46TH & HIAWATHA

Station Area Master Plan

Master Planners

Farr Associates
Architecture and Urban Design

Market Consultants

ZHA, Inc.

Transportation and Environmental Consultants

Parsons Transportation Group, Inc.
Report Layout and Production

July 2001

Table of Contents

TABLE OF CONTENTS

Table of Contents

I. Introduction

This report is the product of an extensive master planning process that began in July of 2000 and continued through June of 2001. This summary outlines the following:

a. A description of the study area;

b. The features of the community preferred plan, presented in full in Chapter 8;

c. Description of the extensive community participation and staff review process which shaped the plan;

d. The obstacles to implementation that will need to be overcome; and

e. The role of the public sector, including elected leadership, to implement the plan.

II. Study Area

The study area for this project is defined as the area within a ten-minute walking distance (half-mile radius) of the proposed light rail station at the northwest corner of 46th Street and Hiawatha Avenue. This area encompasses about 500 acres of land in parts of three well-defined neighborhoods: Nokomis East and Standish Ericcson to the west of Hiawatha Avenue and Longfellow to the east. In addition to the residential neighborhoods, parts of Minnehaha Park and Minnehaha Creek are included in the study area as well as commercial businesses along Hiawatha Avenue, 46th Street and Minnehaha Avenue. See Figure 1.1 for a map of the study area.

III. Proposed Plan

The proposed plan (Figure 8.1) is the single preferred alternative which strikes the best balance between competing opportunities and risks. The plan is technically feasible, can be developed as a real estate venture or ventures (though it differs from mainstream development practice), and should enjoy community support.

A. Plan Shaped by Dynamic Factors

Three key factors shaped the plan: 1) physical limitations imposed by the site, 2) community input and preference and 3) the real estate market. Each of these factors can change over time: the power lines could be buried; the neighborhood could come to embrace a denser town center concept; and the real estate industry could figure out how to provide neighborhood groceries in mixed-use buildings. Should these factors change, the preferred plan could and should change to reflect those new conditions.

For this reason, the preferred plan should be viewed as an illustration of a flexible framework within which to implement this vision.

B. Features of the Proposed Plan

The proposed plan focuses a mix of uses at moderate densities around a town square, just southeast of the 46th Street Light Rail Station. The whole redevelopment area encompasses 56.4 acres of the 500-acre study area, and the plan proposes approximately 365,000 square feet of retail, and office, as well as almost 540 residential units.

Retail

The retail space in the plan is all on the first floor of multi-story, multi-use buildings. The plan allows for approximately 145,000 square feet of new retail space.

C. Residential

Housing is in high demand in the Twin Cities, and this plan proposes a way to concentrate new housing near transit stops. This plan includes approximately 540 new residential units in the form of:

a. Eight detached single-family homes
b. 81 single-family townhomes,
c. Approximately 400 apartments/condos in both mixed-use and multi-family buildings
d. 48 senior housing units

In addition, allowing coachouses to be built over garages any where in the study area has the potential to add new affordable housing units.

D. Office/Convertible Space

The amount of office supportable in the study area over the next 20-25 years is uncertain, but the number is likely around 100,000 square feet. However, the plan allows for approximately 220,000 square feet of what is labeled of “office space/convertible space.” This means that this space can be designed in a loft-style and be used for either office uses or residential uses as the market dictates.

E. Open Space

Three new parks and a new green corridor are included in the plan:

a. Green Corridor Along Soo Line for 3/4 of a mile
b. Town Square, .4 acres net
c. Large Neighborhood Park, .7 acres net
d. Small Neighborhood Park, .3 acres net

F. Infrastructure

Public sector involvement will be crucial for this master plan to go forward. The largest investments will be needed in the form of new infrastructure. This includes several new streets through the redevelopment area, public parking, a pedestrian underpass beneath Hiawatha (no longer being studied), and pedestrian-friendly improvements to the intersection of 46th and Hiawatha and new bike paths and bike storage facilities.

