



Metropolitan Council
Committee of the Whole Meeting

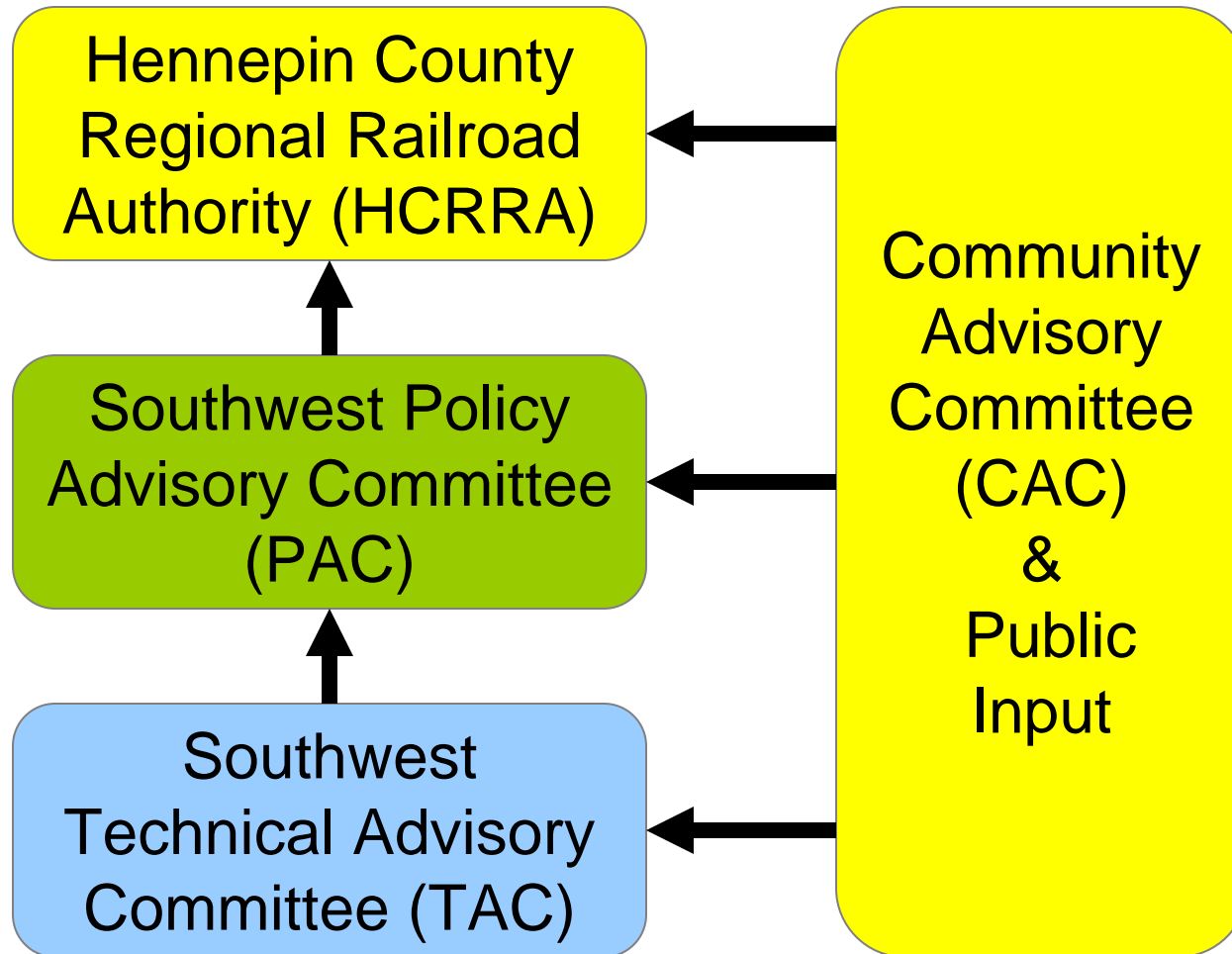
January 20, 2010

HCRRA: Growing and Investing in the Southwest Transitway

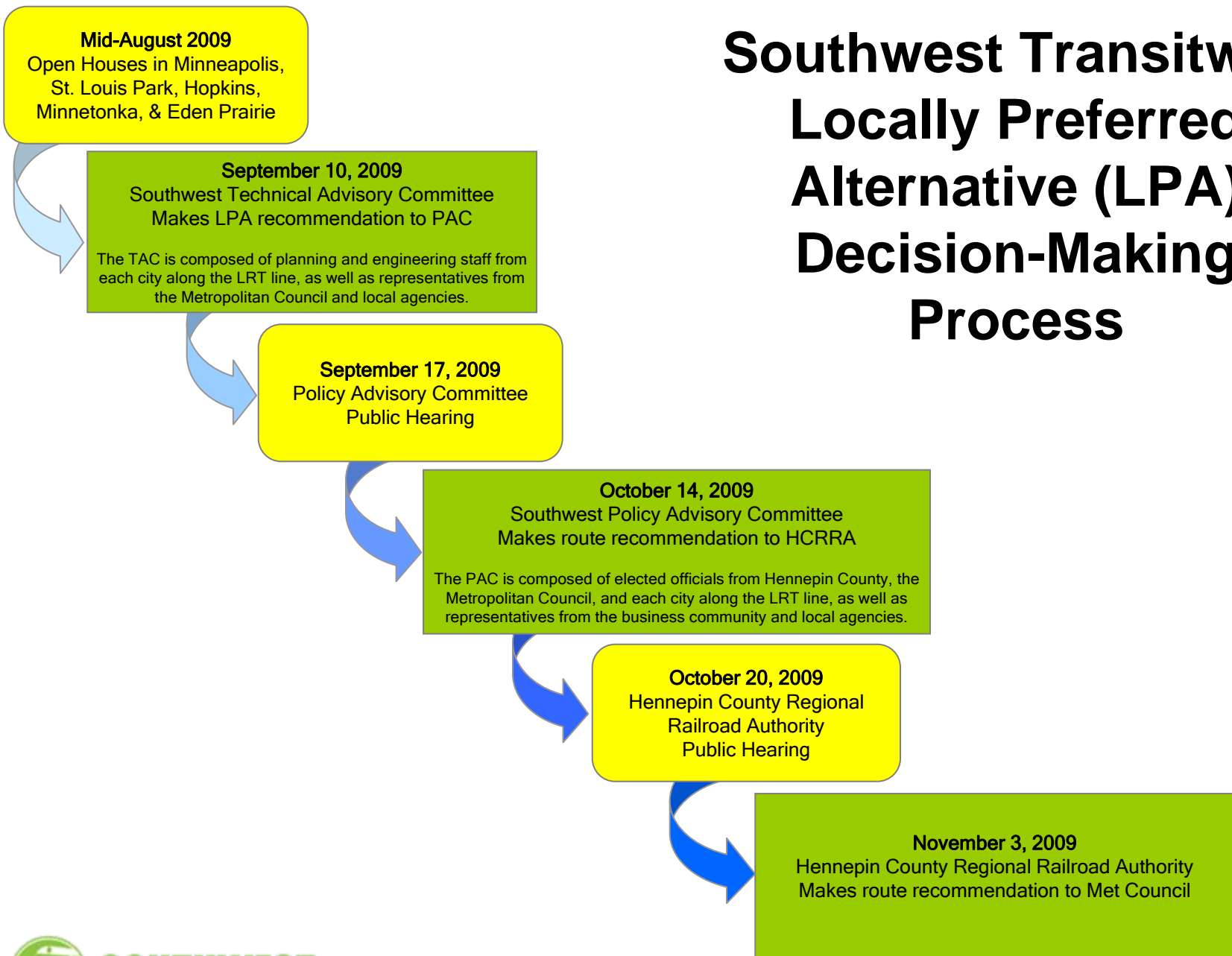
- HCRRA has been leading project development since the early 1980s
- Efforts have included:
 - Feasibility studies
 - \$20M+ of abandoned rail ROW purchased
 - Potential alignment identification & evaluation
 - FTA compliant Alternatives Analysis
 - Extensive stakeholder & public involvement

Southwest Transitway AA

Committee Structure & Stakeholder Involvement



Southwest Transitway Locally Preferred Alternative (LPA) Decision-Making Process



HCRRA LPA Recommendation

LRT 3A is the alternative that best meets the Purpose & Need for the Project as expressed by the goals of:

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

BE IT RESOLVED, that the Hennepin County Regional Railroad Authority recommends to the Metropolitan Council that light rail transit alternative 3A be selected as the Locally Preferred Alternative (LPA) for the Southwest Transitway for inclusion in the Metropolitan Council's 2030 Transportation Policy Plan;

Presentation Overview

- Early Plans, Studies, and Key Findings
- Alternatives Analysis Process
- Separate Issues
- LPA Assumptions

