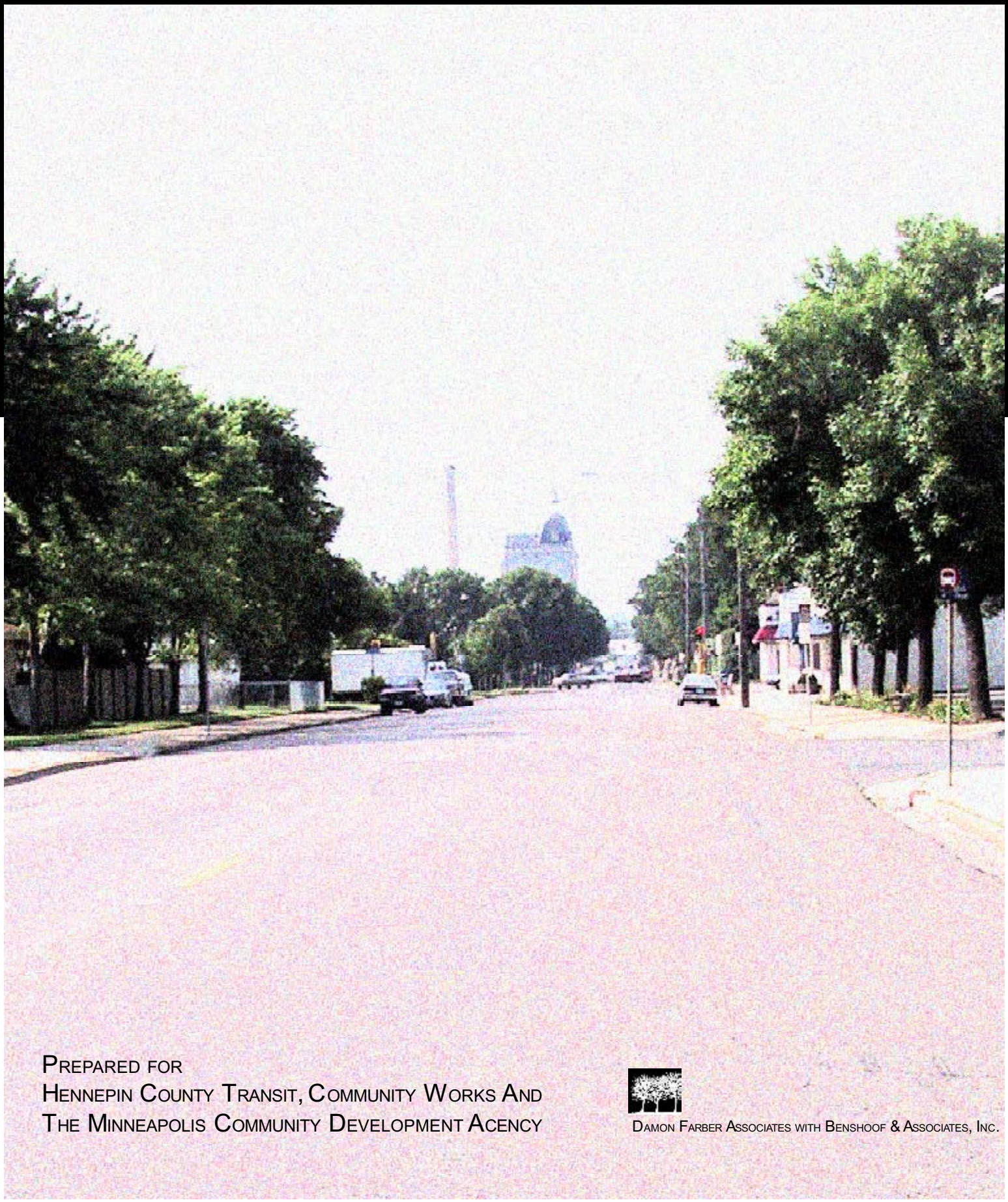
A Design Development Plan for The Marshall/Main Street Corridor

July 2003



Prepared for
Hennepin County Transit, Community Works And
The Minneapolis Community Development Acency

Damon Farber Associates with Benshoof & Associates, Inc.

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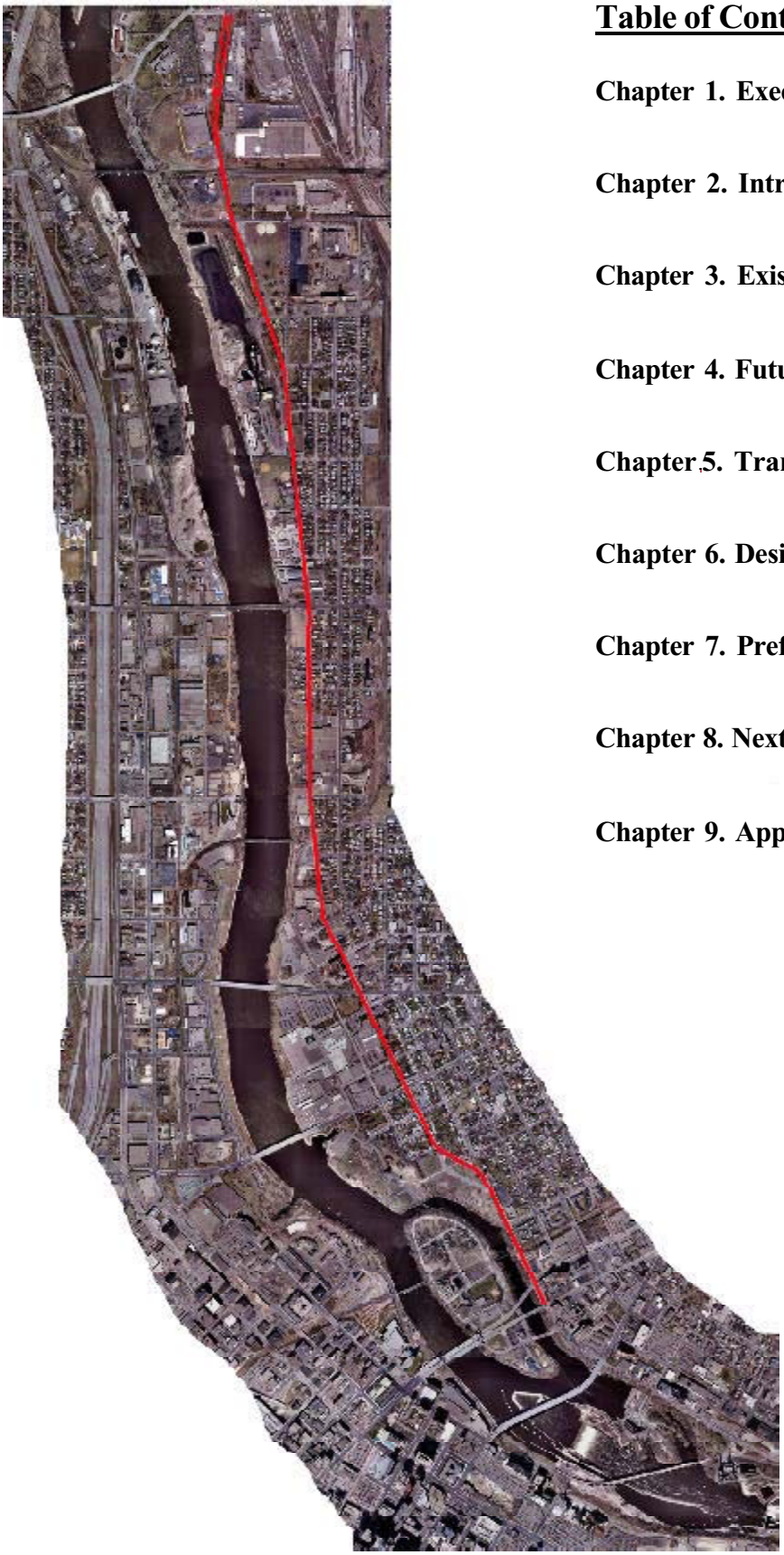

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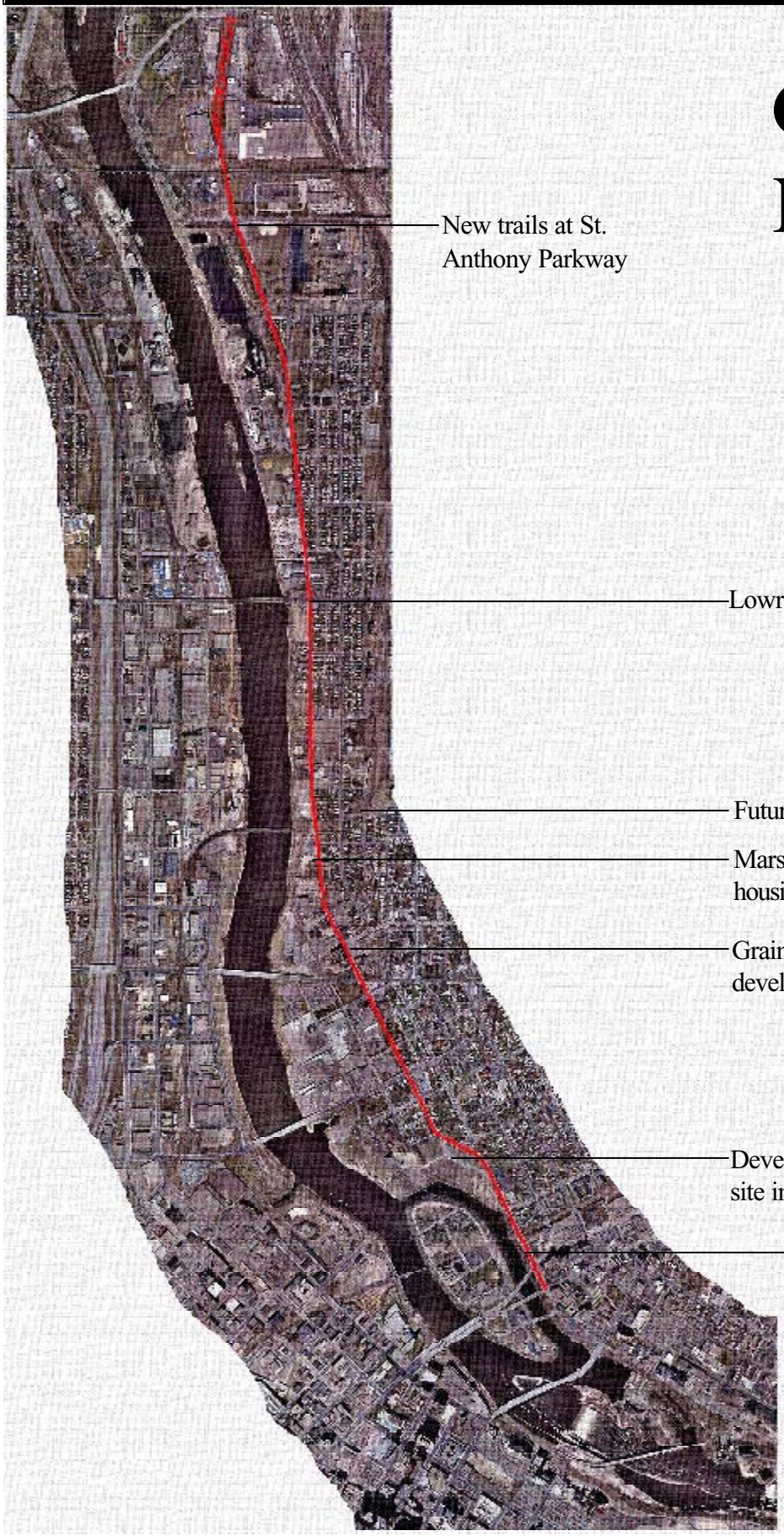
Chapter 8. Next Steps



Plan Implementation

The Marshall/Main Street Design Development Plan offers an innovative and feasible approach to accomplish the goals set by the community and Technical Advisory Committee. The plan provides the refinement needed to accomplish the 'big picture' initiatives set forth in the 'Above the Falls' plan. Implementation of the plan is contingent upon land use change, funding and community support. A strategic approach is needed to see the plan come to fruition.

Approving the Plan

The process for implementing the Marshall/Main Street Design Development Plan requires that Hennepin County and the City of Minneapolis partner with one another. While other governmental bodies have interests along the corridor, it is County/City partnership that controls the decisions related to CSAH improvements. The first step to implementation of the Design Development Plan is the adoption of the plan by the Hennepin County Department of Transportation and the City of Minneapolis Public Works Department, with recommendations for approval to the Hennepin County Board of Commissioners and Minneapolis City Council. The following matrix is an outline of responsibilities required to accomplish implementation of the plan.

Task	Minneapolis Department of Public Works	Minneapolis Park & Recreation Board	Minneapolis Community Development Agency	Hennepin County	Citizens Advisory Committee
Adopt Plan	●	✦	✦	●	✦
Raise Funds	●	✦	✦	●	✦
Acquisition			●	✦	
Street Improvements	✦	●		●	

● Primary Responsibility

✦ Support Responsibility

Implementation Sequence

The Marshall/Main Street Design Development Plan will likely be implemented as a series of smaller projects as funding is established. The initial phase of construction will occur in 2004. Main Street will be reconstructed from 1st Avenue Ne to 3rd Avenue NE. At this time, no improvements have been programmed for any other portion of the corridor. While a great deal of flexibility exists in the sequence in which the plan is implemented, improvements must occur in a logical order. The following points describe some of the critical timing issues and potential options that exist:

- Marshall Street at Broadway Avenue will need to be widened to provide a center left turn lane before conversion from a four-lane to a three-lane roadway can occur.
- Marshall Street at Lowry Avenue could be converted to a three-lane section on an interim basis. Specific plans should be in place to add additional through lanes to Marshall Street by 2025 before such an interim measure is provided.
- The transition from a four-lane roadway to a three-lane roadway should progress from south to north, with only one three-lane to four-lane transition at any one time.

Once the Broadway Avenue intersection area is reconstructed, the option exists to restripe the existing pavement section north of 15th Avenue for three-lanes if a desire exists to convert the remainder of the corridor to three-lanes before funding is established for full reconstruction. The following two options could potentially be provided within the existing pavement section of the 66-foot right-of-way segments:

- Eliminate parking on both sides at all times and provide three traffic lanes between narrow shoulders on both sides.
- Provide three traffic lanes directly adjacent to one curb and preserve parking on the other side of the road.

On-Street Parking Between 14th Avenue and Lowry Avenue

As indicated by the parking survey, existing on-street parking demand has been identified along the segment between 14th Avenue and Lowry Avenue. The preferred plan for the Marshall/Main Street corridor would eliminate parking in this area.

This issue will be resolved when preliminary construction plans are prepared for this segment of the corridor. At that time, the land uses along the corridor will need to be considered and appropriate measures will be selected to accommodate the parking demand present at that time. Some of the potential options that should be considered are as follows:

- Provide parking bays in locations where right-of-way can be obtained to accommodate some of the existing on-street parking demand.
- Provide off-street parking lots on undeveloped land or as parcels redevelop.
- Create additional shared use agreements with adjacent commercial property owners that do no have significant evening parking demand, such as the existing arrangement that allows for Gabby's customers to use PCA parking lots on evenings and weekends.

If any significant redevelopment occurs along this segment prior to construction of the corridor plan, the parking needs in this segment should be reviewed to ensure compatibility of the redevelopment with the preferred corridor plan.

Right-of-Way Acquisition

The primary acquisition of right-of-way will be accomplished by the County once preliminary construction plans are prepared. In general, County funding is not available for right-of-way acquisition for unprogrammed projects. When Lowry Avenue is reconstructed, the County may have the ability to acquire the right-of-way along Marshall Street needed to widen Marshall Street to five lanes as part of the project. Right-of-way acquisition near Lowry could be on both sides or on only one side, depending on the potential impacts. Any option to achieve a total right-of-way width of 80 feet would be acceptable, provided that the acquisition is consistently applied over the segment where widening is required.

The City has the ability to acquire right-of-way as adjacent parcels redevelop. When developers request approval from the City for developments north of 15th Avenue, the City should require that at least seven feet of additional right-of-way be provided as a condition of the redevelopment approval. This space would then be available for parking bays or landscaped boulevards when the design plan is implemented. Because of the intended uses, it is not critical that a uniform 80-foot width be acquired. Boulevard areas and parking bays could be placed intermittently, where acquisition is possible. This acquisition could continue after initial implementation of the corridor plan, and as additional redevelopment occurs.

Funding of Roadway Construction and Maintenance

Based on information provided by County staff, the County has not established funding for improvements to the Marshall/Main Street corridor, except for reconstruction of the Main Street Bridge. Any group would be able to initiate implementation of the corridor plan by providing partial funding or securing an outside funding source. Potential groups would include City or County agencies and neighborhood organizations. When an initial funding source is established, cost sharing by other project stakeholders will be established. In addition to funding initial construction, funding will be needed to maintain the corridor, especially landscaping and/or streetscaping. Project stakeholders will negotiate such maintenance costs as part of the construction funding negotiations. It is critical that issues regarding maintenance of landscaping is established prior to preparation of construction plans so that all stakeholders clearly understand their potential long-term responsibilities. The degree of landscaping ultimately provided along the corridor is directly related to the ability to establish long-term maintenance funding.

Street trees such as those proposed in this plan would normally be maintained by the Forestry section of the Minneapolis Park and Recreation Board. If the Park Board is to assume this responsibility, the planting-related portions of this plan would require review and approval by MPRB Forestry and, potentially, by the Commissioners of the Park Board. This review may result in minor or major revisions in the proposed planting scheme in order to ensure maintainability.

Potential Interim Measures

Implementation of this corridor plan will take many years to complete. Some of the existing issues that have been identified through this study could be addressed on an interim basis, before full implementation of the corridor plan occurs.

Traffic Calming/Speed Control

A number of residents have raised concerns regarding the speed of traffic along the corridor. Based on a review of the existing signal timing, the traffic signals are properly timed to encourage through traffic flow at the posted speed limit. Changes to the signal timing/progression would not likely have a significant impact on vehicle speeds. The recommended plan is expected to reduce vehicle speeds by narrowing the roadway, limiting the ability of vehicles to pass, and improving the aesthetics of the corridor. The following are potential measures that could be implemented to reduce vehicle speeds in the near term, prior to construction of the recommended plan:

- Additional enforcement of speed limits.
- Increased use of on street parking (when legally allowed) to decrease passing opportunities and “narrow” the roadway.
- Larger and more frequent signing of the posted speed limit, including “reduce speed ahead” signing at the north end of the corridor where the speed limit drops from 45 mph to 30 mph.
- Neighborhood identity signing and other aesthetic improvements to give the roadway a neighborhood feel.
- Speed monitoring trailers.

Corridor Aesthetics

Before full implementation of the corridor plan occurs, aesthetic improvements can be realized. Working with Hennepin County, and the City of Minneapolis, neighborhoods groups and business owners along the corridor can improve the appearance of the street:

- Colored and stamped bituminous crosswalks can mark intersections and increase pedestrian safety.
- Colorful banners can be attached to existing light poles.
- Homeowners can plant additional trees outside the right-of-way near the street.
- Business owners can soften the appearance of their blank building walls and fences with the use of vines and landscaping.
- Decorative wrought iron fencing can replace chain link along industrial sites.
- Smaller scaled decorative fencing can be used by homeowners to unify a neighborhood.
- Business owners can place planters of seasonal flowers in front of their shops.
- Business owners may also incorporate colorful awnings or other architectural façade improvements like painting, decorative signage and window treatments.

It will take time to realize all of the improvementsinvisioned in this document. The preceeding list of enhancements can be implimented immediately and will enhance the visual character of the corridor.

Conclusion

The Marshall/Main Street Design Development Plan began with the ambitious goal of turning Marshall/Main Street into a 'parkway' type boulevard. As the study progressed, it became apparent that this goal could only be achieved through an innovative solution that minimized acquisition costs, reduced traffic conflicts and transformed the street into an aesthetically pleasing community asset. While many segments of the corridor are ready to change today, improvements north of 14th Avenue will require time to coincide with land use changes planned adjacent to the corridor. The careful sequencing of improvements can minimize future development costs, provide positive signs of change and build momentum to spur additional redevelopment. The Design Development Plan is the most thorough analysis of the corridor performed to-date. It is a plan that reflects the community's vision for the future and can be implemented within the context of County State Aid Design requirements.

Marshall/Main Street Technical Advisory Committee

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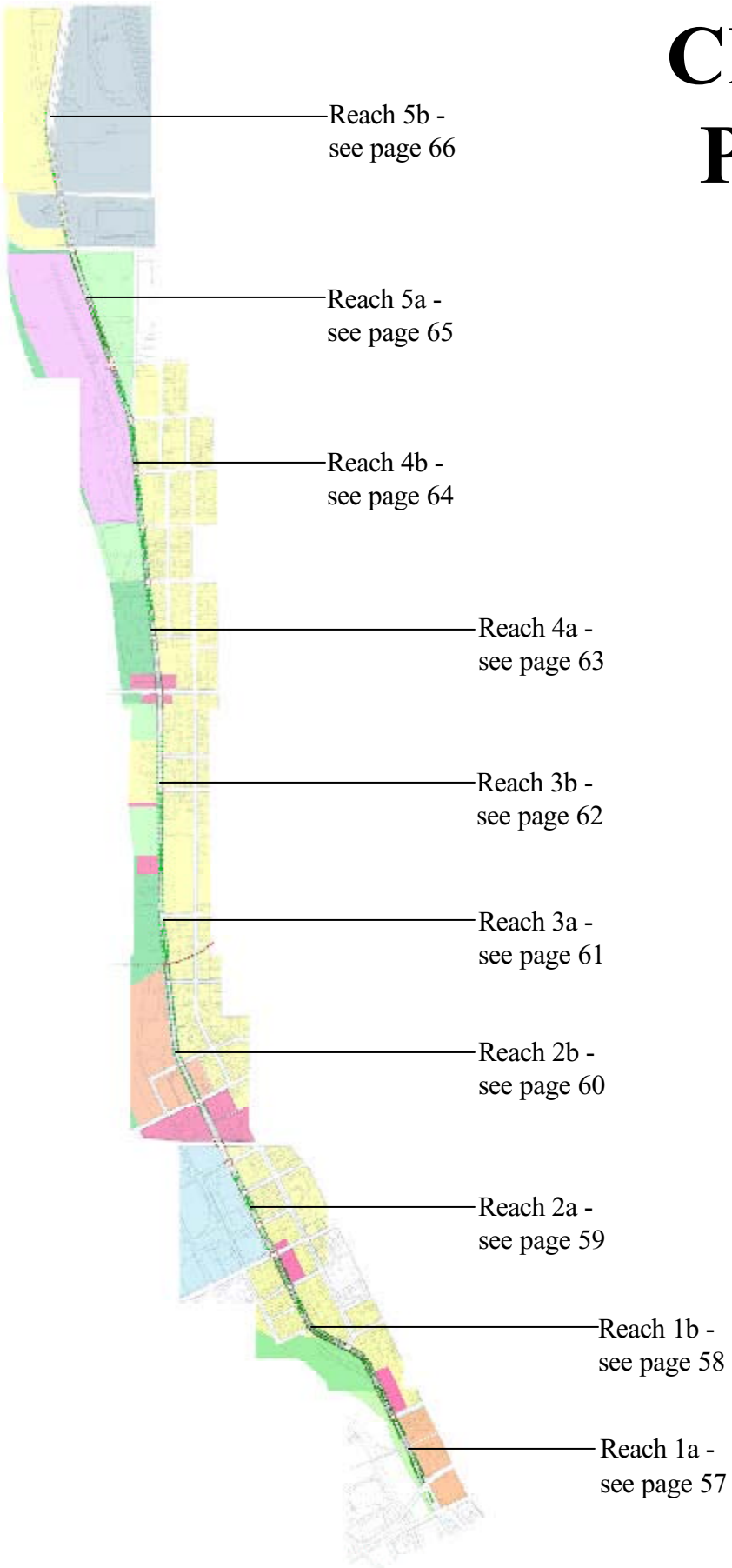
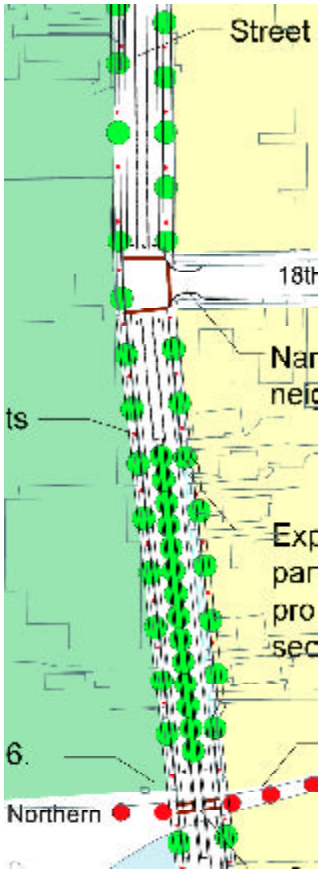
Chapter 7. Preferred Plan



Design Development Plan



The Design Development Plan accommodates the community's desire to have a safe parkway type roadway and responds to the requirements and standards associated with the operation of County State Aid Highways. The Plan reconfigures the roadway from a standard 4-lane configuration to 3-lanes with commuter bike lanes, on-street parking where available, and streetscape character improvements.

Corridor Configuration

The majority of the corridor will be transformed from a 4 lane undivided highway into a 3-lane configuration. There will be one through lane in each direction with a center turn lane or planted median between them. Similar configurations have been implemented successfully in St. Paul, Duluth, six Iowa communities, Seattle and Oakland. The following benefits have been achieved on similar conversions of urban four-lane undivided roadways to three-lane two-way left-turn lane facilities, and these benefits are anticipated for the Marshall/Main Street Corridor:

- Average speed drops about 15%
- Dramatic reduction in excessive speeding. 60-70% drop in vehicles travelling over 5mph over speed limit
- 17-62% crash reduction
- Increased pedestrian safety
- Reduced width allows for additional amenities…i.e. bike lanes and streetscape improvements

While this configuration responds to the community's desire for a safer more pedestrian friendly corridor, the plan also accommodates the continued growth of traffic on the corridor, recognizing its role in the larger Hennepin County transportation plan. The Lowry and Broadway Avenue intersections will be expanded to maintain an acceptable level of service. Both intersections will have a five-lane configuration, two through lanes and one center left turn lane. Additional right of way will be acquired at the Lowry Avenue intersection and can occur at the same time the Lowry Avenue improvements are implemented.

Bikelane Provisions

The corridor will have one six foot bike lane in each direction from Hennepin Avenue north to St. Anthony Parkway. There will be a 10 foot multi-use trail on the west side of Marshall Street from St. Anthony Parkway north to the existing multi-use trail north of 37th street. The six foot-width includes a two-foot wide gutter and four feet uniform riding surface. Based on discussions with Mn/DOT Metro State Aid staff, this design meets current minimum State Aid design standards and does not require a formal variance. Because the bike lane widths are less than Mn/DOT's desired widths considering the speed and volume of traffic on Marshall Street, the Stae Aid office may request justification for the proposed bike lane widths when construction plans are submitted. The following factors justify the proposed six-foot bike lane width:

- Limited right-of-way width
- Implications of additional bike lane width on sidewalks and vehicle travel lanes.
- Availability of parallel recreational bike routes.

On-Street Parking Provisions

On-street parking bays are provided where needs exist south of 14th Avenue. Additional on-street parking north of 14th Avenue can be accommodated if the existing property owner agrees to the acquisition of 7 feet of property to accommodate the proposed parking bay.

Streetscape Improvements

Streetscape improvements anticipated in the Design Development Plan include:

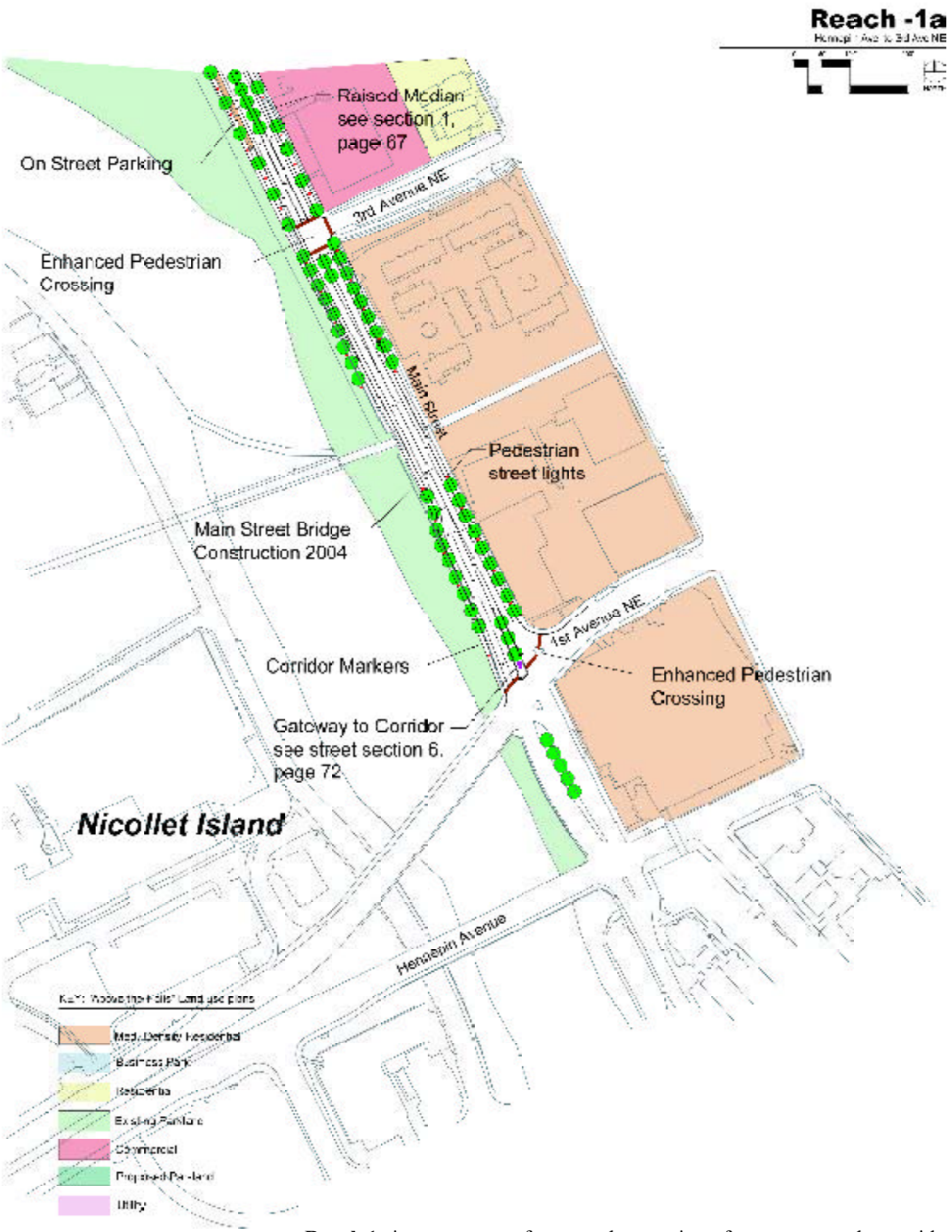
- Decorative pedestrian style street lighting with banners
- Corridor markers to identify historically significant features along the corridor
- Gateway monuments to mark significant entry points to the corridor
- Landscaped medians
- Landscaped boulevards
- Sidewalks
- Stamped bituminous crosswalks
- Removal of existing power poles where possible

Corridor streetscape improvements are designed to enhance the historic nature of the corridor, increase pedestrian safety, slow traffic and enhance the visual character of the street.