IV. Summary of the Process

This master planning process, involved gathering input from many different parties. The following list is a sample of some of the 25-30 events and meetings that were involved in the process.

a. Four very well-attended public workshops, and a concurrent series of Community Steering Committee meetings

b. A series of Technical Advisory Committee (TAC) meetings with staff from various transit agencies, City departments, County Departments, Minnehaha Creek Watershed Council, and the Metropolitan Community Development Agency (MCDA) among others;

c. A series of private meetings with elected officials typically to discuss implementation and advocacy efforts;

d. A meeting with Xcel Energy regarding the high-voltage power lines;

e. A meeting with the Park Board regarding the land beneath the Soo Line;

f. Two meetings with Met Council staff regarding funding opportunities;

g. A meeting of the Canadian Pacific Railroad regarding operations of the Soo Line;

h. Breakfast with a focus group of local developers; and

j. Two meetings with MCDA staff to discuss implementation efforts; among other meetings with various City and County Staff.

V. Obstacles to Overcome

a. Because neither the City nor County have a policy or track record for development on publicly-owned land at LRT stations, the public sector will need to overcome institutional barriers.

b. The existing zoning in the study area is mismatched with the preferred plan in several key areas: 1) not enough allowable density, 2) required setbacks and parking ratios, and 3) permissive of drive-thrus and other auto-oriented building types.

c. The classification of Hiawatha as a Trunk Highway and recent upgrades to the roadway have created a pedestrian barrier through the middle of the study area that will be difficult to change.

d. By naming 46th Street one of the four ”catalyst sites,” the LRT corridor market study created an expectation that the private sector would create a Transit Oriented Development (TOD) around this station needing little or no public involvement.

e. Fragmented land ownership around the town square site will work against the integrated town center concept described in the preferred plan.

VI. Role of the Public Sector in Implementation

In order to overcome the obstacles listed above and others that may come up along the way, the public sector has a large role to play to ensure the implementation of this plan. These roles include:

a. Issuing Requests for Proposals (RFPs) for the land that is currently owned by public sector agencies, i.e. the station site and the City Services Vehicle Facility site.

b. Adopt an overlay zoning ordinance that applies to half-mile radius. Among other regulations detailed in Chapter 4, this overlay zoning ordinance should prohibit auto-oriented uses along Hiawatha; adopt regulations to allow the development shown in the proposed plan; and allow for the development of coachouses over garages within the half-mile radius.

c. Make pedestrian-friendly improvements to Hiawatha Avenue and its intersection with 46th Street as described herein.

d. Assemble land or coordinate with separate land owners to implement the plan. (Different parts of the town center may be more profitable than others.)

e. Construct streets to ready the area for redevelopment.

f. Work closely with existing land owners or new land owners and developers to get the type of development prescribed in this plan.

See more about the public role in implementation in Chapter 9.

Table of Contents

I. Overview

A. Study Impetus

The purpose of the 46th and Hiawatha Station Area Master Plan is to develop a plan for future development of the area using the extensive public input gathered.

This study is part of a series of long-range plans being completed for transit-oriented development (TOD, see below) around station sites along the Hiawatha Light Rail Transit (LRT) Corridor.

B. Study Area

The study area for this project is defined as the area within a ten-minute walking distance (half-mile radius) of the proposed light rail station at the northwest corner of 46th Street and Hiawatha Avenue. This area encompasses about 500 acres of land in parts of three well-defined neighborhoods: Nokomis East and Standish Ericcson to the west of Hiawatha Avenue and Longfellow to the east. In addition to the residential neighborhoods, parts of Minnehaha Park and Minnehaha Creek are included in the study area as well as commercial businesses along Hiawatha Avenue, 46th Street and Minnehaha Avenue. See Figure 1.1 for a map of the study area.

Light Rail Corridor

The 11.5 mile long light rail line will have 15 stops and will connect downtown Minneapolis to the airport and the Mall of America. Service is scheduled to begin in 2003. Projected ridership at the 46th and Hiawatha Station is 1900 riders per day in the first year (2004). This number is expected to increase to 2400 riders per day by 2020.