Southwest Transitway Study Area



Regional Transitway Plans

- Southwest has been included in every transitway system plan since 2000...
 - 2020 Transit Master Plan, 2000
 - 2025 Transportation Policy Plan, 2001
 - 2030 Transportation Policy Plan, 2004
 - 2030 Transportation Policy Plan, 2009

Early Planning Studies

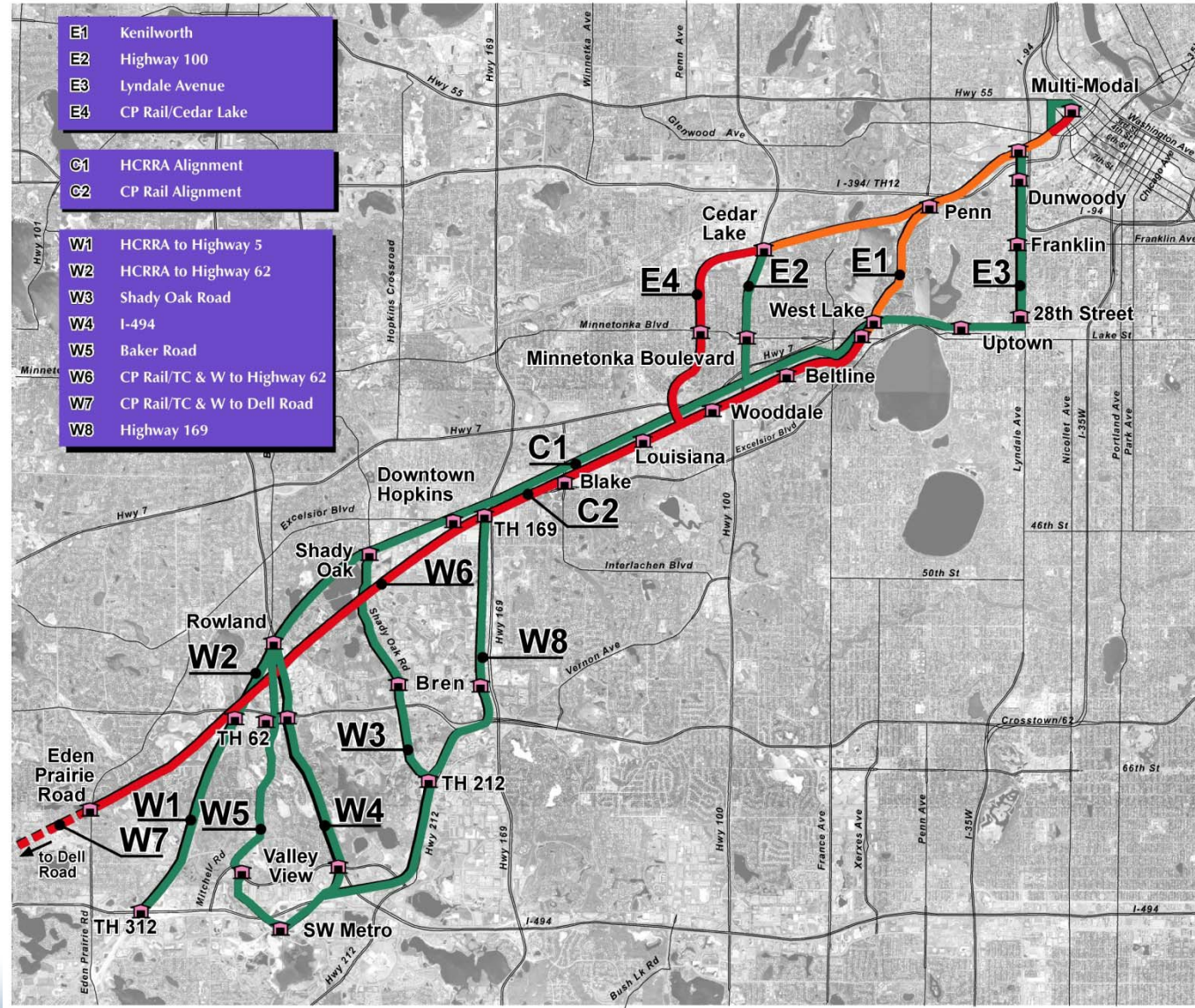
- University/Southwest Alternatives Analysis and Draft Environmental Impact Statement, 1985
- Comprehensive LRT system Plan for Hennepin County, 1988
- Hennepin County Stage 1 LRT System: DEIS, 1989
- Preliminary Design of the Stage 1 LRT System, 1990
- Preliminary Design of the Southwest LRT Corridor in the Cities of St. Louis Park and Hopkins, 1990
- Southwest and 29th Street Busway Feasibility Study, 2000
- Twin Cities Exclusive Busway Study, Mn/DOT, August 2000

Southwest Rail Transit Study, 2003

- Assessed the feasibility of rail alternatives
- Extended terminus to Eden Prairie
- Identified alignment segments for the West, Center, and East
- Assembled segments into Alternatives
- Established early understanding of potential alignments, travel demand and costs

Southwest Rail Transit Study, 2003

Alignments Studied

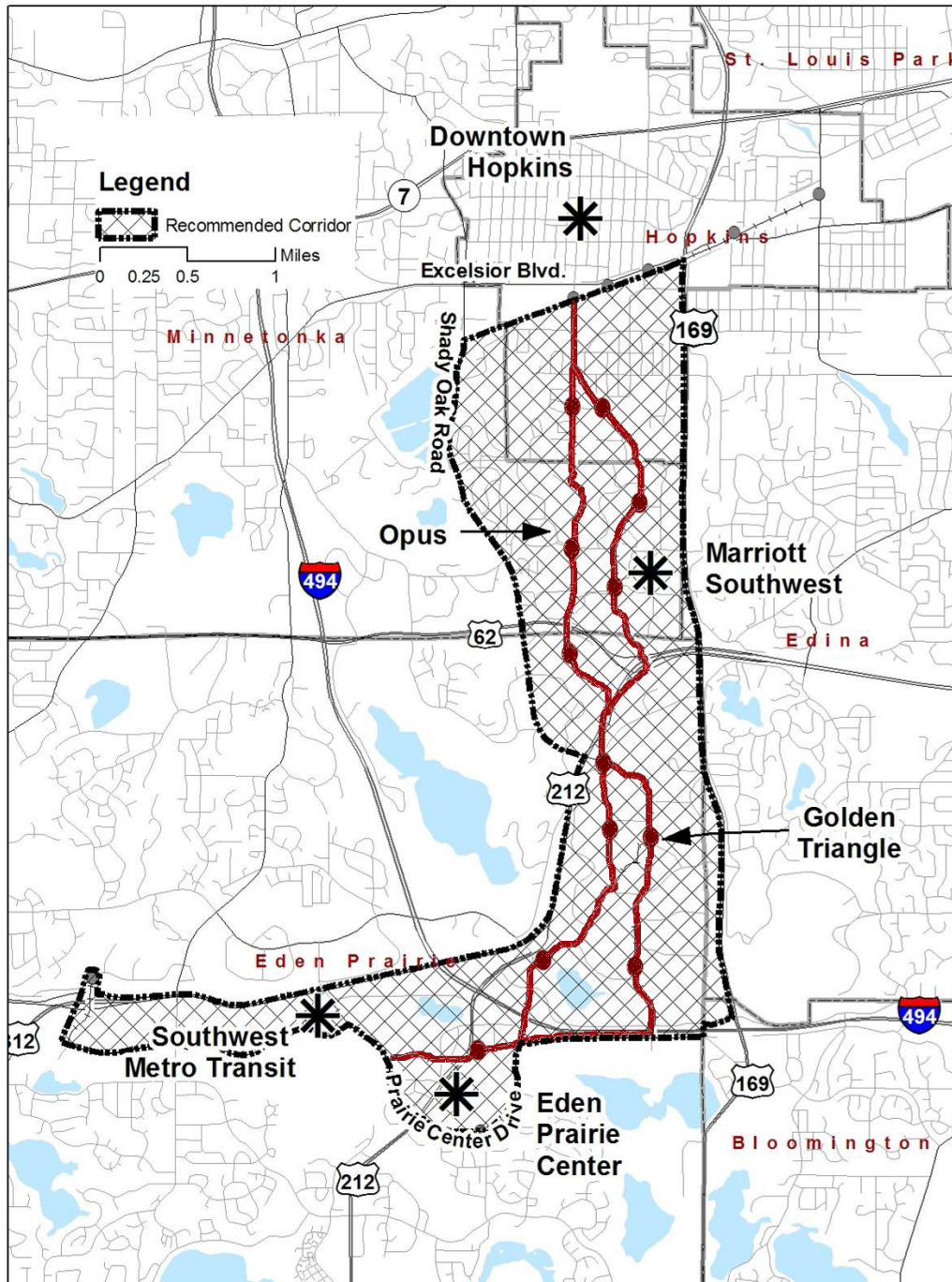


Southwest Rail Transit Study, 2003

Conclusions

- Dismissed five segments from further study E2 (TH 100); E4 (CP Corridor); W3 (Shady Oak Road); W5 (Mitchell Road); E3 Lyndale Avenue
- Recommended developing a new alternative connecting major employment centers (Opus, Golden Triangle, Eden Prairie Center)
- Addendum study identified Alternative 3A alignment

Southwest Rail Transit Study, 2003 Alternative 3A



Alternatives Analysis

In 2005, HCRRA initiated an FTA-compliant AA process:

“As defined by law, alternatives analysis (AA) is the first step of the New Starts project development process. AA is the local forum for evaluating the costs, benefits, and impacts of a range of transportation alternatives designed to address mobility problems and other locally-identified objectives in a defined transportation corridor, and for determining which particular investment strategy should be advanced for more focused study and development.”

