 23% for a typical commercial parcel near an LRT stop, and more than 120% for commercial land in a business district within a quarter mile of a commuter rail station.

44) Cervero, Robert, Christopher Ferrell, and Steven Murphy, "Transit-Oriented Development and Joint Development in the United States: A Literature Review," *Research Results Digest, No. 52, Transit Cooperative Research Program, (October 2002).*
This is a comprehensive review of literature on transit oriented development. Topics include: Definition of TOD, agency roles, impacts and benefits on land markets, supportive policies and regulations, the use of value capture financing, and station area design supportive of TOD. The authors suggest that transit boards might share in the land-value benefits derived from proximity to transit by participating in joint development as well as value capture.

45) Chen, Hong, Anthony Rufolo, and Kenneth Dueker, "Measuring the Impact of Light Rail Systems on Single Family Home Values: An Hedonic Approach With GIS Application", *Transportation Research Record 1617, TRB, National Research Council, Washington, DC, (1998).*
Proximity to transit stations account for a 10.5% home price differential. This confirms the findings of Al-Mosaind et. al. (see Ref. 25). They conclude that the positive effects outweigh the negatives. *Financing Transit Systems Through Value Capture* 19.

46) Damm, David, Steven Lerman, Eva Lerner-Lam, and Jeffrey Young, "Response of Urban Real Estate Values in Anticipation of the Washington Metro," *Journal of Transport Economics and Policy,* (September 1980): 315-335.
The authors draw conclusions from reviews of earlier studies of value capture financing, showing that in response to new transit lines, land values are enhanced in centers of concentrated activity and in predominantly undeveloped areas. Their Metro case study demonstrates that the values of retail properties are highly sensitive to

proximity to transit stations. This suggests that retail areas are better suited for value capture policies.

47) Diaz, Roderick B., "Impacts of rail transit on property values," *Commuter Rail/Rapid Transit Conference, Toronto, Ont.*, American Public Transit Association, 1999.
The author summarizes recent North American studies examining the impact of 12 rail projects, including both heavy rail and light rail. Several variables contributing to positive and negative changes in property values are identified. In Miami, home values near stations increased by up to 5 percent (Gatzlaff, 1993). In Toronto, nearby home value increases averaged $2,237 (Bajic, 1983). In general, proximity to rail increases accessibility, which is the primary factor in rising property values.
www.apta.com/info/online/diaz.pdf (From "Rail transit and property values" in *Information Center Briefing*, Number 1 - March 2001, at www.apta.com/info/briefings/briefings_index.htm).

48) Dunphy, Robert T., *The Cost of Being Close*, ULI Working Paper 660, Urban Land Institute, October 1998.
In Southern California, real estate consultant Larry Netherton compared examples of comparable housing for sale at different distances from a central business area. Buyers would have to travel another 15 to 30 minutes to trim $10 to $15 per square foot off the price of a house. In Orange County, two similar upper-end housing projects were compared, one near major employment, retail, and cultural centers, and the other 20 miles away from employment centers. The closer-in units sold for an average of $599,400, the distant units sold for $320,000 – a difference of about $280,000, or $14,000 per mile, or $11,200 per minute of extra commute time. In more distant Riverside County, the closer-in project was priced at $214,900, while a same-sized, similar house 20 miles farther out sold for $141,900. The differential here was $73,000 total, or $3,600 per mile, or $2,400 per minute of extra commute time.

49) Fejarang, R. A., "Impact on Property Values: A Study of the Los Angeles Metro Rail," *Transportation Research Board 73rd Annual Meeting, January 1994.* In a city such as Los Angeles, value impacts can be caused by regional as well as local behavior. Did the announcement of Metro Rail impact property values? The announcement involved a consortium of federal, state, and local funding propositions that began in 1983 and legislated in 1988. The period studied was from 1980 to 1990 during which plans became actualized. That is, investments were secured and rail transit was under design and construction, but not yet available for riders or for rider-dependent shopping. Isolating exogenous variables was accomplished at both macro and micro levels. Using a pre-test - post-test control group, property values following the period of actualization were found to be significantly different from prior values. Property values near rail lines were found to be significantly different from property values located a distance. (From Transport Research Laboratory) *Financing Transit Systems Through Value Capture* 20.

50) Thomas A. Garrett, *Light Rail Transit in America: Policy Issues and Prospects for Economic Development*, Federal Reserve Bank of St. Louis (www.stlouisfed.org), 2004. Hedonic pricing model applied to residential property values in St. Louis found that average home values increase $140 for every 10 feet closer they are to a MetroLink rail transit station, beginning at 1,460 feet. A home located 100 feet from the station has a price premium of $19,029 compared with the same

house located 1,460 feet away. This represents a 32% increase in property values. Their analysis also indicated that beyond 1,460 feet, property values increased with distance from MetroLink stations, but this probably location-related reflects other factors not included in their model, such as traffic volumes on nearby streets, rather than proximity to station. Their analysis did not investigate property value impacts on commercial properties, which probably also increase with proximity to stations.

51) Gatzlaff, Dean H., and Mark Smith, "The Impact of the Miami Metrorail on the Value of Residences Near Station Locations", *Land Economics, Vol. 69 No. 1 (February, 1993).* Miami Metrorail began in the mid-1980s, in a city that is largely new and sprawling. The 20 miles of rail line run thru downtown, half to the poorer north, half to the richer south. Neither are considered prime areas for redevelopment. Ridership is relatively low (some stations are in blighted areas). The researchers looked at only houses that had sold before and after Metrorail was completed. The researchers found that the line perceptibly increased nearby site values in the richer neighborhoods, not in the poor areas where new capital still had not ventured.

52) Goodwin, Ronald E., and Carol A. Lewis, *Land Value Assessment Near Bus Transit Facilities: A Case Study of Selected Transit Centers in Houston, Texas,* Southwest Region University Transportation Center, Houston, Texas, 1997. Site values in the Houston region were falling due to shrinking incomes and diminished incomes. However, values fell less near bus stops than they did in more distant locations.

53) Gruen, Aaron, *The Effect Of CTA and METRA Stations on Residential Property Values: Transit Stations Influence Residential Property Values*, Report to the Regional Transportation Authority, June 1997. By improving accessibility, lessening congestion, and reducing household transportation costs, transit service adds value to residential locations. Observing 96 Chicago-area Chicago Transit Authority (CTA) and METRA stations, Gruen used hedonic modeling supplemented by a literature review and interviews with realtors and other experts on local market conditions. More important than the presence of a transit station is the perception of neighborhood desirability. Still, the proximity of transit does positively affect property values. The price of a single-family house located 1,000 feet from a station is 20% higher than a comparable house located a mile away. Realtors in both the affluent suburban West Hinsdale station area and the gentrifying Logan Square area on Chicago's northwest side point out that prices have been increasing and that these locations increasingly appeal to younger, higher-income professionals, many of whom commute via CTA or METRA to downtown Chicago. Apartment properties located closer to train stations tend to realize higher rents and occupancy levels than comparable apartments less conveniently located. (www.ggassoc.com from "Rail Transit And Property Values," *Information Center Briefing*, No. 1, March 2001, at www.apta.com/info/briefings/briefingsindex.htm). *Financing Transit Systems Through Value Capture* 21

54) Hess, Daniel Baldwin and Tangerine Maria Almeida, *Impact of Proximity to Light Rail Rapid Transit on Station-Area Property Values in Buffalo*, Paper 062198, Transportation Research Board 85th Annual Meeting (www.trb.org), 2006. This study assesses the impact of proximity to light rail transit on residential property values near stations in Buffalo, New York, where light rail has been in service for 20 years, but population is declining and ridership is decreasing. The researchers

construct hedonic models of assessed value for residential properties within ½ mile of 14 Metro Rail stations, including independent variables that describe property characteristics, neighborhood characteristics, and locational amenities. The model suggests that every foot closer to a light rail station increases property values by $2.31 (using geographical straight line distance) and $0.99 (using network distance). Consequently, a home located within one-quarter mile radius of a light rail station can earn a premium between $1,300 to $3,000, or 4 to 11 percent of the median assessed home value. Model results suggest that three independent variables—the number of bathrooms, size of the parcel, and location on the East side or West side of Buffalo—are more influential than rail proximity in predicting property values. Individual regression models for each of the light rail system's 14 stations suggest that effects are not felt evenly throughout the system. Proximity effects are positive in high-income station areas and negative in low-income station areas. An analysis of the actual walking distance to stations (along the street network) versus the perceived proximity (measured by straight-line distance) to stations reveals that the results are statistically more significant in the network distance than the straight line distance model, but the effects are greater in the straight line distance model, which suggests that apparent proximity to rail stations is an added locational advantage compared to physical walking distance to the station.

55) Huang, W., *The Effects of Transportation Infrastructure on Nearby Property Values: A Review of the Literature*, Working Paper 620, Institute of Urban and Regional Development, Berkeley, Calif., 1994. The effect of the presence of transportation infrastructure on distant lot values is small, but there are many distant lots, therefore the hedonic method may underestimate incremental site rents. Furthermore, it may be a mistake to regard as exogenous the values attributed to other amenities that developers add in response to accessibility-induced value.

56) Kay, J. H., and G. Haikalis, "All Aboard", *Planning, Vol. 66, No. 10, (October 2000): 14-19.* In Dallas, DART has shown what a modern city driven by the private sector can accomplish with rail transit. Property values around transit stations have jumped by approximately 25% since DART began operation in 1996. However, Dallas's extensive land area complicates transit's contribution to the regional transportation system. In a sidebar, Haikalis describes New Jersey's new Hudson-Bergen line. Available from: APA, 122 South Michigan Avenue, Suite 1600, Chicago, IL 60603-6107, TRIS Database: "Taxing Property Values for Transit".

57) Knaap, Gerrit, Lewis Hopkins, and Arun Pant, *Does Transportation Planning Matter? Explorations into the Effects of Planned Transportation Infrastructure on Real Estate Sales, Land Values, Building Permits, and Development Sequence*, Lincoln Institute of Land Policy, Research Paper, 1996. This study observed property values in the Westside LRT corridor in Washington County, suburban Portland, Oregon. The study compared values prior to construction with values at the beginning of LRT operations. Values of parcels located within ½-mile of the line were found to decrease with distance from the stations, but rise with distance from the rail line between stations. Thus, the opposite affects of accessibility and nuisance were deduced.

58) Landis, John, Robert Cervero, Subhrajit Guhathukurta, David Loutzenheiser, and Ming Zhang, Rail Transit Investments, *Real Estate Values, and Land Use Change: A Comparative Analysis of Five California Rail Transit Systems*,

Monograph 48, Institute of Urban and Regional Studies, University of California at Berkeley, July 1995. This study measured ground distance to BART stations in Alameda and Contra Costa Counties, California. The authors found that 1990 single family home prices declined by $1 to $2 per meter distance from a BART station. They did not find a significant impact on home values based on proximity to CalTrain commuter rail stations, although houses within 300 meters of the CalTrain right-of-way sold at a $51,000 discount. No increase in value around commercial / industrial stops was found, but the authors note that commercial property observations encounter significant data measurement problems.

59) Lewis-Workman, Steven, and Daniel Brod, "Measuring the Neighborhood Benefits of Rail Transit Accessibility," *Transportation Research Record 1576*, *(1997): 147-153.* (Transportation Research Board www.trb.org) The authors found that within a one-mile radius from the Pleasant Hill rail station in the Bay Area, average home prices decline by about $1,578 for every 100 feet distance from the station. In the area within a one-mile radius from the Forest Hills, 67th Avenue, and Rego Park rail stations, average home prices decline about $2,300 for every 100 feet distance from the station.

60) Nelson, Arthur C., "Effects Of Elevated Heavy-Rail Transit Stations On House Prices With Respect To Neighborhood Income," *Transportation Research Record 1359 (1992): 127-132.* In Atlanta's low value neighborhoods, a transit stop raises value. The reverse is also found, whereby in high value communities, installing a transit stop lowers site value – by nearly the same amount.

61) Nelson, Arthur C., "Transit Stations And Commercial Property Values: A Case Study With Policy And Land-Use Implications," *Journal of Public Transportation,* Vol. 2, No. 3. (1999). Nelson develops a theory of commercial property value with respect to both transit station proximity and the role of policies that encourage commercial development around transit stations without discouraging such development elsewhere. He applies this theory to sale of commercial property in Atlanta's "Midtown", located 1 km (.6 mi) north of the downtown edge. Midtown is served by three heavy rail transit stations operated by the Metropolitan Atlanta Transit Authority (MARTA). To encourage transit-oriented development near MARTA stations, the city waives parking requirements and floor area ratio restrictions. Commercial property values are affected positively by both access to rail stations and policies that encourage more intensive development around those stations. Citywide analysis, measuring access as ground distance to a MARTA station, finds that price per square meter falls by $75 for each meter away from transit stations. Prices rise by $443 for location within special public interest districts (SPIDs). At the time of his study, Atlanta was the most sprawled metro region in the nation, and that the size of the SPIDs was identical to comfortable walking distance from stations, about a 1/4 mile radius. Theoretical and policy implications are explored.

62) Parsons Brinkerhoff, *The Effects of Rail Transit on Property Values: A Summary of Studies*, Research carried out for Project 21439S, Task 7. NEORail II, Cleveland, Ohio, February 27, 2001. This paper summarizes the results of several previous studies in tabular form. The authors note that varying methodologies make it difficult to compare results. Nevertheless, it is clear that in most cases access to transit systems is valued by property owners. Rail's influence on residential values is demonstrated more clearly than on commercial uses; however, influence on commercial

values appears to vary by: (i) how much accessibility is improved, (ii) the relative attractiveness of locations near stations, and (iii) the strength of the regional real estate market.

63) Pickett, M.W., and K.E. Perrett, *The effect of the Tyne and Wear Metro on Residential Property Values,* Supplementary Report 825, Transport and Road Research Laboratory, Crowthorne, Berkshire, U.K., 1984. Three different methods of analysis are performed on the data collected. Results show an average increase of £360 (1.7%) in the value of properties near Metro stations during the fourmonth period surrounding the date on which each section of line opened. In reference to related studies, Dvett et. al. found a small but significant positive effect on the value of single-family dwellings at three of the six BART station areas studied. Lerman et. al. found that distance from Washington Metro stations influences property values, the value rising as the opening date nears, and falling if the opening is delayed. The Regional Commission in Atlanta found an associated increase in industrial property values.

64) Price Waterhouse Coopers, *Review of Property Value Impacts at Rapid Transit Stations and Lines*, Technical Memorandum 6, Richmond/Airport – Vancouver Rapid Transit Project, April 3, 2001. The authors review transit impact studies from selected cities across North America. The reviewers find a positive relationship between property values and station location, but also a possible negative impact on single-family homes along the line due to nuisance impacts. Four research reports are summarized: (1) Transit Case Studies for the City of Hillsboro, Oregon, (2) Transit Benefits 2000 Working Papers, (3) Light Rail Transit Impacts in Portland, Oregon, and (4) Impact of the Vancouver, BC Skytrain on Surrounding Real Estate Value.

65) Richert, Thomas M., *Economic Impacts of Automated People Mover Development in Commercial Centers*, Advanced Transit Association, 1999. After one year of operation of the APM, retail sales in downtown vs. the greater metro region grew in Denver by 8%, in St. Louis by 4%, and in Miami by 1% (where patronage of downtown commercial space had been lagging historically). Higher retail sales translate into higher site values. *Financing Transit Systems Through Value Capture* 24.