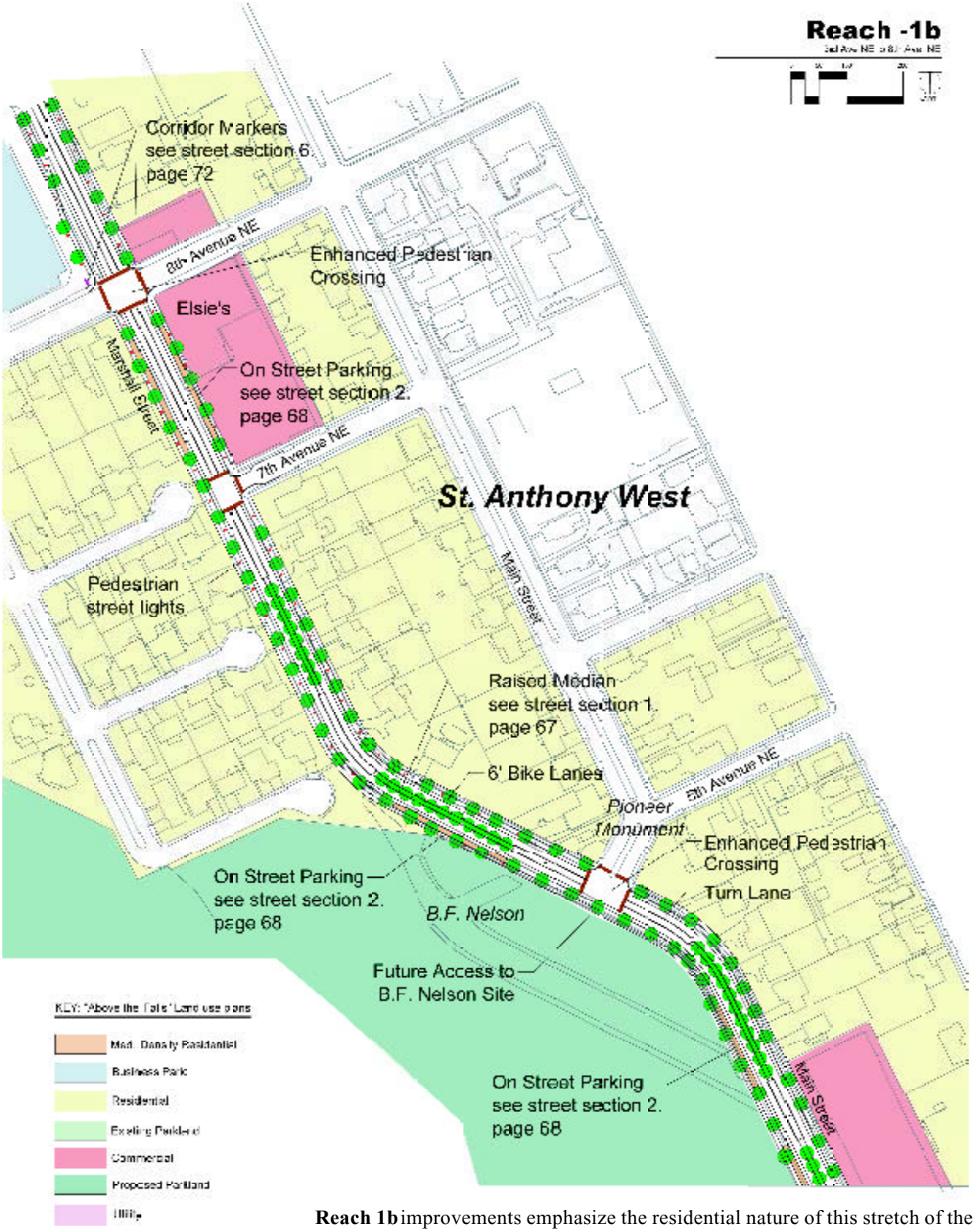
Installing and maintaining landscape features on any roadway is a challenge, and a County State Aid Roadway is no different. Protecting plant material from road salt, snow plowing and compaction will be vital to the long-term viability of any landscape improvements. Correct species selection, structural soils, irrigation and maintenance are all part of the equation to creating and maintaining a successful landscape along a roadway. Before the detailed design process can begin, the cost and long-term maintenance implications will need to be discussed with the community and City of Minneapolis to determine what is an acceptable level of enhancements for the corridor and what are the annual maintenance considerations.

Summary

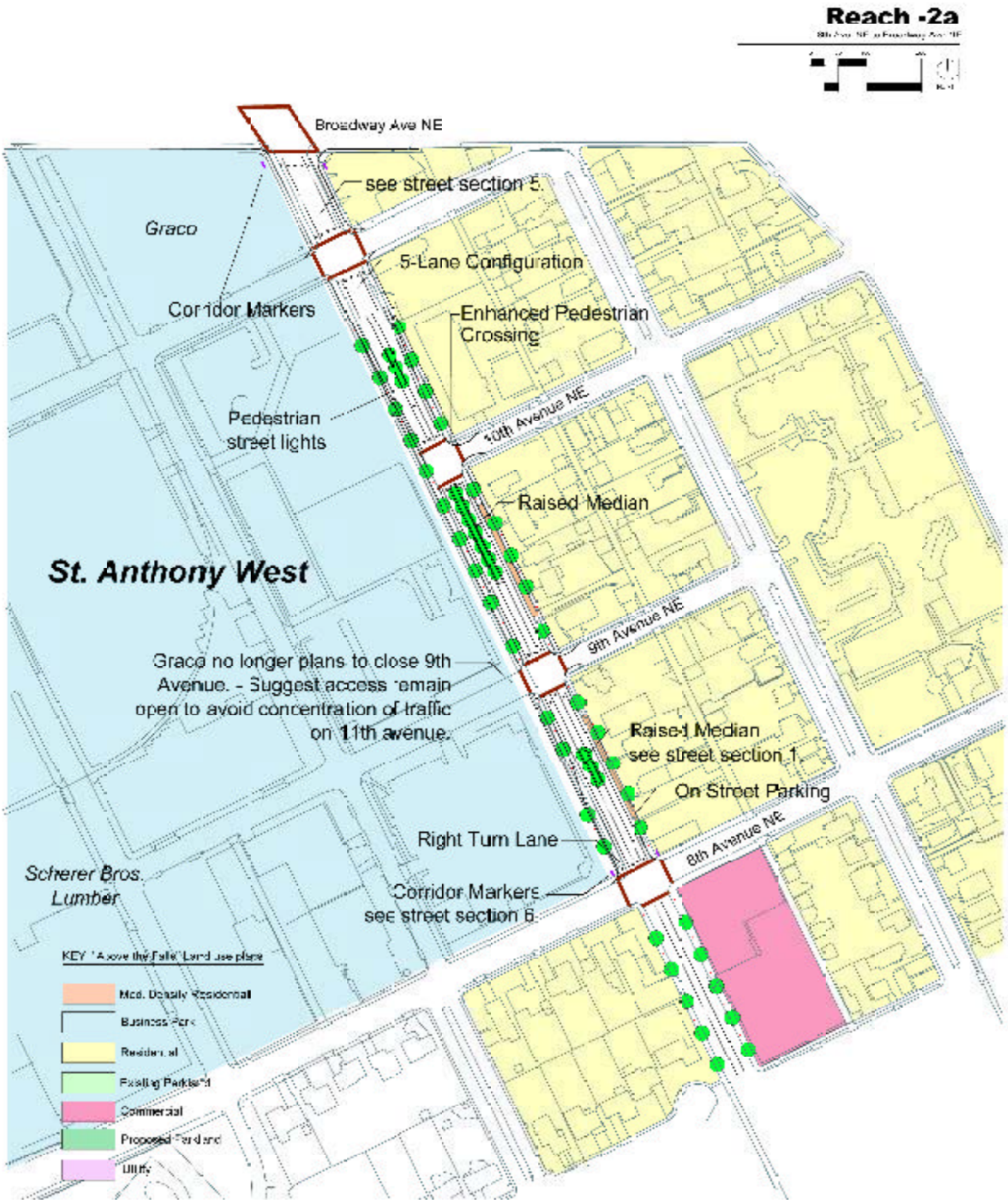
The Design Development Plan is a reflection of the hard work, valuable input and personal investment made by the neighborhoods, business owners, City of Minneapolis, and Hennepin County. The plan transforms the existing four-lane undivided highway into an innovative three-lane configuration with commuter bike lanes and additional pedestrian scale streetscape features. The result will be a better functioning roadway with enhanced visual character and increased pedestrian safety.



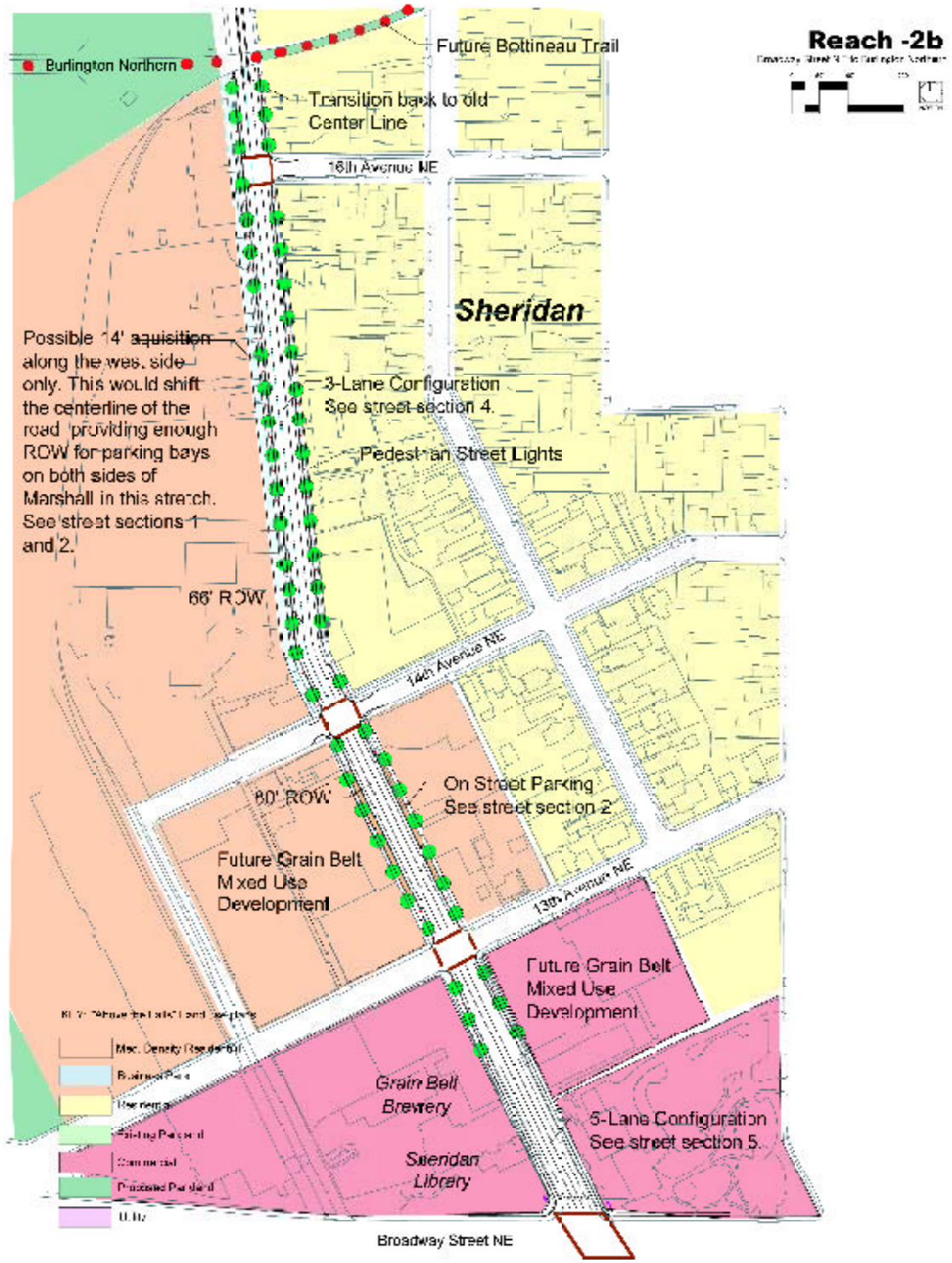
Reach 1a improvements focus on the creation of a gateway to the corridor at 1st Avenue NE and Main Street. The street will be reconstructed from 1st Avenue NE to 3rd Avenue NE in 2004. This will be the first physical change to the corridor and will begin to reflect the new vision for the Marshall/Main Street Corridor. The new configuration will provide three lanes of traffic, designated parking bays and commuter bicycle lanes in both directions. Planted medians with left turn lanes soften the street and provide a boulevard feel to the corridor.



Reach 1b improvements emphasize the residential nature of this stretch of the corridor. Increased boulevard landscaping and center medians are a welcome change to the existing width of pavement. On-street parking is provided adjacent to Elsie's to minimize overflow parking into the neighborhood. The new configuration will provide three lanes of traffic, designated parking bays and commuter bicycle lanes in both directions.

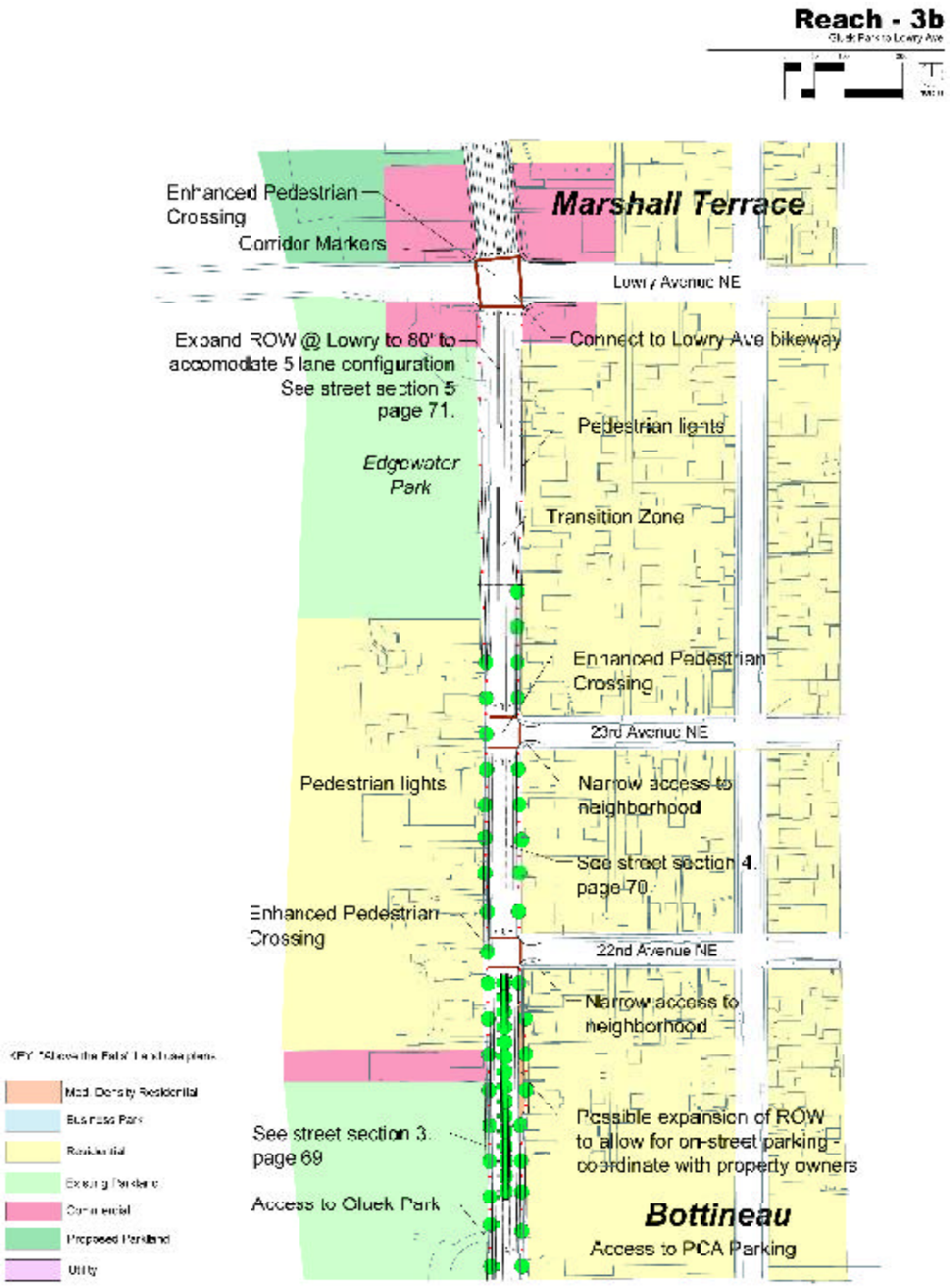


Reach 2a provides for three lanes of traffic, with widening at Broadway to accomodate five lanes; two through lanes and one left turn lane. The expanded intersection will minimize the platooning of cars that would effect neighborhood access to the corridor, and the additional lanes through the intersection will maintain an acceptable level of service. Designated parking bays are provided south of Broadway where the ROW is 80 feet. Planted medians with left turn lanes soften the street and provide a boulevard feel to the corridor. It is preferred that the existing 9th Avenue access owned by Graco remain open to minimize congestion at the 11th Avenue intersection.

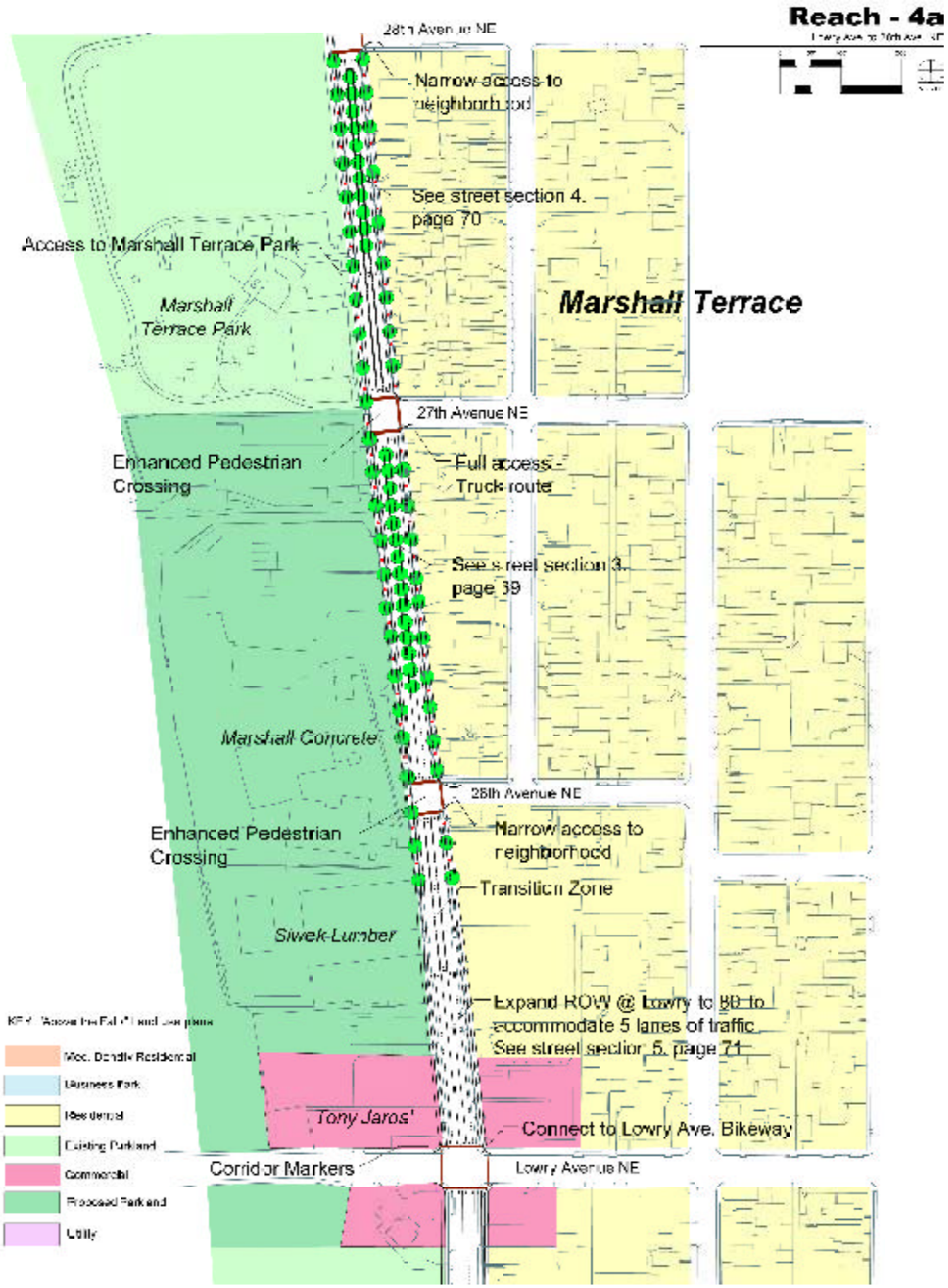


Reach 2b improvements enhance the urban character of this section of the corridor. The five-lane configuration north of Broadway terminates at 13th Avenue. North of 14th Street, where the ROW is reduced to 66 feet, parking is prohibited on both sides of the street to accommodate commuter bicycle lanes that run on both sides of the street. On-street parking could be provided on both sides of the street in this section by acquiring 14 feet of additional ROW. Any such additional ROW acquisition would need to be negotiated with adjacent property owners. The possible widening of the road to the west would also smooth the curve in the road just north of 14th Avenue.

Reach 3a continues three lanes of traffic with commuter bicycle lanes on both sides of the street. Parking is prohibited on both sides of the street with the possible expansion of ROW to accomodate parking bays if property owners desire. This approach provides the flexibility to provide parking where parking is desired. Planted medians soften the corridor where possible.

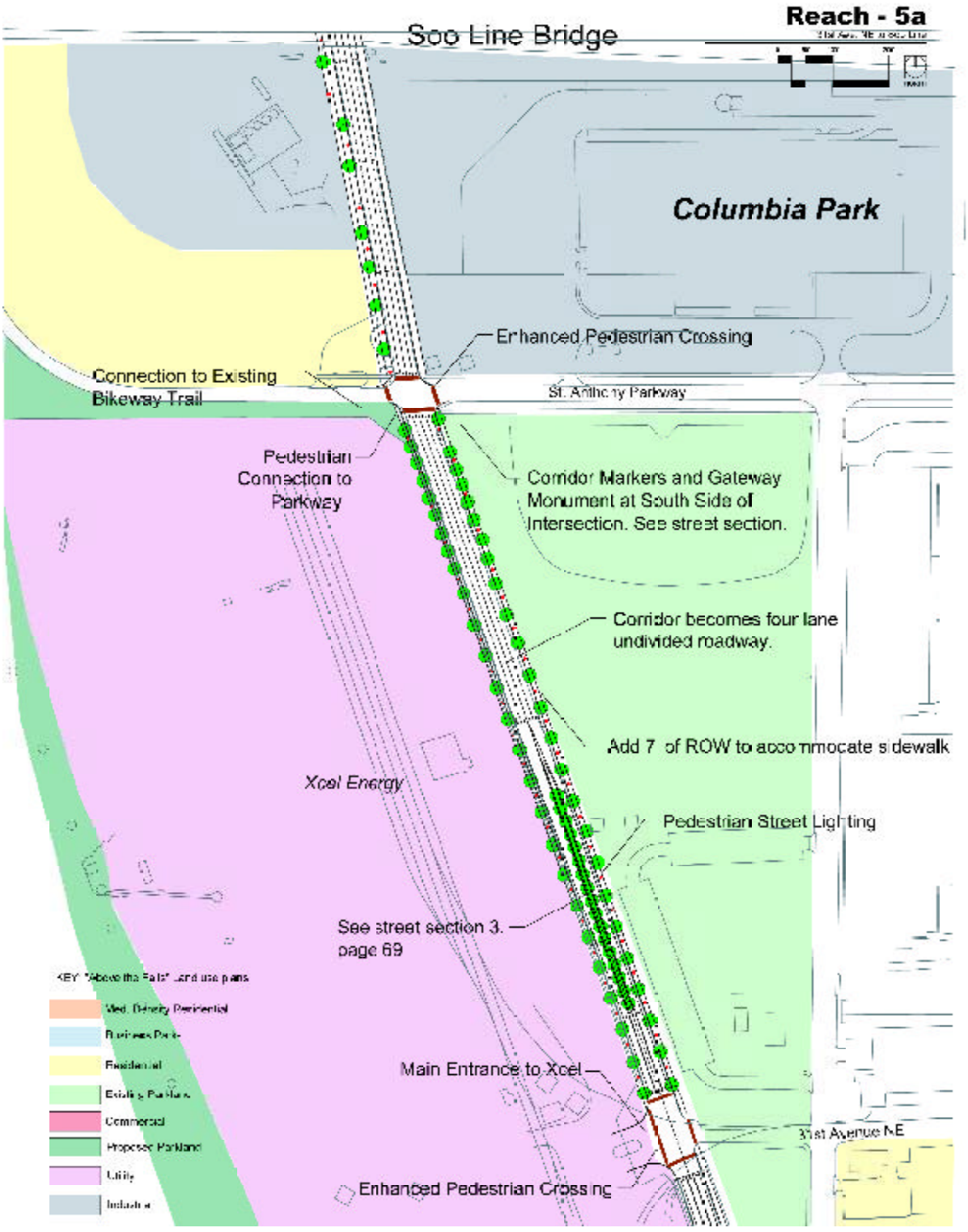


Reach 3b continues three lanes of traffic with commuter bicycle lanes on both sides of the street. Parking is prohibited on both sides of the street with the possible expansion of ROW to accommodate parking bays if property owners desire. This approach provides the flexibility to preserve neighborhood landmarks like the Sample Room. Planted medians soften the corridor where possible. The Lowry Avenue intersection expands to accommodate five lanes of traffic. Significant ROW will need to be acquired but can be timed parallel to the planned Lowry Avenue reconstruction.

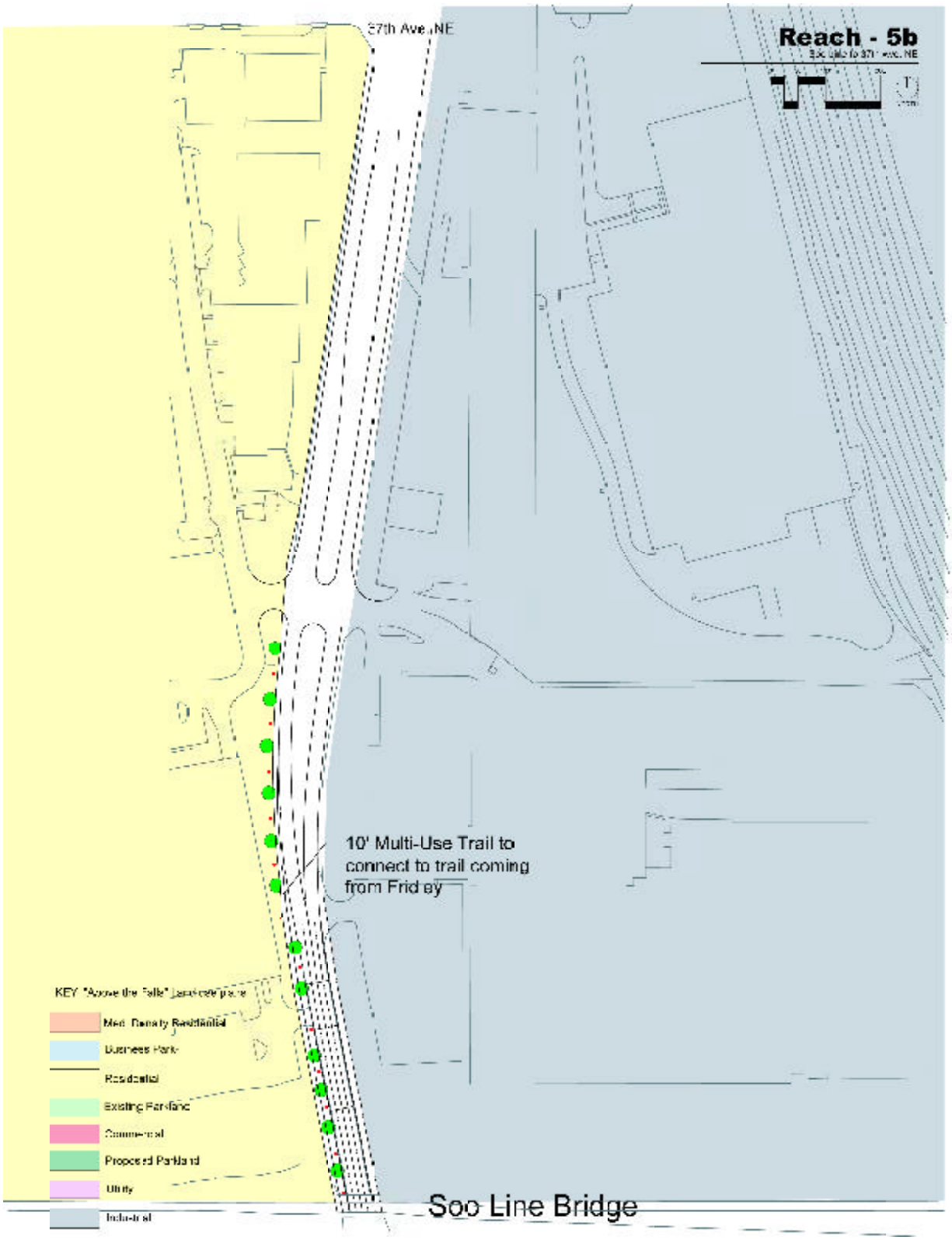


Reach 4a continues the 5-lane configuration north of Lowry Avenue to 26th Avenue NE. North of 26th Avenue there are three lanes of traffic, commuter bicycle lanes and planted medians. Parking is prohibited on both sides of the street. Enhanced pedestrian crossings enhance neighborhood access to the river.