Alternatives Analysis Process

Three major study efforts composed the AA process:

- Alternatives Analysis Study 2005-2007
- NEPA/MEPA Scoping Study 2008-2009
- LPA Analysis 2009

2005-2007

Alternatives Analysis Study

- Articulated the project purpose and need and project goals
- Formally established
 - Transit Modes
 - Alignments/Routes
 - Station Locations
- Evaluated alternatives & recommended further study
- Included public participation process

Alternatives Analysis Study 2005-2007

Project Purpose and Need

- Declining Mobility
- Lack of competitive, reliable, transit options for choice riders and transit dependent persons
- Lack of reverse commute transit service

Alternatives Analysis Study 2005-2007

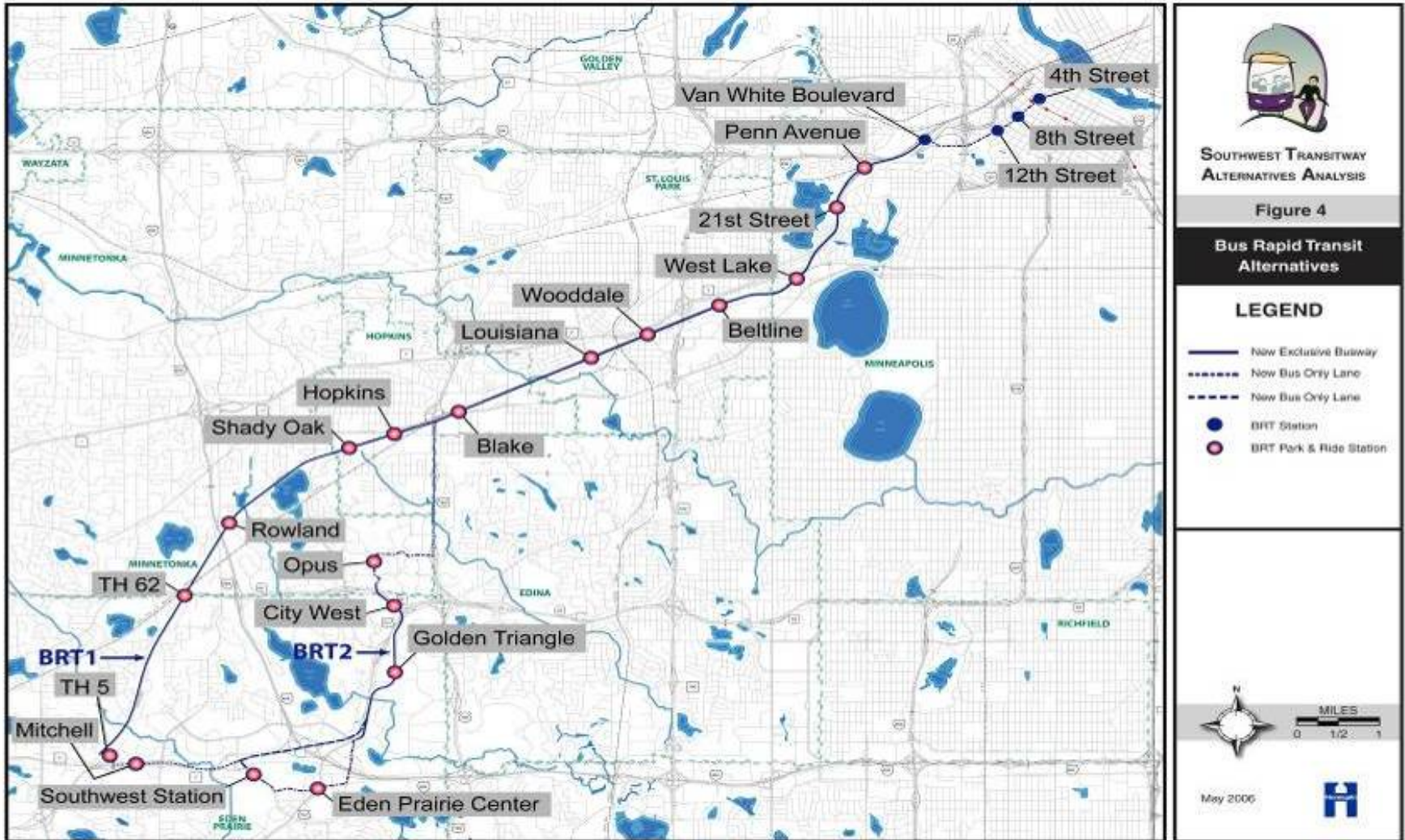
Transit Modes Evaluation

Modes	Compatibility with Travel Demand	Proven Technology	Compatibility with Existing Infrastructure	Identified in the Regional Transportation Plan	Recommendation
Conventional Bus					Retain
Bus Rapid Transit (BRT)					Retain
Light Rail Transit (LRT)					Retain
Streetcar (Modern)*					Not Retain
Heavy Rail Transit					Not Retain
Commuter Rail					Not Retain
Monorail/AGT (Automated Guideway Transit)					Not Retain
Personal Rapid Transit (PRT)					Not Retain

LEGEND	Compatibility with Travel Demand:	Ability of service type to accommodate expected travel demand	Fully Meets Criteria Partially Meets Criteria Does Not Meet Criteria
	Proven Technology:	Fully implemented and able to be evaluated	
	Compatibility with Existing Infrastructure:	Does not require massive retrofit of existing infrastructure	
	Identified in the Regional Transportation Plan:	Identified in the Metropolitan Council's Transportation Policy Plan (TPP)	
*May be appropriate for intercity/local circulator service connecting to/from the corridor			