66) Rice Center for Urban Mobility Research, *Assessment of Changes in Property Values in Transit Areas*, Urban Mass Transit Administration, Houston, Texas, 1987. This is a summary of earlier findings from Toronto, Baltimore, Denver, San Diego, and San Francisco. Some transit centers showed a 100% to 300% increase in commercial site values. In Atlanta, 61% of the businesses within 500 feet of a transit stop reported increased sales.

67) Rodríguez, Daniel A., Felipe Targa, "The Value Of Accessibility To Bogotá's Bus Rapid Transit System," *Transport Reviews*, Vol. 24, No. , 2004, pp. 587 – 610. By estimating spatial hedonic price functions, this paper determines the extent to which access to BRT stations in Bogotá, Colombia currently are capitalized into land values. Results suggest that for every 5 minutes of additional walking time to a BRT station, the rental price of a property decreases between 6.8% and 9.3%, after controlling for structural characteristics, neighborhood attributes, and proximity to the BRT corridor. Evaluated at the average walking time to a BRT station, this effect translates into an elasticity of between -0.16 and -0.22. Although these estimates cannot

be attributable directly to the presence of the BRT system because we use a cross-sectional design, they suggest that the land market in Bogotá values access to BRT station locations.

68) Ryan, S., "Property Values and Transportation Facilities: Finding the Transportation-Land Use Connection," *Journal of Planning Literature, Vol. 13, Issue 4 (May 1999): 412-427.* Ryan reviews empirical studies of the relationship between the presence of transportation facilities – highways, heavy rail, and light rail transit systems – and property values. Inconsistencies in findings from this literature over the past several decades are explained. For example, results vary based on whether researchers measure accessibility in terms of travel time or travel distance. Measuring distance yields mixed results in property value effects. Measuring time yields the expected inverse relationship between access to transportation facilities and property values. The delineation of study areas also influences the direction of effects. This study offers a new interpretation of the transportation facility-property value literature, improving, the ability to measure relationships and to anticipate land-market responses to transportation facilities.

69) Sedway Group, *Regional Impact Study*, Report commissioned by Bay Area Rapid Transit District (BART), July 1999. This is a review of studies of the benefits associated with BART service, measured in positive residential and office property impacts. Reported single family home values fell by $3,200 to $3,700 for each mile distance from a BART station in Alameda and Contra Costa counties. Apartments near BART stations were found to rent for 15% to 26% more than apartments distant from BART stations. The average unit land price for office properties also decreased as distance from a BART station increased, from $74 per square foot within ¼ mile of a station to $30 per square foot at locations exceeding ½ mile. Sedway Group, San Francisco, CA at www.sedway.com (From "Rail transit and property values," Information Center Briefing, No. 1 March 2001, at www.apta.com/info/briefings/briefings_index.htm). *Financing Transit Systems Through Value Capture* 25.

70) Voith, Richard, "Changing Capitalization of CBD-Oriented Transportation Systems: Evidence from Philadelphia, 1970-1988," Federal Reserve Bank of Philadelphia, Working Paper No. 31-19 (1991 November); *Journal of Urban Economics*, Vol. 33 (1993): 361-376. Voith estimates house value premiums associated with CBD-oriented train service provided by the Southeastern Pennsylvania Transportation Authority (SEPTA). Unlike most previous studies, he documents changes over an extended period, for each year in his 19-year sample. His data include over 59,000 home sales. In 1980 the average sales price was nearly $120,000. Prices declined from 1974 through 1982, bottomed out during 1983 and 1984, and rose steeply from 1985 through 1988. Using hedonic house value regressions, he finds strong evidence that accessibility to the CBD is capitalized into suburban house values. The premium began in 1970 at well over $12,000, declined until 1976, bottoming out at a bit over $5,000, then from 1978 to 1984 averaged nearly $9,000, and at the end of his sample, 1988, reached $20,000 plus. The value of such accessibility fluctuates with the economic health of the city (which is impacted by the City's tax on wages). Between 1981-1988 while employment in the suburbs grew rapidly, so did the premium associated with train service (to the CBD) increase dramatically, indicating that the central city economy still contributes significantly to the overall wealth of

communities. Hence, suburban communities may not be able to isolate themselves from central decline.

71) Weinberger, Rachel R., *Commercial Rents and Transportation Improvements: Case of Santa Clara County's Light Rail,* WP00RW2, Lincoln Institute of Land Policy, 2001. In Santa Clara County, California, property owners sued the County claiming losses in value from the nearby light rail. To determine the actual effect of the light rail facility on property values, Weinberger examined commercial property rents comparing accessibility to transit and to highway as determinants of rent, and analyzed the effects over time. Controlling for other factors, properties within a half-mile of light rail stations were found to command almost 15% more rent. Highway access, being ubiquitous, offers no particular locational advantage. As the transit system matured, nearby properties accrued greater benefits. But, in times of high demand, so did all other locations command higher rents.

72) Weinstein, Bernard L., and Terry L. Clower, *The Initial Economic Impacts of the DART LRT System*, Center for Economic Development and Research, University of North Texas, July 1999. Values of properties adjoining Dallas's DART light rail stations grew 25% more than similar properties not served by the rail system. Proximity to stations appears to be an economic advantage for most classes of real estate, especially Class A and C office buildings, and commercial strip retail outlets. Average occupancy rates for Class A buildings near rail stations increased from 80% in 1994 to 88.5% in 1998, while rents increased from an average $15.60/sf to $23/sf. Commercial strip retailers near the stations experienced a 49.5% gain in occupancy and a 64.8% improvement in rental rates. (www.dart.org/economic.htm; from "Rail transit and property values" in *Information Center Briefing*, No. 1, March 2001, at www.apta.com/info/briefings/briefings_index.htm).

Appendix D: Environmental Screening

Table D-1 Base Corridor Alternatives, Evaluation of Goal 1, Measures 7 & 8

	Goal 1 - Improve Mobility											
	Measure #7 - Transit Dependent Populations within 1/2-mile of Stations						Measure #8 - Jobs and Population within 1/2-mile of Stations					
Alternative	Low Income Households (1)	Households in Poverty (2)	Elderly (65+)	Youth (<18)	Zero-Car Households	Disabled	Population (3) 2000	Population (3) 2030	Households 2000	Households 2030	Employment (4) 2000	Employment (4) 2030
BRT 1	2,120	2,739	5,413	6,793	4,101	6,263	41,177	51,867	22,239	28,194	144,869	189,501
BRT 2	2,163	2,775	5,459	6,856	4,132	6,282	41,998	51,957	22,985	28,726	162,207	210,322
LRT 1A	1,783	1,619	4,226	6,526	2,213	4,959	33,264	41,739	16,225	20,273	78,312	91,229
LRT 1C	4,451	5,690	6,493	10,364	9,184	11,049	68,099	82,004	36,259	45,132	161,232	210,382
LRT 2A	1,851	1,651	4,308	6,713	2,245	5,015	34,959	43,546	17,088	21,322	82,659	98,447
LRT 2C	4,518	5,722	6,575	10,551	9,217	11,105	69,794	83,811	37,122	46,182	165,579	217,601
LRT 3A	1,831	1,652	4,279	6,544	2,246	4,953	34,803	42,612	17,445	21,386	95,273	114,190
LRT 3C	4,499	5,723	6,546	10,382	9,217	11,043	69,637	82,877	37,479	46,246	178,193	233,343
LRT 4A	1,617	1,555	3,857	5,387	2,170	4,461	29,872	37,356	14,844	18,410	71,818	83,623
LRT 4C	4,284	5,626	6,124	9,225	9,141	10,551	64,707	77,621	34,878	43,269	154,738	202,777

(1) Low Income Households - Based on 60% of the Median Family Income in 7 County Area ($59,358) [$35,615]
Assumes the household earnings between $25,000 and $34,999 are equally distributed.
Source: Metropolitan Council and the U.S. Census Bureau (MetroGIS DataFinder Catalog Website)
Dataset: Profile of Selected Economic Characteristics for Census Tracts: 2000

(2) - New Measurement Method: Household Poverty Threshold of $12,326
Source: Metropolitan Council and the U.S. Census Bureau (MetroGIS DataFinder Catalog Website)
Dataset: Profile of Selected Economic Characteristics for Census Tracts: 2000

(3) Population 2000, 2030 - Based on latest official TAZ forecasting spreadsheet
Source: Metropolitan Council and the U.S. Census Bureau (MetroGIS DataFinder Catalog Website)
Dataset: Transportation Analysis Zones: 1990 – 2000 linked to forecasting spreadsheet
Dataset: Forecasting spreadsheet received from Metropolitan Council (9/13/2005)

(4) Employment 2000, 2030 - Based on latest official TAZ forecasting spreadsheet
Source: Metropolitan Council and the U.S. Census Bureau (MetroGIS DataFinder Catalog Website)
Dataset: Transportation Analysis Zones: 1990 – 2000 linked to forecasting spreadsheet
Dataset: Forecasting spreadsheet received from Metropolitan Council (9/13/2005)

Source: SEH, 2006

Table D-2 Base Corridor Alternatives, Evaluation of Goal 3, Measures 3 & 4

	Goal 3 - Protect the Environment						
	Measure #3 - Potentially Affected Natural Environment						Measure #4 - Affected by Noise and Vibration
	100-foot Buffer			50-foot Buffer			
Alternative	Waterbodies/ Wetlands (acres)	Parklands (acres)	Floodplain (acres)	Waterbodies/ Wetlands (acres)	Parklands (acres)	Floodplain (acres)	Number of Dwelling Units Within 100 feet
BRT 1	15	7	19	8	5	13	152
BRT 2	27	8	27	18	5	18	119
LRT 1A	6	7	17	1	5	11	162
LRT 1C	7	5	17	1	-	11	253
LRT 2A	24	7	22	14	5	15	146
LRT 2C	25	5	22	14	-	15	237
LRT 3A	39	7	26	26	5	17	161
LRT 3C	40	5	26	26	-	17	252
LRT 4A	1	7	13	0	5	9	130
LRT 4C	2	5	13	0	-	9	221

Source: SEH, 2005

Table D-3 Base Corridor Alternatives, Evaluation of Goal 4, Measures 2 & 3

	Goal 4 - Preserve and Protect the Quality of Life				
	Measure #2 - Access to Community Amenities			Measure #3 - Access to Employment	
Alternative	Parks	Trails[1]	Libraries	Employment[2] 2000**	Employment[2] 2030**
BRT 1	46	High	2	144,869	189,501
BRT 2	45	Medium	3	162,207	210,322
LRT 1A	43	High	2	78,312	91,229
LRT 1C	44	High	3	161,232	210,382
LRT 2A	45	Medium	2	82,659	98,447
LRT 2C	46	Medium	3	165,579	217,601
LRT 3A	42	Medium	2	95,273	114,190
LRT 3C	43	Medium	3	178,193	233,343
LRT 4A	38	Medium	2	71,818	83,623
LRT 4C	39	Medium	3	154,738	202,777

[1] Level of access to existing or proposed trails.

[2] Source: Metropolitan Council and the U.S. Census Bureau (MetroGIS DataFinder Catalog Website)
Dataset: Transportation Analysis Zones: 1990 – 2000 linked to forecasting spreadsheet
Dataset: Forecasting spreadsheet received from Metropolitan Council (9/13/2005)
** (Area of TAZ within 1/2-mile Station buffer / Area of TAZ) x TAZ Total

Source: SEH, 2005

Table D-4 Base Corridor Alternatives, Evaluation of Goal 5, Measures 2 & 3

	Goal 5 - Support Economic Development						
	Measure #2 - Existing and Planned Jobs within 1/2-mile of Stations		Measure #3 - Existing and Planned Other Generators within 1/2-mile of Stations				
Alternative	Employment 2000**	Employment 2030**	Schools	Medical Facilities	Entertainment Venues	Government Centers	Major Shopping Centers
BRT 1	144,869	189,501	31	2	16	14	20
BRT 2	162,207	210,322	30	2	16	15	29
LRT 1A	78,312	91,229	21	1	13	11	14
LRT 1C	161,232	210,382	36	3	18	14	19
LRT 2A	82,659	98,447	20	1	12	15	19
LRT 2C	165,579	217,601	35	3	17	18	24
LRT 3A	95,273	114,190	19	1	12	15	18
LRT 3C	178,193	233,343	34	3	17	18	23
LRT 4A	71,818	83,623	18	1	11	10	13
LRT 4C	154,738	202,777	33	3	16	13	18

** (Area of TAZ within 1/2-mile Station buffer / Area of TAZ) x TAZ Total
Source: Metropolitan Council and the U.S. Census Bureau (MetroGIS DataFinder Catalog Website)
Dataset: Transportation Analysis Zones: 1990 – 2000 linked to forecasting spreadsheet
Dataset: Forecasting spreadsheet received from Metropolitan Council (9/13/2005)

Source: SEH, 2005

Table D-5 Corridor Segments, Evaluation of Goal 3, Measures 3 & 4

	Goal 3 - Protect the Environment						
	Measure #3 - Potentially Affected Natural Environment						Measure #4 - Affected by Noise and Vibration
	100-foot Buffer			50-foot Buffer			Number of Dwelling Units Within 100 feet
Alternative	Waterbodies/ Wetlands (acres)	Parklands (acres)	Floodplain (acres)	Waterbodies/ Wetlands (acres)	Parklands (acres)	Floodplain (acres)	
West of Shady Oak Station							
BRT 1	14.1	0.0	5.4	8.1	0.0	3.2	49
BRT 2	26.5	0.4	14.1	17.7	0.1	8.3	24
LRT 1	5.8	0.0	3.9	0.8	0.0	1.4	32
LRT 1 - Alternate A	4.6	0.7	8.9	1.3	0.2	4.8	37
LRT 2	23.1	0.0	9.0	14.0	0.0	5.5	16
LRT 3	38.5	0.0	12.5	25.3	0.0	7.7	31
East of Shady Oak Station							
BRT 1	0.7	7.3	13.2	0.3	5.1	9.8	103
BRT 2	0.7	7.3	12.5	0.3	5.1	9.4	95
Alt. A (Royalston)	0.7	7.3	13.2	0.2	5.1	9.4	130
Alt. A1 (Hennepin)	0.7	7.3	13.2	1.3	5.1	9.8	117
Alt. C	1.6	4.9	13.2	0.5	0.0	9.4	221

Source: SEH, 2005

Table D-6 Corridor Segments, Evaluation of Goal 4, Measures 2 & 3

	Goal 4 - Preserve and Protect the Quality of Life				
	Amenities			Employment	
Alternative	Parks	Trails[1]	Libraries	Employment[2] 2000**	Employment[2] 2030**
West of Shady Oak Station					
BRT 1	7	High	0	8,898	12,596
BRT 2	6	Low	1	26,236	33,417
LRT 1	5	High	0	6,495	7,606
LRT 1 - Alternate A	5	Medium	0	7,089	8,429
LRT 2	7	Medium	0	10,841	14,824
LRT 3	4	Low	0	23,455	30,567
East of Shady Oak Station					
BRT 1	39	High	2	135,971	176,905
BRT 2	39	High	2	135,971	176,905
Alt. A (Royalston)	38	High	2	71,818	83,623
Alt. A1 (Hennepin)	39	High	2	135,971	176,905
Alt. C	39	High	3	154,738	202,777

[1] Existing or proposed trails that intersect with the proposed transit corridor.