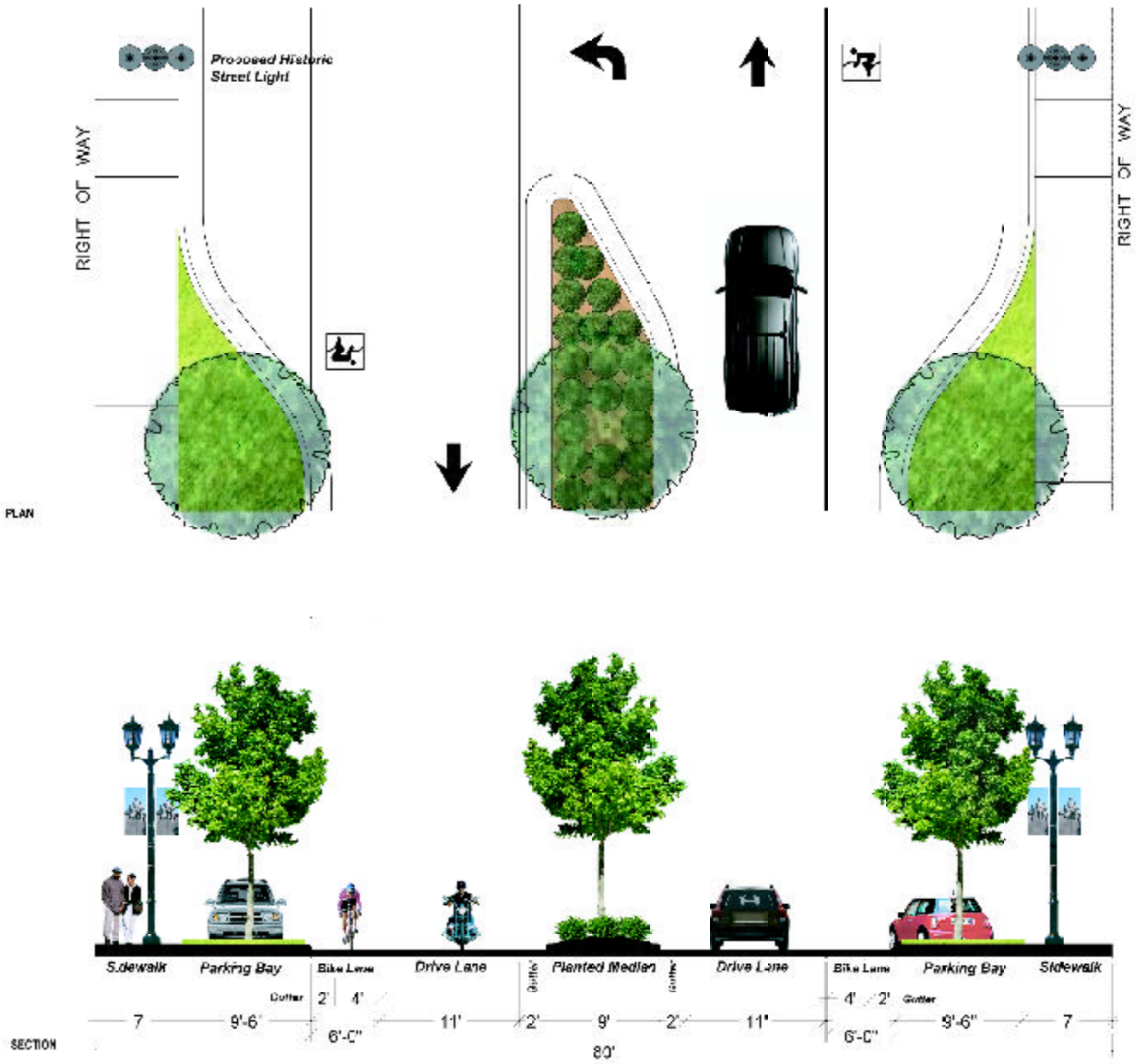
Reach 4b continues the three-lane configuration north adjacent to the Xcel Energy coal plant. The intersection of 30th Ave NE and Marshall has been straightened and Columbia vacated to make a safer access to Marshall Street. Commuter bike lanes continue on this section of the corridor. Landscaped medians create a significant transition from the widened roadway to the north and the neighborhoods to the south.



Reach 5a transitions the three-lane configuration back to the existing 4 lane configuration south of St. Anthony Parkway. A gateway feature at St. Anthony Parkway is designed to provide visual cues to commuters that they are entering the neighborhoods to the south and a more pedestrian oriented corridor. The commuter bike lanes end at St. Anthony Parkway and a 10-foot wide multi-use trail extends north on the west side of Marshall providing safe passage under the Soo Line bridge.

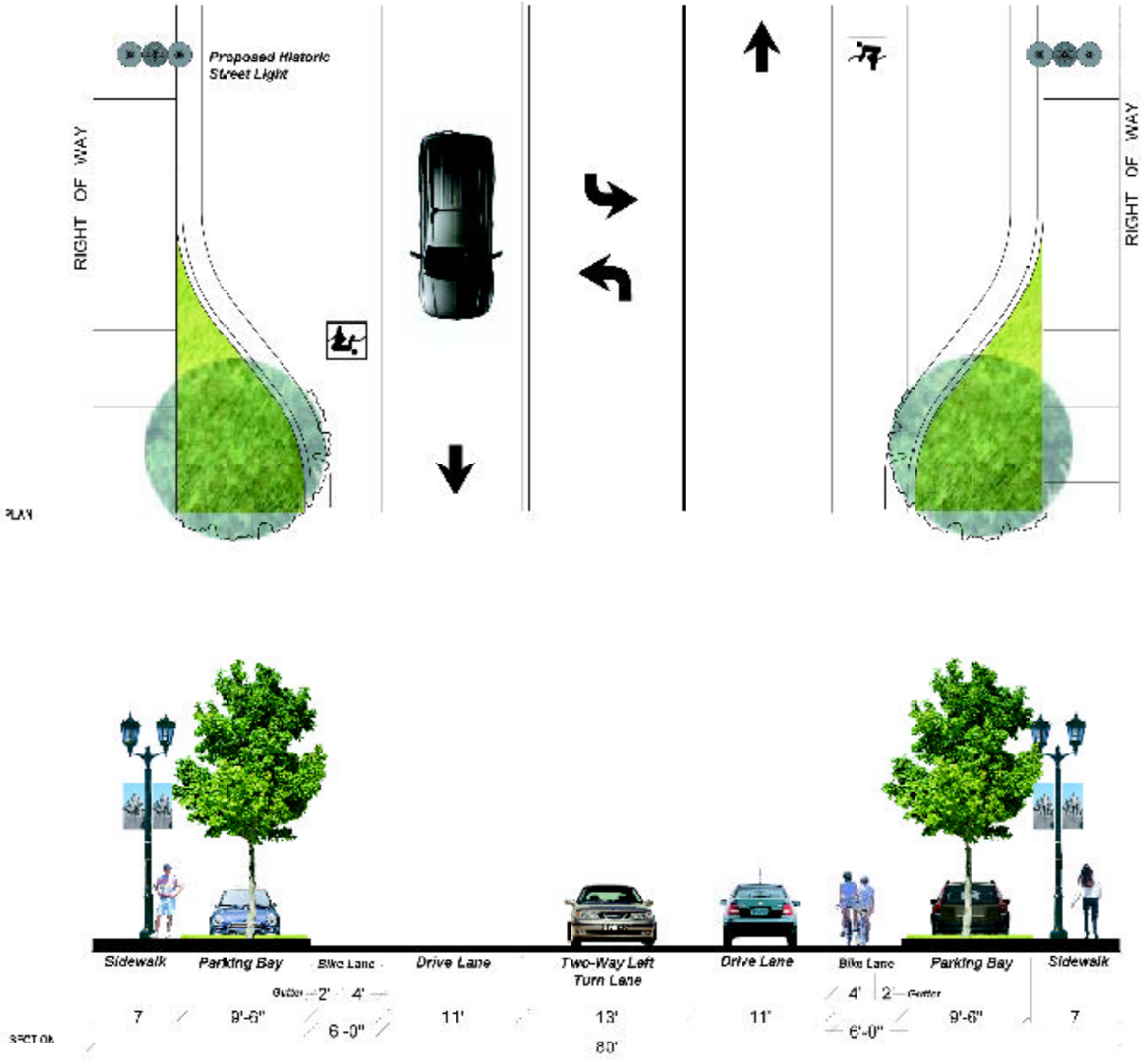


Reach 5b extends the multi-use trail north to 37th Avenue, where it will connect to the existing trail. Thus, providing recreational and commuter bikers safe access from the northern suburbs to downtown. Additional landscaping will further enhance the trail and screen views to the nearby industrial uses.



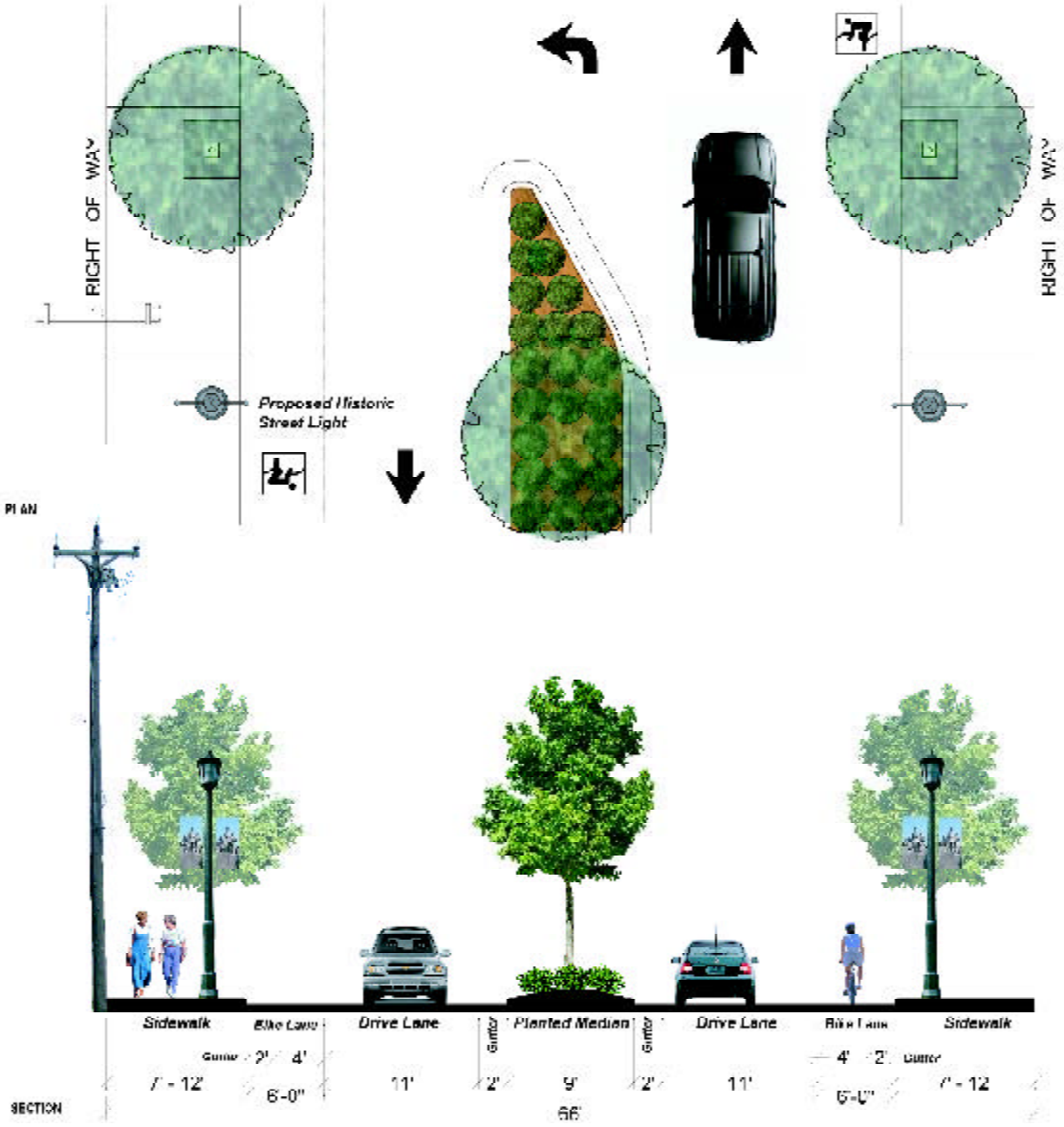
1 *80' ROW - 2 Traffic Lanes with Parking Bays, Bike Lane, & Planted Median*

DESIGN DEVELOPMENT PLAN FOR MARSHALL MAIN STREET



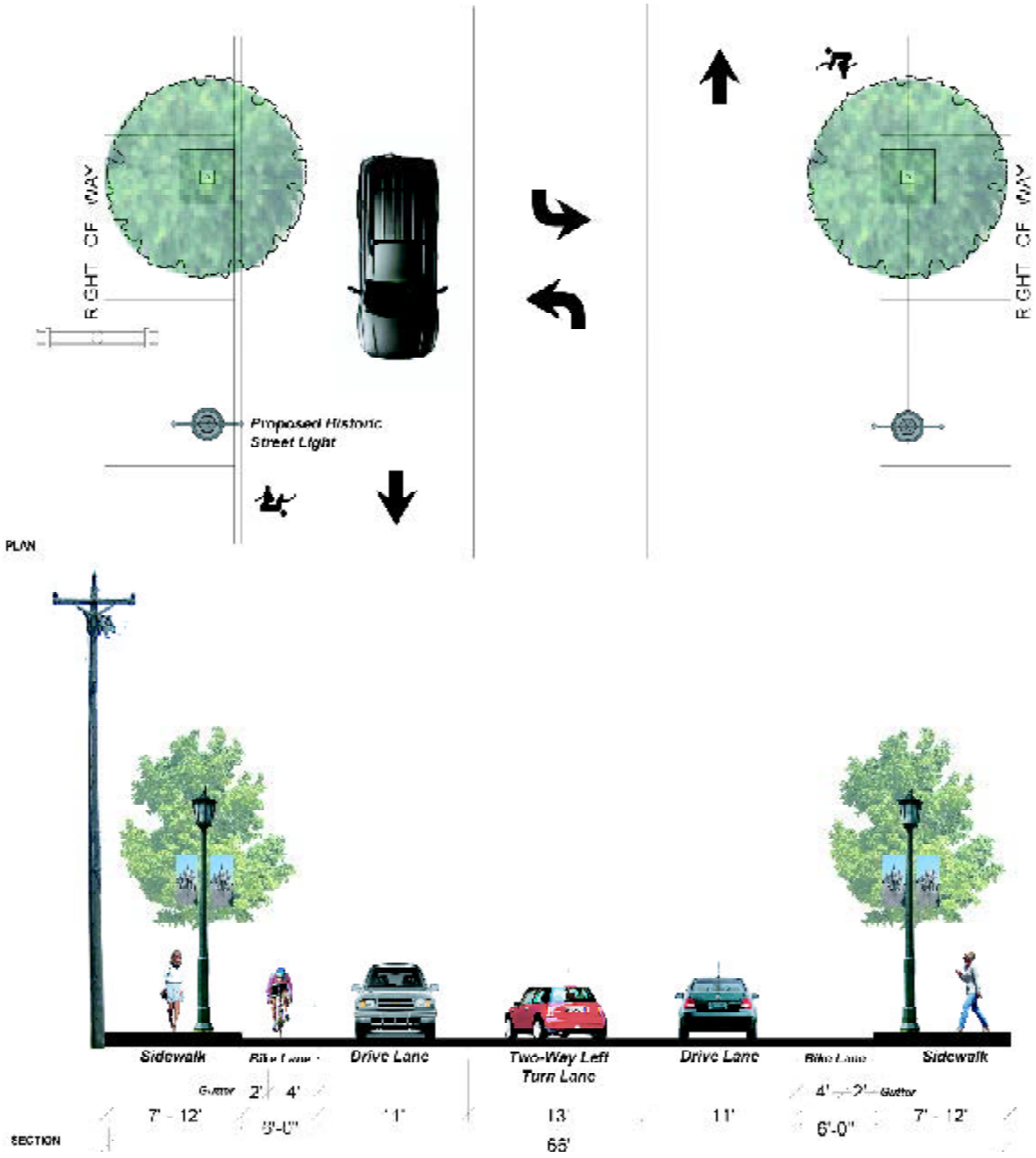
2 *80' ROW - 2 Traffic Lanes with Parking Bays, Bike Lane, & Two-Way Left Turn Lane*

DESIGN DEVELOPMENT PLAN FOR MARSHALL MAIN STREET



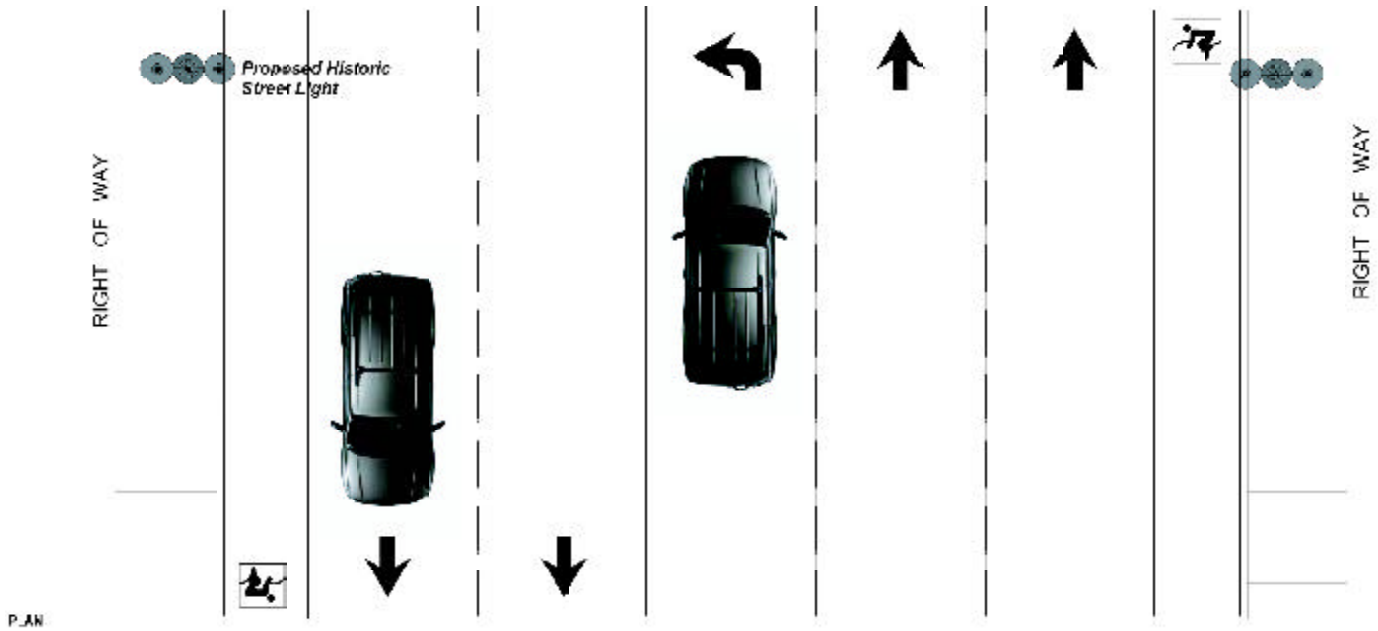
3 *66' ROW - 2 Traffic Lanes with Planted Median & Bike Lane*

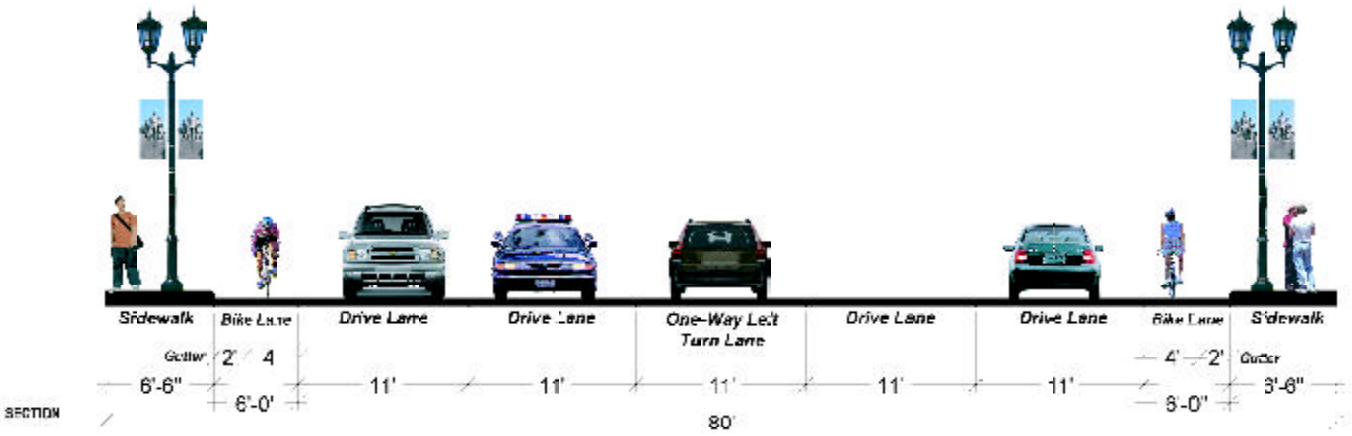
DESIGN DEVELOPMENT PLAN FOR MARSHALL MAIN STREET



4 *66' ROW - 2 Traffic Lanes, Two-Way Left Turn Lane, and Bike Lanes*

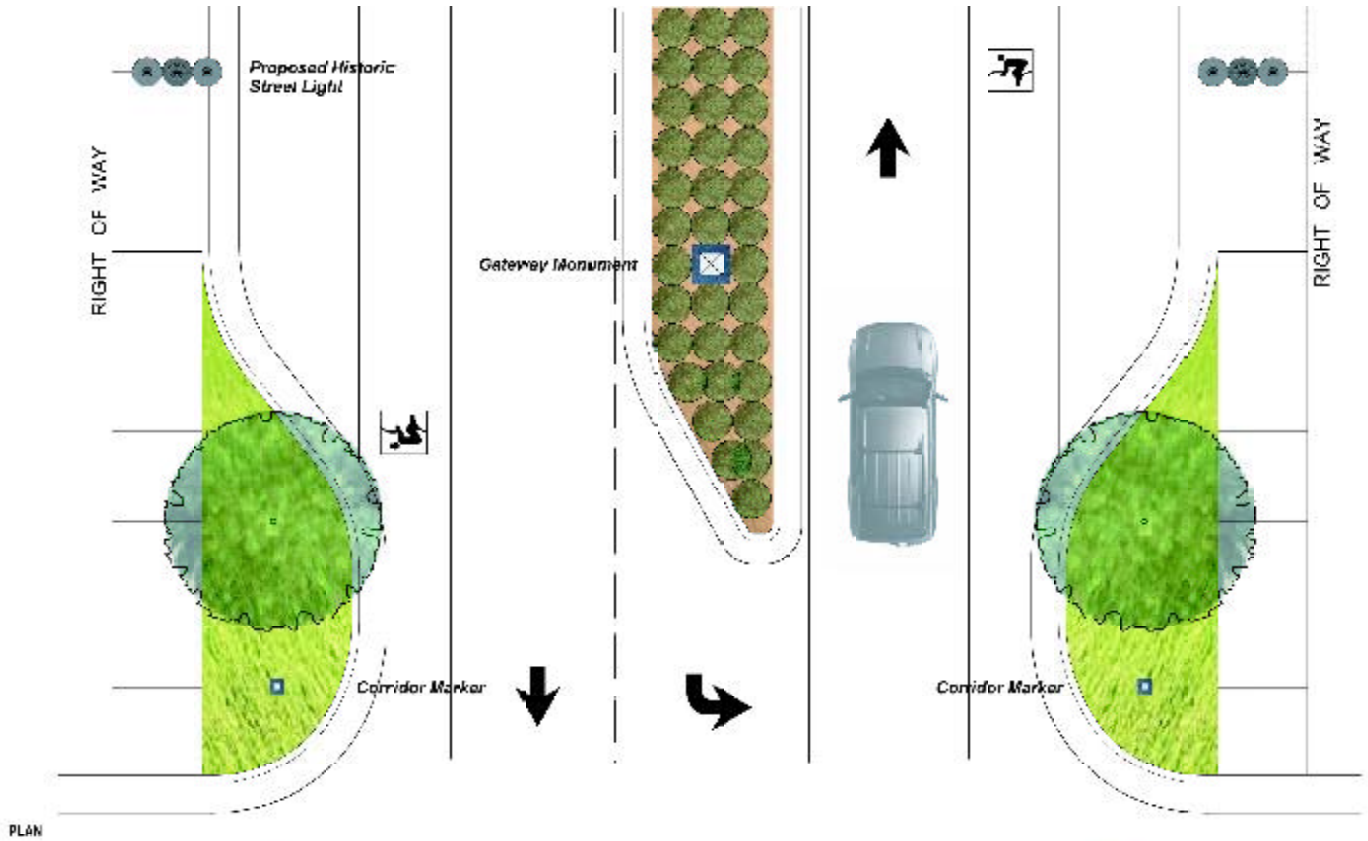
DESIGN DEVELOPMENT PLAN FOR MARSHALL MAIN STREET





5 80' ROW - Broadway & Lowry Intersections

DESIGN DEVELOPMENT PLAN FOR MARSHALL MAIN STREET



6 *Entry Monument and Corridor Markers*

DESIGN DEVELOPMENT PLAN FOR MARSHALL MAIN STREET

Estimates of Probable Cost

The following set of tables illustrates estimated construction costs for individual reaches within the corridor. These costs do not include acquisition and utility improvements (Costs in 2003 Dollars). The "additional costs" indicates optional improvements that will enhance the aesthetic quality of the corridor but will also increase maintenance. Maintenance responsibilities will need to be discussed prior to implementing any of the aesthetic improvements. These tables directly relate to the enlarged plans for the corridor and break the project down into more manageable size projects.