Redevelopment Area

The redevelopment area is contained within the study area but is much smaller. This area is comprised of the station site itself, and many of the commercial properties within the half-mile radius, east of Hiawatha. Proposed at Workshop 2, this area is significant in that it was that specific area that was "in play" in the planning process. This area was determined by the fact that residents requested preserving all residential homes.

II. Transit-Oriented Development[1]

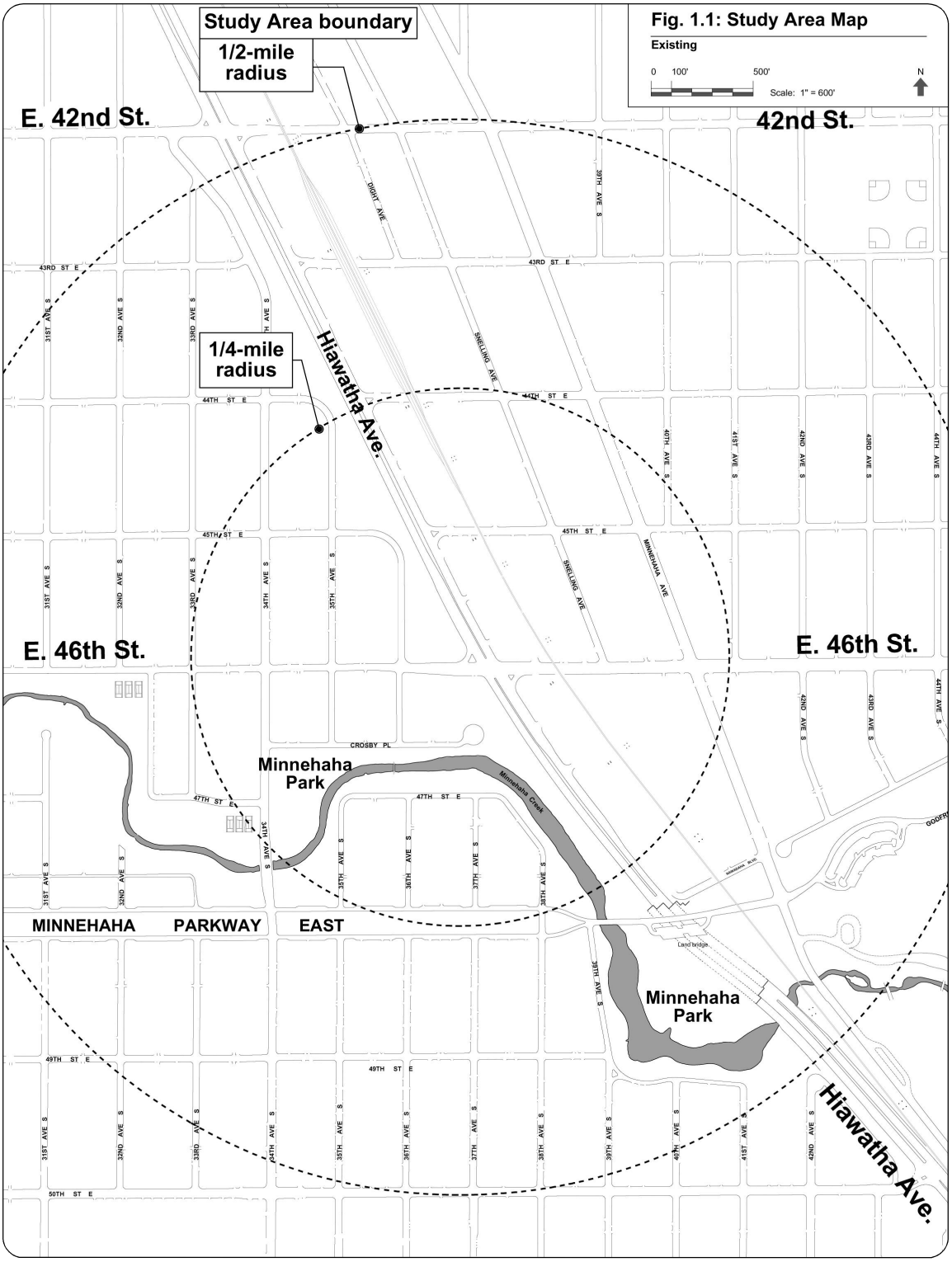
The characteristics of transit-oriented development (TOD) are not new. They are similar to those of urban neighborhoods developed in the late 19th century and early 20th century. The streetcar suburbs developed around 1900 are models of TOD because they provided easy and convenient access to the streetcar network. Residents can walk a few blocks to buy groceries, see a movie or have a meal. The housing stock of the neighborhood accommodates the needs of families, couples, those who are single, and the elderly.