[2] Source: Metropolitan Council and the U.S. Census Bureau (MetroGIS DataFinder Catalog Website)
Dataset: Transportation Analysis Zones: 1990 – 2000 linked to forecasting spreadsheet
Dataset: Forecasting spreadsheet received from Metropolitan Council (9/13/2005)
** (Area of TAZ within 1/2-mile Station buffer / Area of TAZ) x TAZ Total

Source: SEH, 2005

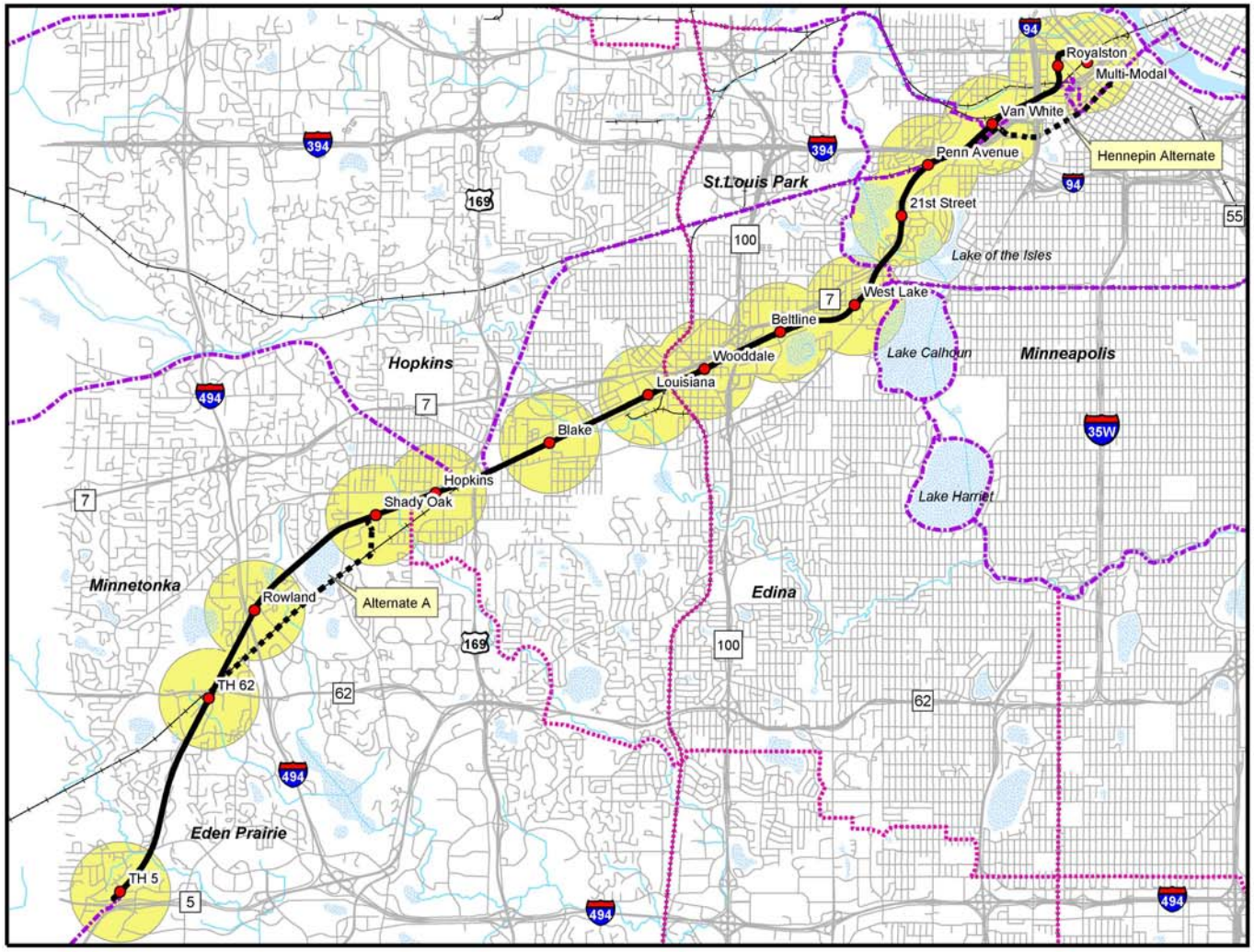
Table D-7 Corridor Segments, Evaluation of Goal 5, Measures 2 & 3

	Goal 5 - Support Economic Development						
	Measure #2 - Existing and Planned Jobs within 1/2-mile of Stations		Measure #3 - Existing and Planned Other Generators within 1/2-mile of Stations				
Alternative	Employment 2000**	Employment 2030**	Schools	Medical Facilities	Entertainment Venues	Government Centers	Major Shopping Centers
West of Shady Oak Station							
BRT 1	8,898	12,596	4	0	2	1	5
BRT 2	26,236	33,417	3	0	2	2	14
LRT 1	6,495	7,606	3	0	2	1	1
LRT 1 - Alternate A	7,089	8,429	3	0	2	1	1
LRT 2	10,841	14,824	2	0	1	5	6
LRT 3	23,455	30,567	1	0	1	5	5
East of Shady Oak Station							
BRT 1	135,971	176,905	27	2	14	13	15
BRT 2	135,971	176,905	27	2	14	13	15
Alt. A (Royalston)	71,818	83,623	18	1	11	10	13
Alt. A1 (Hennepin)	135,971	176,905	27	2	14	13	15
Alt. C	154,738	202,777	33	3	16	13	18

** (Area of TAZ within 1/2-mile Station buffer / Area of TAZ) x TAZ Total
Source: Metropolitan Council and the U.S. Census Bureau (MetroGIS DataFinder Catalog Website)
Dataset: Transportation Analysis Zones: 1990 – 2000 linked to forecasting spreadsheet
Dataset: Forecasting spreadsheet received from Metropolitan Council (9/13/2005)

Source: SEH, 2005

Appendix E: Environmental Resources Maps



SOUTHWEST TRANSITWAY ALTERNATIVES ANALYSIS

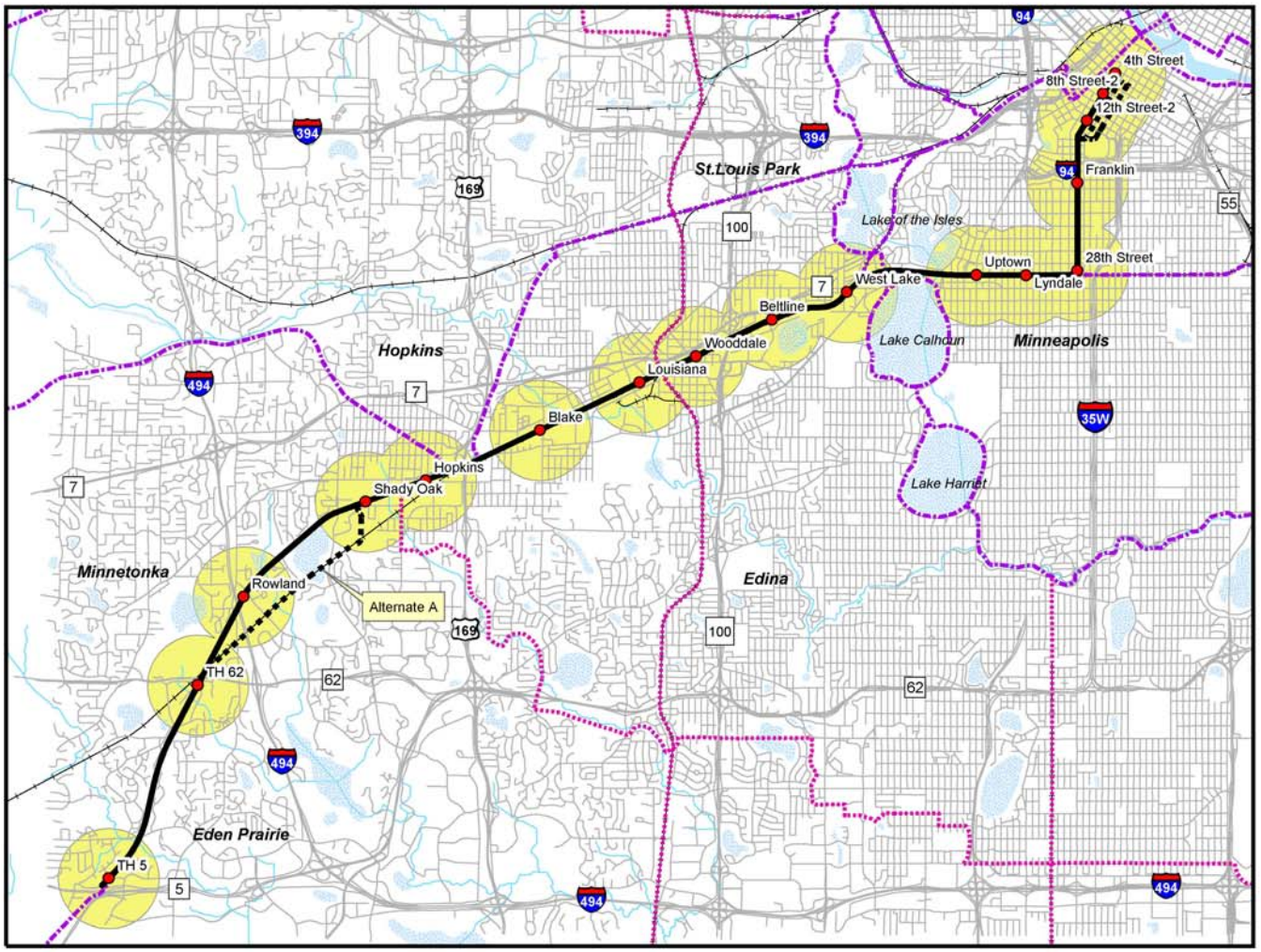
Initial Alternatives: Light Rail Transit LRT-1A

Legend

- LRT Alignment
- Alternative Alignment Option
- Stations
- 1/2 Mile Station Buffers
- Streets
- Streams
- Proposed Trails
- Existing Trails
- Lakes
- Railroads

Miles 1 0.5 0

Figure 3



SOUTHWEST TRANSITWAY ALTERNATIVES ANALYSIS

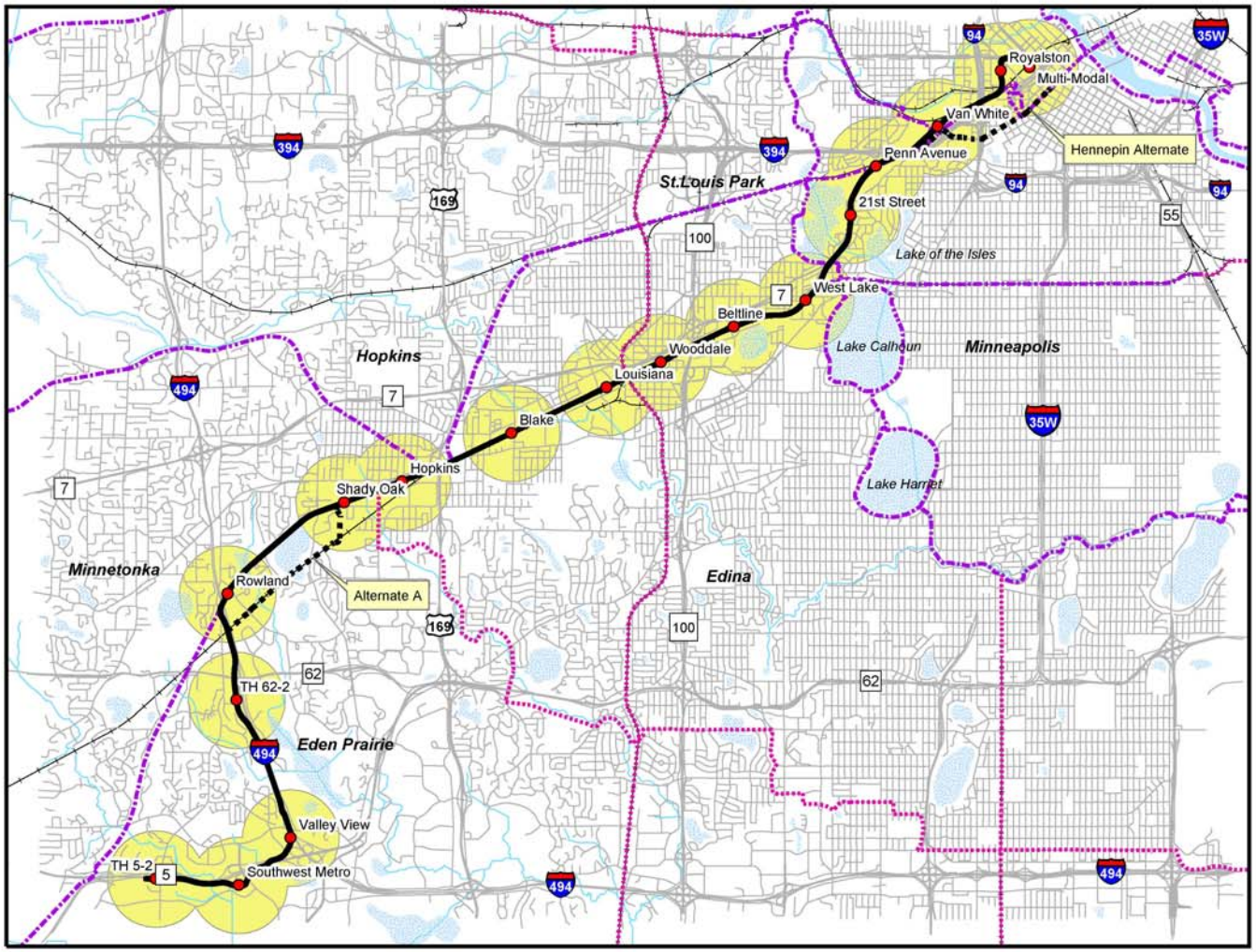
Initial Alternatives: Light Rail Transit LRT-1C

Legend

- LRT Alignment
- Alternative Alignment Option
- Stations
- 1/2 Mile Station Buffers
- Streets
- Streams
- Proposed Trails
- Existing Trails
- Lakes
- Railroads