Reach 1a - Hennepin Avenue to 3rd Avenue NE

Item	Quantity	Unit	Unit Cost	Total Cost
Roadway Construction				
3-lane road with bike lanes & center median	314	lf	$630	$197,820
Enhancements				
Landscaped median	175	lf	$150	$26,250
Irrigation	1	ls	$10,000	$10,000
Concrete sidewalk	4,396	sf	$3	$10,990
Signals	1	ea	$150,000	$150,000
30' high street lighting	4	ea	$7,500	$30,000
Two fixture decorative lighting w/banner arms	6	ea	$9,000	$54,000
Decorative banners	12	ea	$250	$3,000
Gateway monument at 1st Avenue & Main Street	1	ea	$30,000	$30,000
Corridor markers at 1st Avenue & Main Street	2	ea	$10,000	$20,000
Additional Costs				
7% for design				$37,244
10% for Construction Engineering				$53,206
15% Contingency				$79,809
Total Reach 1a Costs				**$702,319**

Items not included in estimate that may affect cost:
Moving electrical transmission lines underground
Utility reconstruction/adjustment (includes water, gas, storm sewer and sanitary sewer)

**** Main Street from 1st Avenue NE to 3rd Avenue NE is being reconstructed in 2004 for an estimated $3,584,000. It was therefor not included in this estimate.***

Reach 1b - 3rd Avenue NE to 8th Avenue NE

Item	Quantity	Unit	Unit Cost	Total Cost
Roadway Construction				
3-lane road with bike lanes & TWLTL	1049	lf	$475	$498,275
3-lane road with bike lanes & center median	342	lf	$630	$215,460
3-lane road with bike lanes, parking & TWLTL	398	lf	$575	$228,850
3-lane road with bike lanes, parking & center median	621	lf	$840	$521,640
Enhancements				
Street trees w/structural soil	91	ea	$1,000	$91,000
Landscaped median	1046	lf	$150	$156,900
Irrigation	1	ls	$60,000	$60,000
Concrete sidewalk	38,560	sf	$3	$96,400
Signals	2	int	$150,000	$300,000
30' high street lighting	46	ea	$7,500	$345,000
Two fixture decorative lighting w/banner arms	10	ea	$9,000	$90,000
One fixture decorative lighting w/banner arms	110	ea	$8,500	$935,000
Corridor Element	4	ea	$10,000	$40,000
Decorative Fencing	500	lf	$85	$42,500
Banners	240	ea	$200	$48,000
Additional Costs				
7% for design				$256,832
10% for Construction Engineering				$366,903
15% Contingency				$550,354
Total Reach 1b Costs				**$4,843,113**

Items not included in estimate that may affect cost:
Moving electrical transmission lines underground
Utility reconstruction/adjustment (includes water, gas, storm sewer and sanitary sewer)

Reach 2a - 8th Avenue NE to Broadway Avenue NE

Item	Quantity	Unit	Unit Cost	Total Cost
Roadway Construction				
3-lane road with bike lanes & TWLTL	371	lf	$475	$176,225
3-lane road with bike lanes & center median	120	lf	$630	$75,600
3-lane road with bike lanes, parking & center median	424	lf	$840	$356,160
4-lane undivided road with bike lanes	100	lf	$575	$57,500
5-lane road at Broadway Intersection	421	lf	$575	$242,075
Enhancements				
Street trees	31	ea	$1,000	$31,000
Street trees in grates	10	ea	$2,000	$20,000
Landscaped median	321	lf	$150	$48,150
Irrigation	1	ls	$25,000	$25,000
Concrete sidewalk	22,912	sf	$3	$57,280
Signals	1	int	$150,000	$150,000
30' high street lighting	20	ea	$7,500	$150,000
Two fixture decorative lighting w/banner arms	17	ea	$9,000	$153,000
One fixture decorative lighting w/banner arms	35	ea	$8,500	$297,500
Corridor Element at Broadway intersection	2	ea	$30,000	$60,000
Decorative Fencing at parking lots	400	lf	$85	$34,000
Banners	144	ea	$200	$28,800
Additional Costs				
7% for design				$137,360
10% for Construction Engineering				$196,229
15% Contingency				$294,344
Total Reach 2a Costs				**$2,590,223**

Items not included in estimate that may affect cost:
Moving electrical transmission lines underground
Utility reconstruction/adjustment (includes water, gas, storm sewer and sanitary sewer)
No ROW acquisition is required for the improvements anticipated

Reach 2b - Broadway Avenue NE to Burlington Northern Crossing

Item	Quantity	Unit	Unit Cost	Total Cost
Roadway Construction				
3-lane road with bike lanes & TWLTL	1583	lf	$475	$751,925
3-lane road with bike lanes, parking & TWLTL	260	lf	$575	$149,500
5-lane road at Broadway Intersection	344	lf	$575	$197,800
Enhancements				
Street trees in grates	55	ea	$2,000	$110,000
Irrigation	1	ls	$15,000	$15,000
Concrete sidewalk	240,127	sf	$3	$600,318
30' high street lighting	20	ea	$7,500	$150,000
Two fixture decorative lighting w/banner arms	90	ea	$9,000	$810,000
Gateway element at Broadway	1	ea	$30,000	$30,000
Corridor marker	2	ea	$10,000	$20,000
Decorative fencing at parking lots	600	lf	$85	$51,000
Banners	220	ea	$200	$44,000
Additional Costs				
7% for design				$205,068
10% for Construction Engineering				$292,954
15% Contingency				$439,431
Total Reach 2b Costs				**$3,866,996**

Items not included in estimate that may affect cost:
Moving electrical transmission lines underground
Utility reconstruction/adjustment (includes water, gas, storm sewer and sanitary sewer)
No ROW acquisition is required for the Broadway intersection improvements
On-street parking will require additional ROW north of 14th Avenue

Reach 3a - Burlington Northern Crossing to Gluek Park

Item	Quantity	Unit	Unit Cost	Total Cost
Roadway Construction				
3-lane road with bike lanes & TWLTL	761	lf	$475	$361,475
3-lane road with bike lanes & center median	357	lf	$630	$224,910
3-lane road with bike lanes, parking & center median	402	lf	$840	$337,680
4-lane undivided road with bike lanes	1835	lf	$575	$1,055,125
Enhancements				
Street trees	26	ea	$1,000	$26,000
Street trees in grates	50	ea	$2,000	$100,000
Landscaped median	713	lf	$150	$106,950
Irrigation	1	ls	$45,000	$45,000
Concrete sidewalk	24,240	sf	$3	$60,600
30' high street lighting	26	ea	$7,500	$195,000
One fixture decorative lighting w/banner arms	50	ea	$8,500	$425,000
Corridor marker	2	ea	$30,000	$60,000
Decorative fencing	600	lf	$85	$51,000
Banners	150	ea	$200	$30,000
Additional Costs				
7% for design				$215,512
10% for Construction Engineering				$307,874
15% Contingency				$461,811
Total Reach 3a Costs				**$4,063,937**

Items not included in estimate that may affect cost:
Moving electrical transmission lines underground
Utility reconstruction/adjustment (includes water, gas, storm sewer and sanitary sewer)
Land acquisition cost for additional on-street parking

Reach 3b- Gluek Park to Lowry Avenue NE

Item	Quantity	Unit	Unit Cost	Total Cost
Roadway Construction				
3-lane road with bike lanes & TWLTL	836	lf	$475	$397,100
3-lane road with bike lanes & center median	211	lf	$630	$132,930
3-lane road with bike lanes, parking & center median	171	lf	$840	$143,640
5-lane road at Lowry intersection	443	lf	$575	$254,725
Enhancements				
Street trees	15	ea	$1,000	$15,000
Street trees in grates	49	ea	$2,000	$98,000
Landscaped median	382	lf	$150	$57,300
Irrigation	1	ls	$30,000	$30,000
Concrete sidewalk	26,416	sf	$3	$66,040
Signals	1	int	$150,000	$150,000
30' high street lighting	20	ea	$7,500	$150,000
Two fixture decorative lighting w/banner arms	13	ea	$9,000	$117,000
One fixture decorative lighting w/banner arms	50	ea	$8,500	$425,000
Gateway element at Lowry	1	ea	$30,000	$30,000
Corridor element	2	ea	$10,000	$20,000
Decorative fencing	600	lf	$85	$51,000
Banners	164	ea	$200	$32,800
Additional Costs				
7% for design				$151,937
10% for Construction Engineering				$217,054
15% Contingency				$325,580
Total Reach 3bCosts				**$2,865,106**

Items not included in estimate that may affect cost:
Moving electrical transmission lines underground
Utility reconstruction/adjustment (includes water, gas, storm sewer and sanitary sewer)
Land acquisition cost for Lowry Avenue intersection expansion & additional on-street parking

Reach 4a- Lowry Avenue NE to 28th Avenue NE

Item	Quantity	Unit	Unit Cost	Total Cost
Roadway Construction				
3-lane road with bike lanes & TWLTL	722	lf	$475	$342,950
3-lane road with bike lanes & center median	825	lf	$630	$519,750
5-lane road at Lowry intersection	446	lf	$575	$256,450
Enhancements				
Street trees	28	ea	$1,000	$28,000
Street trees in grates	50	ea	$2,000	$100,000
Landscaped median	825	lf	$150	$123,750
Irrigation	1	ls	$65,000	$65,000
Concrete sidewalk	31,872	sf	$3	$79,680
30' high street lighting	30	ea	$7,500	$225,000
Two fixture decorative lighting w/banner arms	20	ea	$9,000	$180,000
One fixture decorative lighting w/banner arms	50	ea	$8,500	$425,000
Corridor element	2	ea	$10,000	$20,000
Decorative fencing	240	lf	$85	$20,400
Banners	200	ea	$200	$40,000
Additional Costs				
7% for design				$169,819
10% for Construction Engineering				$242,598
15% Contingency				$363,897
Total Reach 4aCosts				**$3,202,294**

Items not included in estimate that may affect cost:
Moving electrical transmission lines underground
Utility reconstruction/adjustment (includes water, gas, storm sewer and sanitary sewer)
Land acquisition cost for Lowry Avenue intersection

Reach 4b- 28th Avenue NE to 31st Avenue NE

Item	Quantity	Unit	Unit Cost	Total Cost
Roadway Construction				
3-lane road with bike lanes & TWLTL	846	lf	$475	$401,850
3-lane road with bike lanes & center median	1124	lf	$630	$708,120
Enhancements				
Street trees	40	ea	$1,000	$40,000
Street trees in grates	60	ea	$2,000	$120,000
Landscaped median	1124	lf	$150	$168,600
Irrigation	1	ls	$85,000	$85,000
Concrete sidewalk	31,552	sf	$3	$78,880
Signals	1	int	$150,000	$150,000
30' high street lighting	30	ea	$7,500	$225,000
One fixture decorative lighting w/banner arms	70	ea	$8,500	$595,000
Corridor element	2	ea	$10,000	$20,000
Banners	200	ea	$200	$40,000
Additional Costs				
7% for design				$184,272
10% for Construction Engineering				$263,245
15% Contingency				$394,868
Total Reach 4bCosts				**$3,474,834**

Items not included in estimate that may affect cost:
Moving electrical transmission lines underground
Utility reconstruction/adjustment (includes water, gas, storm sewer and sanitary sewer)

Reach 5a- 31st Avenue NE to the Soo Line Bridge

Item	Quantity	Unit	Unit Cost	Total Cost
Roadway Construction				
3-lane road with bike lanes & TWLTL	233	lf	$475	$110,675
3-lane road with bike lanes & center median	510	lf	$630	$321,300
4-lane undivided road with bike lanes	1377	lf	$575	$791,775
Enhancements				
Street trees	75	ea	$1,000	$75,000
Landscaped median	510	lf	$150	$76,500
Irrigation	1	ls	$40,000	$40,000
10' bituminous trail	667	lf	$20	$13,340
Concrete sidewalk	22,848	sf	$3	$57,120
Signals	1	int	$150,000	$150,000
30' high street lighting	30	ea	$7,500	$225,000
One fixture decorative lighting w/banner arms	74	ea	$8,500	$629,000
Gateway element	1	ea	$30,000	$30,000
Corridor element	2	ea	$10,000	$20,000
Banners	208	ea	$200	$41,600
Additional Costs				
7% for design				$180,692
10% for Construction Engineering				$258,131
15% Contingency				$387,197
Total Reach 5aCosts				**$3,407,329**

Items not included in estimate that may affect cost:
Moving electrical transmission lines underground
Utility reconstruction/adjustment (includes water, gas, storm sewer and sanitary sewer)
Easement for sidewalk east of Marshall between St. Anthony Parkway & 31st Avenue NE

Reach 5b- Soo Line Bridge to 37th Avenue NE

Item	Quantity	Unit	Unit Cost	Total Cost
Enhancements				
Street trees	50	ea	$1,000	$50,000
10' bituminous trail	2211	lf	$20	$44,220
Additional Costs				
7% for design				$6,595
10% for Construction Engineering				$9,422
15% Contingency				$14,133
Total Reach 5b Costs				**$124,370**

Items not included in estimate that may affect cost:
Moving electrical transmission lines underground
Utility reconstruction/adjustment (includes water, gas, storm sewer and sanitary sewer)

On-Street Parking Options between 14th Avenue NE and 16th Avenue NE

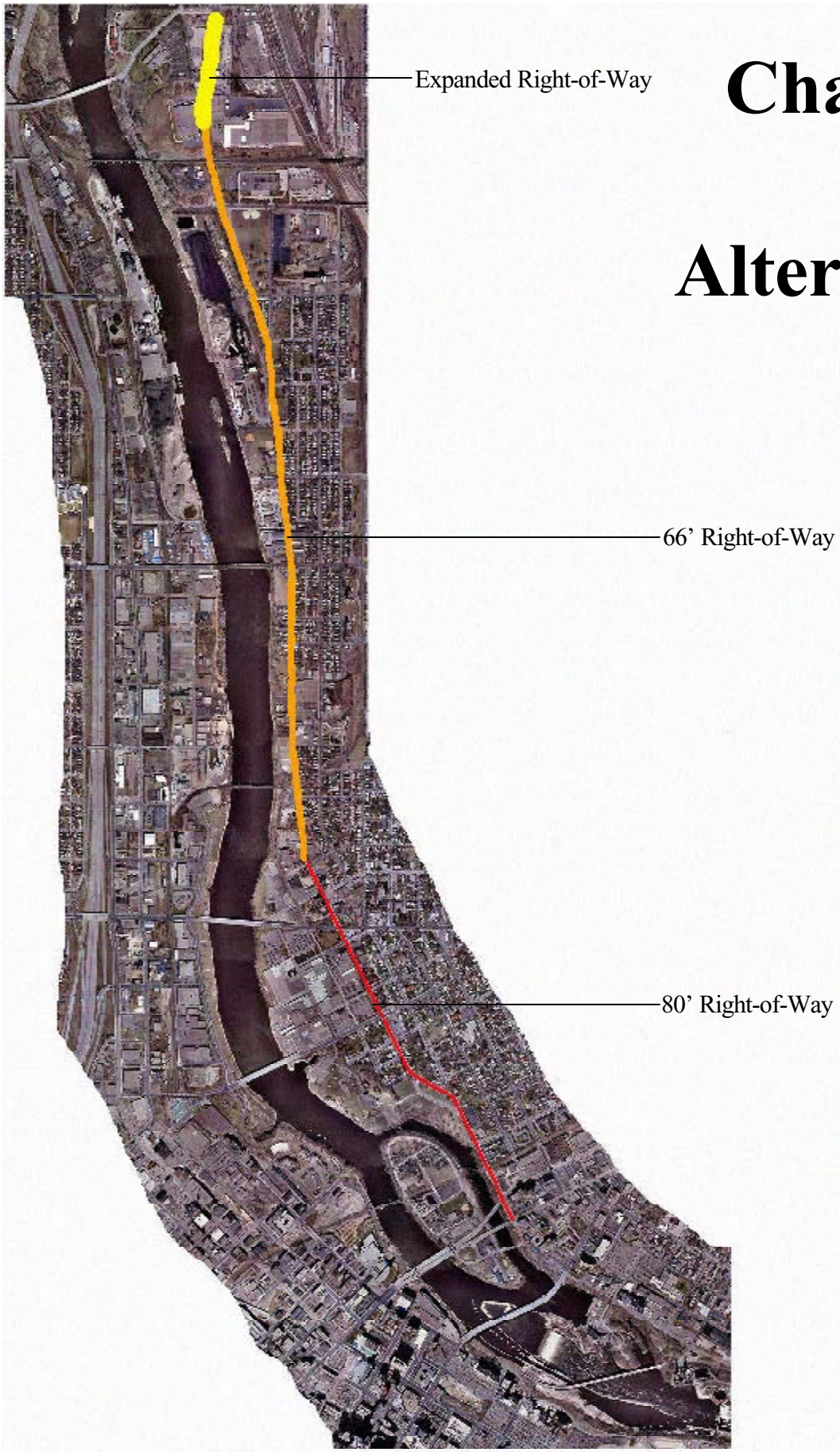
The following estimates are provided to analyze the costs of adding on-street parking between 14th Avenue and 16th Avenue. The estimates on the previous pages do not include costs for acquiring ROW for on-street parking bays. The options are provided to better understand the cost impacts of providing parking on one side of the street or on both sides. An detailed estimate of acquisition costs is included in the appendix.

Option 1 - Parking on one side of the street	**Quantity**	**Unit**	**Unit Cost**	**Total Cost**
Roadway Improvements				
3 Lane Road with Bike Lanes, parking on 1 side & TWLTL	1200	lf	$525	$630,000
7' of acquisition costs**	1	ls	$69,382	$69,382
Enhancements				
Street Trees in Grates	15	ea	$2,000	$30,000
Street Trees	14	ea	$1,000	$14,000
Concrete Sidewalk	16,800	sf	$3	$50,400
Decorative Lighting w/banner arms	32	ea	$8,500	$272,000
Total Estimated Reconstruction Costs				***$1,065,782***
Additional Costs		**% of Construction**		
Design			7%	$74,605
Construction Engineering			10%	$106,578
Contingencies			15%	$159,867
Option 1 - Project Cost				**$1,406,832***

Option 2 - Parking on both sides of the street	**Quantity**	**Unit**	**Unit Cost**	**Total Cost**
Roadway Improvements				
3 Lane Road with Bike Lanes, parking on 2 sides & TWLTL	1200	lf	$575	$690,000
14' of acquisition costs**	1	ls	$91,282	$91,282
Enhancements				
Street Trees	29	ea	$1,000	$29,000
Concrete Sidewalk	19,800	sf	$3	$59,400
Decorative Lighting w/banner arms	32	ea	$8,500	$272,000
Total Estimated Reconstruction Cost				***$1,141,682***
Additional Costs		**% of Construction**		
Design			7%	$79,918
Construction Engineering			10%	$114,168
Contingencies			15%	$171,252
Option 2 - Project Cost				**$1,507,020***

***Items not included in estimate that may affect cost:**
Moving Electrical underground
Utility reconstruction (includes water, storm sewer and sanitary sewer)
Gas line reconstruction
****See appendix for lot by lot acquisition costs**

Chapter 6. Design Alternatives



Goals for the Marshall/Main Street Corridor

Involved stakeholders have many interests for the Marshall/Main Street corridor. The people and uses are diverse. Despite these differences, there are a number of goals that most citizens, land owners, business persons and government agencies can agree upon. The following summarizes the goals expressed by the technical advisory committee and the community for redeveloping the corridor.

Technical Advisory Committee goals for the redesign of the corridor

- Maintain level of service 'D' or better (See appendix for Level of Service definitions)
- Minimize Right-of-Way acquisition
- Comply with Minnesota Bicycle Transportation Planning and Design Guidelines
- Streetscape must comply with Hennepin County Streetscape Design Guidelines
- Comply with County State Aid Design Standards
- Plan for 2025 traffic volumes
- Transform Marshall/Main Street into a Boulevard
- Provide for a variety of land uses fronting the corridor for a vibrant urban street scene
- Allow for smooth and efficient transit operations
- Create a bicycle and pedestrian-friendly roadway while accommodating traffic and adding landscape elements that relate well to current and planned parks and open space
- Integration of the Plan with the neighborhood and trails planning work currently underway
- Improve the ability of traffic to travel safely and efficiently through the corridor by eliminating conflicts between left-turning and through moving vehicles, avoiding confusing traffic controls and lane configurations
- Promote access to the riverfront
- Build upon the "Above the Falls Plan."

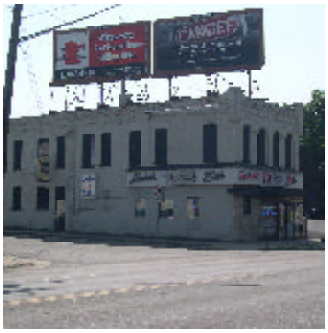
Community goals for the redesign of the corridor

Comments received at January 25th Meeting

- Slow the traffic on Marshall/Main Street
- Encourage commuters to use alternative routes
- Provide additional signage to direct commuters to alternative routes
- Do not acquire additional ROW
- Review current signal timing
- Consider adding more signals to control traffic speed
- Provide designated commuter bicycle lanes on the entire corridor
- Review feasibility of Park & Ride Facility north of 37th
- Address issues of on-street parking

Comments received at February 19th Meeting

- Prefer a three lane configuration over a four lane configuration
- Expand ROW at Lowry if work is done in conjunction with work proposed under Lowry Plan
- Address issue of truck traffic entering residential streets



- Prefer Bike Lanes over parking on 66' ROW section
- Remove power poles as a part of future plans
- Install raised median in certain situations
- Connect bike lanes to proposed bike lanes at Lowry

Corridor Options

It is important to accommodate many functions within the Marshall/Main Street corridor right-of-way. These needs include the integration of vehicular traffic lanes, on street parking, bicycle lanes, sidewalks, and boulevards. Given the existing right-of-way and existing development, it is impossible to provide ideal accommodations for each of these uses. Potential options for the corridor vary from reducing the number of traffic lanes and providing extensive boulevards with bicycle and pedestrian amenities to maximizing the traffic capacity and accommodating pedestrians, bicycles and parking on parallel routes.

As previously discussed, the Marshall/Main Street corridor is designated as a minor arterial roadway and as a County highway. City and County staff indicated that there are no plans to change the function of the corridor from the minor arterial classification. As such, the corridor must accommodate the projected future traffic volumes and not intentionally divert traffic to other parallel corridors. Bicycle amenities, on-street parking, and landscaping are secondary, although still very important, needs.

Based on the intersection capacity analyses and projected traffic volumes, the following conclusions have been established to guide the traffic lane requirements of design alternatives for the corridor:

- South of 8th Avenue, one traffic lane in each direction is required. A center left turn lane is desired to decrease conflicts with left turning traffic.
- North of 8th Avenue, the general roadway design should provide either a four-lane design similar to the existing situation or a three-lane design with a center left turn lane.
- The Marshall Street approaches to Broadway Avenue should provide two through lanes and a center left turn lane.
- The Marshall Street approaches to Lowry Avenue should provide two through lanes and a center left turn lane. The existing two-lane approach with through traffic and turning traffic sharing the lanes would also be acceptable.
- The Marshall Street approaches to St. Anthony Parkway should provide two through traffic lanes.

The addition of a center left turn lane to a standard two-lane or four-lane section is a common occurence and can be implemented over a relatively short distance. Similarly, the addition of an outside through lane to a standard two-lane or three-lane design is also very common and easily understood by motorists. The transition between a three-lane section and a four-lane section is much more complex and should only be provided if a very long transition zone is available.

An 80-foot right-of-way is currently available for the corridor south of 15th Avenue. North of 15th Avenue, a 66-foot right of way is provided. Several potential cross-section alternatives were established for each right-of-way width. Once potential cross-sections were established, alternatives for the overall corridor were developed by considering which cross-section is appropriate for each segment of the corridor and by considering the relationship of potential cross-sections for adjacent segments.

County staff indicated that the County does not intend to expand the right-of-way along the entire corridor because of the associated costs and impacts to property owners. Considering this situation, the first alternative for reconstruction of the corridor is based on the premise of no right-of-way acquisition at any location along the corridor. Figure 6-1 illustrates a conceptual plan of the Marshall/Main Street corridor without any acquisition of right-of-way. Of the two options for the approaches to Lowry Avenue, only the concept with the four-lane design, similar to existing, would provide acceptable operations and could be provided within the 66-foot right-of way. As part of this option, on-street bicycle provisions would not be available north of 15th Avenue and on-street parking could be provided in the non-peak direction along most of the corridor; as is provided at present.

Figure 6-2 illustrates a second conceptual plan for the Marshall/Main Street corridor. Due to the constraints caused by the limited right-of-way at Lowry Avenue and the fact that improvements to Lowry Avenue will involve right-of-way acquisition, this concept considers widening the right-of-way to 80 feet on the approaches to Lowry Avenue. Under this concept, two through lanes and a center left turn lane could be provided at the Broadway and Lowry intersections. Other sections of the corridor provide a three-lane design. Bike

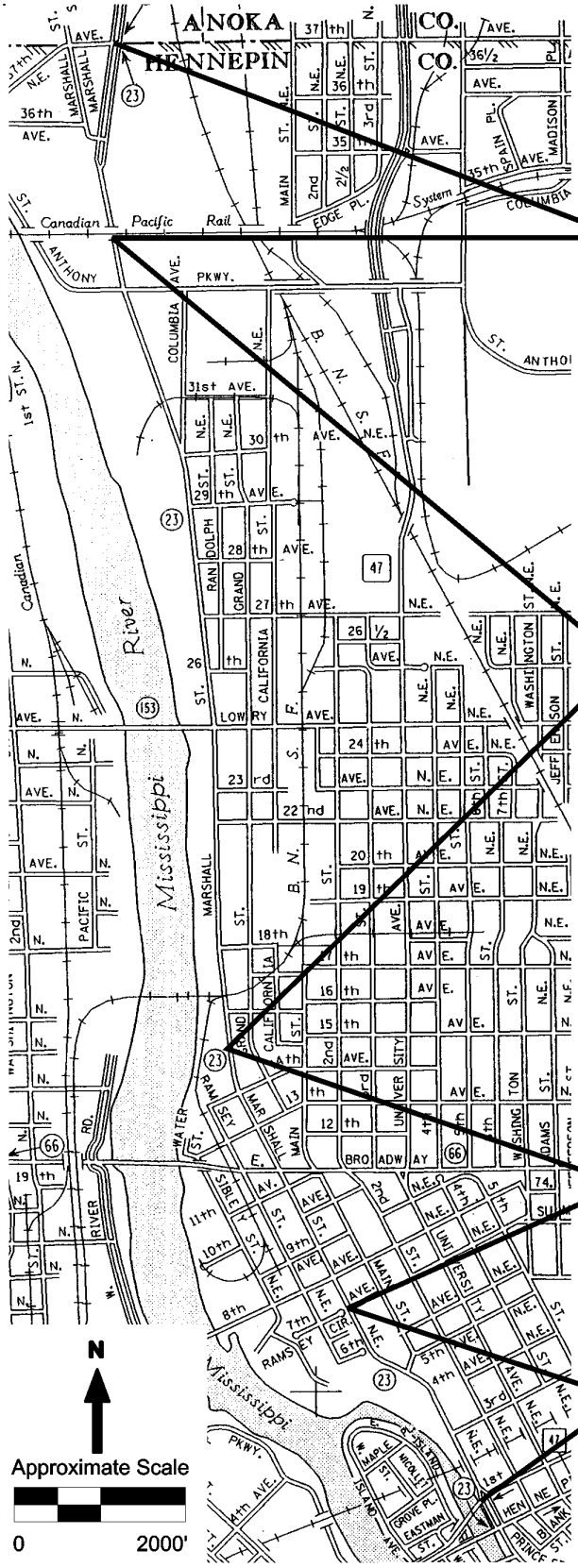


FIGURE 6-1
ALTERNATIVE WITH NO ADDITIONAL RIGHT-OF-WAY ACQUISITION

Four-lane design similar to existing.

4-Lanes traffic, Parking in non-peak periods, Bicycles accommodated on parallel routes.

4-Lanes traffic, Commuter bike lane, Parking bays in select areas on one side.
Note: Center left turn lanes required at Broadway Avenue intersection.

3-Lanes traffic, commuter bike lane, Parking bays in select areas.
Note: South of 3rd Avenue, center left turn lane is not provided.

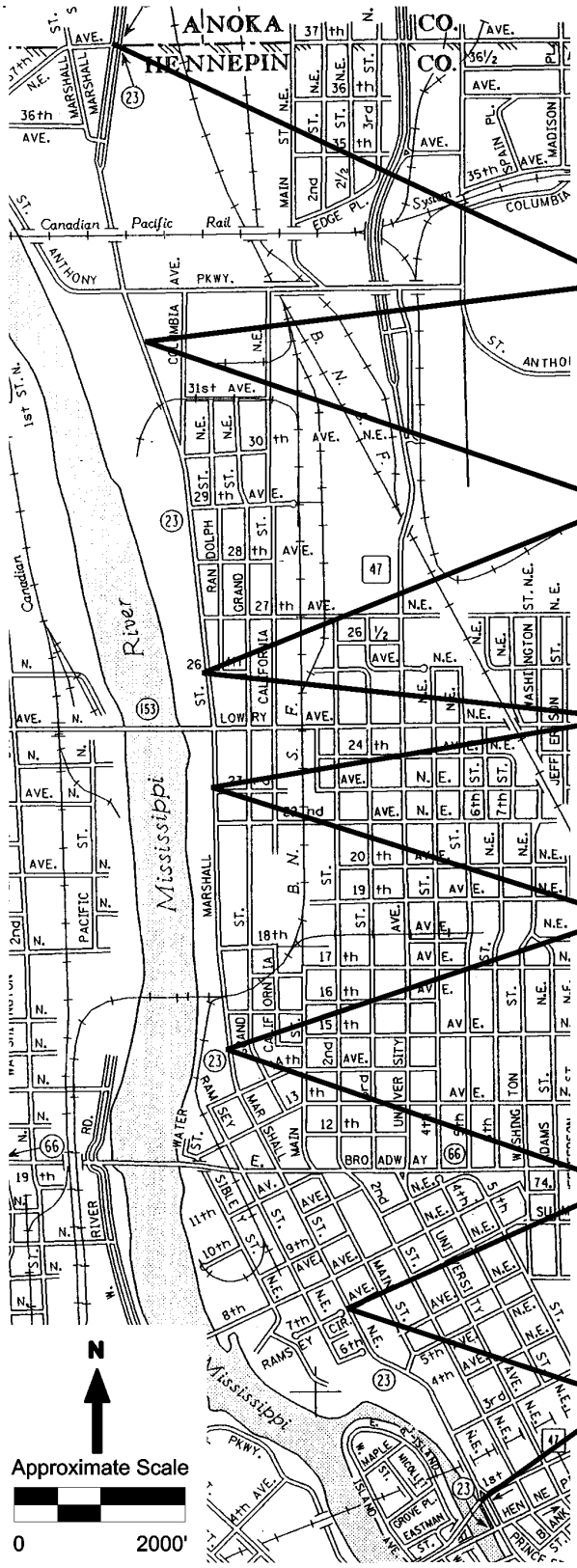


FIGURE 6-2
ALTERNATIVE WITH ACQUISITION OF 80' RIGHT-OF-WAY THROUGH LOWRY AVENUE INTERSECTION

Four-lane design similar to existing.

3-Lanes traffic, Commuter bike lanes, No parking

Right-of-way expanded to 80' to accommodate two through lanes in each direction and center left turn lane through Lowry Avenue intersection.

3-Lanes traffic, Commuter bike lanes, No parking

3-Lanes traffic, Commuter bike lane, Parking bays in select areas.
Note: Five traffic lanes required within one block of Broadway Avenue intersection. Southbound right turn lane required at 8th Avenue intersection.

3-Lanes traffic, Commuter bike lanes, Parking bays in select areas.
Note: South of 3rd Avenue, center left turn lane is not provided.