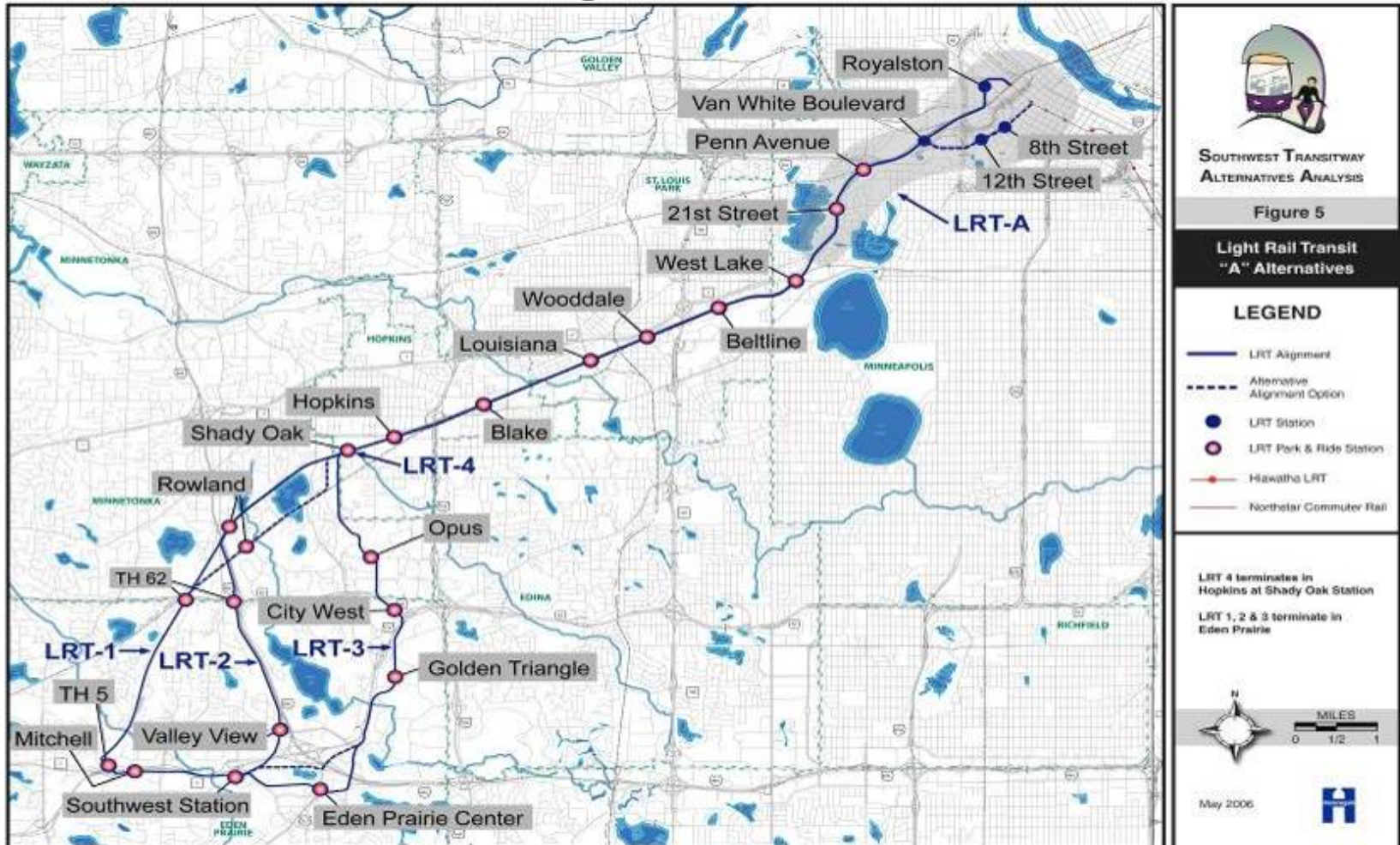
Alternatives Analysis Study 2005-2007

BRT Alternatives



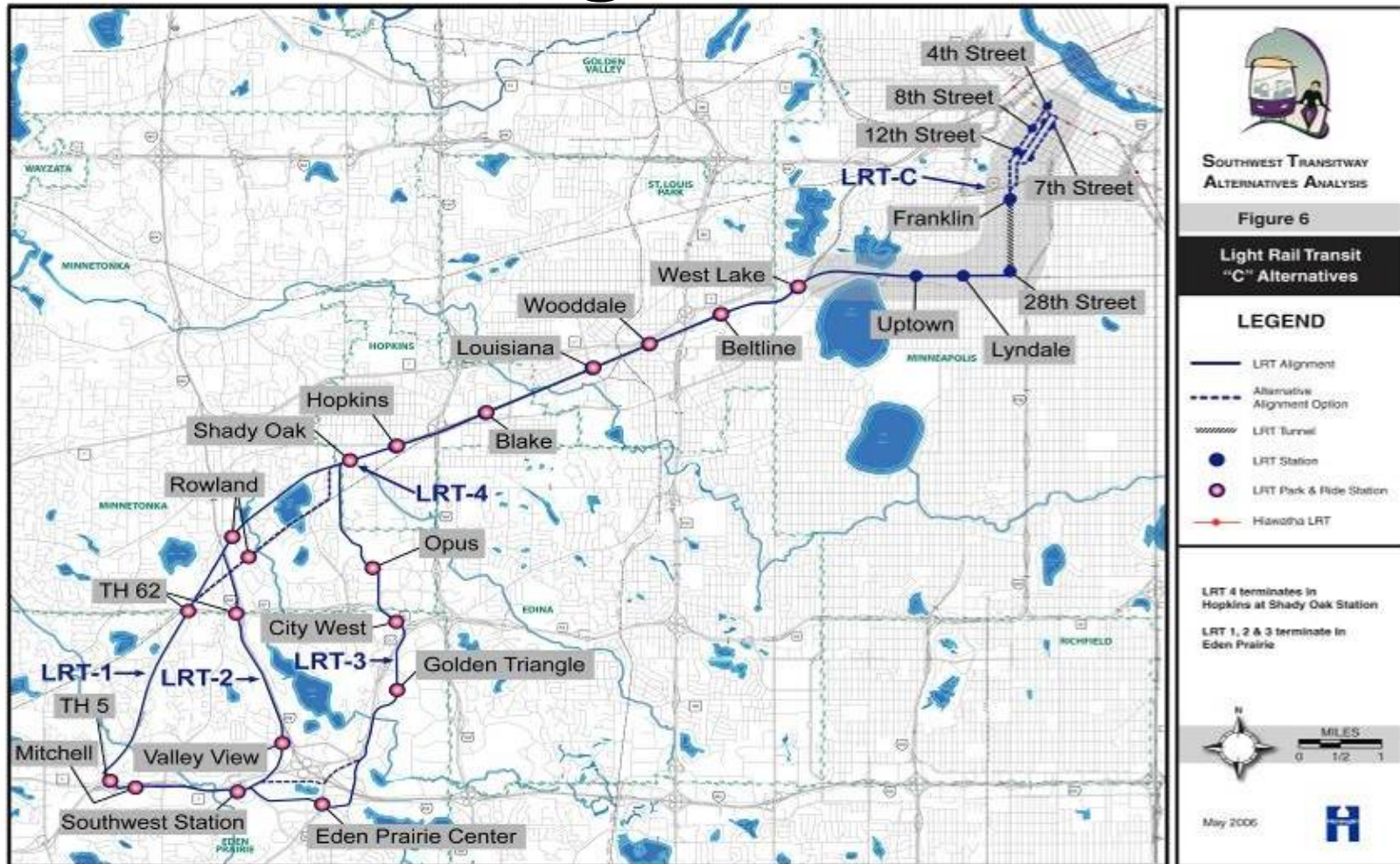
Alternatives Analysis Study 2005-2007

LRT Alternatives – “A” Alignments



Alternatives Analysis Study 2005-2007

LRT Alternatives – “C” Alignments



Alternatives Analysis Study 2005-2007

Evaluation Criteria

Tier One	Improve Mobility
	Provide a Cost Effective and Efficient Travel Option
Tier Two	Protect the Environment
	Preserve the Quality of Life
	Support Economic Development

Alternatives Analysis Study 2005-2007

Evaluation of Alternatives

Alternatives	Tier 1 Goals			Results	Tier 2 Goals			Recommendation
	Goal 1: Improve Mobility	Goal 2: Provide a Cost-Effective, Efficient Travel Option			Goal 3: Protect the Environment	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 2¹ - 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 2A¹ - 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 forward	
LRT 3A¹ - 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 4C¹ - 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		

Alternatives Analysis Study 2005-2007

Evaluation Data for Select Alts.

	AA Study Capital Cost Est. (2015\$)	AA Study Incremental Annual Operating Cost Est. (2015\$)*	AA Study Daily Ridership Est. (2030)	AA Study CEI Est. (2006)
BRT 1	\$540 m	\$1.8 m	14,400	\$66
BRT 2	\$704 m	\$2.5 m	16,500**	\$74
LRT 1A	\$864 m	\$11.5 m	23,500	\$30
LRT 3A	\$1.2 b	\$15.9 m	27,000**	\$26
LRT 3C	\$1.4 b	\$17.1 m	28,100	\$30

*Increment over Enhanced Bus alternative.

**Estimate, not forecast.

Alternatives Analysis Study 2005-2007

Final Recommendations

- Of 12 alignments, advance two LRT alignments for continued study:
 - LRT 3A (Kenilworth-Opus-Golden Triangle)
 - LRT 3C (Nicollet Ave-Opus-Golden Triangle)
- Pursue LRT 1A (on HCRRA ROW) only if LRT 3A or 3C prove infeasible
- Advance Enhanced Bus alternative
- Recommendations passed by TAC, PAC, unanimously accepted by HCRRA following public hearing

Alternatives Analysis Study 2005-2007

Public Comment

- HCRRA hosted six open houses and a January 23, 2007 public hearing
- LRT supported as preferred mode
- Debate centered on alignment options through Minneapolis (i.e. Kenilworth or Midtown-Nicollet Ave)

Alternatives Analysis Study 2005-2007

LRT 3D Park/Portland

- Minneapolis Mayor Rybak requests analysis of additional alignment LRT 3D
- Follows Park/Portland rather than Nicollet
- TAC & PAC recommended LRT 3D be dismissed from further study