Miles 1 0.5 0

Figure 4



SOUTHWEST TRANSITWAY ALTERNATIVES ANALYSIS

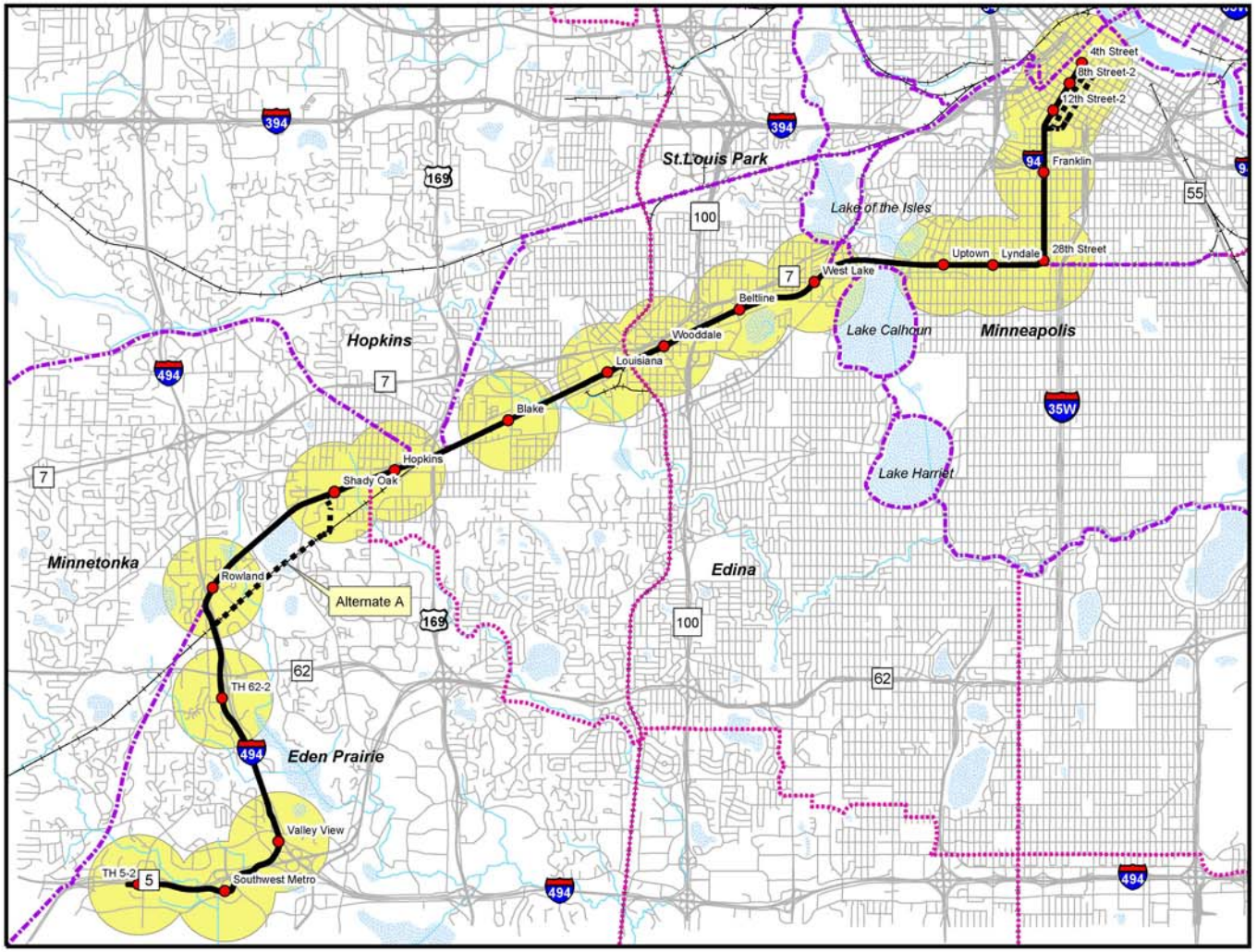
Initial Alternatives: Light Rail Transit LRT-2A

Legend

- LRT Alignment
- Alternative Alignment Option
- Stations
- 1/2 Mile Station Buffers
- Streets
- Streams
- Proposed Trails
- Existing Trails
- Lakes
- Railroads

Miles 1 0.5 0

Figure 5



SOUTHWEST TRANSITWAY ALTERNATIVES ANALYSIS

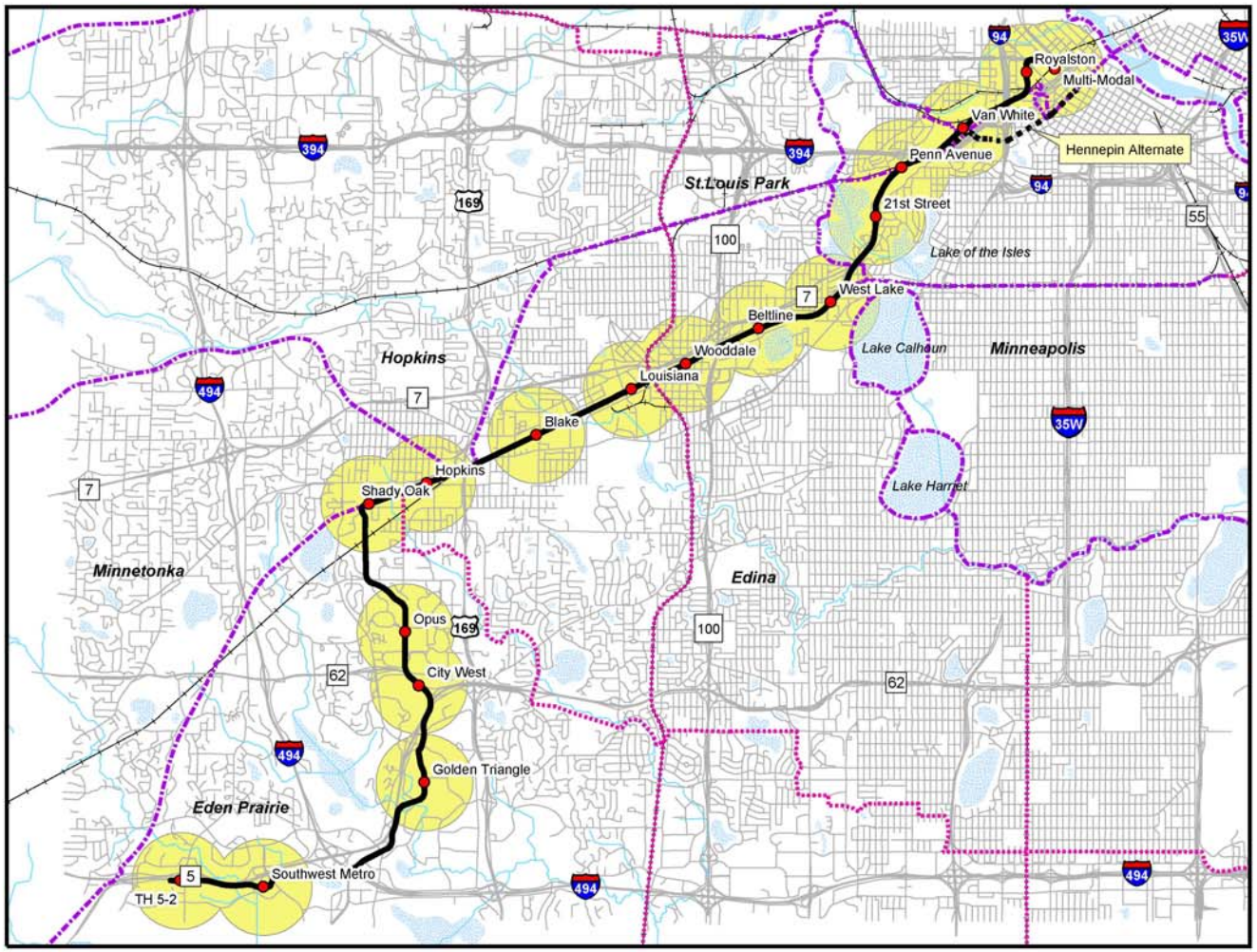
Initial Alternatives: Light Rail Transit LRT-2C

Legend

- LRT Alignment
- Alternative Alignment Option
- Stations
- 1/2 Mile Station Buffers
- Streets
- Streams
- Proposed Trails
- Existing Trails
- Lakes
- Railroads

Miles 1 0.5 0

Figure 6



SOUTHWEST TRANSITWAY ALTERNATIVES ANALYSIS

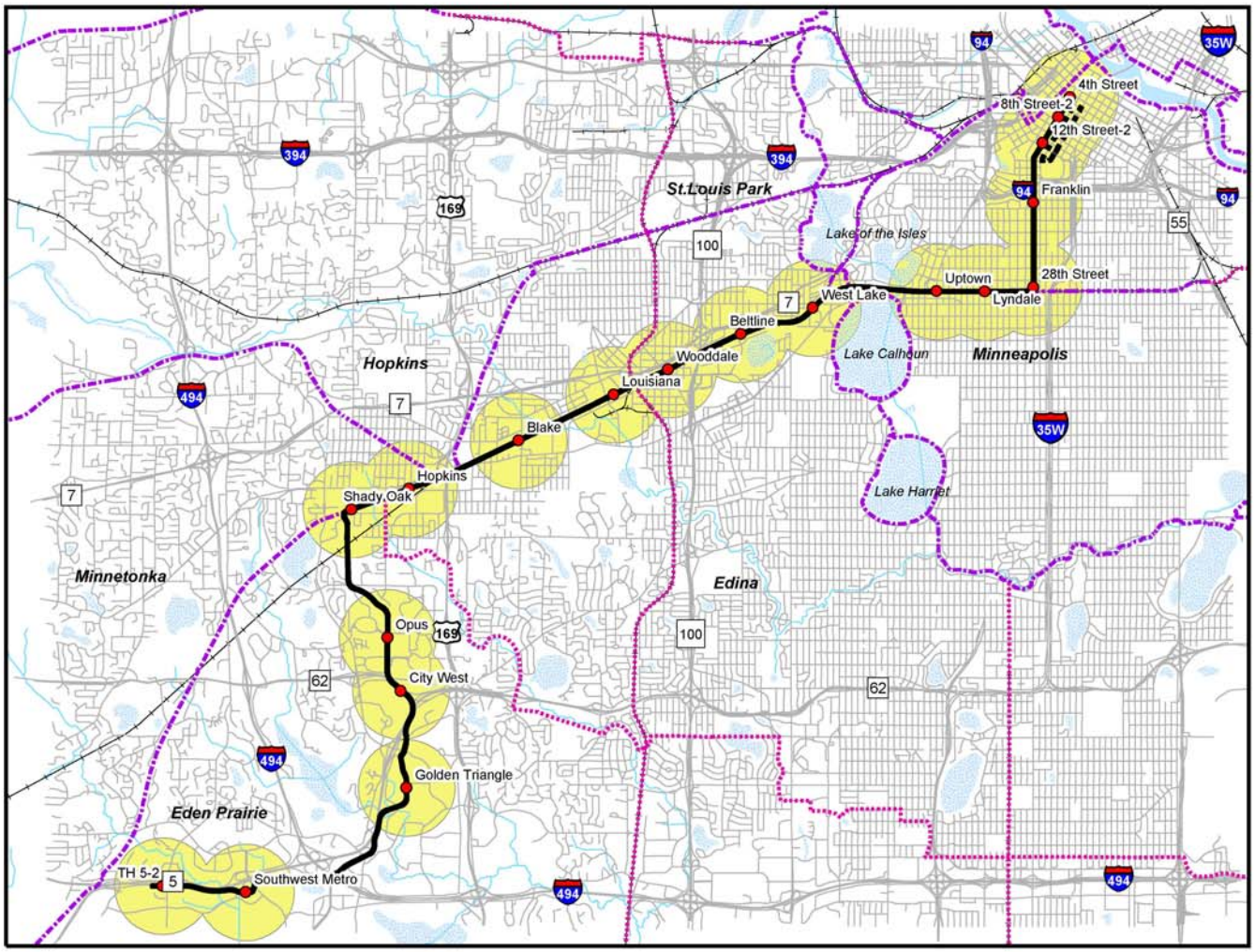
Initial Alternatives: Light Rail Transit LRT-3A

Legend

- LRT Alignment
- Alternative Alignment Option
- Stations
- 1/2 Mile Station Buffers
- Streets
- Streams
- Proposed Trails
- Existing Trails
- Lakes
- Railroads

Miles 1 0.5 0

Figure 7



SOUTHWEST TRANSITWAY ALTERNATIVES ANALYSIS

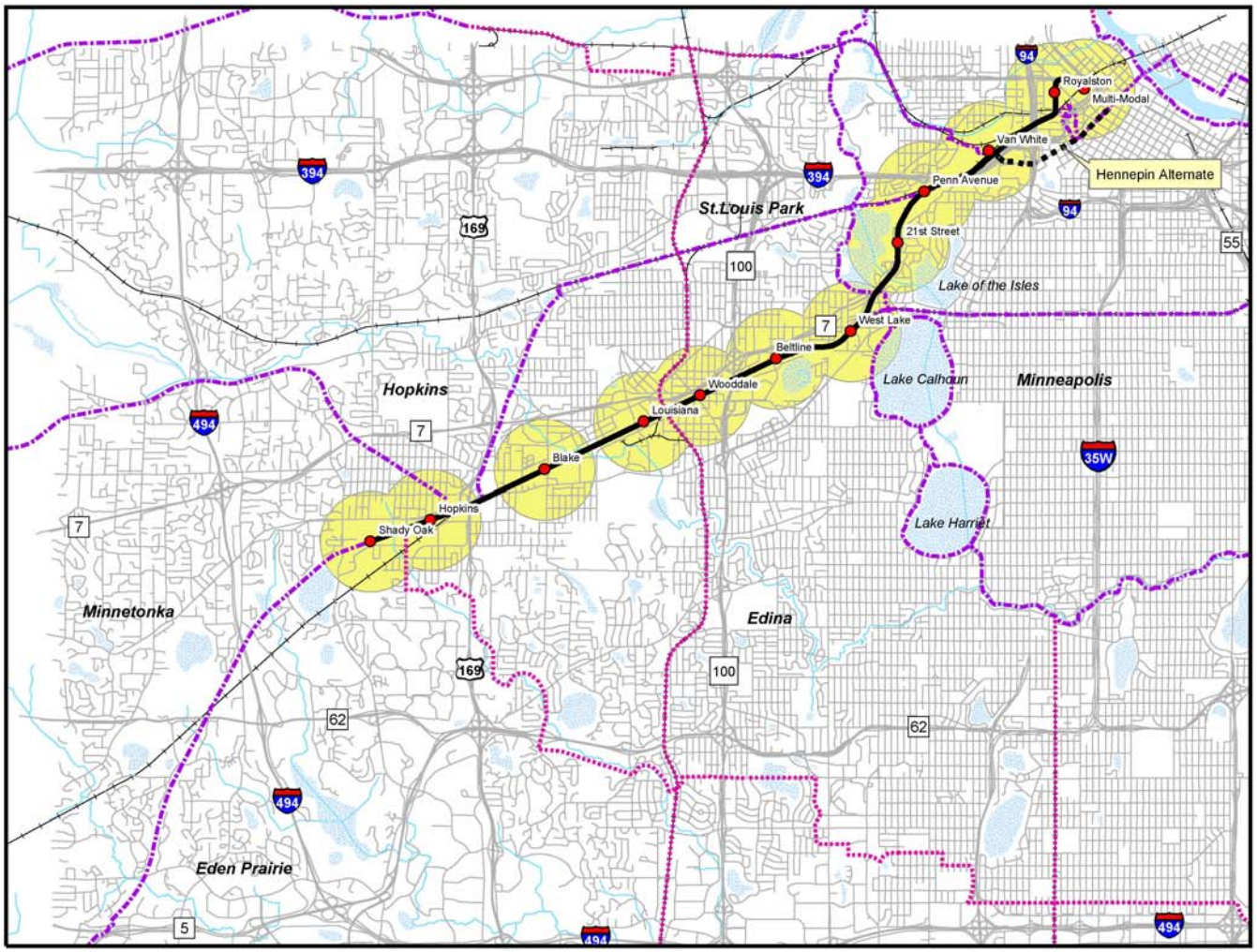
Initial Alternatives: Light Rail Transit LRT-3C

Legend

- LRT Alignment
- Alternative Alignment Option
- Stations
- 1/2 Mile Station Buffers
- Streets
- Streams
- Proposed Trails
- Existing Trails
- Lakes
- Railroads