Evaluation of Corridor Options

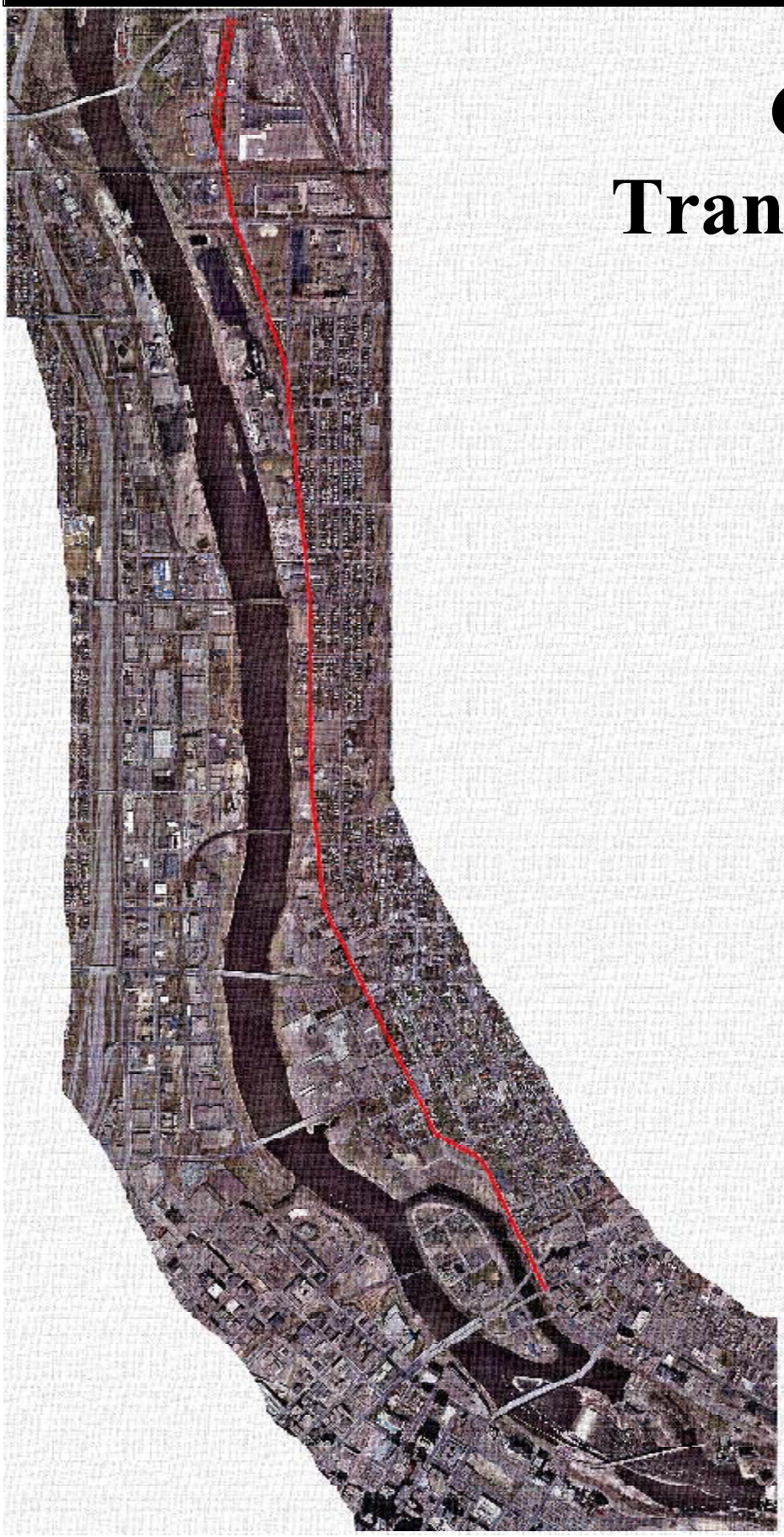
Based on goals established for the Marshall/Main Street corridor, needs raised by MMTAC members, and concerns raised by neighborhood representatives, the following objectives have been established for the purpose of evaluating the design alternatives:

- Provide acceptable long-term traffic operations and maintain County State Aid Standards.
- Reduce traffic speeds.
- Accomodate traffic during disruptive events, such as road construction and accidents.
- Incorporate pedestrian and bicycle transportation modes.
- Limit right-of-way acquisition.
- Avoid negative impacts to adjacent land use.
- Improve corridor aesthetics and add green space.

Table 6-1, on the following page, provides comments regarding the ability of each of the conceptual alternatives to meet the objectives established for the corridor. As the evaluation indicates, the alternative with the expanded right-of-way at Lowry Avenue has several advantages in terms of reducing traffic speed, improving the corridor character, and accommodating bicycles. The only advantage of the four-lane concept is the preservation of on-street parking between 16th Avenue and Lowry Avenue.

TABLE 6-1
COMMENTS REGARDING ABILITY OF CONCEPTUAL ALTERNATIVES TO MEET OBJECTIVES FOR MARSHALL/MAIN STREET CORRIDOR

Objective	Alternative With No Additional Right-of-Way Acquisition - Four-Lane Design as Shown in Figure 6-1	Alternative With Acquisition of 80-Foot Right-of-Way Width Through the Lowry Avenue Intersection - Three Lane Design as Shown in Figure 6-2
Provide acceptable long-term traffic operations and maintain County State Aid Standards.	Objective met. Acceptable intersection operations will be provided, but conflicts between through and left turning traffic will be experienced along most of the corridor.	Objective met. Acceptable intersection operations can be provided and conflicts between through and turning traffic are significantly reduced.
Reduce traffic speeds.	Objective not met. Because two travel lanes are provided, faster vehicles can pass. Additional width needed for travel lanes will reduce opportunities for pedestrian, bicycle, and streetscape amenities. On-street parking in the non-peak times may help to reduce vehicle speeds.	Objective met. The reduction in travel lanes and narrower feel of the roadway will reduce vehicle speeds. Because passing cannot occur, the slowest car sets the pace. Improved pedestrian, bicycle, and streetscape amenities will improve the neighborhood feel of the roadway.
Effectively accommodate traffic during disruptive events, such as road construction and accidents.	Lane closures associated with construction or disabled vehicles are disruptive to traffic and can cause safety issues as motorists execute abrupt lane changes, especially when such lane closures are unexpected.	Under the three-lane concept, one through lane in each direction must be maintained at all times. Construction or disabled vehicles could potentially reduce the available width of these lanes, but the slowing of traffic associated with such a reduction in width is less disruptive than abrupt lane change maneuvers associated with a lane closure.
Accommodate pedestrian and bicycle transportation modes.	On-street bicycle lanes cannot be provided along entire length of corridor. Higher traffic speeds are a disadvantage for pedestrians.	Continuous on-street bicycle lanes and sidewalks. Reduced traffic speeds improve pedestrian safety.
Limit right-of-way acquisition.	No additional right-of-way needed.	Right-of-way acquisition focused near the Lowry Avenue intersection and other locations where on-street parking bays are desired in the 66-for right-of way.
Avoid negative parking impacts to adjacent land use.	On-street parking preserved in non-peak periods.	Mitigation measures will be required to avoid parking impacts between 16th Avenue and Lowry Avenue.
Improve corridor aesthetics.	Opportunity for additional streetscaping in 66-foot right-of-way is extremely limited. Some improvements to aesthetics can be achieved in areas with 80 feet of right-of-way. Portion of right-of-way dedicated to vehicle travel lanes is similar to existing.	Aesthetic improvements can be provided in 66-foot right-of-way through use of landscaped medians. Landscaped medians can be provided in select areas with 80 feet of right of way. Portion of right-of-way dedicated to vehicle travel lanes is reduced in most area.



Chapter 5. Transportation Analyses

Traffic Analysis

Background Information

The Marshall/Main Street corridor (CSAH 23) provides four traffic lanes from about 7th Avenue to 37th Avenue and the Hennepin/Anoka County line. With the exception of the segment north of St. Anthony Parkway, there are no medians and no turn lanes. Parking is generally allowed in the curb travel lane, except in thedirection during the peak hours. South of 7th Avenue, the corridor provides a wide section that accommodates one through lane in each direction and on-street parking on both sides of the street.

The Marshall/Main Street corridor is classified as an A-minor arterial north of Broadway Avenue. From Broadway Avenue to Hennepin Avenue, the corridor is classified as a B-minor arterial. The functional classification of the corridor and intersecting roadways is illustrated in Figure 5-1. As indicated in the figure, Marshall/Main Street intersects the A-minor arterial streets: Hennepin Avenue, 1st Avenue, Broadway Avenue, St. Anthony Parkway, and 37th Avenue. The corridor intersects the B-minor arterials 8th Avenue and Lowry Avenue. All other intersecting streets are collectors or local streets.

The existing posted speed limits along the Marshall/Main Street corridor are illustrated in Figure 5-2. Between Hennepin Avenue and 28th Avenue, the posted speed limit is 30 miles per hour. Between 28th Avenue and 37th Avenue, the speed limit increases in two stages from 30 miles per hour to 55 miles per hour at the Hennepin/Anoka County line.

As illustrated in Figure 5-3, there are eleven signalized intersections along the Marshall/Main Street corridor. The traffic signal at 37th Avenue and CSAH 23 is actuated by traffic and operates independent of other signals. The traffic signals at all other intersections are connected to the City's coordinated system (80 second cycle length). The timing of these signals is set to allow progression along the Marshall/Main Street corridor at the posted speed limit and along major intersecting corridors, such as Hennepin Avenue, 1st Avenue, 8th Avenue, Broadway Avenue, and Lowry Avenue.

Existing traffic volumes were obtained from the City of Minneapolis. Existing daily traffic volumes range from about 8,300 to 9,500 vehicles per day between Broadway Avenue and 37th Avenue. South of Broadway Avenue, the daily traffic volume is in the range of about 5,900 to 7,400 vehicles per day. The a.m. and p.m. peak hours each account for about 11% and 12% of the daily traffic, respectively. Furthermore, a peak hour directional split of about 85%/15% was observed (85% of the peak hour traffic traveling in the peak direction and 15% traveling in the non-peak direction). Typically, the peak hours account for about 10% of the total daily volume and the peak hour directional splits is about 70%/ 30%. As a result, the peak hour traffic volumes, especially in the peak direction, are significantly higher that would otherwise be expected for a roadway with these existing daily traffic volumes.

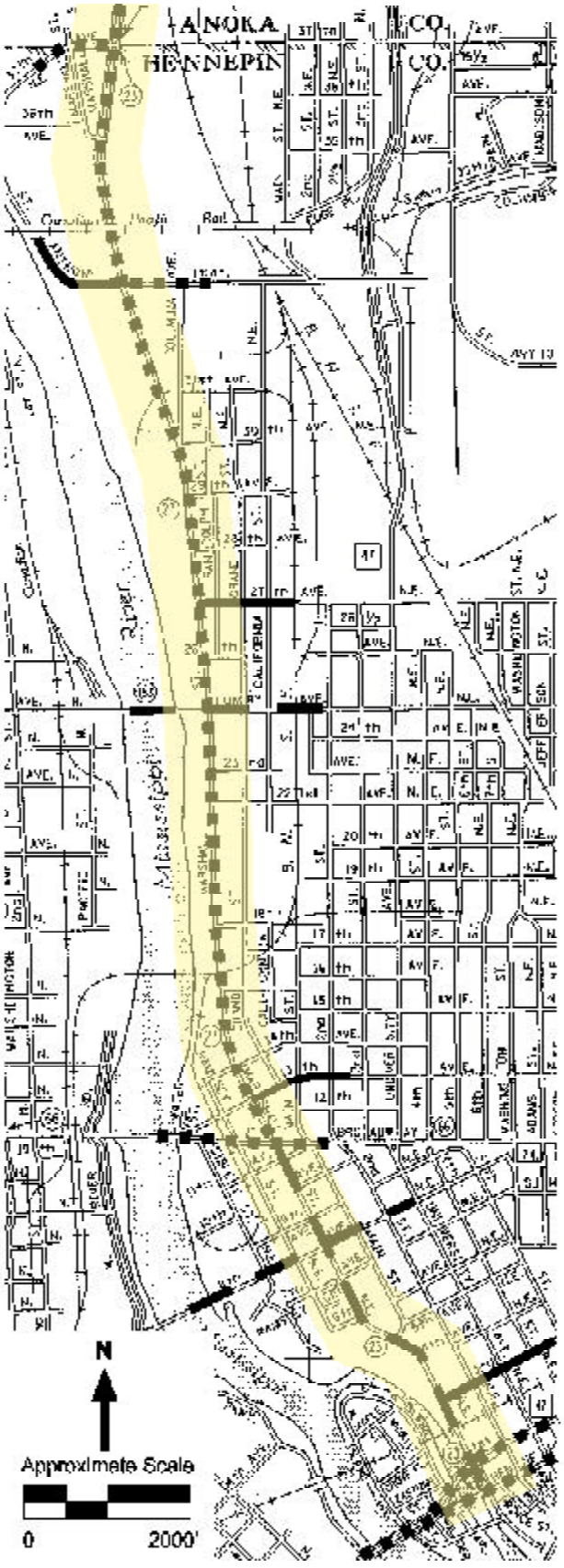


FIGURE 5-1
FUNCTIONAL CLASSIFICATION
OF CSAH 23 CORRIDOR

A - MINOR ARTERIAL

B - MINOR ARTERIAL

COLLECTOR

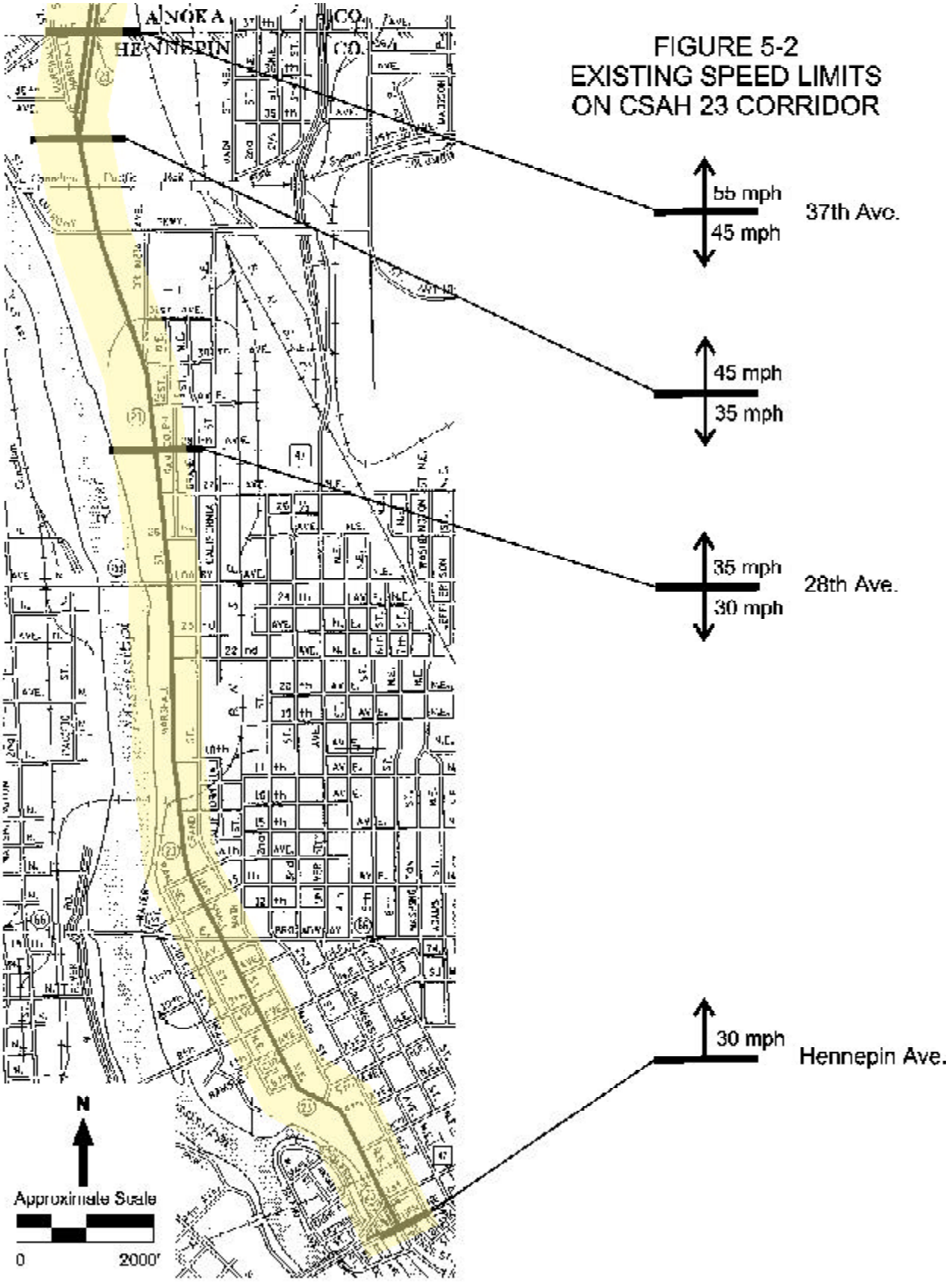


FIGURE 5-2
EXISTING SPEED LIMITS
ON CSAH 23 CORRIDOR

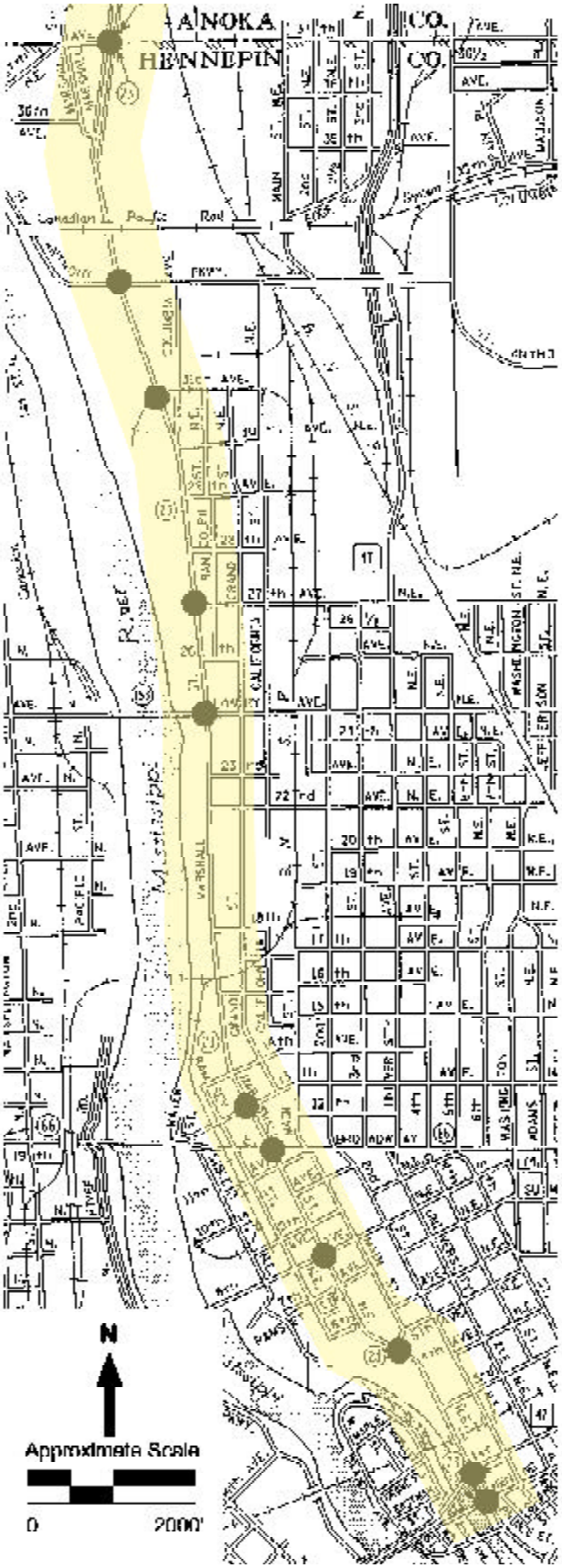


FIGURE 5-3
EXISTING SIGNALIZED
INTERSECTIONS

● Existing Signalized Intersection

Traffic Forecasts

Traffic forecasts have been prepared for the Marshall/Main Street corridor for the year 2025. Daily traffic volumes have been projected for the five roadway segments where daily traffic volumes are recorded every other year as part of the City's traffic counting program. Based on a review of the functional classification of intersecting street and the existing traffic volumes, the CSAH 23 intersections with the following six streets were selected for detailed a.m. and p.m. peak hour traffic analyses:

- Hennepin Avenue
- 1st Avenue
- 8th Avenue
- Broadway Avenue
- Lowry Avenue
- St. Anthony Parkway

In order to establish 2025 roadway segment and peak hour traffic volume forecasts, the following steps were accomplished:

1. Existing traffic data was assembled, including the following:

    - Intersection turning movement counts by the City of Minneapolis.
    - Intersection turning movement counts by Benshoof & Associates, Inc., completed for other projects along the corridor.
    - Historical daily roadway segment volumes from the Hennepin County traffic flow maps.
    - Detailed data from the most recent roadway segment counts of the CSAH 23 corridor (hourly and directional data for 5 locations).
    - Projected 2010 and 2020 traffic volumes from the Hennepin County Transportation Plan

2. An analysis of historical traffic volumes on the Marshall/ Main Street corridor and major intersecting roadways was performed. Based on this analysis, the following growth rates were established:

    - 2% per year for through traffic on CSAH 23 and turning movements to/from CSAH 23
    - 1.1% per year for through traffic on Broadway Avenue, 1st Avenue, and Hennepin Avenue.
    - 0.5% per year for through traffic on Lowry Avenue (from Lowry Ave. Plan)

3. Turning movement traffic volumes at the 8th Avenue and Broadway Avenue intersections with Marshall Street were adjusted to account of the closure of Sibley Street and expansion of Graco facilities that have occurred since the most recent intersection turning movement volumes studies.

4. Seasonal adjustment factors were applied to intersection turning movement volumes to reflect average conditions throughout the year.

5. Adjusted existing intersection turning movement and roadway segment traffic volumes were increased to 2025 levels using the previously described annual growth rates. This increase accounts for the anticipated redevelopment along the corridor and general increases in background traffic.

6. The resultant volumes were reviewed for reasonableness and slight adjustments were made to achieve an approximate balance of traffic between intersections.

Figure 5-4 presents the 2001 daily traffic volumes and the projected 2025 daily traffic volumes for the Marshall/Main Street corridor. The existing and projected a.m. peak hour turning movement volumes at the critical corridor intersections are presented in Figure 5-5. Figure 5-6 shows the p.m. peak hour intersection traffic volumes.

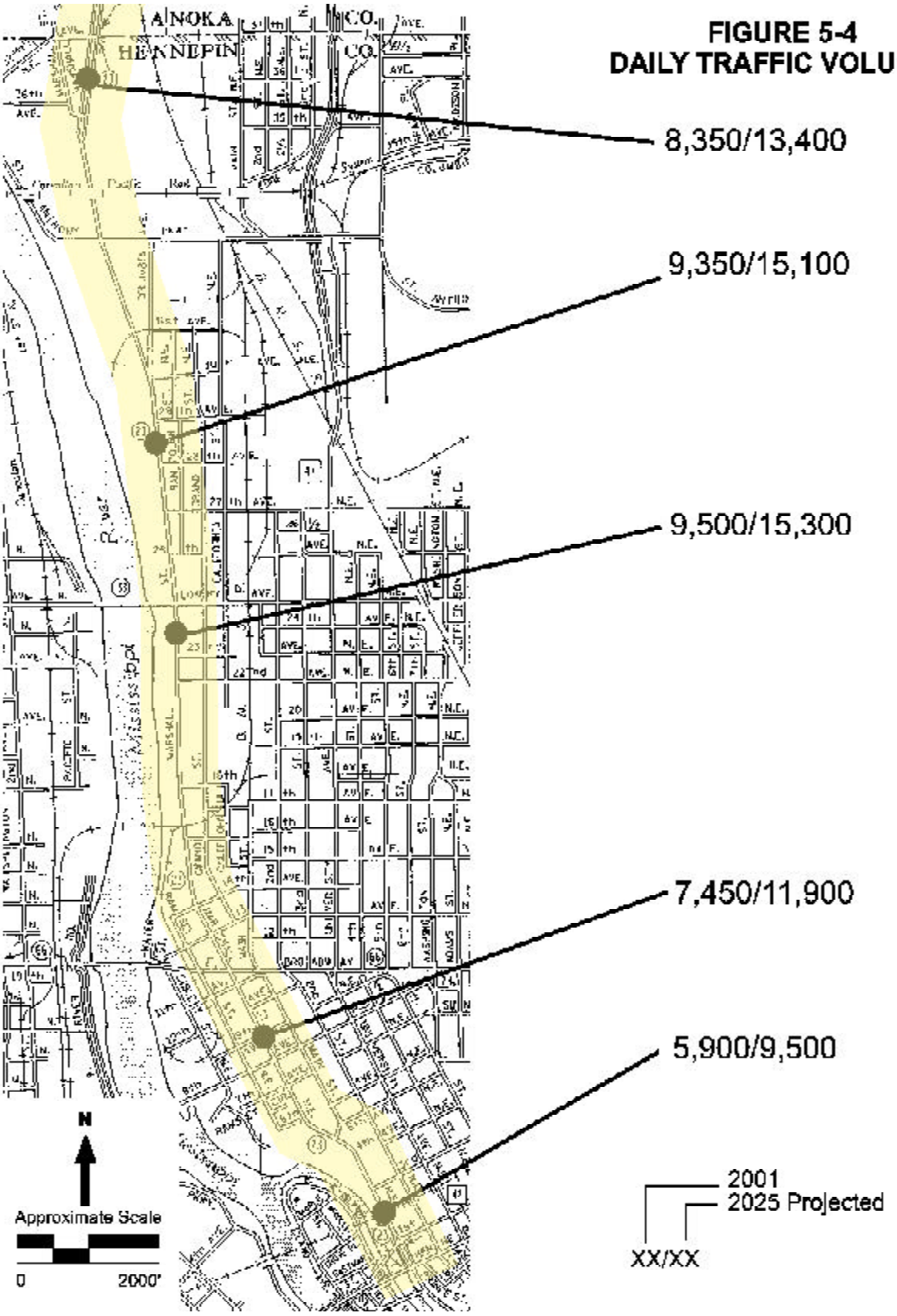


FIGURE 5-4
DAILY TRAFFIC VOLUMES

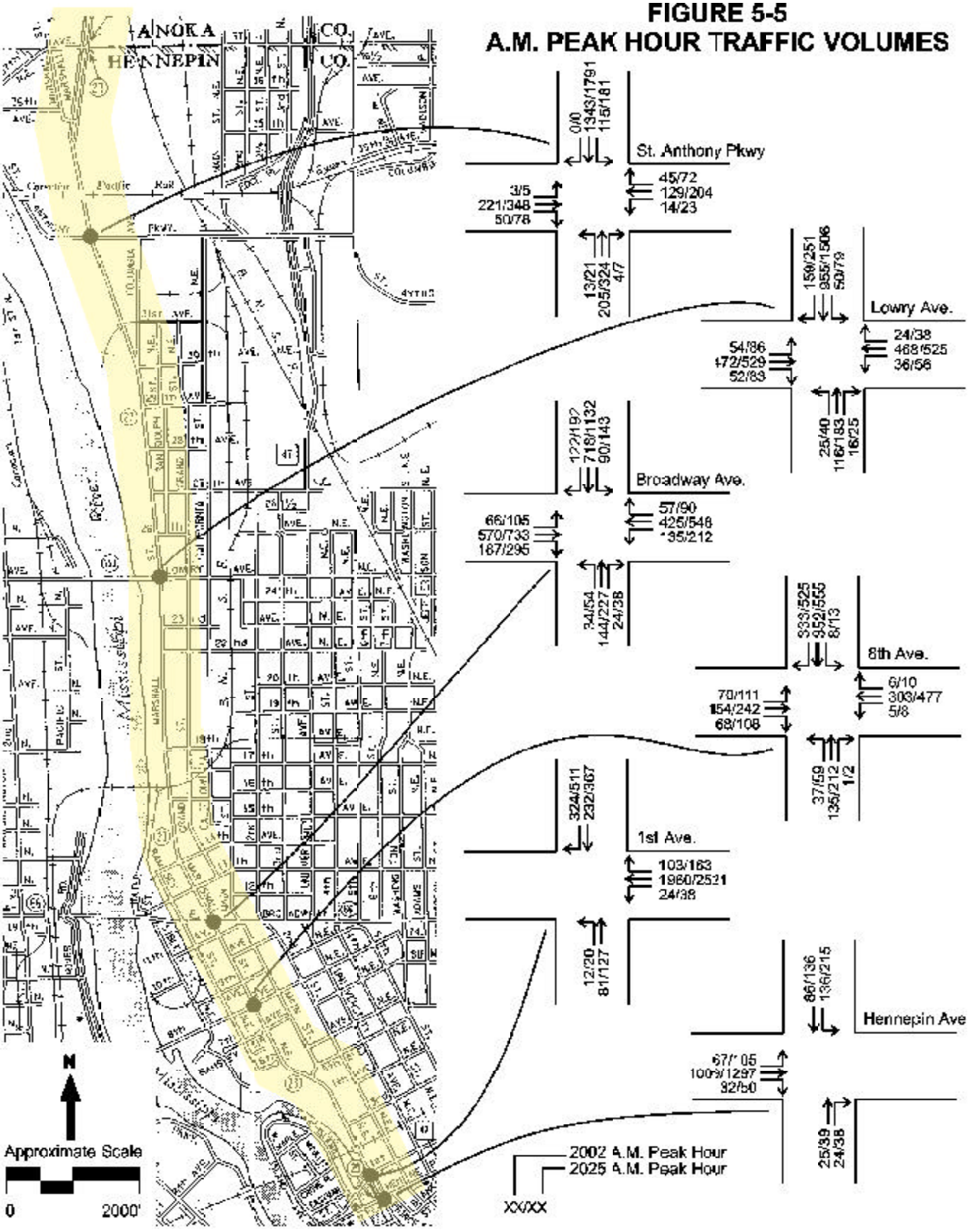


FIGURE 5-5
A.M. PEAK HOUR TRAFFIC VOLUMES

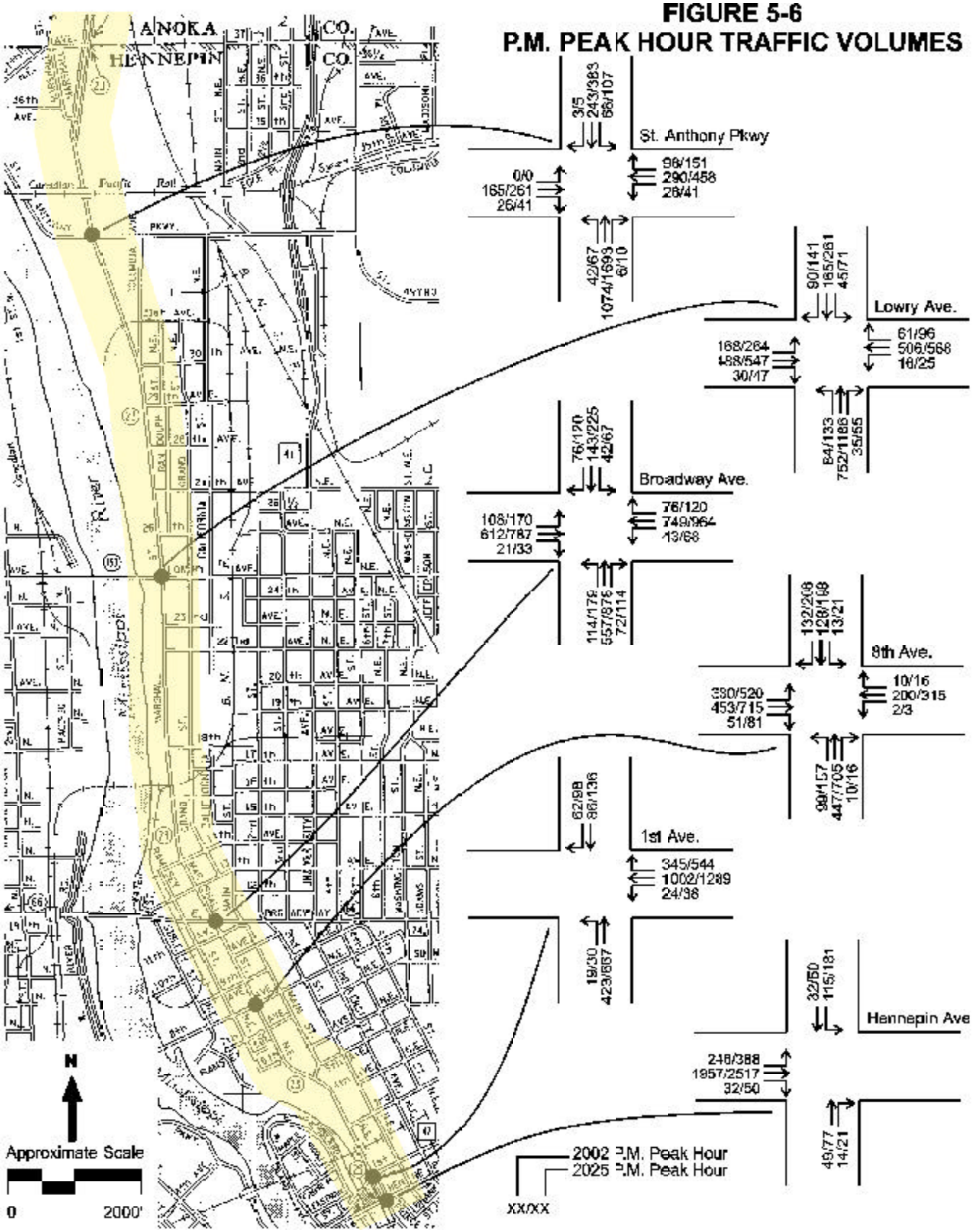


FIGURE 5-6
P.M. PEAK HOUR TRAFFIC VOLUMES
ANOKA CO.
HENNEPIN CO.
St. Anthony Pkwy
3/5
243/383
66/107
96/151
290/458
26/41
0/0
165/261
26/41
42/67
1074/1693
6/10
Lowry Ave.
90/141
165/261
45/71
61/96
506/568
16/25
168/264
488/547
30/47
84/133
752/1186
35/55
Broadway Ave.
76/120
143/225
42/67
76/120
749/964
13/68
108/170
612/787
21/33
114/178
557/876
72/114
8th Ave.
132/208
128/108
13/21
10/16
200/315
2/3
330/520
453/715
51/81
99/157
447/705
10/16
1st Ave.
62/98
86/136
345/544
1002/1289
24/38
19/30
423/667
Hennepin Ave
32/50
115/181
246/388
1957/2517
32/50
49/77
14/21
2002 P.M. Peak Hour
2025 P.M. Peak Hour
XX/XX
N
Approximate Scale
0
2000'