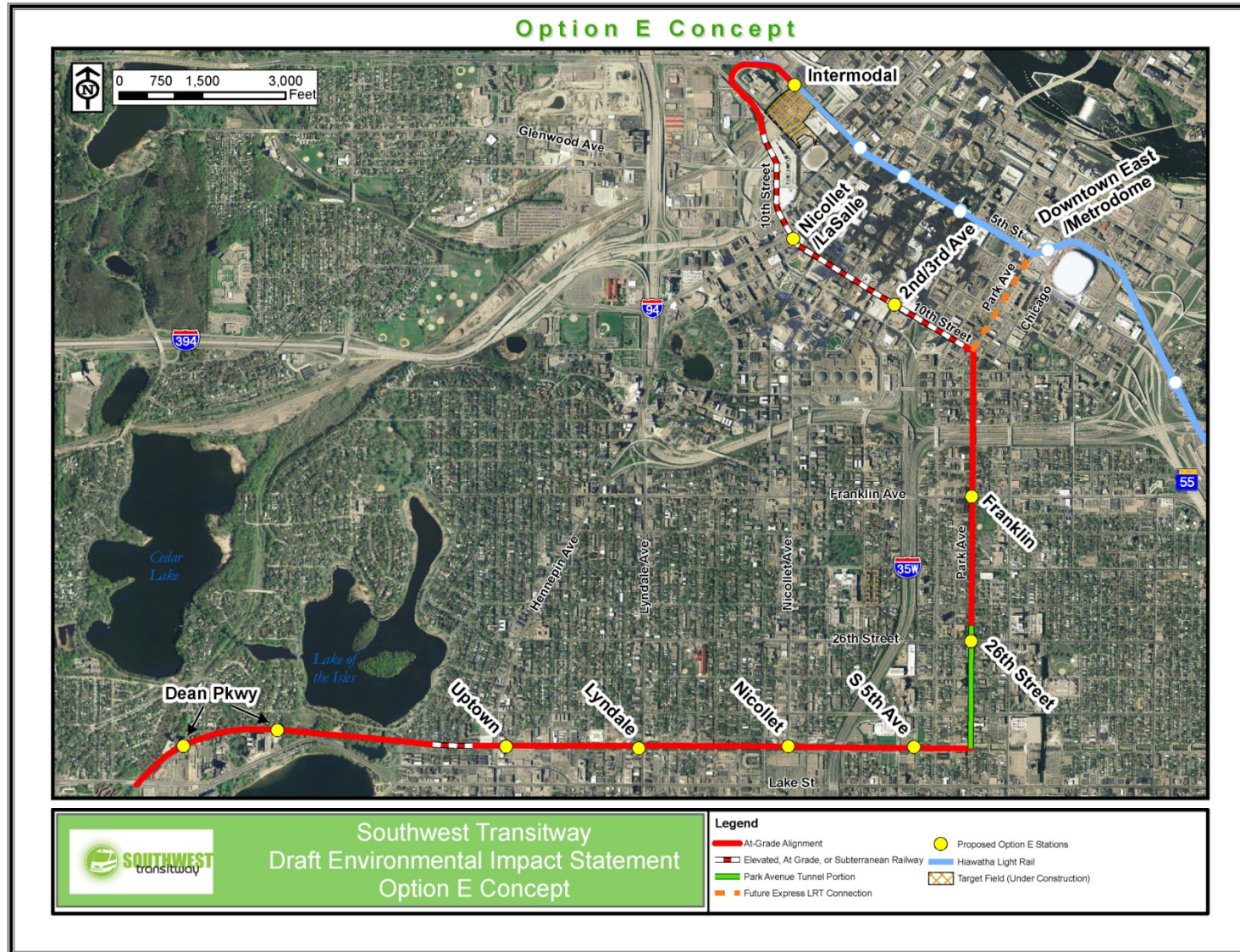


2008-2009

NEPA/MEPA Scoping Study

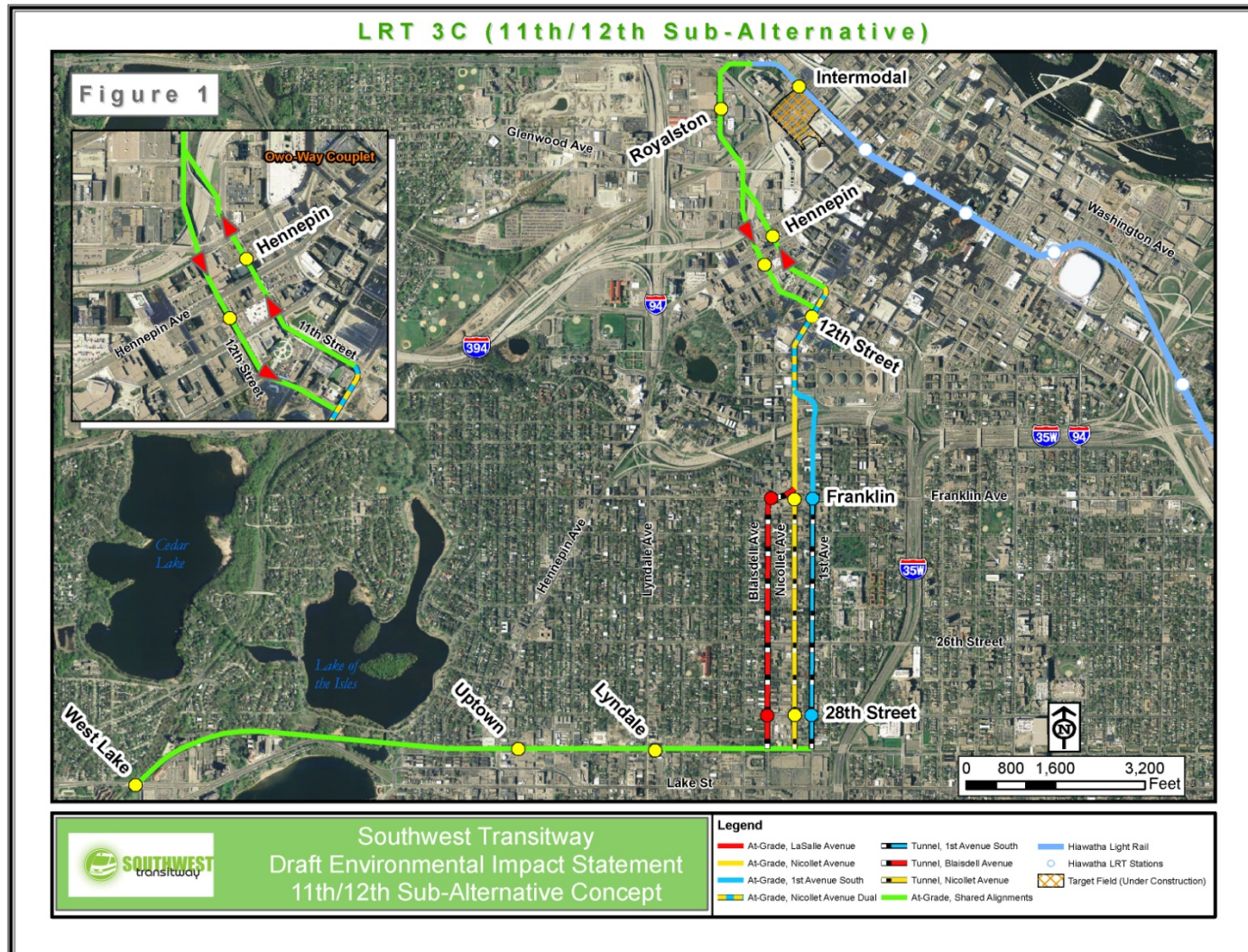
- First Step in Draft Environmental Impact Statement (DEIS) Process
- Ensures agencies and public understand:
 - Project purpose & need
 - Alternatives being considered
- Gives public & agencies an opportunity to introduce new alternatives
 - If a new alternative is found feasible and practical, it must be evaluated in the DEIS

New Alternative Introduced – LRT 3E



NEPA/MEPA Scoping Study 2008-2009

New Alternative Introduced – LRT 3C-2 (11th/12th)



Recommendation on New Alternatives

- LRT 3E – Dismiss from Further Consideration
 - Not consistent with Purpose and Need
 - Not consistent with Regional and Local planning
 - Inferior performance compared to other alternatives under consideration (slower travel times)
 - Presents significant engineering, traffic, and LRT operations issues
- LRT 3C-2 (11th/12th) – Advance for Further Study