Miles 1 0.5 0

Figure 8



SOUTHWEST TRANSITWAY ALTERNATIVES ANALYSIS

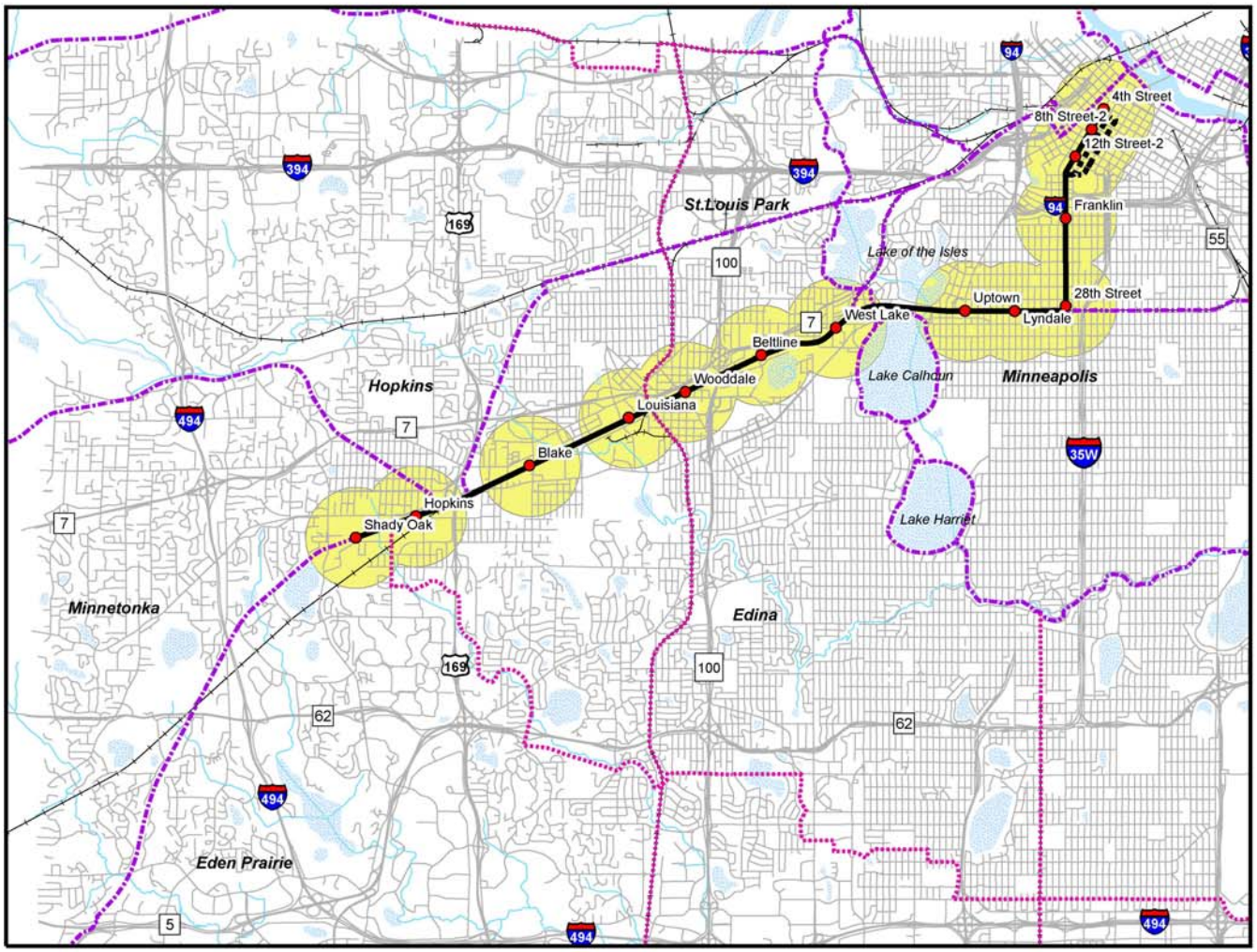
Initial Alternatives: Light Rail Transit LRT-4A

Legend

- LRT Alignment
- Alternative Alignment Option
- Stations
- 1/2 Mile Station Buffers
- Streets
- Streams
- Proposed Trails
- Existing Trails
- Lakes
- Railroads

Miles
1 0.5 0

Figure 9



SOUTHWEST TRANSITWAY ALTERNATIVES ANALYSIS

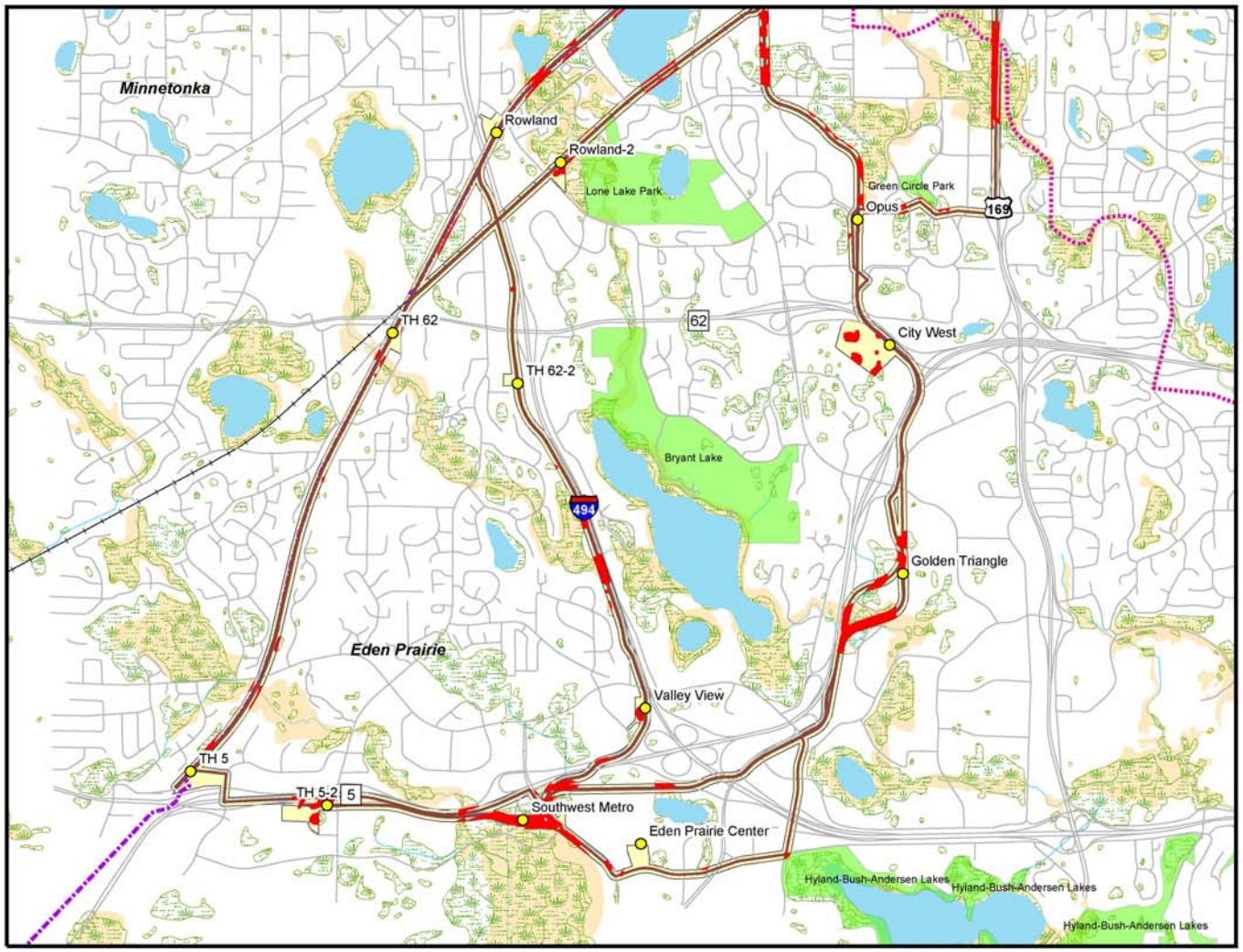
Initial Alternatives: Light Rail Transit LRT-4C

Legend

- LRT Alignment
- Alternative Alignment Option
- Stations
- 1/2 Mile Station Buffers
- Streets
- Streams
- Proposed Trails
- Existing Trails
- Lakes
- Railroads

Miles 1 0.5 0

Figure 10



SOUTHWEST TRANSITWAY ALTERNATIVES ANALYSIS

Environmental Resources

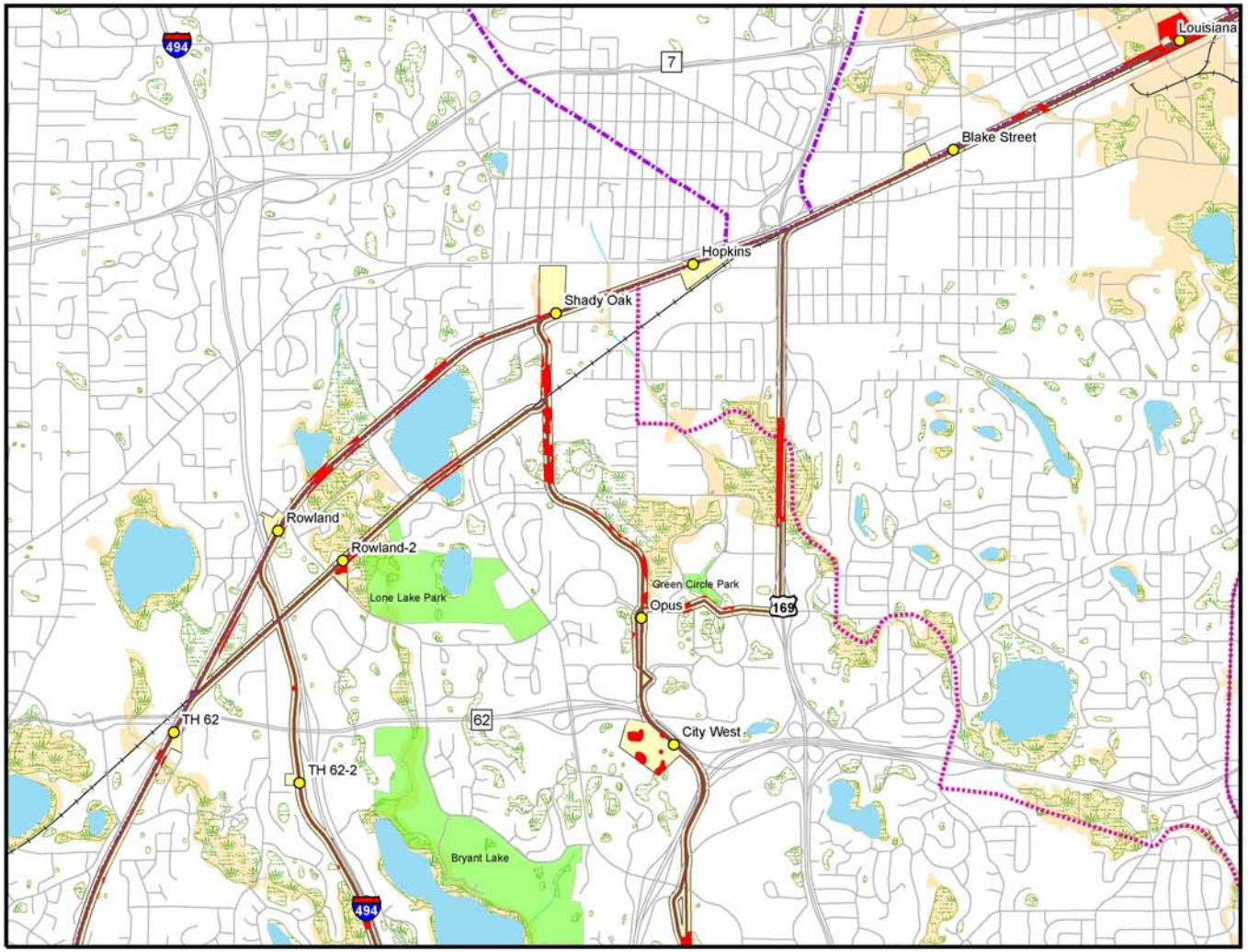
Legend

- Alternative Alignments
- Alignment Impact Zone (100ft from centerline & Station Footprints)
- Stations
- Proposed Trails
- Streets
- Existing Trails
- Floodplains
- Lakes
- Wetlands
- Parklands (Regional)
- Potential Impact Areas

Miles 0.4 0.2 0

Figure 11

Hennepin County Regional Railroad Authority



SOUTHWEST TRANSITWAY ALTERNATIVES ANALYSIS

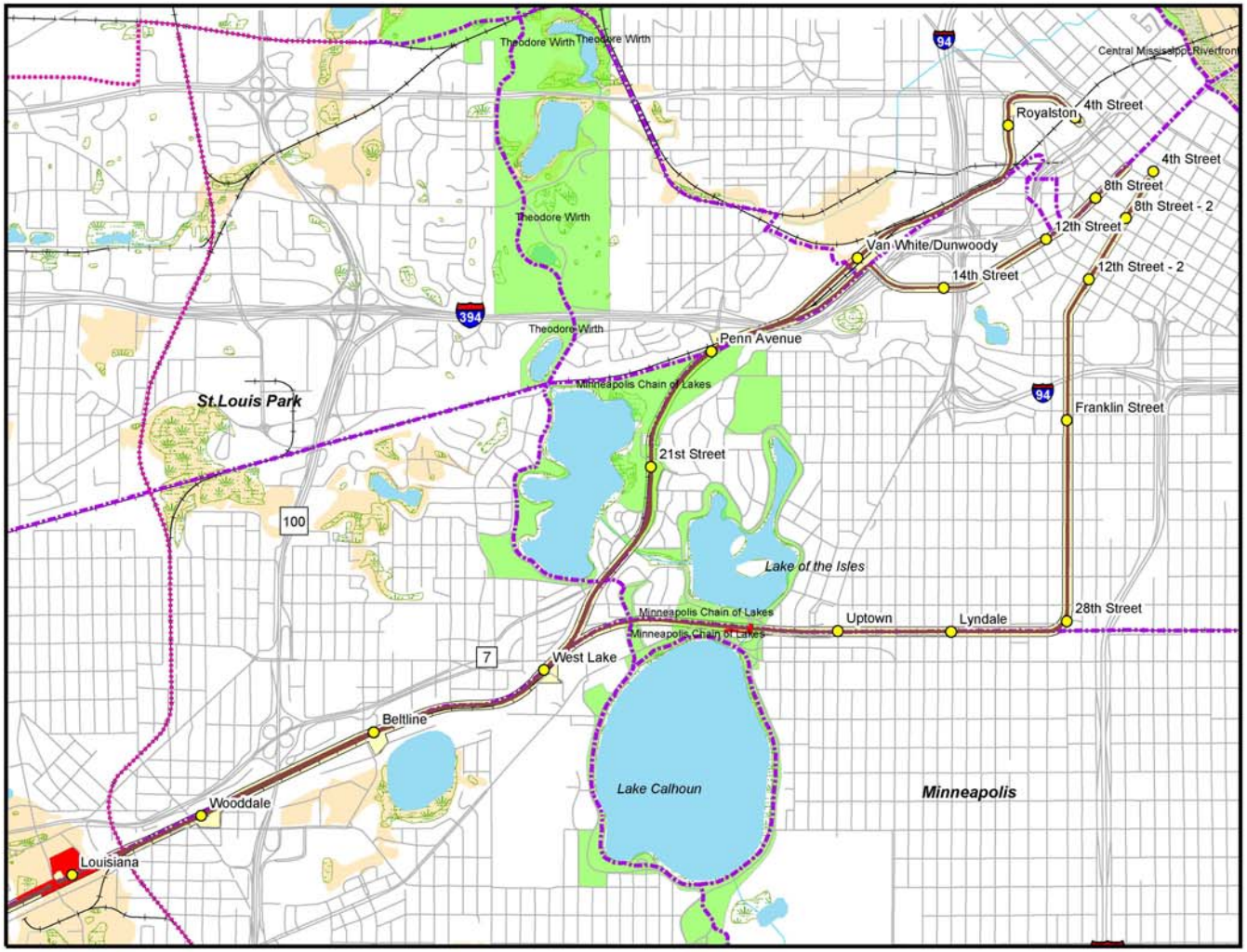
Environmental Resources

Legend

- Alternative Alignments
- Alignment Impact Zone (100ft from centerline & Station Footprints)
- Stations
- Proposed Trails
- Streets
- Existing Trails
- Floodplains
- Lakes
- Wetlands
- Parklands (Regional)
- Potential Impact Areas