Traffic Analysis Methodology

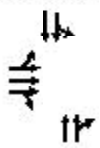
Using the 2025 a.m. and p.m. peak hour traffic forecasts, the capacity of each intersection was evaluated. Each intersection was first examined by studying the existing intersection geometrics and traffic signal timing. Subsequent analyses were performed with varying traffic lane configurations. The capacity analysis software *SYNCHRO* was used to analyze the signalized intersections. Capacity analysis results are presented in terms of level of service (LOS), which ranges from A to F. Each letter grade represents a specific range of traffic operation based upon the average amount of delay experienced by a driver. Level of service A represents the best intersection operation, with very little delay for each vehicle using the intersection. Level of service F represents the worst intersection operation, with excessive delay and long queue lengths. In general, level of service D or better is considered acceptable by the City and County. However, the City of Minneapolis has considered level of service E acceptable in some circumstances where it is impractical to achieve level of service D. A more detailed description of the levels of service is provided in the appendix of this report.

The remainder of the traffic analysis section of this report presents the results of the capacity analyses for each of the six examined intersections.

TABLE 5-1
CAPACITY ANALYSIS OF HENNEPIN AVENUE
INTERSECTION WITH MAIN STREET

Existing Geometrics

Traffic Lanes

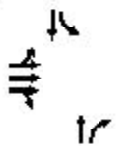


Levels of Service

	AM Peak Hour	PM Peak Hour
2002	B	C
2025	B	B

Modified Geometrics

Traffic Lanes



Levels of Service

	AM Peak Hour	PM Peak Hour
2025	B	C

1st Avenue/Main Street Intersection

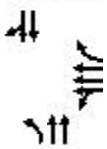
Table 5-2 summarizes the capacity analyses and associated lane configurations for the 1st Avenue/Main Street intersection. This intersection currently operates at a level of service C in the a.m. peak hour and level of service B in the p.m. peak hour. With the projected 2025 traffic volumes, the intersection will continue to operate at the existing levels of service.

Just as the Hennepin Avenue/Main Street intersection, the 1st Avenue intersection with Main Street was examined with only one through lane in each direction. As indicated in Table 5-2, the peak hour levels of service would be one grade lower with the reduction of through lanes; providing LOS D and C operations in the a.m. and p.m. peak hours, respectively. These are still acceptable levels of service for 2025 conditions. A design that provides a single through lane on Main Street between Hennepin Avenue and 1st Avenue would provide better continuity along Main Street and would reduce conflicts associated with traffic merging from two lanes to one.

TABLE 5-2
CAPACITY ANALYSIS OF 1st AVENUE
INTERSECTION WITH MAIN STREET

Existing Geometrics

Traffic Lanes



Levels of Service

	AM Peak Hour	PM Peak Hour
2002	C	B
2025	C	B

Modified Geometrics

Traffic Lanes

Levels of Service

	AM Peak Hour	PM Peak Hour
2025	D	C

8th Avenue/Marshall Street Intersection

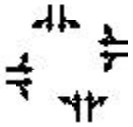
Table 5-3 summarizes the capacity analyses and associated lane configurations for the 8th Avenue/Marshall Street intersection. The intersection currently provides two approach lanes on each leg of the intersection. The curb lane accommodates through traffic and right turns. The left lane accommodates through traffic and left turns. Parking is allowed in the curb lanes except in the peak direction of the peak hours (southbound /westbound lanes in the a.m. peak hours and northbound/eastbound lanes in the p.m. peak hours). With the existing lane configuration, the intersection of Marshall Street and 8th Avenue currently operates at LOS C or better in the a.m. and p.m. peak hours.

With the existing lane configuration and the projected 2025 traffic volumes, the intersection is expected to operate at LOS B in the a.m. peak hour and LOS D in the p.m. peak hour. One alternative scenario was tested that would include one through lane in each direction on Marshall Street and a center left turn lane. In the northbound direction, right turns could share the northbound through lane. Because of the heavy southbound right turn volumes in the a.m. peak hour, a separate right turn lane is needed. With this lane configuration, the intersection would still operate at LOS B in the a.m. peak hours and at LOS D in the p.m. peak hours with the projected 2025 traffic volumes. This scenario would offer the benefit of separating left turning traffic and through traffic.

TABLE 5-3
CAPACITY ANALYSIS OF 8th AVENUE
INTERSECTION WITH MARSHALL STREET

Existing Geometrics

Traffic Lanes

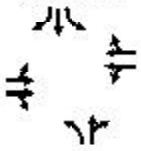


Levels of Service

	AM Peak Hour	PM Peak Hour
2002	C	B
2025	B	D

Modified Geometrics

Traffic Lanes



Levels of Service

	AM Peak Hour	PM Peak Hour
2025	B	D

Broadway Avenue/Marshall Street Intersection

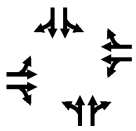
Table 5-4 summarizes the capacity analyses and associated lane configurations for the Broadway Avenue/Marshall Street intersection. This intersection currently provides two approach lanes on each leg of the intersection, identical to the 8th Avenue/Marshall Street intersection. The capacity analyses indicate that the intersection currently operates at LOS C in both the a.m. and p.m. peak hours. Based on observations of the intersection, queued vehicles are able to clear the intersection on most cycles, but left turning traffic obstructs the through traffic lanes, leading to abrupt lane change maneuvers before the intersection.

With the existing lane configuration and the projected 2025 traffic volumes, the intersection is expected to operate at LOS F in the a.m. peak hour and LOS E in the p.m. peak hour. As indicated in Table 5-4, several alternative lane configurations were examined to establish geometrics that would provide satisfactory 2025 traffic operations. The best intersection operations can be achieved by widening both Marshall Street and Broadway Avenue to provide a center left turn lane through the intersection. It is important to note that there are no plans for changes to Broadway Avenue. Thus, no further determination has been made at this time regarding whether improvements at Broadway Avenue are feasible in terms of right-of-way and land use impacts.

TABLE 5-4
CAPACITY ANALYSIS OF BROADWAY AVENUE INTERSECTION WITH MARSHALL STREET

Existing Geometrics

Traffic Lanes

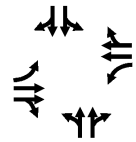


Levels of Service

	AM Peak Hour	PM Peak Hour
2002	C	C
2025	F	E

Modified Geometrics on Broadway Avenue Only

Traffic Lanes

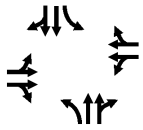


Levels of Service

	AM Peak Hour	PM Peak Hour
2025	E	C

Modified Geometrics on CSAH 23 Only

Traffic Lanes

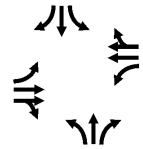


Levels of Service

	AM Peak Hour	PM Peak Hour
2025	E	C

3-Lane Modified Geometrics

Traffic Lanes

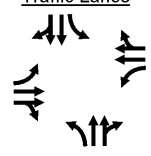


Levels of Service

	AM Peak Hour	PM Peak Hour
2025	F	D

5-Lane Modified Geometrics

Traffic Lanes



Levels of Service

	AM Peak Hour	PM Peak Hour
2025	D	C

Lowry Avenue/Marshall Street Intersection

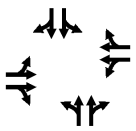
Table 5-5 summarizes the capacity analyses and associated lane configurations for the Lowry Avenue/Marshall Street intersection. This intersection currently provides two approach lanes on each leg of the intersection, identical to the 8th Avenue and Broadway Avenue intersections with Marshall Street. The intersection currently operates at level of service C in both the a.m. and p.m. peak hours. With the existing traffic lane configuration and projected 2025 traffic volumes, the intersection is expected to operate at LOS E in the a.m. peak hour and LOS D in the p.m. peak hour.

Hennepin County and other agencies recently prepared a corridor plan for Lowry Avenue. This plan established that Lowry Avenue should be widened to provide two through lanes in each direction and a center left turn lane at the intersection with Marshall Street. With this modification and the existing geometrics on Marshall Street, the intersection would operate at LOS D in both peak hours of 2025. If Marshall Street were also widened to offer a center left turn lane, the intersection would provide LOS C 2025 traffic operations. Only one through lane in each direction on Marshall Street through the Lowry Avenue intersection would not provide acceptable 2025 traffic operations.

TABLE 5-5
CAPACITY ANALYSIS OF LOWRY AVENUE
INTERSECTION WITH MARSHALL STREET

Existing Geometrics

Traffic Lanes

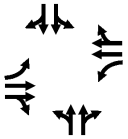


Levels of Service

	AM Peak Hour	PM Peak Hour
2002	C	C
2025	E	D

Modified Geometrics on Lowry Avenue Only (per Lowry Ave. Plan)

Traffic Lanes

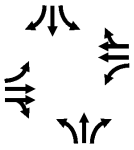


Levels of Service

	AM Peak Hour	PM Peak Hour
2025	D	D

3-Lane Modified Geometrics

Traffic Lanes

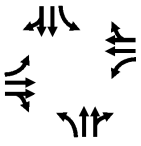


Levels of Service

	AM Peak Hour	PM Peak Hour
2025	F	E

5-Lane Modified Geometrics

Traffic Lanes



Levels of Service

	AM Peak Hour	PM Peak Hour
2025	C	C

St. Anthony Parkway/Marshall Street Intersection

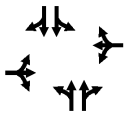
Table 5-6 summarizes the capacity analyses and associated lane configurations for the St. Anthony Parkway/Marshall Street intersection. Marshall Street currently provides two approach lanes in each direction. Through traffic and turning traffic share these two lanes. The St. Anthony Parkway approaches each provide a single approach lane that is shared by all movements. The intersection currently operates at LOS B in the a.m. peak hour and LOS D in the p.m. peak hours. Level of service E and F traffic operations are expected in the 2025 a.m. and p.m. peak hours, respectively.

Several alternatives for improving the 2025 levels of service have been examined. Some of these alternatives involve widening the St. Anthony Parkway approaches to provide right turn lanes. Minneapolis Park Board staff have indicated that the Park Board may not approve such widening because it would make St. Anthony Parkway more attractive for commuter traffic and also because such widening would negatively impact the trees, sidewalks, and trails.

TABLE 5-6
CAPACITY ANALYSIS OF ST. ANTHONY PARKWAY AVENUE

Existing Geometrics

Traffic Lanes

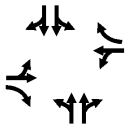


Levels of Service

	AM Peak Hour	PM Peak Hour
2002	B	D
2025	E	F

Modified Geometrics on St. Anthony Parkway Only

Traffic Lanes

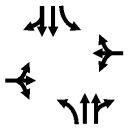


Levels of Service

	AM Peak Hour	PM Peak Hour
2025	C	D

Modified Geometrics on CSAH 23 Only

Traffic Lanes

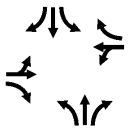


Levels of Service

	AM Peak Hour	PM Peak Hour
2025	C	D

3-Lane Modified Geometrics

Traffic Lanes

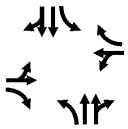


Levels of Service

	AM Peak Hour	PM Peak Hour
2025	F	F

5-Lane Modified Geometrics

Traffic Lanes



Levels of Service

	AM Peak Hour	PM Peak Hour
2025	C	D

Furthermore, in contrast to 8th Avenue, Broadway Avenue, and Lowry Avenue, St. Anthony Parkway is not part of the State Aid system and thus is not required to provide a certain level of service in the peak hours. Level of service D or better operations could be provided for Marshall Street traffic through signal timing that favors northbound and southbound traffic flow. Based on the analyses, Marshall Street must provide two through lanes at the St. Anthony Parkway intersection. If improved operations for the eastbound and westbound approaches are desired, The Minneapolis Park Board could widen and add right turn lanes to one or both legs of St. Anthony Parkway.

Parking Analysis

Along most of the Marshall/Main Street corridor, parking is allowed in the outside travel lane except, in the peak direction during the a.m. and p.m. peak periods. Figure 5-7 illustrates the specific parking regulations along the corridor.

In order to understand how the on-street parking is currently used, a parking occupancy survey was conducted for the Marshall/Main Street corridor. Based on a review of the peak parking characteristics for land uses along the corridor and discussions with County staff, the following time periods were identified as potential peak parking demand periods to be surveyed:

- Weekday mid-morning, 9 a.m. to 11 a.m.
- Weekday mid-afternoon, 2 p.m. to 4 p.m.
- Weekday lunchtime, 11 a.m. to 1 p.m.
- Weekday night, 9 p.m. to 11 p.m.
- Weekend evening, 7 p.m. to 9 p.m.

During each of these periods, the number of vehicles parked on the Marshall/ Main Street corridor was recorded by block. The parking occupancy of each block was recorded multiple times in each survey period on a representative day in November of 2002. Figure 5-8 illustrates the peak parking demand by block for each of the survey periods.

Although on-street parking is allowed, no cars were observed to be parked along the corridor north of 28th Avenue. Based on the parking survey, the following locations and time periods of significant on-street parking occupancy were identified:

- Between 1st Avenue and 5th Avenue during the workday.
- Between 7th Avenue and 9th Avenue at lunchtime and on weekday and week end evenings.
- Between 16th Avenue and Lowry Avenue on weekday and weekend evenings.

Based on the results of the initial survey, additional observations and surveys were accomplished to understand the factors that contribute to significant parking demand at the three peak locations along the Marshall/Main Street corridor.

On a weekday morning, we observed that almost all of the individuals parking on Main Street between 1st Avenue and 5th Avenue were ultimately destined for downtown Minneapolis. Individuals were taking advantage of the free, unrestricted parking and walking across the Hennepin Avenue Bridge to downtown destinations. Use of the on-street parking in this area for transit customers or for land uses east of the river are negligible.

The existing parking occupancy and regulations in the neighborhood adjacent to Marshall/Main street between 1st Avenue and 5th Avenue were observed to determine if the neighborhood would likely experience negative impacts if the on-street parking along this segment of the corridor were restricted or eliminated. Based on the following factors, we have concluded that negative impacts in the adjacent neighborhood would not likely occur if the existing parking on Main Street were restricted or eliminated:

- Streets that have unrestricted parking, such as 3rd Avenue, do not have any additional available parking spaces during the weekday daytime periods.
- Parking regulations are in place on some streets, such as 2nd Street, that restrict parking to a maximum of one hour on weekdays.

Although no difficulties are expected, the City should monitor parking in the adjacent neighborhood if the on-street parking on Main Street is restricted. If difficulties are observed, the City should establish an appropriate enforcement or mitigation plan.

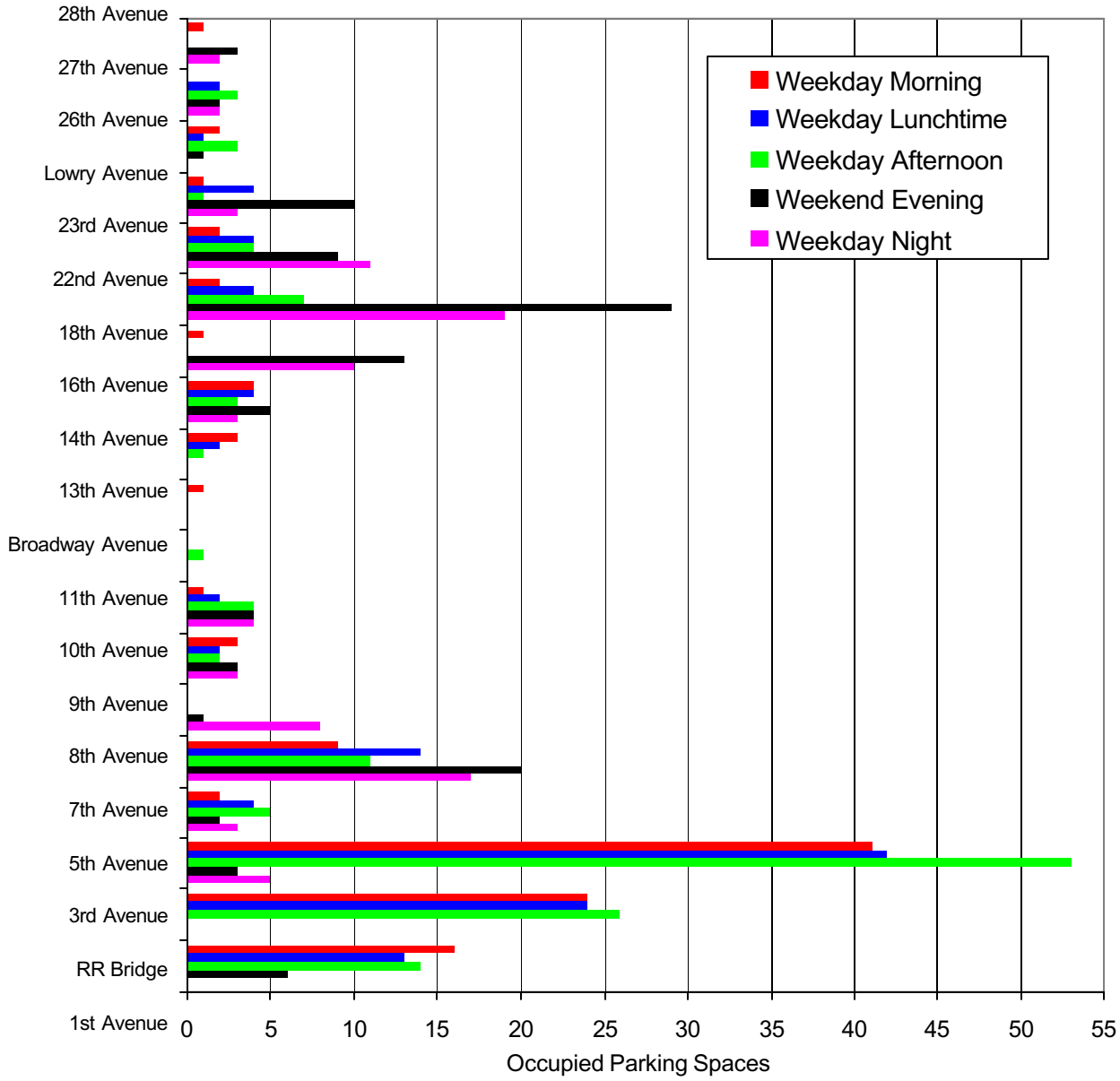
Customers of Elsie's and the Yacht Club utilize parking on Marshall Street in the vicinity of 8th Avenue. During the weekday, the on-street spaces are utilized because of their convenience, even though parking spaces are available in the off-street parking lots of these two businesses. In the evenings, the parking lots for these two businesses sometimes are full, requiring that customers use on-street parking. Because of their convenience, these parking spaces are very important to adjacent businesses. Some customers may park on adjacent residential streets if the parking on Marshall Street are completely eliminated.

As part of our parking survey, we identified existing parking demand along Marshall Street in the evenings between 16th Avenue and Lowry Avenue. On a weekend evening, about 60 cars were parked on Marshall Street along this eight-block segment. On a weekday evening, the parking occupancy was observed to be about 40 cars. About half of this parking demand appeared to be associated with Gabby's Bar and Saloon. The remainder of the demand was associated with residential and other commercial uses adjacent to Marshall Street.

FIGURE 5-7
EXISTING ON-STREET PARKING REGULATIONS

- No Parking 7 to 9 a.m. Monday - Friday
- No Parking 4 to 6 p.m. Monday - Friday
- No Parking at Any Time
- Unrestricted Parking

FIGURE 5-8
PARKING OCCUPANCY SURVEY OF CSAH 23 CORRIDOR



Transit Analysis

Existing transit routes serving the Marshall/Main Street corridor and adjacent roadways are illustrated in Figure 5-9. MTCO Route 827 is the only transit route that uses the Marshall/Main Street corridor. Route 827 provides service between Anoka and Downtown Minneapolis. Weekday peak period frequency is about 30 minutes in each direction. According to an August 2002 survey by Metro Transit, about 65 riders (130 trips) utilize route 827 along the CSAH 23 corridor on a typical weekday.

In September of 2000, midday and weekend service along the CSAH 23 corridor was discontinued due to low ridership. Route 18, which runs on parallel routes such as Main Street and Second Street still offers midday and weekend service.

Bus stops are located at nearly every intersecting street along the corridor. Most stops do not provide any special accommodations, a few stops offer a bench. Metro Transit staff indicated that it is important for ADA compliant bus stops to be included in construction plans for the corridor.

Metro Transit staff indicated that no additional changes are currently planned for service along the Marshall/Main Street corridor and that the anticipated redevelopment is not expected to result in any significant changes to transit.

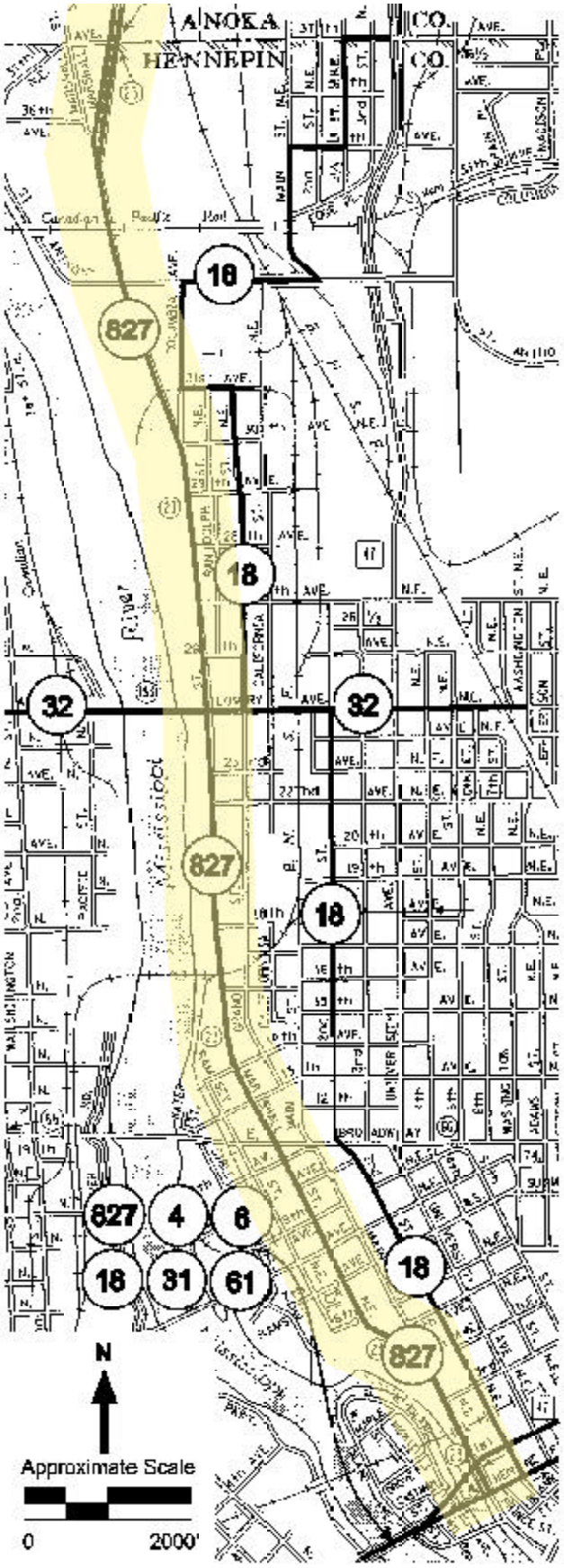
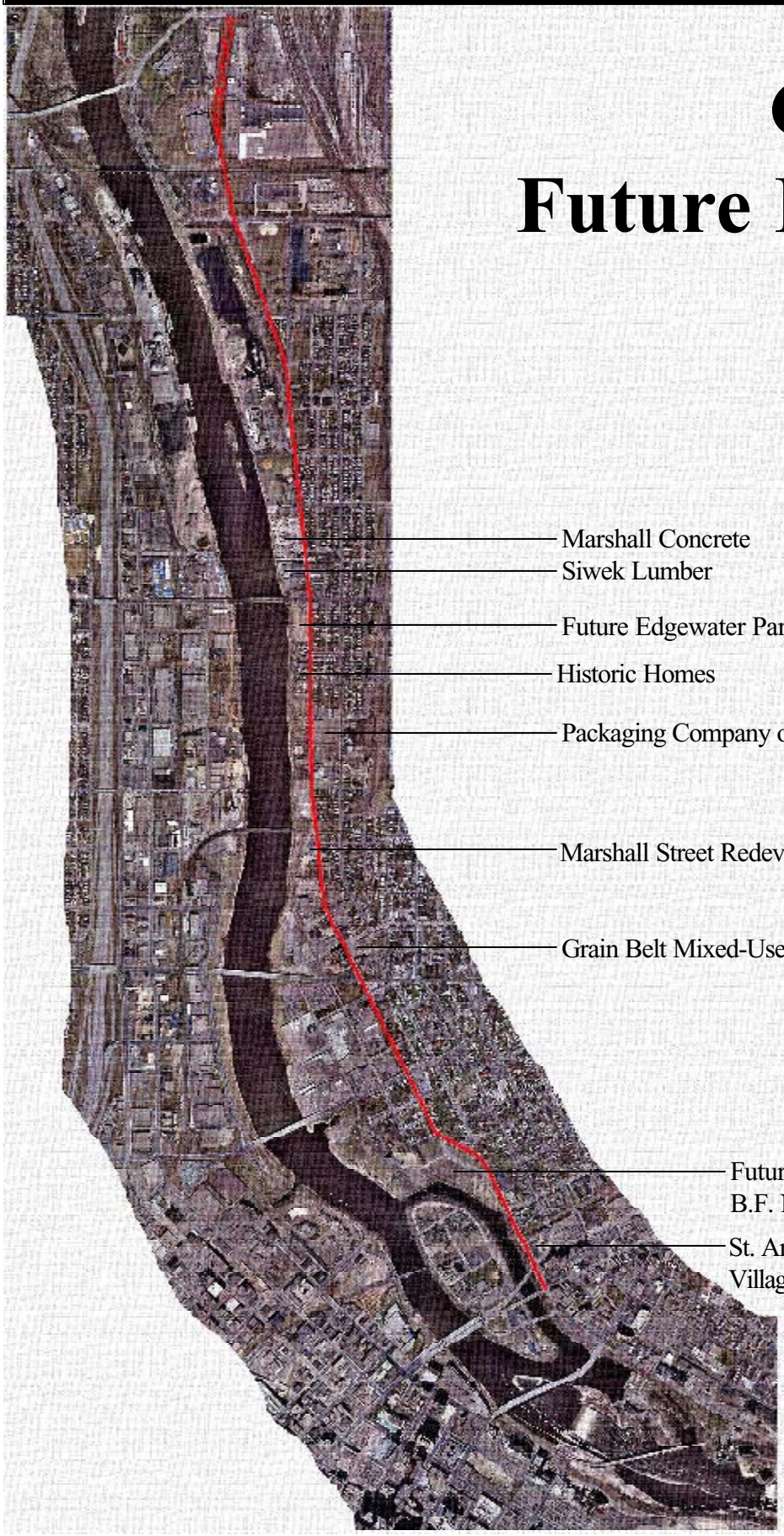


FIGURE 5-9
EXISTING TRANSIT ACCOMMODATIONS

827 — Existing Transit Route

Chapter 4. Future Land Uses



Land Use Vision

"The Upper River Master Plan presents a bold vision for developing the Mississippi Riverfront into a regional park amenity in North and Northeast Minneapolis. The need for action is clear: heavy industry on the river continues to pose land use conflicts, while adjacent neighborhoods struggle to provide a quality environment that attracts new investment."