LPA Analysis 2009

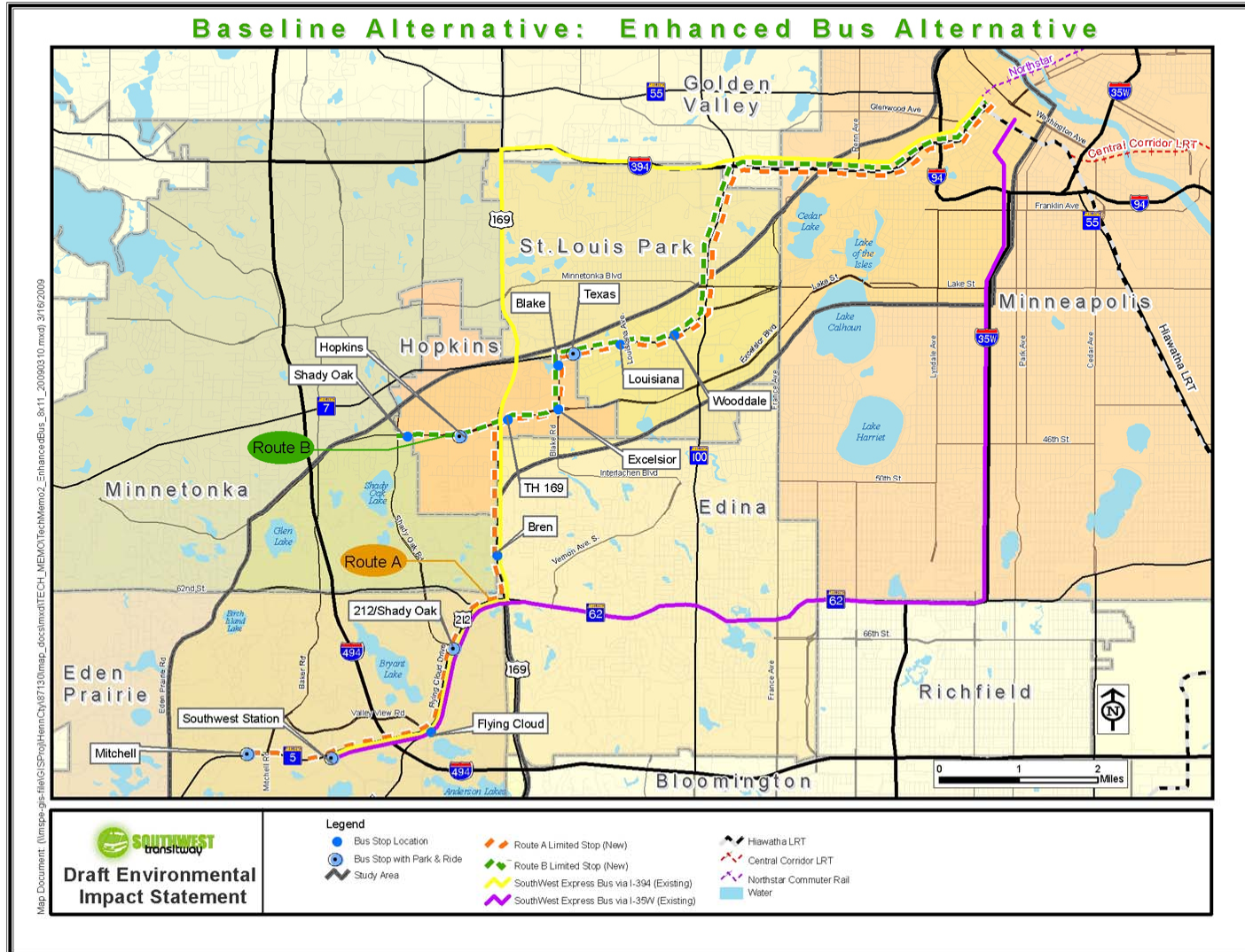
- Identify the alternative (of remaining six alternatives) that best meets project purpose and need
- Recommend the LPA to the Metropolitan Council for selection and amendment into the 2030 TPP

LPA Analysis 2009

- Alternatives
 - No-Build
 - Enhanced Bus (Baseline)
 - LRT 1A (Kenilworth-HCRRRA ROW)
 - LRT 3A (Kenilworth-Opus-Golden Triangle)
 - LRT 3C-1 (Nicollet-Midtown-Opus-Golden Triangle)
 - LRT 3C-2 (11th/12th Streets-Midtown-Opus-Golden Triangle)

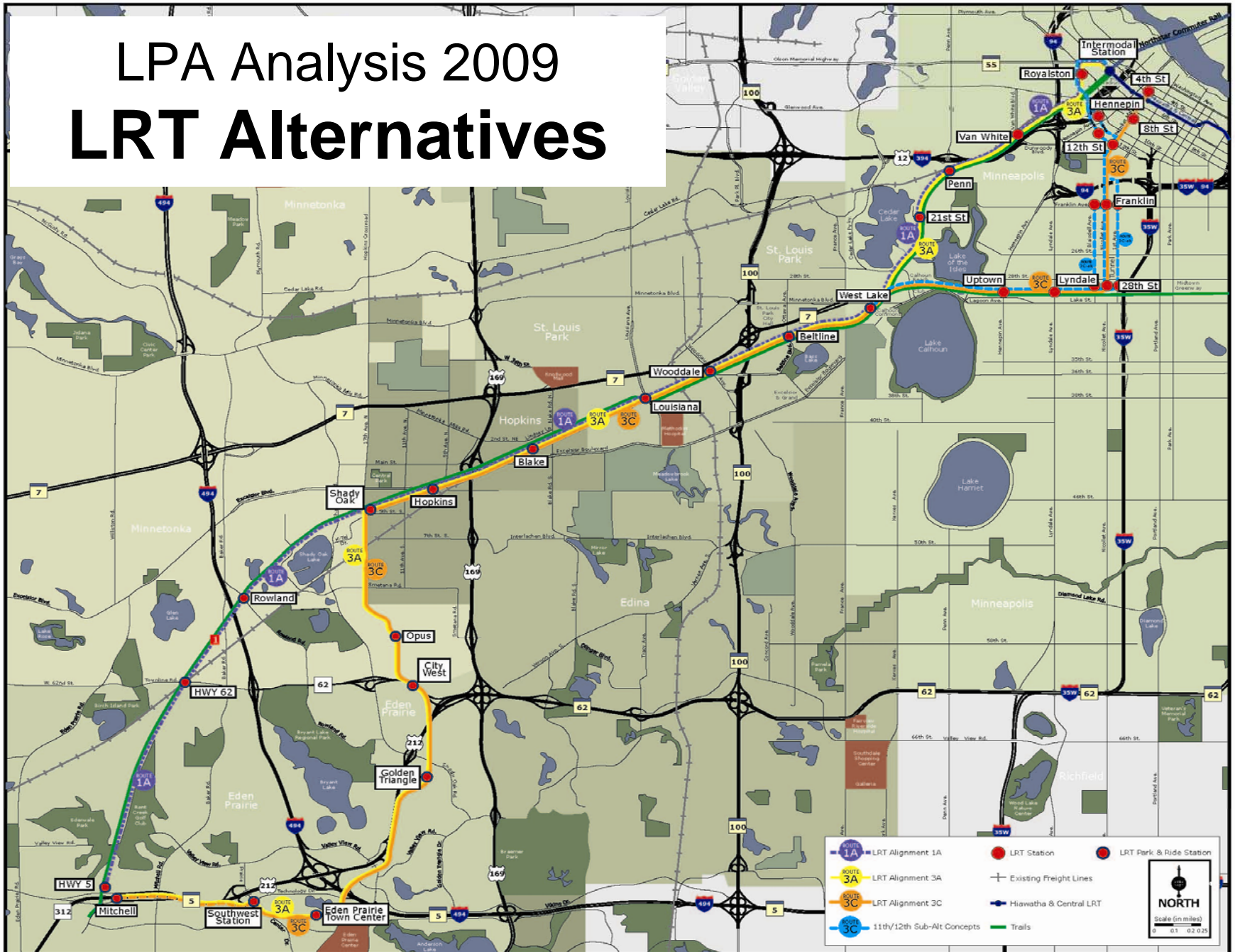
LPA Analysis 2009

Enhanced Bus Alternative



LPA Analysis 2009

LRT Alternatives



LPA Analysis 2009

Evaluation Data

	Preliminary Capital Cost (2015\$)	Preliminary Annual Operating Cost (2015\$)	Preliminary Daily Ridership (2030)	Preliminary CEI*
LRT 1A	\$850 to \$950 m	\$19 to \$21m	24,000 to 26,000	\$24 to \$26
LRT 3A	\$1.1 to \$1.25b	\$23 to \$25m	28,000 to 30,000	\$28 to \$31
LRT 3C-1	\$1.6 to \$1.7b	\$27 to \$29m	24,000 to 26,000	\$39 to \$44
LRT 3C-2	\$1.7 to \$1.8b	\$27 to \$29m	28,000 to 30,000	\$44 to \$48

$$\text{CEI} = \frac{\text{Incremental Annualized Capital Cost} + \text{Incremental Operating/Maintenance Cost}}{\text{User Benefits}}$$