Miles 0.4 0.2 0

Figure 12



SOUTHWEST TRANSITWAY ALTERNATIVES ANALYSIS

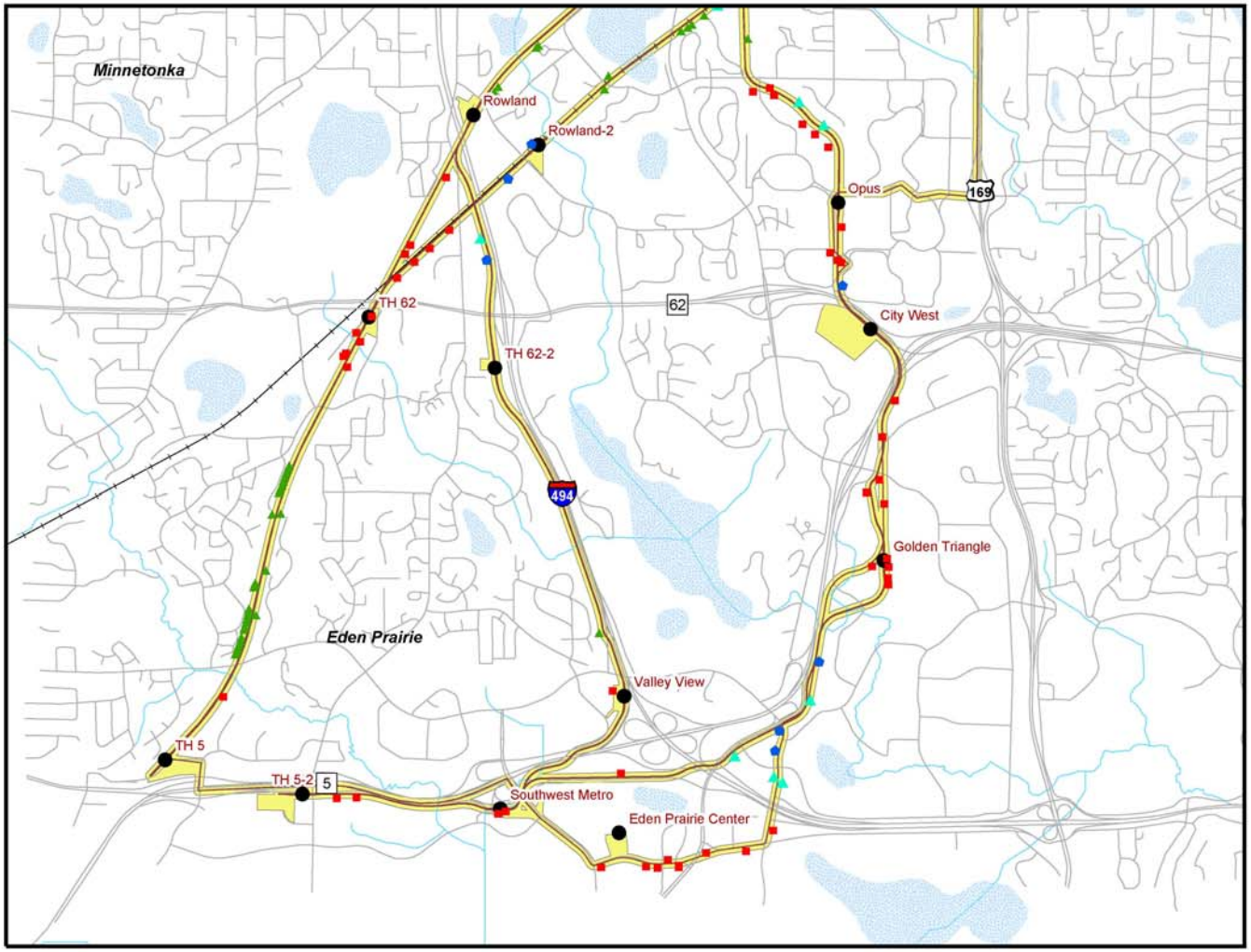
Environmental Resources

Legend

- Alternative Alignments
- Alignment Impact Zone (100ft from centerline & Station Footprints)
- Stations
- Proposed Trails
- Streets
- Existing Trails
- Floodplains
- Lakes
- Wetlands
- Parklands (Regional)
- Potential Impact Areas

Miles 0.4 0.2 0

Figure 13



SOUTHWEST TRANSITWAY ALTERNATIVES ANALYSIS

Noise and Vibration: Potentially Affected Structures

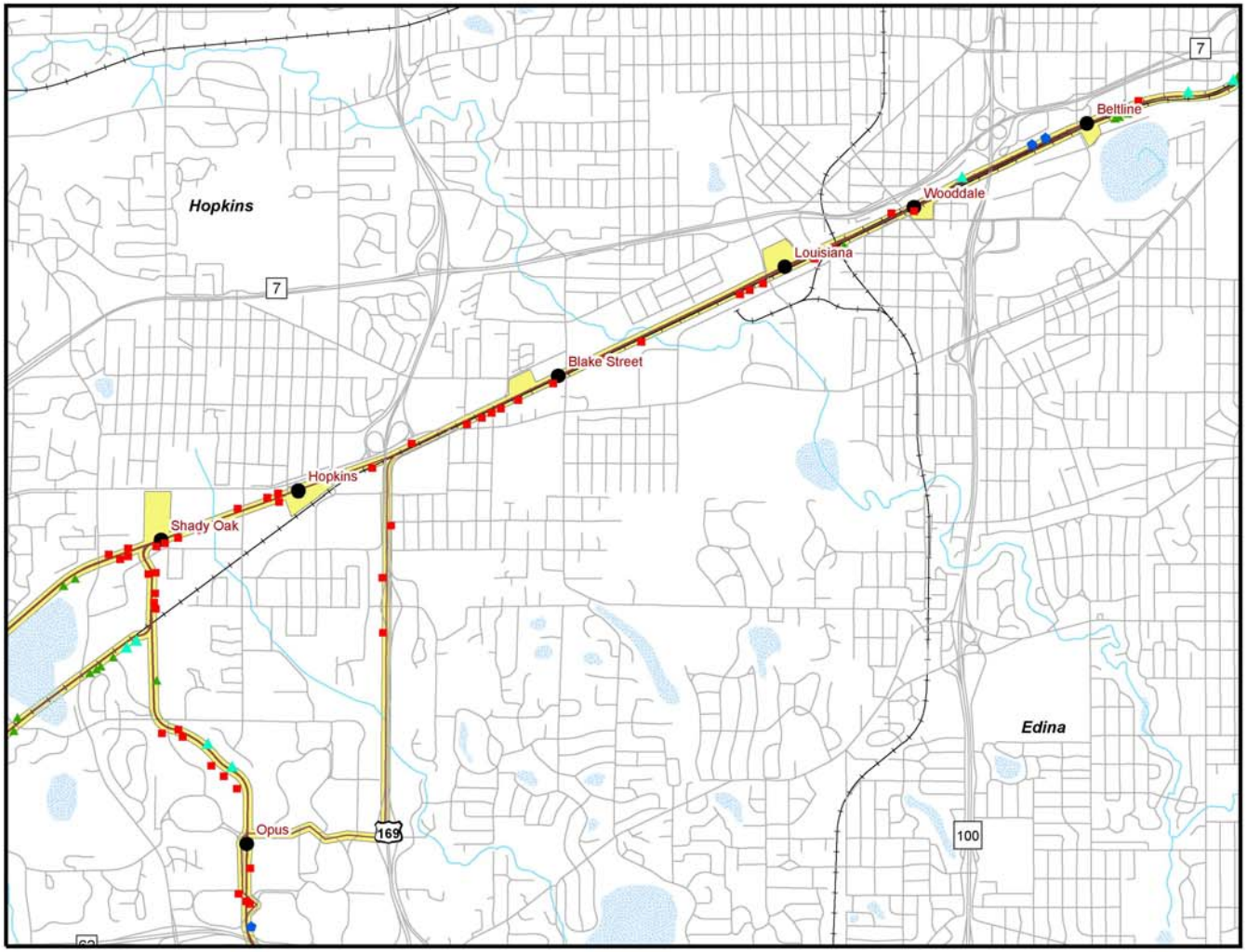
Legend

- Alternative Alignments
- Alignment Impact Zone (100 feet from centerline)
- Streets
- Stations
- House/Condo
- Apartment
- Business
- Unknown

Miles
0.4 0.2 0

Figure 14

Hennepin County Regional Railroad Authority



SOUTHWEST TRANSITWAY ALTERNATIVES ANALYSIS

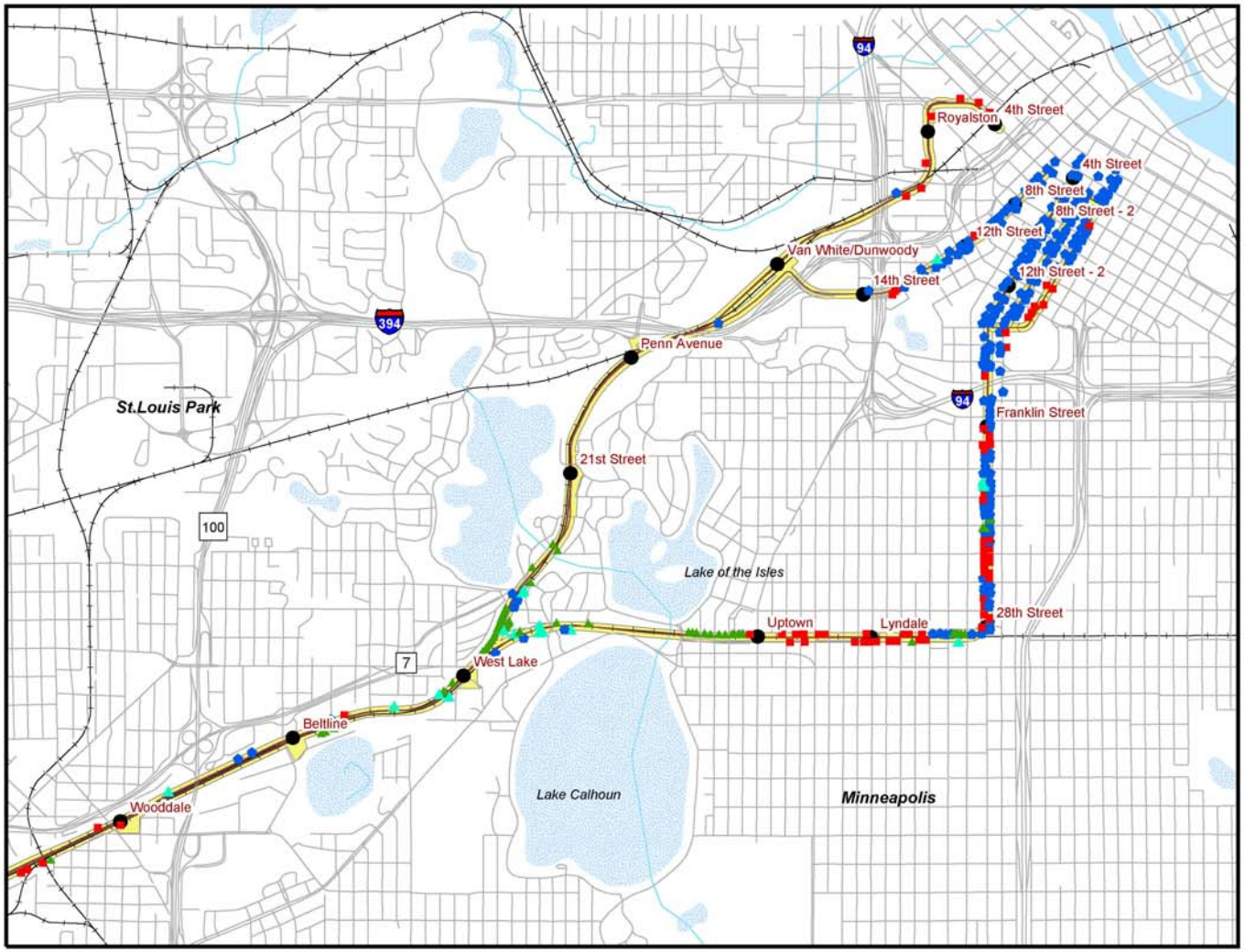
Noise and Vibration: Potentially Affected Structures

Legend

- Alternative Alignments
- Alignment Impact Zone (100 feet from centerline)
- Streets
- Stations
- House/Condo
- Apartment
- Business
- Unknown

Miles
0.4 0.2 0

Figure 15



SOUTHWEST TRANSITWAY ALTERNATIVES ANALYSIS

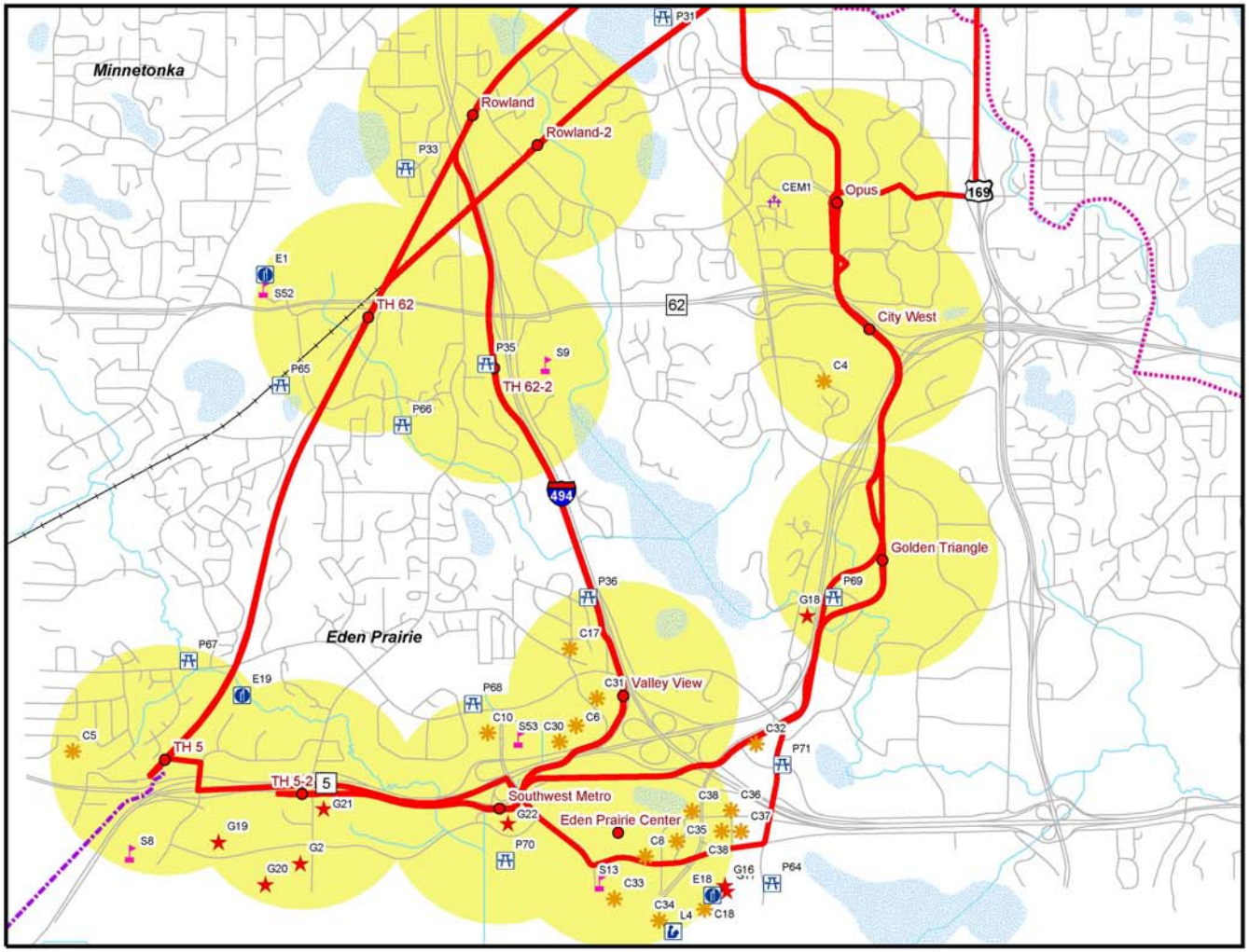
Noise and Vibration: Potentially Affected Structures