Excerpt from "Above the Falls"

The land uses along the Marshall/Main Street corridor continue to evolve towards the vision set out in the *"Above the Falls"* plan. Conflicts still exist between the current industrial uses and emerging residential and commercial developments. The Marshall/Main Street corridor displays these conflicts daily as commuters travel to and from downtown, trucks haul goods for the industrial uses along the river and local residents use the corridor to access work, local businesses and recreational opportunities along the river. The transition from today's corridor to the grand boulevard envisioned in the *"Above the Falls"* plan will take creative solutions to balance the transportation needs of the industries that will remain and the "quality of life" issues of the community. Most of all it will take time and patience. This report provides a feasible vision for implementation of corridor improvements within the framework of land uses anticipated under the *"Above the Falls"* plan.

Land Use Considerations

The challenge for implementation of this plan is the contrast between the future land use vision and the existing land uses. Specific issues that require further discussion are:

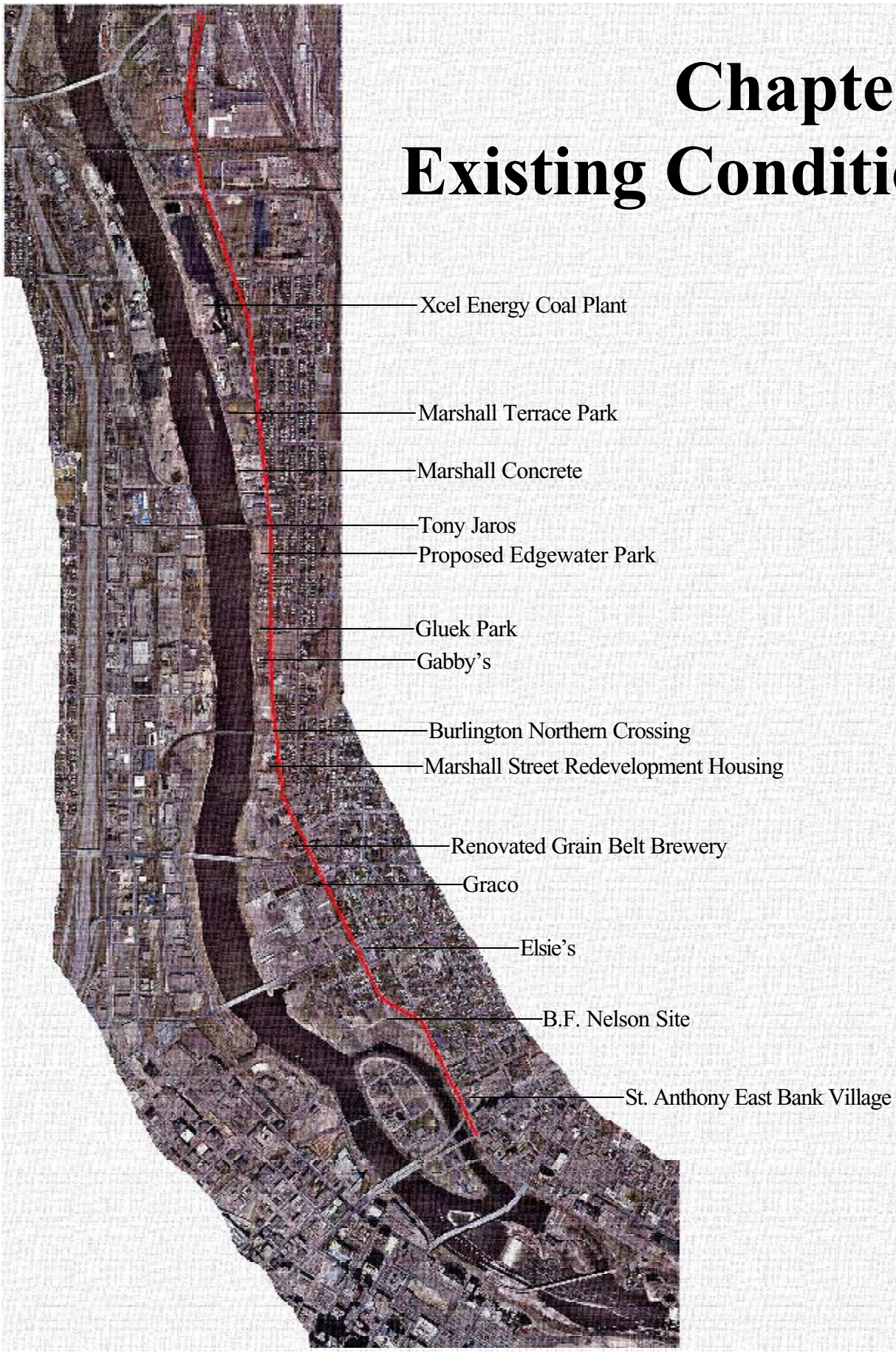
- Transformation opportunities of Xcel Energy coal facility to natural gas
- Reconstruction of Lowry Ave. and Marshall Street intersection will significantly impact property owners and could transform the land uses adjacent to the intersection.
- Coordination with the Minneapolis Park and Recreation Board to develop a continuous riverfront park system or a series of parks connected by multi-use trails.
- Coordination with proposed development north of 14th to accommodate on-street parking needs.
- Preservation of neighborhood landmarks such as the Sample Room, Tony Jaros, Elsies, Gabby's and the Grainbelt Brewery.
- Discussions with Graco to continue operating 9th avenue as a public right-of-way, reducing the pressure on 11th Avenue.
- Phasing of Marshall/Main street reconstruction to coincide with redevelopment efforts on the corridor.
- Status of older homes on west side of corridor between Gluek Park and Edgewater Park. The number of driveways accessing a roadway affects its performance.
- The Marshall Street/Lowry Avenue intersection must be looked at in a comprehensive manner to insure the correct roadway configuration that minimizes acqusition and impact to existing development.

Land Use Change & Corridor Reconstruction

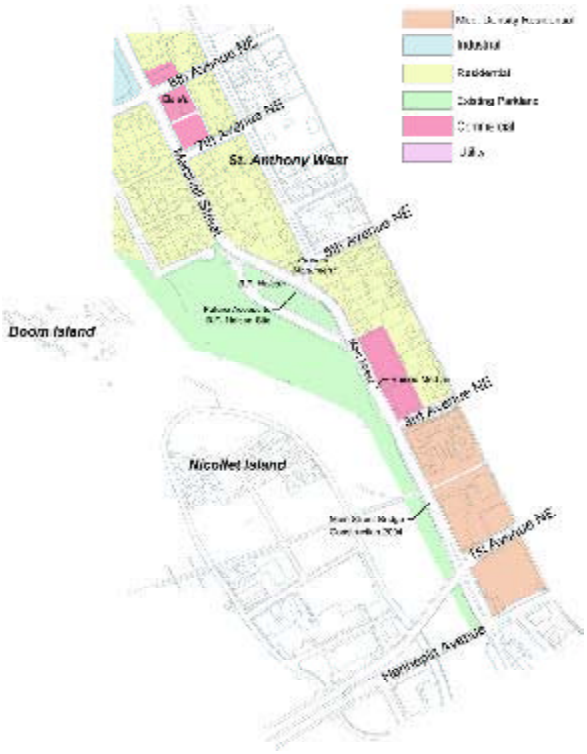
Signs of reinvestment along the corridor are already visible. Coordination with the development community will be important to insure future implementation of the Marshall/Main Street design. While much of the corridor can accommodate the proposed changes, other portions will require land use change prior to moving forward with any plans to redevelop the street. These include:

- The conversion of Marshall Concrete, Siwek Lumber and the Packaging Company of America into a park or other commercial/residential uses. Reduction in truck traffic will reduce the chances of numerous cars being backed up on the corridor during peak times. Platooning reduces "level of service" and limits access to the corridor from neighborhoods.

Chapter 3. Existing Conditions



Existing Conditions Inventory Reach 1 - Hennepin Ave. to 8th Ave. NE



Land Use Observations

- New multi-family housing between 1st Ave NE and 2nd Ave NE.
- The B. F. Nelson site is scheduled to become a developed park.
- Access from the residential neighborhood to B.F. Nelson site will need to be addressed.
- Generous 80' right-of-way provides ample on-street parking.
- Predominantly single family residential
- Elsie's is a commercial anchor at 8th Avenue NE

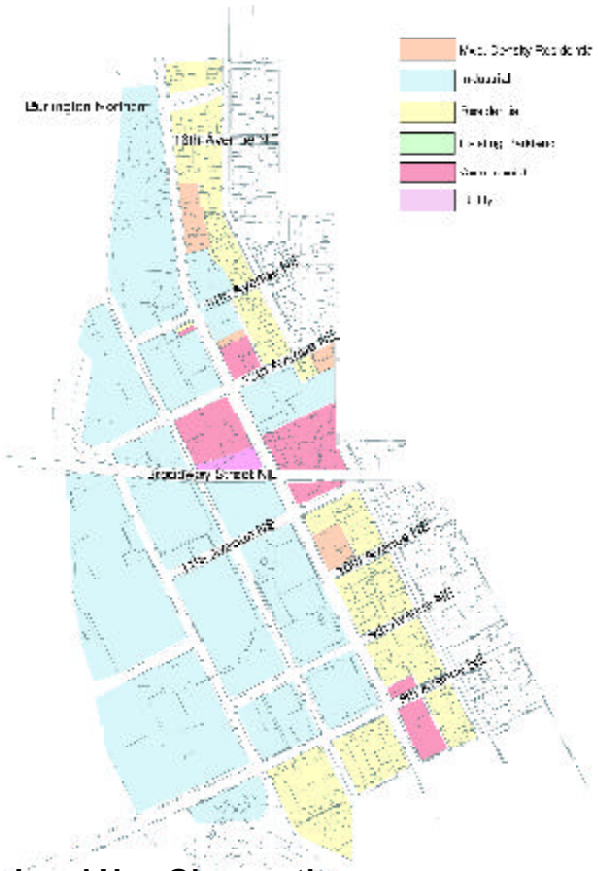
Site Observations

- Gateway to the North, Main Street Bridge Scheduled for 2004.
- Heavy commuter parking along Main Street during the work week.
- Pioneer Monument at 5th Ave NE and Marshall Street acknowledges the corridors rich history.
- Elsie's and the Ukrainian Center are neighborhood landmarks.
- This reach has a calm and comfortable residential feel.

Existing Street Character

Location Map

Existing Conditions Inventory Reach 2 - 8th Ave. NE to Burlington Northern Crossing



Land Use Observations

- Marshall Street is primarily light industrial on the west side and residential on the east.
- The "Above the Falls Plan" (AFP) calls for easements to be acquired from Graco and Scherer Brothers for trails along the river.
- AFP calls for the BN bridge be converted to a pedestrian and bicycle facility linking both banks of the river.
- Right-of-way changes from 80 feet to 66 feet north of 14th Ave. NE.

Site Observations

- North of 8th Ave NE, traffic becomes more congested.
- Renovated and rented Grain Belt Brewery is a city landmark. It is owned by Ryan Co. and leased by RSP Architects.
- 13th and 14th Ave. NE are proposed as 'connectors' from the east side residential neighorbhoods to the river.

Existing Street Character

Location Map

Existing Conditions Inventory Reach 3 - Burlington Northern Crossing to Lowry Ave.

Land Use Observations

- Light industrial on the west side of Marshall.
- Gluek and Edgewater Parks provide open space along the west side of Marshall.
- Older, single family residential on the west side of corridor. East side is predominantly residential with PCA creating a physical barrier between the neighbor hood and the river.
- PCA has a major presence on the east side of Marshall.
- Narrow 66-foot right-of-way.

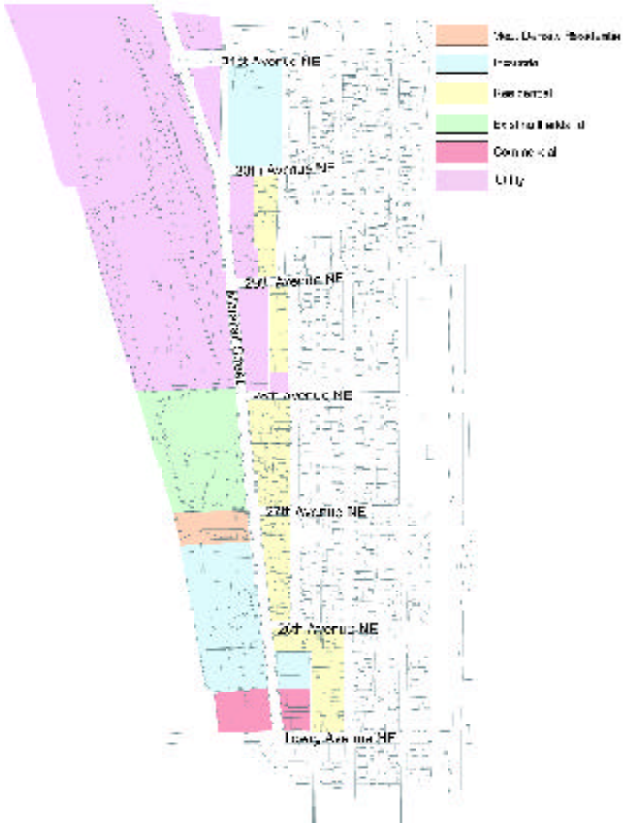
Site Observations

- Packaging Company of America has a major presence on the corridor.
- Historic homes on the west side of Marshall limit opportunity for connections between parks
- Occasional views to the river
- Many buildings abut the Marshall Street ROW
- Power lines become more visible
- Sidewalks are narrow with many obstructions

Existing Street Character

Location Map

Existing Conditions Inventory Reach 4 - Lowry Ave. to 31st Ave. NE



Land Use Observations

- Xcel Energy is a major property owner on this reach.
- Industrial uses tend to be on west side of the street, while single family residential is predominantly on the east.
- Commercial uses become dense closer to Lowry Ave
- Marshall Terrace Park provides residents with needed open space.

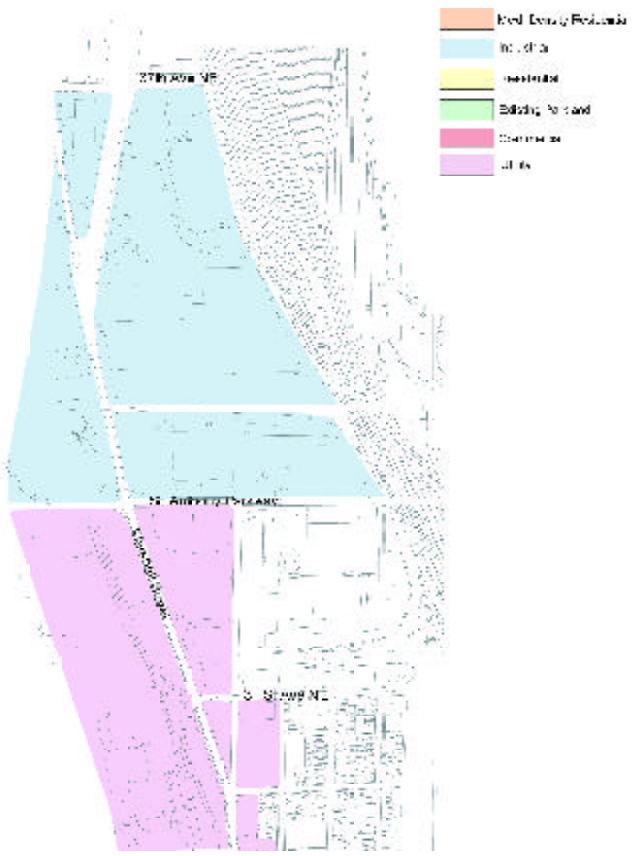
Site Observations

- Power poles on the east side of the street are often placed within the sidewalks
- Narrow sidewalks placed at the back of the curbs provide poor pedestrian environment
- Heavy truck and commuter traffic.
- Possible bikeway connection at future Lowry Avenue

Existing Street Character

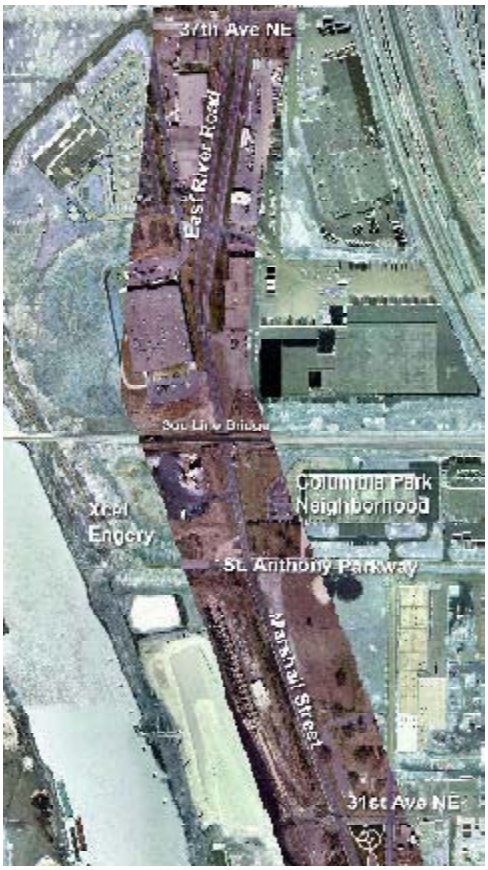
Location Map

Existing Conditions Inventory Reach 5 - 31st Ave. NE to 37th Ave.NE



Land Use Observations

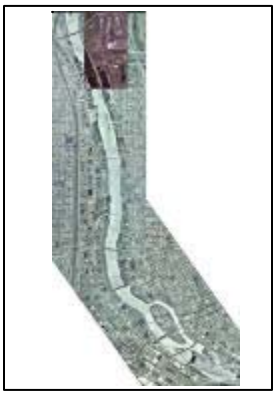
- Predominantly Industrial/Commercial uses
- Xcel Energy is major property owner
- Soo Line Bridge constricts width of roadway.
- Intersection at St. Anthony Pkwy provides a safe crossing for park and trail users.
- Marshall becomes East River Road north of Soo Line Bridge



Site Observations

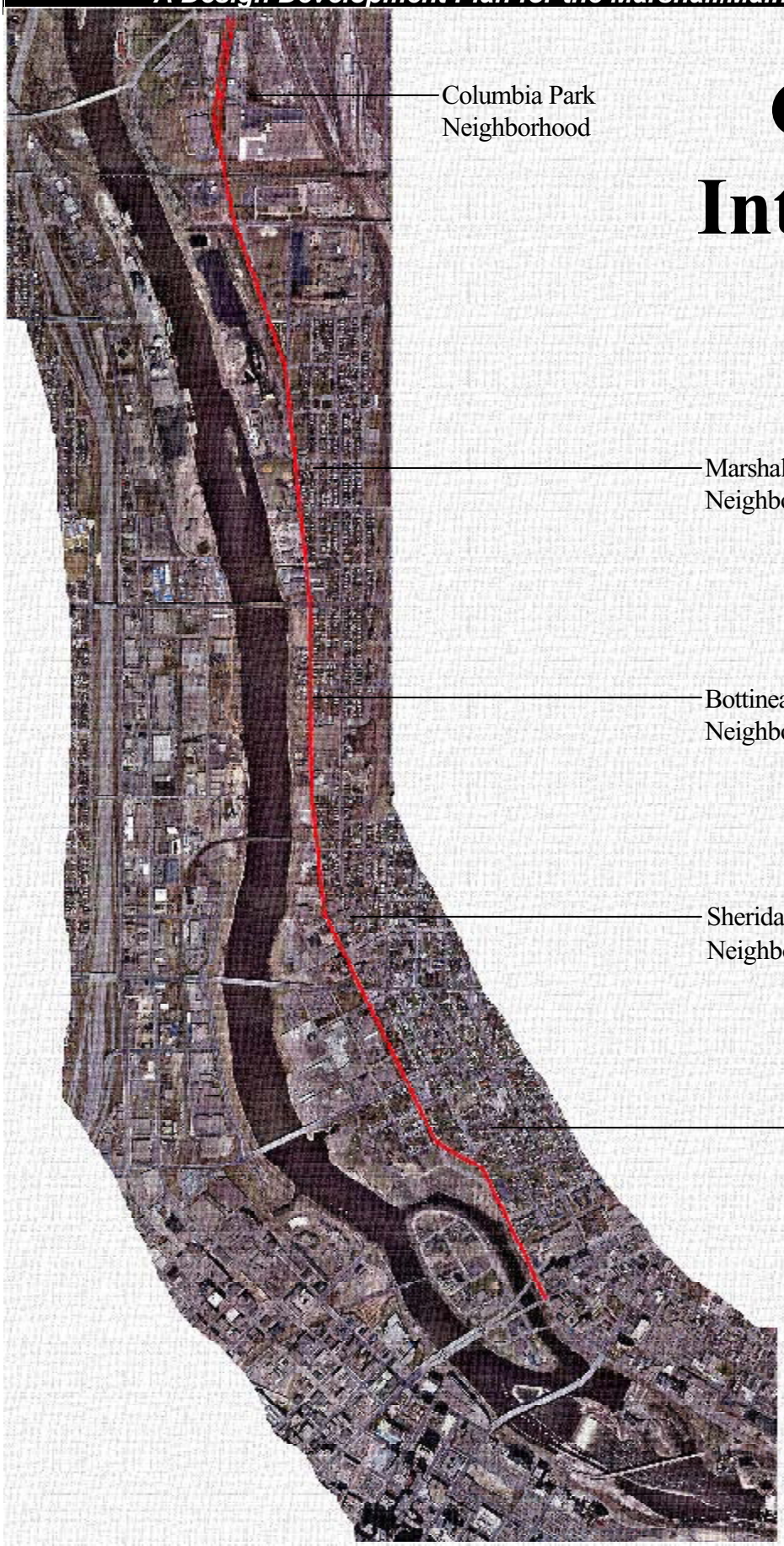
- Access to multi-use trail north of 37th Ave
- 45 MPH north of St. Anthony Pkwy
- 35 MPH south of St. Anthony Pkwy
- Powerlines on both sides of street
- No sidewalks on east side north of 31st
- Connection to recreational trails at St. Anthony Pkwy

Existing Street Character



Location Map

Chapter 2. Introduction



Reach 5
31st Ave. NE to37th Ave.NE

Reach 4
Lowry Ave. to 31st Ave. NE

Reach 3
Burlington Northern Crossing to Lowry Ave.

Reach 2
8th Ave. NE to Burlington Northern Crossing

Reach 1
Hennepin Ave. to 8th Ave. NE

Project Location

The geographic limits of the study are from Hennepin Avenue on the south to 37th Avenue on the north; lateral limits are from the Mississippi on the west to one block east of Marshall Street. The corridor is broken into 5 smaller reaches to provide the necessary level of detail for this study. The graphic on the previous page describes the limits of each reach and provides photographs of the existing street character.

Glueks Brewery 2000 Marshall St NE
1958 MN Historical Society

History of the Corridor

The Marshall Main Street Corridor has a rich and colorful history. Originally the trail was used by the Dakota Indians. What is believed to be the first road in Minneapolis became an ox cart trail in 1844 connecting Minneapolis and St.Paul to North Dakota. The Pioneers Monument, which commemorates the early pioneers of the great northwest now rests at the intersection of Marshall and Main Streets.

John's Bar 2500 Marshall St NE
1953 MN Historical Society

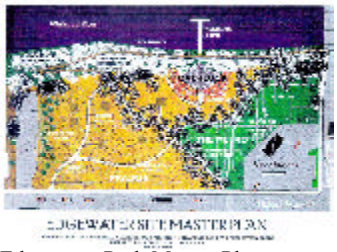
As the timber industry grew in northern Minnesota so did the number of sawmills along the Mississippi River's east bank above St. Anthony Falls. A vibrant community of East Europeans developed in the adjacent areas providing labor for the mills and later opening businesses that offered goods and services along the corridor. Distinctive architectural landmarks reflecting the cultural traditions of these residents can still be seen in the many Orthodox churches that dot the neighborhood. One of the most distinctive architectural landmarks is the Grain Belt Brewery built in 1890 at the corner of Broadway and Marshall. The brewery, once offering employment to the surrounding community closed in 1975.

In the early twentieth century, the timber industry slowed and large parcels of land became available for industrial uses. Concrete factories, light manufacturing, and residential uses found themselves one next to the other on what was becoming a mixed use commercial corridor. At the north end of Marshall one of the largest tracks of land is occupied by the coal powered Xcel Energy plant. From the plant, large power lines run north and south along both sides of the corridor contributing to the street's industrial character.

B.F. Nelson Master Plan - MPRB

Corridor Parks

The Minneapolis Park and Recreation Board (MPRB) has been working toward the acquisition of land along the west side of Marshall to create a continuous recreational corridor along the river's edge. Currently, there are two developed parks on the corridor: Marshall Terrace between 27th and 28th Ave NE and Gluek Park between 18th Ave NE and 22nd Ave NE. There are also two parcels owned by the MPRB that are planned as parks; the B.F.Nelson site, located along the rivers edge at Main Street and Marshall and Edgewater park between Lowry and 23rd Ave NE . Each park has been master planned and awaits future construction funding.



Edgewater Park Master Plan -
MPRB

Grain Belt Mixed Use - Courtesy RSP Architects

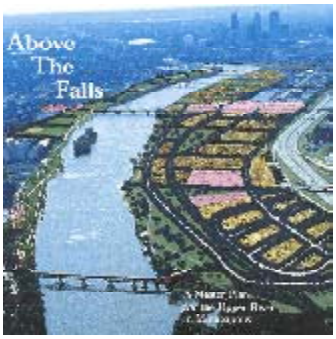
Pierre Bottineau Library

Recent and Proposed Development

Today there are many positive changes happening along the Marshall Main Corridor. The new Main Street Bridge, scheduled for completion in 2004, will serve as a gateway to North East Minneapolis. The Grain Belt Brewery has been renovated and the new Bottineau library has been built adjacent to the brewery on the corner of Broadway and Marshall. 170 new housing units are being planned along with new commercial and retail storefronts on the corridor. Local community groups have been looking for solutions to the high commuter traffic which is generated from the northern suburbs. Together with the Minneapolis Planning Department, the Minneapolis Park and Recreation Board, Hennepin County, and the Minneapolis Community Development Agency, the community is working to improve the physical appearance of the street and to reconnect the neighborhoods to the river and the corridor.

Relationship to Previous Studies

This Study, **"The Marshall/Main Street Design Development Plan"** builds upon previous studies and their recommendations for enhancing the corridor and providing neighborhood access to the river. This development plan goes one step further by providing an analysis of the corridor's existing conditions and future potential to serve the needs of community, while satisfying the requirements of operating and maintaining a County State Aid Highway.



Above the Falls - BRW, Inc.

Re-Discovering Marshall Street - Cuningham Architects

Marshall Street Design Investigation - Hokanson/Lunning/Wende Associates/ Biko Associates

The most prominent recent study the **"Above the Falls Plan"** adopted by the City of Minneapolis in 2000. Prepared for the Minneapolis Park and Recreation Board, Hennepin County, Minneapolis Planning Department and the Minneapolis Community Development Agency, the plan suggests that Marshall become an extension of the Great River Road. Noting the concerns of the northeast Minneapolis residents, the plan recognized the need for a greener, less cluttered and safer street. It called for four lanes of traffic and designated bike lanes on both sides of the street. In summary, the plan recommends the reconstruction of Marshall Street as a river boulevard with new landscaping and bicycle lanes. Acquisition of additional land north of 14th Avenue was anticipated.

"Re-Discovering Marshall Street; A Comprehensive Master Plan" was prepared for the St. Anthony West Neighborhood Organization and the Sheridan Neighborhood Organization in 2002. The master plan addressed Marshall/Main Street between Hennepin Ave and 17th Street NE. The major recommendation from the plan was to reduce traffic lanes from four to two with a left turn lane at key intersections. In addition six-foot bike lanes were proposed for both sides of the street and traffic speeds reduced to 25mph. The plan also addressed the community's desire to acknowledge the history and identity of the Northeast neighborhoods through the addition of designated historic elements.

"The Marshall Street Design Investigation" was prepared for the Mississippi Corridor Neighborhood Coalition and was completed in February 2000. The goal of the study was to use Marshall Street to reorient the community to the River. By reducing both the excessive expanse of pavement and vehicular speed, the study had the objective of making the street more pedestrian-friendly. The preferred traffic configuration called for a three lane approach for the entire corridor with no bike lanes in the 66-foot right-of-way (ROW) and permanent parking on the east side only. In the 80-foot ROW the three-lane approach provided for a bike lane on the west side of the street and parking on the east.

Approach – Engaging the Public

The emphasis of this study is founded on the premise that business owners, property owners, caring citizens and local government form the public-private partnership that is key to the project's implementation and long-term success. The process of this study was structured around a series of three public meetings over a six-month period, culminating in a final report to be delivered to the Hennepin County Board of Commissioners. This document is designed as both a guideline and promotional tool.

The neighborhoods adjacent to the corridor are engaged in the process and are aware of the corridor's significant issues. The neighborhood group's have been studying Marshall/Main Street on and off over the past decade. They are committed to a safer, slower roadway with commuter bike lanes and a more aesthetically pleasing streetscape. The public meeting process was inclusive, courteous, fair and insightful. Balanced between each public meeting was an interim MMTAC meeting. The MMTAC meetings helped to guide the plan towards a feasible and fundable solution. The following is a summary of the public and MMTAC meeting process. Detailed minutes from each meeting are included in the appendix.