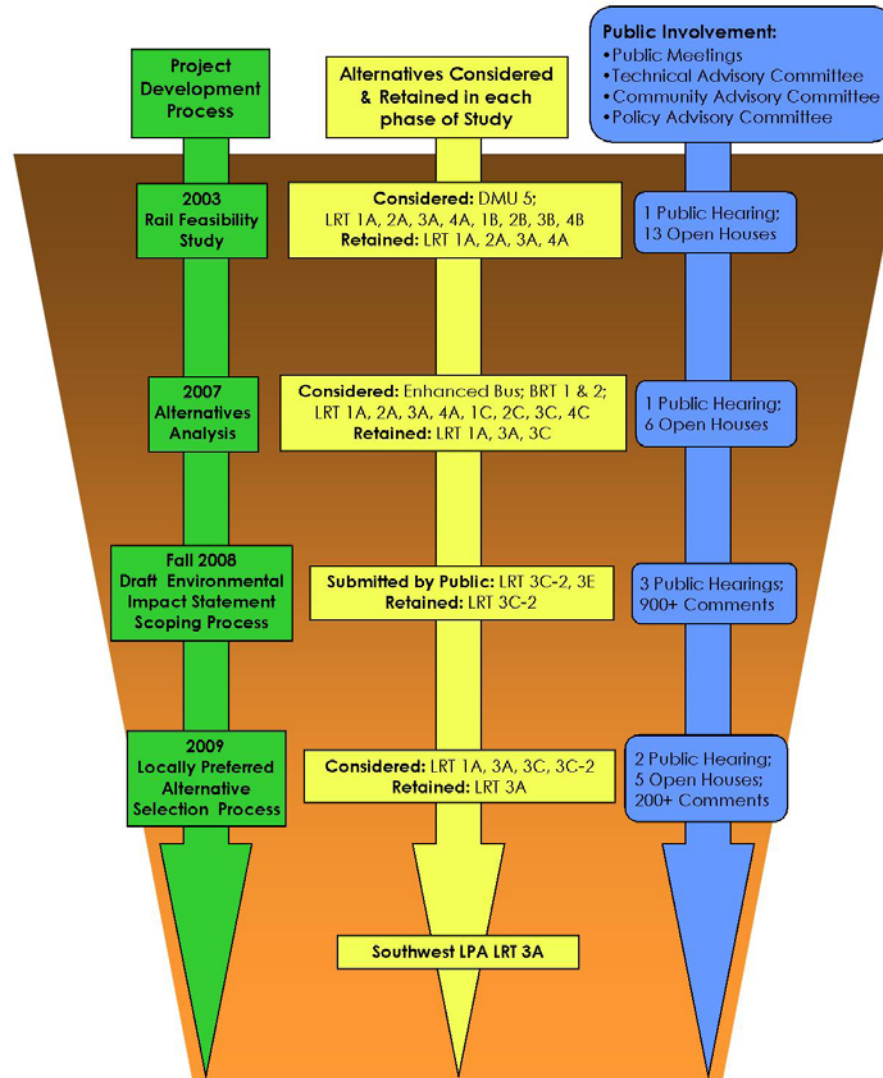
* CEI values are preliminary and subject to change once the FTA officially approves the TSM/baseline alternative

LPA Analysis 2009

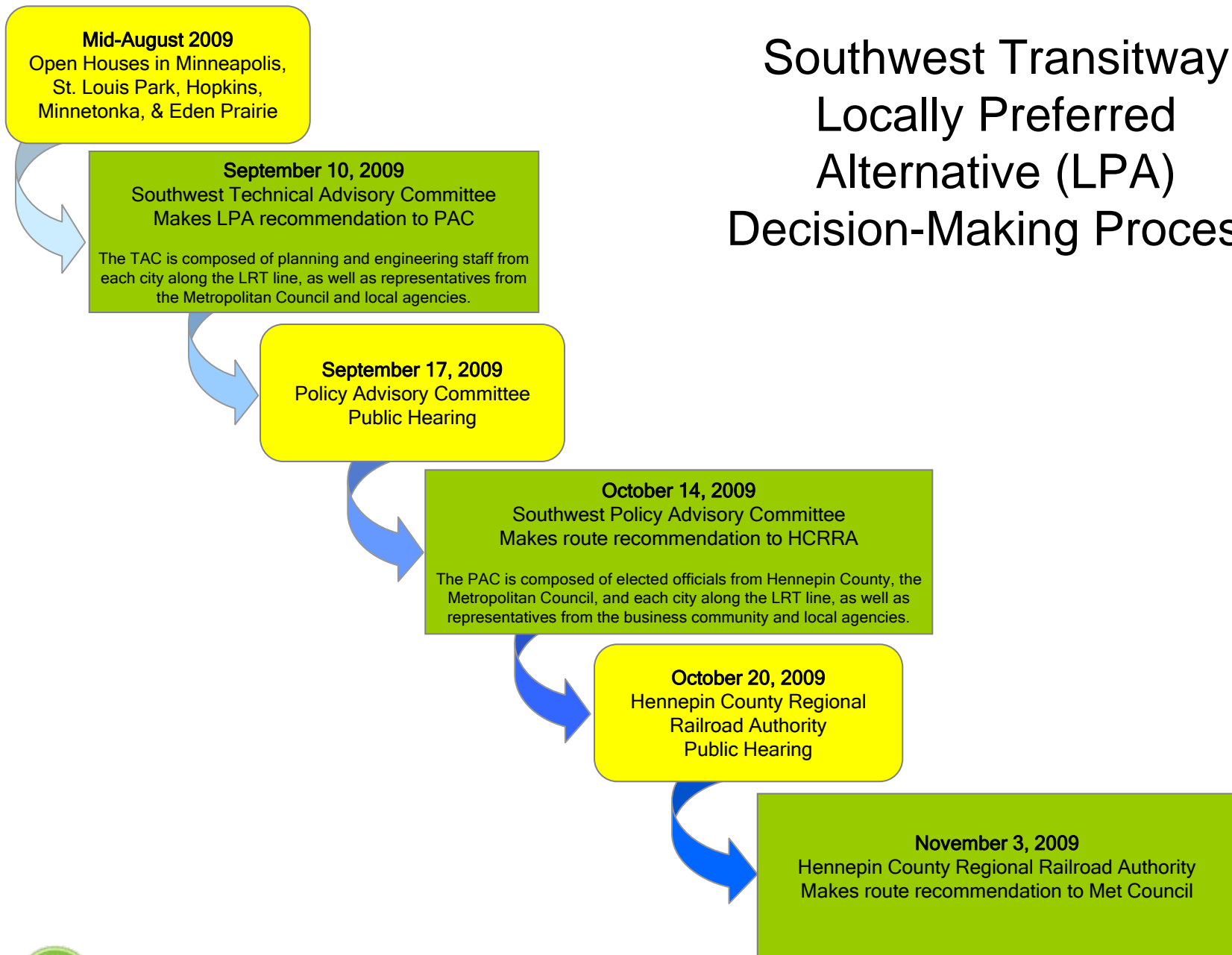
Evaluation Results

	Planning Compatibility	Transit System	Ridership	Cost	Critical Environmental Resources	Implementation Factors	Summary
LRT 1A	●	●	●	●	●	●	●
LRT 3A	●	●	●	●	●	●	●
LRT 3C-1 (Nicollet Mall)	●	●	●	●	●	●	●
LRT 3C-2 (11 th /12 th)	●	●	●	●	●	●	●
●	Proceed						
●	Proceed with Caution						
●	Do Not Proceed						

LPA Identification Process



Southwest Transitway Locally Preferred Alternative (LPA) Decision-Making Process



LPA Analysis 2009

Public Comment

- Fall 2009 public hearings
- 300 people attended
- 75 people testified
- Strong support for LRT as preferred mode
- Debate centered on Kenilworth or Midtown-Nicollet/Blaisdell/1st Ave alignment through Minneapolis

Separate Issues

- Freight Rail Relocation
- Trails
 - Vision is a shared use corridor serving transit, pedestrians, and bicyclists
- Midtown Corridor
 - HCRRA assumes Minneapolis would lead project development since proposed in Access Minneapolis
 - 2030 TPP reads (p.124): *“The Midtown Corridor shows promise as a transitway connecting Hiawatha LRT and Southwest Transitway. However, it is not yet clear which Southwest alignment will be selected. This corridor should be examined after the Southwest Transitway alignment is determined to see if a connection between Hiawatha and Southwest is warranted.”*

Schedule Assumptions

- Preliminary Engineering/FEIS: 2011-2012
- Final Design: 2013
- Construction: 2014-2016
 - Cost estimates assume construction costs in 2015 dollars
- Operation: 2017