Legend

- Alternative Alignments
- Alignment Impact Zone (100 feet from centerline)
- Streets
- Stations
- House/Condo
- Apartment
- Business
- Unknown

Miles 0.4 0.2 0

Figure 16



SOUTHWEST TRANSITWAY ALTERNATIVES ANALYSIS

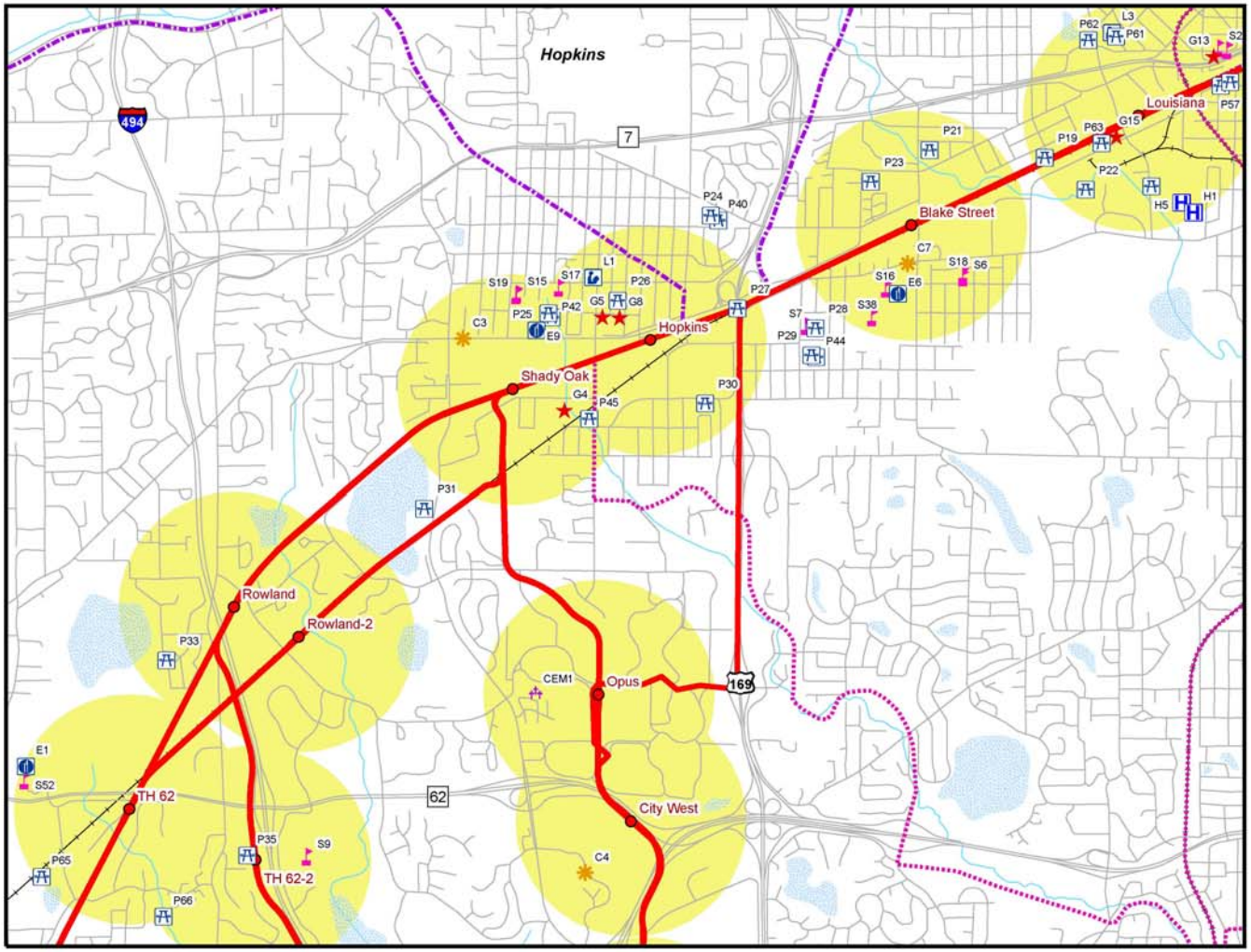
Community Facilities within 1/2 mile of Proposed Station Locations

Legend

- Alternative Alignments
- 1/2 Mile Station Buffers
- Stations
- Proposed Trails
- Streets
- Existing Trails
- Entertainment Venue
- Hospital
- Shopping
- Library
- School
- Park
- Government

Miles
0.4 0.2 0

Figure 17



SOUTHWEST TRANSITWAY ALTERNATIVES ANALYSIS

Community Facilities within 1/2 mile of Proposed Station Locations

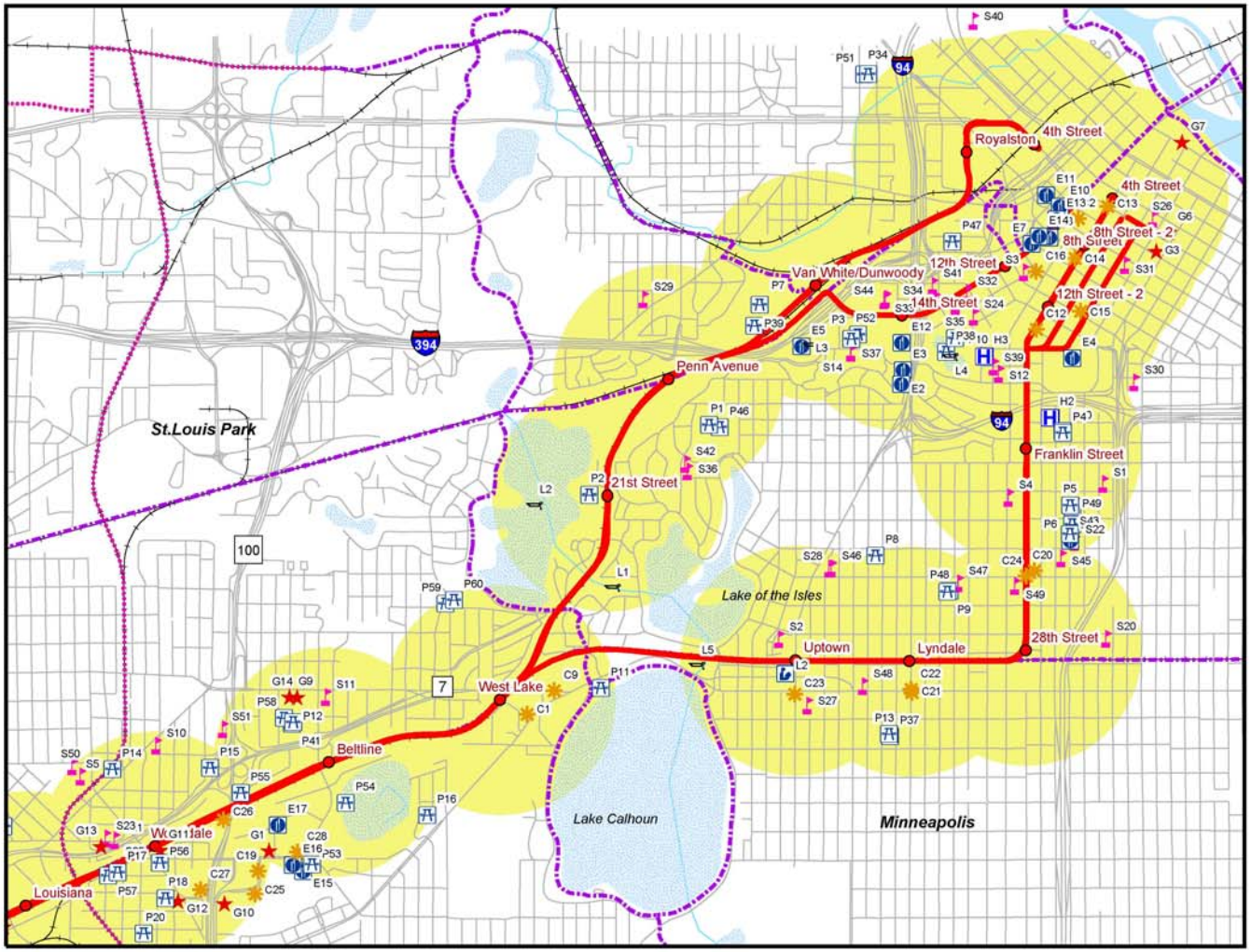
Legend

- Alternative Alignments
- 1/2 Mile Station Buffers
- Stations
- Proposed Trails
- Streets
- Existing Trails
- Entertainment Venue
- Hospital
- Shopping
- Library
- School
- Park
- Government

Miles
0.4 0.2 0

Figure 18

Hennepin County Regional Railroad Authority



SOUTHWEST TRANSITWAY ALTERNATIVES ANALYSIS

Community Facilities within 1/2 mile of Proposed Station Locations

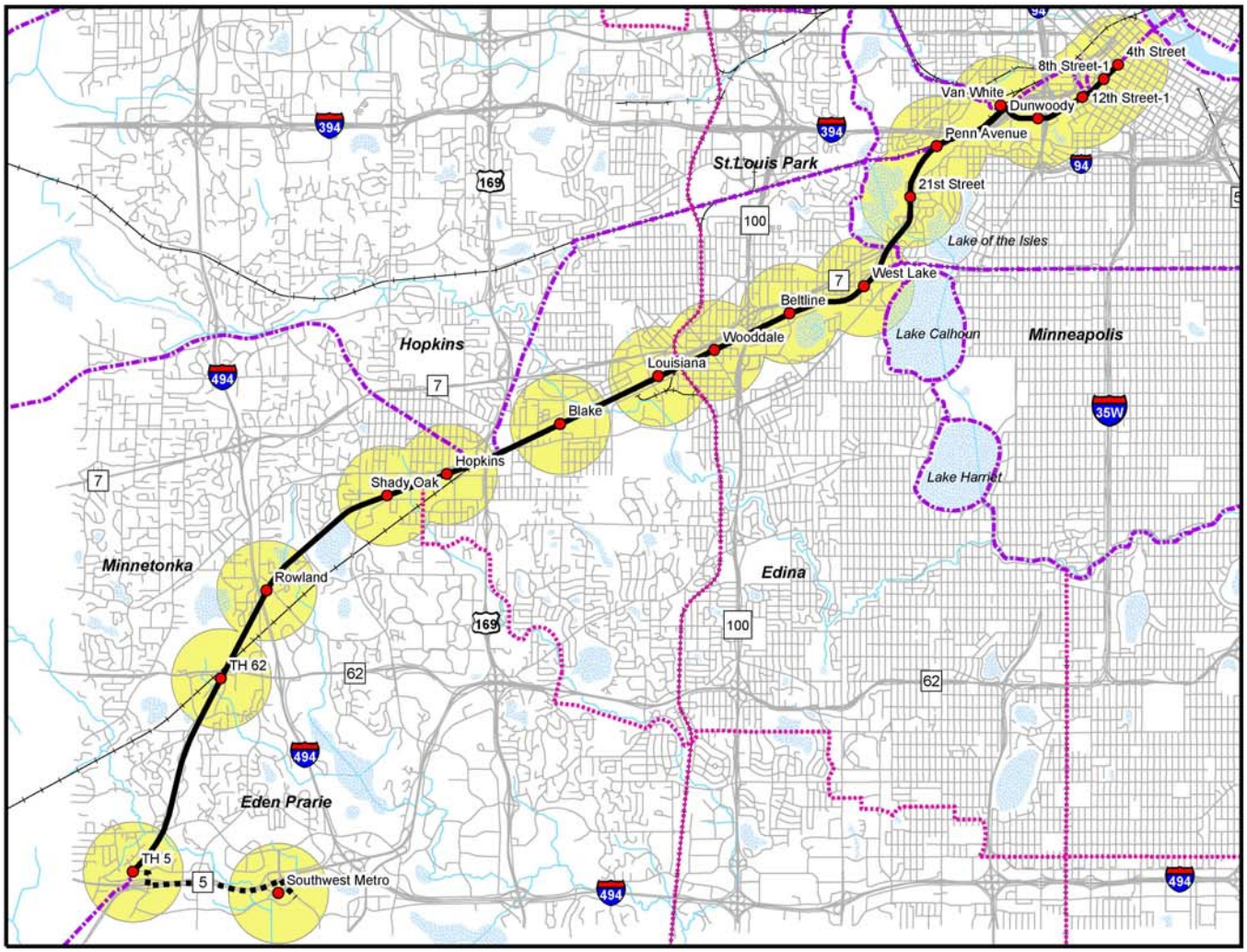
Legend

- Alternative Alignments
- 1/2 Mile Station Buffers
- Stations
- Proposed Trails
- Streets
- Existing Trails
- Entertainment Venue
- Hospital
- Shopping
- Library
- School
- Park
- Government