Bus Tour with MMTAC – November 20th, 2002

- Discussed goals of study and relationship to previous studies and proposed development.
- Drove the site with MMTAC members to gain shared understanding of the issues.

MMTAC Review Meeting – January 21st, 2003

- Reviewed the preliminary roadway configuration ideas based on analysis to date.

Public Meeting to review analysis –January 25th, 2003 @ Catholic Eldercare

- Reviewed data gathered in analysis phase.
- Reviewed preliminary roadway configuration ideas based on analysis to date.

MMTAC Review Meeting – February 12th, 2003

- Reviewed parking, transit & traffic analysis.
- Reviewed three alternatives for the corridor.

Public Meeting to review alternatives –February 19th, 2003 @ Catholic Eldercare

- Reviewed two basic alternatives for corridor.
- Alternative #1 – Do not acquire additional ROW; maintain current jurisdiction and function.
- Alternative #2 – Three-lane configuration with expanded intersections to maintain level of service.

Meeting with MMTAC – March 12th, 2003

- Reviewed input received at public meeting.
- Chose alternative or combination of alternatives to be refined and presented at the second public meeting.
- Chose streetscape character to further explore for the second public meeting.

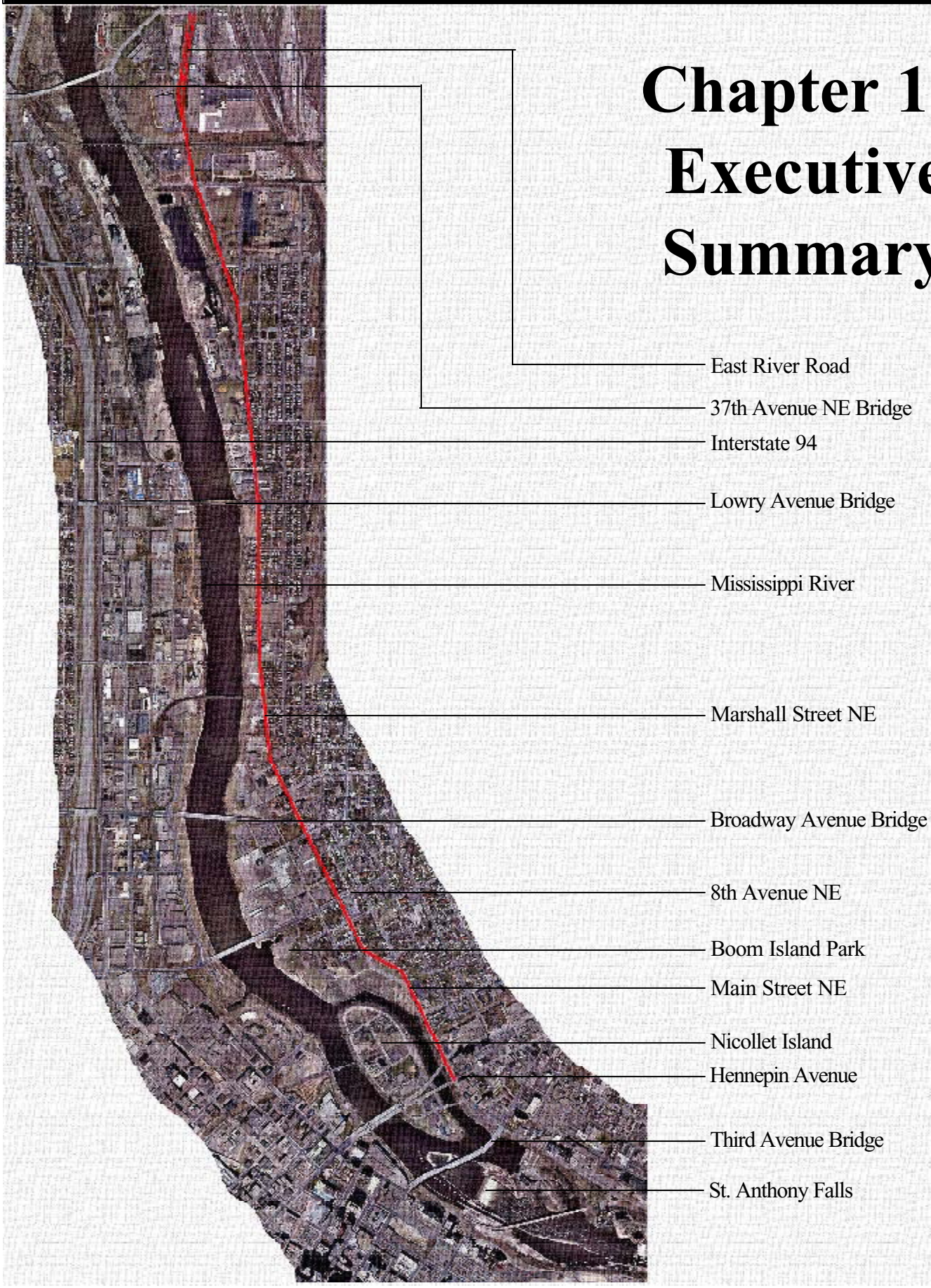
Public Meeting to review refined plan – March 26th, 2003 @ Catholic Eldercare

- Reviewed refined plan.
- Reviewed refined streetscape character.

Meeting with MMTAC – April 9th, 2003

- Reviewed input received at public meeting.
- Discussed minor modifications to plan for preparation of report.

Chapter 1. Executive Summary



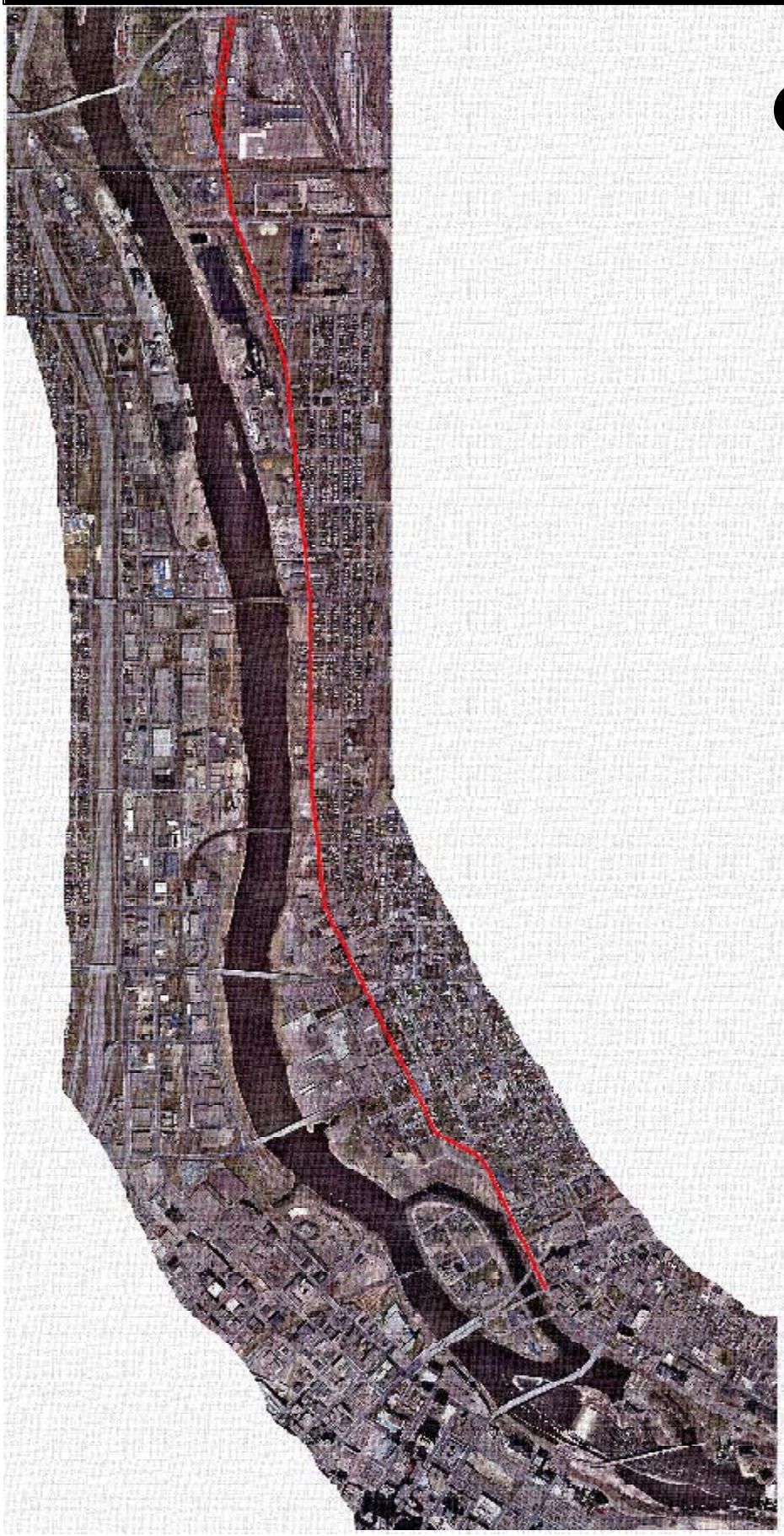
Executive Summary

The Marshall/Main Street (CSAH 23) Corridor is a dynamic street with a rich history. Early on, it was vital to the development of the region because it provided a route for pioneers to access settlements and trade opportunities to the northwest. Marshall Street was also vital in the early 1900's when it supported the industry that developed along the river, helping to fuel the growth of the City of Minneapolis. In the late 1900's it brought commuters to downtown Minneapolis from the fast developing northern suburbs. The corridor has always served the ever changing needs of the community.

The past decade has brought an era of significant change to this area and to the Marshall/Main Street corridor. Land use along the river has begun to evolve from predominantly industrial to a mix of parks, commercial/retail development and housing. The Marshall/Main Street corridor still serves as a reminder of the history of the neighborhood and city. The corridor continues to support industry along the river but is not reflecting the revitalization that is occurring in the area. The community has sponsored a number of planning studies that have made recommendations regarding the redevelopment of the corridor. These studies have helped to form a vision for the corridor. However, they have lacked the necessary detail that would balance the needs of the community and the realities of operating and funding improvements to a County State Aid Highway.

In August of 2002, the Hennepin County Transit and Community Works Department and the Minneapolis Community Development Agency authorized the preparation of a Design Development Plan for the Marshall/Main Street corridor. The plan builds upon the work performed to date and establishes an achievable vision for the future redevelopment of the corridor. The Marshall/Main Street Technical Advisory Committee (MMTAC) was formed to help guide the development of the plan. Representatives from the City of Minneapolis Public Works Department, Minneapolis Planning Department, Minneapolis Park and Recreation Board, Minneapolis Community Development Agency, Hennepin County Transportation Department and the Hennepin County Transit and Community Works participated as members of the MMTAC. Three public meetings were held to gather community input regarding the future of the corridor, and regular updates were given to the Above the Falls Citizens Advisory Committee. The plan is intended to provide specific recommendations for how the corridor might be redeveloped in the future.

This document should be used as a reference tool when developing detailed plans for the corridor, reviewing current and future development proposals, determining phasing and implementation strategies and understanding the concerns of the community. The Design Development Plan accommodates the community's desire to have a safe, slow, parkway-type road that knits Marshall/Main Street into the fabric of the community while still satisfying the requirements and standards associated with the operation of a County State Aid Highway. The Plan reconfigures the roadway from a 4-lane standard alignment to 3 lanes with commuter bike lanes, parking where available, and streetscape improvements. The primary goal of this plan is to promote a vision for a safer, aesthetically pleasing and bike friendly corridor, all within the framework of County State Aid Standards.



Chapter 9. Appendix

Lowry Ave Intersection - Estimate of Acquisition Costs

The following estimate is based upon information provided by the City of Minneapolis and is only an estimate of probable cost. An analysis of acquisition costs will need to be performed once a detailed roadway design is completed.

Parcel Number	Parcel ID Number	Estimated sf to Acquire	2002 City of Minneapolis Estimated Market Value	Estimate of Acquisition cost
1	1002924140011	950	$1,146,500	$13,326
2	1002924140018	2124	$288,700	$28,340
3	1002924140094	86	$9,300	$260
4	1002924140095	87	$9,700	$246
5	1002924140096	87	$100,000	$2,603
6	1002924140154	1284	$203,400	$11,290
7	1002924140155	602	$298,700	$10,921
8	1002924140156	708	$571,500	$13,328
9	1002924140174	553	$460,000	$4,633
10	1002924410003	1820	$228,800	$28,393
11	1002924410004*	1358	$0	$0
12	1002924410005*	702	$0	$0
13	1002924410006*	266	$0	$0
14	1002924410007	80	$17,300	$151
15	1002924410008*	19	$0	$0
16	1002924410136	120	$89,500	$1,564
17	1002924410137	223	$207,000	$6,771
18	1002924410138	220	$97500	$3,089
19	1002924410139	282	$193,500	$7,794
20	1002924410140	278	$143,500	$5,790
21	1002924410141	267	$149,000	$5,779
22	1002924410142	286	$110,000	$4,609
23	1002924410143	322	$105,500	$4,780
24	1002924410144	1216	$388,500	$26,392
25	1002924410172	68	$136,000	$1054
		Total Lowry Avenue intersection acquistion costs		$181,113

*Property owned by the Minneapolis Park and Recreation Board

On-Street Parking Analysis from 14th Avenue NE to 16th Avenue NE

The following estimate is based upon information provided by the City of Minneapolis and is only an estimate of probable cost. An analysis of acquisition costs will need to be performed once a detailed roadway design is completed.

14th to 16th Avenue – west side of Marshall Street (14 feet acquisition) - On-street parking on both sides of street

Parcel Number	Parcel ID Number	Estimated sf acquire 14 feet	2002 Estimated Market Value	Estimate of Acquisition cost
1	1502924110048*	1260	0	$0
2	1502924110045	1260	$256,100	$16,985
3	1502924110040	1400	$232,700	$15,163
4	1502924110165	3052	$310,000	$7,865
5	1502924110035	588	$121,500	$11,605
6	1502924110009	560	$180,500	$12,233
7	1502924110174	4200	$607,000	$21,347
8	1502924140098	210	$1,437,500	$3,262
9	1502924140018	588	$60,000	$2,822
			Total	$91,282

14th to 16th Avenue – west side of Marshall Street (7 feet acquisition) - On-street parking on one side of street only

Parcel Number	Parcel ID Number	Estimated sf to Acquire 7 feet	2002 Estimated Market Value	Estimate of Acquisition cost
1	1502924110048*	630	0	$0
2	1502924110045	630	$256,100	$6,920
3	1502924110040	700	$232,700	$7582
4	1502924110165	1526	$310,000	$11,847
5	1502924110035	294	$121,500	$5803
6	1502924110009	280	$180,500	$6,116
7	1502924110174	2100	$607,000	$10,674
8	1502924140098	1225	$1,437,500	$19,029
9	1502924140018	294	$60,000	$1,411
			Total	$69,382

*Property owned by the Burlington Northern & Santa Fe Railroad Company

Level of Service Descriptions

In order to better understand how the intersections operate from an overall traffic capacity standpoint, capacity analyses were performed using the methodology presented in the Highway Capacity Manual. Capacity analyses determine how well or poorly an intersection is operating. Capacity analysis results are presented in terms of level of service, which is defined in terms of traffic delay at the intersection, and ranges from an A to an F letter grade.

- Level of service A corresponds to a free flow condition with motorists virtually unaffected by the intersection control mechanism. For a signalized or an unsignalized intersection, the average delay per vehicle would be approximately 10 seconds or less.

- Level of service B represents stable flow with a high degree of freedom, but with some influence from the intersection control device and the traffic volumes. For a signalized intersection, the average delay ranges from 10 to 20 seconds. An unsignalized intersection would have delays ranging from 10 to 15 seconds for this level.

- Level of service C depicts a restricted flow which remains stable, but with significant influence from the intersection control device and the traffic volumes. The general level of comfort and convenience changes noticeably at this level. The delay ranges from 20 to 35 seconds for a signalized intersection and from 15 to 25 seconds for an unsignalized intersection at this level.

- Level of service D corresponds to high-density flow in which speed and freedom are significantly restricted. Though traffic flow remains stable, reductions in comfort and convenience are experienced. The control delay for this level is 35 to 55 seconds for a signalized intersection and 25 to 35 seconds for an unsignalized intersection. For most agencies in the Twin Cities area, level of service D represents the minimal acceptable level of service for regular daily operations.

- Level of service E represents unstable flow of traffic at or near the capacity of the intersection with poor levels of comfort and convenience. The delay ranges from 55 to 80 seconds for a signalized intersection and from 35 to 50 seconds for an unsignalized intersection at this level.

- Level of service F represents forced flow in which the volume of traffic approaching the intersection exceeds the volume that can be served. Characteristics often experienced include: long queues, stop-and-go waves, poor travel times, low comfort and convenience, and increased accident exposure. Delays over 80 seconds for a signalized intersection and over 50 seconds for an unsignalized intersection correspond to this level of service.

Precedents & Guidelines for the Conversion of Urban Four-Lane Undivided Roadways to Three-Lane Two-Way Left-Turn Lane Facilities.

* information provided by Iowa Department of Transportation

Precedent

- 21 similar conversions have been completed and studied. 17'h Street - Billings, Montana US 12 - Helena, Montana
- 21 " Ave - Duluth, Minnesota
- Rice Street - St. Paul, Minnesota
- High Street - Oakland, California
- 14'h Street - San Leandro, California 9 Roadways - Seattle, Washington
- 6 Roadway - Storm lake, Muscatine, Osceola, Sioux Center, Blue Grass and Des Moines, Iowa

Precedent findings

- ADT volumes range from 8,400 - 24,000 per day - Marshall/Main has 2025 projections of 9,500 - 15,300
- Average speeds drop 15% or less than 5 mph typically
- Dramatic reduction in excessive speeding. 60 -70% drop in vehicles travelling over 5mph over speed limit
- 17 - 62% crash reduction
- ADT increased by 1- 2% over the next three years
- Expanded intersections may help maintain level of service
- Pull outs recommended for frequent stop vehicles
- Increased pedestrian safety
- Allows for additional amenities ... i.e. Bike Lanes
- Increase radii at intersections

Simulation

- A ¼ mile stretch was tested with CORSIM, ARTSIM, TWLTL - SIM software
- Section included three minor intersections and two signalized intersections
- 30mph travel speed
- right and left turns were l0% of volume

Simulation findings

- 1.8 mph average decrease
- Average speed drops as access points increase
- Reduction of service may result when peak-hour traffic volumes are over 1,750 - Marshall/Main has estimated peak of 1,506 in year 2025
- Left turning vehicles are a hindrance to four lane traffic but less so with three lanes

Two Way Left Turn Lane(TWLTL) vs. Raised Median with One Way Left Turn Lane

* From The Iowa Department of Transportation

Comparison Factor	Raised Median vs. TWLTL
Operational Effects	
Major – Street Through Movement Delay	Negligible
Major – Street Left-Turn Movement Delay	Negligible
Minor – Street Left & Through Delay (Two Stage Entry)	Negligible
Pedestrian Refuge	Raised Median
Operational Flexibility	TWLTL
Safety Effects	
Vehicle Crash Frequency	Raised Median
Pedestrian Crash Frequency	Raised Median
Turning Driver Misuse/Misunderstanding of Markings	Raised Median
Design Variations Can Minimize Conflicts (e.g., islands)	Raised Median
Positive Guidance (communication to motorist)	Raised Median
Access Effects	
Cost of Access (Access management tool)	Raised Median
Direct Access to all properties along arterial	TWLTL
Other Effects	
Cost of Maintaining Delineation	Negligible
Median Reconstruction Cost	TWLTL
Facilitate Snow Removal	TWLTL
Visibility Delineation	Raised Median
Aesthetic Potential	Raised Median
Location for Signs and Signal Poles	Raised Median

Final Comments from the Technical Advisory Committee

Marshall/Main Street Design Development Plan

Comment

MPRB - 6-9-03

1. A detail should be used to clarify the relationship and respective widths of the curb, gutter pans (both along the road edges and along the median), and bike lane. I am still unclear whether the 6' bike lane shown actually includes a 2' gutter pan and/or occasional 2' grates, leaving an actual 4' clear bike lane width (which would not meet AASHTO standards).
2 . Similarly, a detail should be used to illustrate the location of light posts and trees within the sidewalk section. This will help clarify whether there is sufficient clear space between the vertical feature and the curb and between the vertical feature and the back of sidewalk.
3. A more detailed lighting layout should be included.
4. Construction cost estimates for all three options should include structural soils for all street trees planted in grates in order to improve their chances of survival.
5. Some estimate of land acquisition costs for additional ROW should be made to assist in decision-making.
6. It is not clear to which reach(es) the cost estimates on p. 65 pertain. They clearly cannot be for the entire project.

MPRB - 6-10-03

1. The planted medians are a wonderful look, however, in my experience with narrow boulevard plantings, the eventual decision was made to pave it, given that salt and pollutants would splash into it, that Parks couldn't maintain it, and it was not safe for volunteer groups that usually eventually abandoned their other street plots anyway, adding up to failure of the planting. Occasionally a vehicle would plow into a tree or shrub bed as well, and tree vandalism also occurs. Not to mention traffic tie ups that would result trying to maintain the plantings with a vehicle parked next to them.
2. The basic findings and results look good and are an aesthetic leap forward, although I doubt that, given other traffic conditions in the vicinity, that much traffic will slow or choose another route. My guess is that the speeds will still be there, except that it will be clogged longer given the reduction to a single lane. Traffic might also back up East River Road to the north, as there are 2 fast lanes (55 MPH starting at 694) going south to Marshall. I'm not a traffic expert but it seems that before traffic problems can be cured in this relatively small area, major cures have to take place around the system, along with better enforcement as you mentioned.

MCDA - 6-10-03

1. Chapter 7 — I agree that it needs to be clarified whether the land uses shown are the current uses, the proposed new ones or ??? Also, why doesGabby's get its own color code? This reddish color is what I'm used toseeing for commercial, so maybe it could instead be used for ALL commercialand the medium orange used for medium-density residential instead of lightlilac?
2. If this is showing proposed future uses, then I suggest that largeportions of what is coded "commercial" should instead be "medium densityresidential" to reflect the housing development proposed in and near theGrain Belt parcels. The added text starts explaining that, but might getmissed...
3. Thanks for including information on these options. They need to bebetter introduced, though, so readers know what they represent. The shortparagraph on p. 64 seems to start doing that, but it needs more informationand should refer to the "following page," instead of the "opposite page."Also, the primary cost difference amongst these options is the cost of landacquisition. Each option shows how much extra width would be acquired, butthe cost is shown as $0, thus implying that there is no cost. Could weperhaps use the Assessor's square foot land value in this area to at leastballpark what the land acquisition might be? Also, all three optionsinclude items (street trees, sidewalk, etc.) that are shown as $0 cost, yetI assume some or all will include these items. If the point is that theseitems will be the same for all three options, then maybe they should behandled differently. Finally, which option is included in the total costsshown on p. 64? If Option 1 is considered the "base" option and
4. In one place, the date for Main Street bridge constructionseems to be 2003 and in the other place, it's 2004. I don't know which iscorrect, but they should be consistent.

5. I'm guessing that these are the Assessor's Market Values perparcel, not per square foot or other unit. If so, there should beinformation explaining that and indicating what year the value is for. Itwould be much more useful to have a value per square foot, as all thisgraphic basically tells us is that large parcels are worth more than smallones.

MPRB - 6-11-03 & 6-13-03

1. Are LOS goals assumed to be under the best of conditions other than the design of the road? As I said in my previous e-mail, that situation is often not the case, with a variety of events (snow, crashes, construction, etc.) forcing LOS of E or F happening regularly, with some drivers then choosing the side streets. These events are much worse for free traffic flow during peak hours, the times that seem to be of most concern to residents of the area.
2. As the Above The Falls Master Plan unfolds over the next few decades, additional higher density land uses including housing, light industry, business & commercial, office, & entertainment/hospitality are projected. Has this additional residential and worker density been factored in to the 2025 traffic projections? The projections are: 2500 new housing units & 2000 net additional jobs. The almost continuous construction that this redevelopment entails will also help to additionally snarl traffic for that 30+/- years. Yes drivers should choose alternate routes, but sometimes they will just spill over into the neighborhood side streets instead of taking I-94 or University, unfortunately.
3. Additionally, the landscaped median and sidewalk issue must be thoroughly addressed with impacts detailed, including maintenance access, which will often need to be directly adjacent in the single proposed thru lane. The other part of that issue is who will do it. If the road is eventually transferred to the city, as I recall being suggested, then the Park Board could get pressure to inherit the problem. The Park Board is undergoing massive budget cuts already with open positions, including 1 whole forestry crew, not being filled in order to protect current job holders. That will be worse next year with steeper cuts, with additional layoffs, unfilled positions, and early retirements possible. Revenue and staffing levels may not ever catch up, and significant parts of the rest of the park system will continue to need attention too (we have about 5000 acres of land, and around 100,000 trees I think).
4. Additional thoughts that, as we discussed at the Upper River TAC, should be included in the final report, so that there are realistic expectations from all stakeholders, as Rachel said. I am one of those commuters and have driven Marshall almost daily both ways for over 2 years, around 1000 trips, so I've seen a lot on Marshall. This is because the routes that I would typically drive off-peak are just crawling along, and Marshall at least moves. Most people will stay on the main highways that feed from the north, but some, like me, look for alternate routes. Typically, Hwys. 10 (both), 35W, 92, 694, 252, and 94 feed to the south toward downtown and are at a virtual standstill during peak rush. The 4th St. ramp into downtown from I94 east/south bound also backs up. Parts of East River Road south of 694 are at 55MPH for a few miles and motorists don't slow down as much as they should when they hit Marshall. East River Road is also fed by side streets and Coon Rapids Blvd. to the north.
5. Also, when there is any kind of lane restriction or blockage during rush hours due to parked cars, trains, service and construction vehicles, crashes, or construction projects, the proposed two lane instead of 4 lane scenario becomes mimicked for minutes to hours or weeks depending on the specific cause. Cars will back up quickly for long distances through previous signals, and traffic on Marshall is then at a standstill, also affecting cross street traffic, both crossing and feeding Marshall. That forces some drivers to try the quieter and slower, but still moving, side streets at too high speeds, something I don't think the neighborhoods want. That's also the time that people are leaving their homes on side streets to get to work and school, and kids are crossing streets to get to schools. I've also seen southbound drivers careen dangerously into the oncoming lane when traffic isn't moving to try to get up to the corner up the street to take a left to get off Marshall onto side streets.
6. Now visualize those lane restrictions or closures on only 1 available lane of traffic in each direction. You then force the single north and south lanes to share a lane or to use a bike lane (if open). This will only exacerbate the problem of spilling cars off onto the quieter side streets, again for short to very long periods of time. Bikes may also have to swerve into the car lanes if the bike lane gets closed.
7. During the afternoon rush, similar situations can happen, as downtown traffic is converging on Marshall at Broadway and 8th, and from other routes from the south. Reasons include that the west bound 3rd St. ramp onto 94W gets clogged and so does the Washington Ave. ramp to 35W northbound. So the Marshall escape route intersections clog up and people try various things to get around them. It's the same crowd that came south on Marshall in the morning. If they didn't try alternate routes, I believe that downtown would become gridlocked (it almost does anyway). As I've also noted in previous TAC meetings, there is much heavy truck traffic on Marshall that needs to make wide turns, another case where lanes get restricted, backing up traffic and encouraging impatient drivers to try avoidance tactics. Therefore, turning Marshall into 2 lanes instead of 4 may actually make problems worse on Marshall and create new problems on adjacent streets. Also, although not legal, some bikers do run stop signs and signals.

MPRB - 6-11-03

1. I think that some of Don's additional investigations into the matter of required/suggested bike lane width should be captured, if only in an appendix. Particularly pertinent would be the geometrics of the MnDoT requirement which would be enforced as a result of this being a State Aid roadway; Don thought that would be a 5' clear bike lane (exclusive of grates/ gutters). The proposed configuration would not meet that requirement. However, Don felt that the state might grant the same variance which they allowed on University/4th (also a CSAH); namely, a 5- or 6-foot concrete gutter pan with 2' grates.
2. I think this should also be referenced in the plan, so it's understood in the future that it is likely that a variance for this configuration will need to be sought and that future implementors don't assume that the configuration shown in the plan is a "given."
3. The plan should make it clear that reduction of the number of lanes on Marshall may likely have consequences in the form of spill-over traffic both on nearby arterials (University, Central) and on even closer neighborhood streets (such as California). This doesn't mean that the lane reduction is a bad idea; it should just be documented that this may be a consequence, so that the decision is made with full knowledge and without inappropriate expectations
4. I continue to feel that it's important to have some land acquisition costs in the plan so that that aspect has some reality to it. Mike also made a good suggestion that other acquisition-related costs, such as restoration of disturbed front yards, should be included.
5. The suggestion made in the meeting that the MMTAC minutes should be removed from the plan appendix makes sense to me, since the TAC goals are summarized on p. 47.
6. Stimulated by my concerns about the survivability of trees in grates and Mike's about trees in medians, we agreed at the URTAC that the plan should talk realistically about this issue. It would be inappropriate for the plan to paint a vision of a greened street which would not actually be able to come to fruition. The detail showing the location of street trees within the sidewalk is also pertinent to this. If the tree is located in a grate 2' back of the curb, then it will face not only poor soil conditions and lack of oxygen in the root zone but also physical injury from plows and compacted windrows. If the tree is farther from the curb, then it may have a better chance of escaping those physical injuries, but there may not be enough clear sidewalk width.
7. I agree with Mike's suggestion that there should be a table showing a direct comparison of the pros and cons of different lane configurations. The table on p. 52 could be modified for that purpose. As is, that table is unclear; what lane configuration(s) are referred to by the two alternatives?
8. I also agree with Don's suggestion that there needs to be a clear statement that jurisdictional issues regarding maintenance of special features (trees, lights, other streetscape features) has not yet been determined. Again, it would be inappropriate to raise expectations which might not be able to be met.
9. The approval process needs to be clarified.