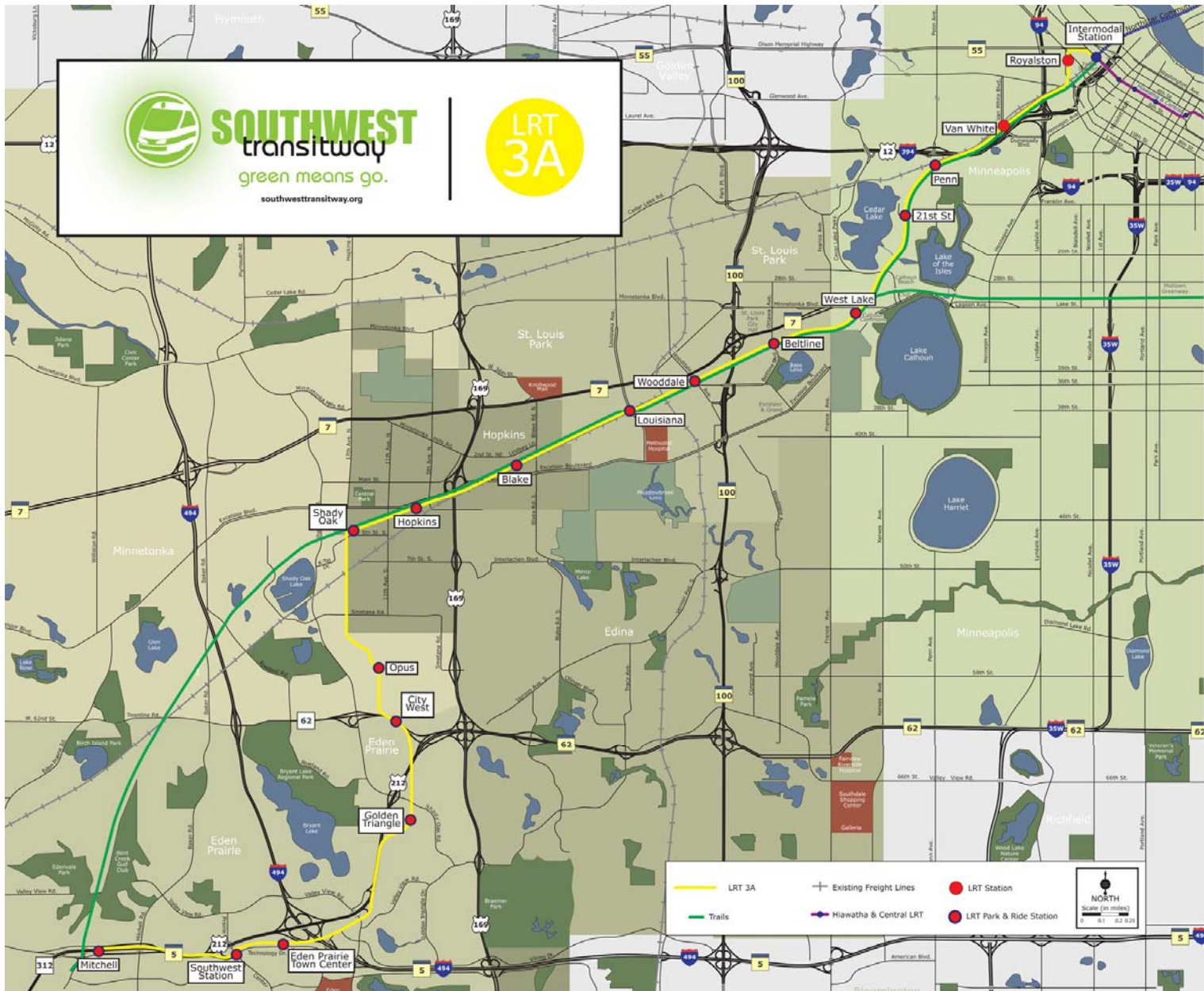
Cost Estimate Assumptions

- Construction costs in 2015 dollars
 - All ROW on public lands assumed to be contributed at no cost
 - Substantial ROW acquisition required on west end of alignment
 - For commercial property, assumed acquisition cost of 175 percent of the full cash value* plus relocation & administrative costs as applicable
 - For residential property, assumed acquisition cost of 150 percent of the full cash value* plus relocation & administrative costs as applicable
- *Per the Hennepin County Assessor Estimated Market Value (EMV) Total.
- Cost estimate includes allocated contingency and additional unallocated contingency



SOUTHWEST
transitway
green means go.
southwesttransitway.org

LRT
3A



Recommended LPA: LRT 3A Kenilworth-Opus-Golden Triangle

- Serves Minneapolis, St. Louis Park, Hopkins, Minnetonka, and Eden Prairie including downtown Hopkins, Opus, Golden Triangle, and Eden Prairie Center Mall
- Est. 2030 Daily Ridership: 28,000 to 30,000
- Est. Capital Cost: \$1.1 to \$1.25 B
- Est. Annual Operating Cost: \$23 to \$25 M
- Est. CEI: \$28 to \$31



SOUTHWEST
transitway

Questions



Planning Compatibility

	Defined as consistency with land use and transportation plans
LRT 1A	Consistent with Met. Council's Transportation Policy Plan (TPP) Inconsistent with Minnetonka & Eden Prairie comprehensive plans
LRT 3A	Consistent with all regional and local land use/transportation plans
LRT 3C-2 (11 th /12 th)	Inconsistent with Met. Councils TPP (11 th /12 th roadways, Nicollet Mall, Nicollet Ave. & MARQ2 bus, 11 th St. & Midtown Greenway bike trails) Inconsistent with Access Mpls
LRT 3C-1 (Nicollet Mall)	Inconsistent with Met. Councils TPP (11 th /12 th roadways, Nicollet Mall, Nicollet Ave. & MARQ2 bus, 11 th St. & Midtown Greenway bike trails) Inconsistent with Access Mpls

Transit System

	Defined as LRT system integration, transit service expansion (span & frequency of service to reach the goal of doubling transit ridership by 2030)
LRT 1A	Fully integrated into LRT system. Provides for service expansion to areas difficult to serve by bus transit in Minneapolis.
LRT 3A	Fully integrated into LRT system. Provides for service expansion to areas difficult to serve by bus transit. Some potential duplication/competition of service with SouthWest Metro.
LRT 3C-2 (11 th /12 th)	Fully integrated into LRT system. Provides limited service expansion (frequency and span of service) and likely to result in substantial service duplication/competition in Minneapolis and with SouthWest Metro. Potential conflict with the Nicollet Mall, Nicollet Ave. and MARQ2 bus operations.
LRT 3C-1 (Nicollet Mall)	Not integrated into LRT system. Provides limited service expansion (frequency and span of service) and likely to result in substantial service duplication/competition in Minneapolis and with SouthWest Metro. Potential conflict with the Nicollet Mall, Nicollet Ave. and MARQ2 bus operations.

Ridership Forecast (2030)*

	LRT Daily Ridership	Reverse Commute Ridership	New Transit Trips	Travel Time Savings (user benefit hours)
LRT 1A	24,000 to 26,000	5,500 to 6,500	6,500 to 7,500	6,500 to 7,500
LRT 3A	28,000 to 30,000	7,500 to 8,500	7,500 to 8,500	8,500 to 9,000
LRT 3C-1 (Nicollet Mall)	24,000 to 26,000	7,500 to 8,500	7,500 to 8,500	8,000 to 9,000
LRT 3C-2 (11 th /12 th Streets)	28,000 to 30,000	7,500 to 8,500	7,500 to 8,500	7,500 to 8,500

* Ridership numbers are preliminary and subject to change

Capital and O/M Costs (2015)*

Alternative	Capital Cost		Operating (Annual) Cost
	2015	Cost/mile	2008
LRT 1A	\$850M to \$950M	\$61M to \$68M	\$19M to \$21M
LRT 3A	\$1.1B to \$1.25B	\$69M to \$78M	\$23M to \$25M
LRT 3C-1 (Nicollet Mall)	\$1.5B to \$1.7B	\$91M to \$103M	\$27M to \$29M
LRT 3C-2 (11 th /12 th Street)	\$1.6B to \$1.8B	\$94M to \$106M	\$27M to \$29M

* Costs are preliminary and subject to change

Cost-Effectiveness Index (CEI)*

Alternative	CEI
LRT 1A	\$24 to \$26
LRT 3A	\$28 to \$31
LRT 3C-1 (Nicollet Mall)	\$39 to \$44
LRT 3C-2 (11 th /12 th Street)	\$44 to \$48

$$\text{CEI} = \frac{\text{Incremental Annualized Capital Cost} + \text{Incremental Operating/Maintenance Cost}}{\text{User Benefits}}$$

* CEI values are preliminary and subject to change once the FTA officially approves the TSM/baseline alternative

Critical Environmental Resources

	Defined as hazardous/contaminated properties, geologic conditions, natural resources, water resources, historic & cultural resources, 4(f) resources, and noise & vibration.
LRT 1A	Relatively low number of known environmental resources, and present less environmental risk
LRT 1A	Relatively low number of known environmental resources, and present less environmental risk
LRT 3C-2 (11 th /12 th)	Relatively high number of known environmental resources, and present more environmental risk
LRT 3C-1 (Nicollet Mall)	Relatively high number of known environmental resources, and present more environmental risk

Implementation Factors

	Defined as property acquisitions & displacements, construction complexity, and permits required.
LRT 1A	Estimated acquisition cost is \$35 to \$40 million Structure: TH62, Shady Oak Lake, Excelsior Blvd., Cedar Lake Parkway & at Glenwood Limited environmental permitting
LRT 3A	Estimated acquisition cost is \$90 to \$95 million Structure: I-494, TH 212, TH 62, Excelsior Blvd., Cedar Lake Parkway & at Glenwood Ave. Water resource permitting required; MnDOT/FHWA permits/approval required
LRT 3C-2 (11 th /12 th)	Estimated acquisition costs is \$105 to \$115 million Structure: I-494, TH 212, TH 62, Excelsior Blvd., tunnel at Blaisdell/Nicollet/First Ave., & I-94 Water resource permitting required, maximum cultural resource/4(f) approvals, MnDOT/FHWA permits/approval required
LRT 3C-1 (Nicollet Mall)	Estimated acquisition cost is \$100 to \$105 million Structure: I-494, TH 212, TH 62, Excelsior Blvd., tunnel under Blaisdell/Nicollet/First Ave., & reconstruction of Nicollet Mall Water resource permitting required, maximum cultural resource/4(f) approvals