Miles 0.4 0.2 0

Figure 19

Community Facilities									
Label	Name	Label	Name	Label	Name	Label	Name	Label	Name
Shopping Centers		**Parks**		**Parks**		**Schools**		**Government Centers**	
C1	Calhoun Commons	P1	Kenwood Park	P53	Wolfe Park	S1	Saint Stephens School	G1	Saint Louis Park Post Office
C2	City Center Shopping Center	P2	Mpls Chain Of Lakes Regional Park	P54	Bass Lake Preserve and Trail	S2	West High School	G2	Eden Prairie City Hall
C3	Suburban Square Shopping Center	P3	The Parade	P55	Bee Hive Park	S3	Interdistrict Downtown School	G3	Hennepin County Government Center
C4	Shady Oak Center	P4	Stevens Square	P56	Elmwood Plaza Park	S4	Humboldt Institute	G4	Hopkins Police Heliport
C5	Prairie Court Center	P5	Washburn Fair Oaks	P57	Historic Depot at Jorvig Park	S5	Saint Louis Park High School	G5	Hopkins City Hall
C6	Menard Plaza - Eden Prairie	P6	Morrison Park	P58	Skippy Ball Field	S6	Saint John School	G6	Minneapolis City Hall & Courthouse
C7	Hopkins Commerce Center	P7	Bryn Mawr Meadows	P59	Menzed Park	S7	Hopkins School	G7	Minneapolis Post Office
C8	Eden Place Center	P8	Mueller Park	P60	Cedar Meadows Park	S8	Central Middle	G8	Hopkins Post Office
C9	Calhoun Village	P9	Whittier Park	P61	Freedom Park	S9	International School	G9	Saint Louis Park City Hall
C10	Prairie View Shopping Center	P10	Loring Park	P62	Oak Village Park	S10	Holy Family School	G10	Dept. of Motor Vechiles Center / AAA
C11	Calhoun Square	P11	Mpls Chain Of Lakes Regional Park	P63	South Oak Park	S11	Park Hill School	G11	Muncipal Parking Lot
C12	Midwest Plaza	P12	Carpenter Park	P64	ALP Park	S12	Emerson School	G12	Fire Station #1
C13	Gaviidae Common 2	P13	Bryant Square Park	P65	Birch Lake Park	S13	Northwest Technical Institute	G13	Central Community Center
C14	Gaviidae Common I	P14	Lake Street Park	P66	Forest Hill Park	S14	Northrop College	G14	St. Louis Park Police Dept.
C15	Crystal Court (Ids)	P15	Webster Park	P67	Edenvale Park	S15	Katherine Curren Elem.	G15	St. Louis Park Municipal Service Center
C16	City Center	P16	Bass Lake Park	P68	Willow Park	S16	Blake School	G16	Eden Prairie Center
C17	Factory Outlet Mall	P17	Jorvig Park	P69	Eden Prairie Dog Park	S17	Main St School Of Performing Arts	G17	Eden Prairie Office of Housing/HR
C18	Eden Prairie Shopping Center	P18	Center Park	P70	Purgatory Creek Park	S18	Saint John's School	G18	MnDOT Maintenance
C19	Target	P19	Edgebrook Park	P71	Lake Smetana Park	S19	Curren School	G19	Eden Prairie Street Maintenance
C20	Clinton Park Shopping	P20	Justad Park	**Entertainment Venues**		S20	Clinton School (Historical)	G20	Eden Prairie Fire Station
C21	Shopping	P21	Cottageville Park	E1	Childrens Theater Company	S21	Park Spanish Immersion Elem.	G21	Eden Prairie Water Plant
C22	Lyn-Lake Activity Center	P22	Creekside Park	E2	Walker Art Center	S22	Minneapolis School Of Art	G22	SW Station
C23	Uptown Activity Center	P23	Oakes Park	E3	Guthrie Theater	S23	Central Junior High School	**Cemeteries**	
C24	26th-Nicollet Activity Center	P24	Burnes Park	E4	Minneapolis Convention Center	S24	Metropolitan State Junior College	CEM1	Saint Margaret Cemetery
C25	Byerly's	P25	Central Park	E5	Parade Ice Garden	S25	Northside Community Elem.	**Hospitals**	
C26	Hoigaards	P26	Downtown Park	E6	Blake Sch Ice Arena	S26	Mill City Montessori	H1	Methodist Hospital
C27	Burlington Coat Factory	P27	The Overpass Aggressive Skate Park	E7	Orpheum Theater	S27	Calhoun School	H2	Abbott Hospital
C28	Wolfe Professional Center	P28	Harley Hopkins Park	E8	State Theater	S28	Jefferson Junior High School	H3	Eitel Hospital
C29	Town Place Center	P29	Alden Park	E9	Hopkins Pavillion	S29	Bryn Mawr School	H5	Methodist Hospital
C30	Metro Ford	P30	Buffer Park	E10	Block E Entertainment Complex	S30	Madison School		
C31	Suburban Chevy	P31	Shady Oak Beach Park	E11	Target Center	S31	Downtown Open		
C32	Crossroads Retail	P32	Shady Oak Beach Park	E1	Glen Lake Golf & Practice Center	S32	Minneapolis Technical College		
C33	Commonwealth Retail	P33	Glen Moor Park	E12	Minneapolis Sculpture Garden	S33	Dunwoody Institute		
C34	Tower Square	P34	Sumner Park	E13	Pantages Theater	S34	Chiron Middle		
C35	Eden Glen	P35	Holasek Hills Park	E14	Hennepin Stages	S35	Minneapolis Community College		
C36	Town Place Center	P36	Topview Park	E15	Veteran Memorial Amplitheatre	S36	Kenwood School		
C37	Cub Foods	P37	Bryant Square	E16	St. Louis Park Recreation Center	S37	Blake School - Northrop Campus		
C38	Best Buy	P38	Loring Park	E17	Pavek Broadcasting Museum	S38	Blake School		
C38	Idlewild Commercial	P39	Bryn Mawr Meadows	E18	AMC Theaters	S39	Emerson Elem.		
Libraries		P40	Burnes Park	E19	Bent Creek Golf Club	S40	Blaine School		
L1	Hopkins Library	P41	Carpenter Park			S41	Basilica School		
L2	Walker Library	P42	Central Park			S42	Kenwood Elem.		
L3	Hennepin County Library	P43	Morrison Park			S43	Minneapolis Institute Of Arts		
L4	Hennepin County Library	P44	Alden Park			S44	Dunwoody Institute		
L1	Kenilworth Lagoon	P45	Hagan Field			S45	Minneapolis College Of Art And Desi		
L2	Cedar Lake	P45	Hagan Field			S46	Jefferson Elem.		
L3	Spring Lake	P46	Kenwood Park			S47	Whittier Park Elem.		
L4	Loring Lake	P47	Wilson Park			S48	Wellstone International H.S.		
L5	Chain Of Lakes Lagoon	P48	Whittier Park			S49	Whittier School		
		P49	Washburn Fair Oaks			S50	Saint Louis Park H.S.		
		P50	Stevens Square			S51	Groves Academy		
		P51	Sumner Field			S52	Hennepin County Home School		
		P52	The Parade			S53	Prairie UW		



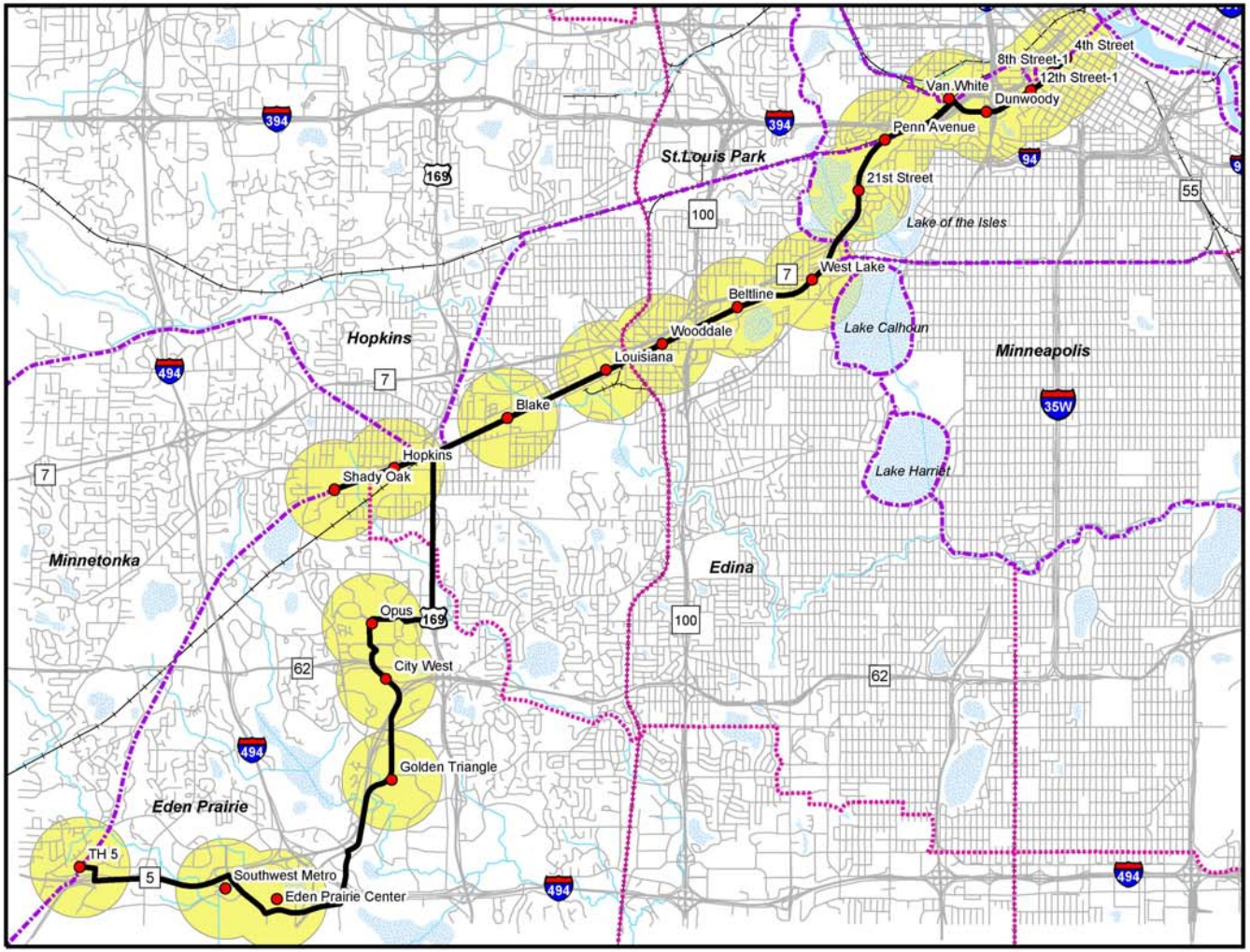
SOUTHWEST TRANSITWAY ALTERNATIVES ANALYSIS

Initial Alternatives: Bus Rapid Transit BRT-1

Legend

- BRT Alignment
- Stations
- 1/2 Mile Station Buffers
- Streets
- Streams
- Proposed Trails
- Existing Trails
- Lakes
- Railroads

Miles
1 0.5 0



SOUTHWEST TRANSITWAY ALTERNATIVES ANALYSIS

Initial Alternatives: Bus Rapid Transit BRT-2

Legend

- BRT Alignment
- Stations
- 1/2 Mile Station Buffers
- Streets
- Streams
- Proposed Trails
- Existing Trails
- Lakes
- Railroads

Miles
1 0.5 0

Hennepin County Regional Railroad Authority

Appendix F: Southwest Policy Advisory Committee and HCRRA Resolutions

Southwest Policy Advisory Committee Resolutions

Resolution No. 2006-2	**Supporting the Preliminary Recommendations of the Southwest Transitway Alternatives Analysis Study**
Resolution No. 2006-3	**Recommending that the HCRRA Request the Metropolitan Council to Raise the Implementation Priority for the Southwest Transitway**
Resolution No. 2006-4	**Supporting Efforts to Raise the Priority of the Southwest Transitway and to Construct the project in a Timely Manner**

Hennepin County Regional Rail Authority Final Resolution

SOUTHWEST POLICY ADVISORY COMMITTEE
RESOLUTION NO. 2006-2
A RESOLUTION SUPPORTING THE PRELIMINARY RECOMMENDATIONS OF THE SOUTHWEST TRANSITWAY ALTERNATIVES ANALYSIS STUDY

WHEREAS, transportation infrastructure forms the backbone of the region's economy as well as its quality of life, and has a direct impact on economic development; and

WHEREAS, a well designed and functional transportation system with multiple mode choices is essential to maintaining long-term mobility throughout the metropolitan region; and

WHEREAS, the Metropolitan Council's long-range transportation plan identifies a future fixed transitway corridor in the southwest portion of the metropolitan area through the cities of Minneapolis, St. Louis Park, Hopkins, Minnetonka, and Eden Prairie; and

WHEREAS, the southwest portion of the metropolitan area has experienced unprecedented population and employment growth over the last 20 years resulting in increasing congestion; and,

WHEREAS, a Light Rail Transit (LRT) line servicing the cities of Minneapolis, St. Louis Park, Hopkins, Minnetonka, and Eden Prairie will improve mobility and will help maintain a competitive business environment and high quality of life for the entire Metro Area; and

WHEREAS, the Southwest Transitway Alternatives Analysis Study, funded by the Hennepin County Regional Railroad Authority, is near completion, comparing the costs, benefits, and impacts of a range of transit alternatives to serve the southwest area; and

WHEREAS, the Southwest Technical Advisory Committee has provided the preliminary recommendation that LRT Alternatives 1A, 3A, and 3C be retained for further consideration; and

WHEREAS, the LRT "3" Alternatives are projected to have higher daily ridership, more new transit riders, and better cost-effectiveness indexes than the LRT "1" Alternative; and,

WHEREAS, the LRT "3" Alternatives that serve the Opus Business Park, the Golden Triangle and Eden Prairie Center, better serve the employment and commercial centers of the Southwest Area than the LRT "1" Alternative; and,

WHEREAS, the LRT "3" Alternatives provide better opportunities for development, redevelopment and economic development and better support the cities long-range planning initiatives than the LRT "1" Alternatives; and,

WHEREAS, the Southwest Policy Advisory Committee has received a strong preference for the LRT "3" Alternatives over the LRT "1" Alternatives through the public comment process.

NOW, THEREFORE, BE IT RESOLVED that the Southwest Policy Advisory Committee concurs with the preliminary recommendations of the Southwest Technical Advisory Committee to bring LRT Alternatives 1A, 3A, and 3C into a Draft Environmental Impact Statement (DEIS) process with the

understanding that Alternative LRT 1A be retained for further study as an option only to be considered in the event that LRT 3A and LRT 3C are proved to be infeasible.

ADOPTED by the Southwest Policy Advisory Committee this 13th day of December, 2006.

SOUTHWEST POLICY ADVISORY COMMITTEE
RESOLUTION NO. 2006-3
A RESOLUTION RECOMMENDING THAT THE HCRRA REQUEST THE METROPOLITAN COUNCIL TO RAISE THE IMPLEMENTATION PRIORITY FOR THE SOUTHWEST TRANSITWAY

NOW, THEREFORE BE IT RESOLVED, that the Southwest Policy Advisory Committee recommends that the Hennepin County Regional Railroad Authority request that the Metropolitan Council raise the priority for implementation of a Southwest Transitway; and,

ADOPTED by the Southwest Policy Advisory Committee this 13th day of December, 2006.

SOUTHWEST POLICY ADVISORY COMMITTEE
RESOLUTION NO. 2006-4
A RESOLUTION SUPPORTING EFFORTS TO RAISE THE PRIORITY OF THE SOUTHWEST TRANSITWAY AND TO CONSTRUCT THE PROJECT IN A TIMELY MANNER

NOW THEREFORE, BE IT RESOLVED, that the Southwest Policy Advisory Committee strongly supports all efforts by the Hennepin County Regional Railroad Authority, the Metropolitan Council, the Minnesota Department of Transportation, and the Federal Transit Administration to fund and construct in a timely manner, an LRT line through the southwest metro area, that it be considered a priority project for the region, and after the Central Corridor, become the next planned expansion of the Comprehensive Transit System for the metropolitan region.

ADOPTED by the Southwest Policy Advisory Committee this 13th day of December, 2006.