A. What Makes TODs Work

Across the country, transit systems have stimulated significant new development projects around some stations, while little new development activity has occurred around others. The big picture lesson of the national experience suggests that the ability of

[1] *This section is a product of the Parsons Transportation Group.*

Figure 1.1: Study Area Map



transit stations to stimulate land use development and redevelopment is dependent upon a series of factors listed below:

1. **Market Opportunity**

In seeking to generate transit-oriented development, real estate market and economic support plays the most important role. Where market support is weak, transit stations, by themselves, will not generate new development. Where market support is strong, however, transit-oriented development has proven viable.

2. **Strong Real Estate Markets**

Successful station area development requires strong regional real estate markets with an active demand for residential and commercial projects. In regions where transit investment have had the greatest impact upon land use development, the investments occurred prior or during periods of rapid population growth. Examples can be seen in northern California and the Denver area.

3. **Ridership**

Actual and anticipated ridership levels are a litmus test for TOD markets. A sufficient and sustainable level of transit patronage is necessary to support a light rail system, and also support certain development types at station areas.

4. **High-Quality Transit Service**

The convenience, speed and extensiveness of the transit system enhance the accessibility advantages associated with station area properties and increase the likelihood of development in these locations.

5. **Availability of Attractive, Developable Land**

Very little transit-oriented development has occurred around stations sites that are already largely developed, where surrounding land uses are unattractive/unsafe, where surrounding land uses are primarily auto-oriented, or where station connections to surrounding neighborhoods are poorly designed. Larger parcels are also more economically viable for developers. Numerous, small parcels held by a variety of owners can create a barrier-to-station area development.

6. **Street Patterns and Access**

Local streets serving a station need to be of sufficient dimension to accommodate expected levels of automobile and bus transit traffic. Along with appropriate street geometries are sidewalks, streetscapes and other infrastructure that encourage walking and enable passengers to conveniently and safely access a station platform.

7. **Parking Management**

Limiting the amount of parking in downtown areas and around station areas encourages transit ridership and more compact development around stations. Stations surrounded by park-n-ride facilities limit opportunities for station-area development.

8. **Political Champion**

Strong individual leadership is often a common element in successful TOD projects.

9. Appropriate Zoning Around Stations

Local zoning ordinances need to be consistent with the types of development desired for each station area.

10. Critical Mass

Transit-oriented development projects incorporate mixes of uses in mutually supportive relationships. A critical mass of development, however, is necessary in order for the various components to offer significant support for one another.

11. Supportive Neighborhoods and Communities

Few successful station area development projects have occurred where surrounding neighborhoods opposed higher density or non-residential developments.

12. Strong, Proactive Institutions

Regional and local institutions with the leadership to proactively pursue transit-oriented developments enhance the likelihood of development.

13. Development incentives

Municipalities can provide density bonuses, upzoning, transfer of development rights, fast-track approvals, etc. to stimulate development.

14. Site Design Guidelines

Station area master plans and design guidelines help ensure the type of development appropriate for transit station areas.

15. Redevelopment Agencies

Utilizing the powers of redevelopment agencies to assemble land, to institute tax increment financing districts, to finance infrastructure investments, or secure innovative financing provisions.

B. Federal Transit Administration Objectives

The objectives that the Federal Transit Administration has put forth regarding Transit Oriented Development are as follows:

a) Focus future growth into compact centers to reduce land consumption and the loss of open space.

b) Make walking bicycling and using transit more feasible by organizing development around transit and providing good pedestrian connections.

c) Create a local street network that allows direct connections to local destinations without diverting extra traffic onto the arterial and highway system.

d) Provide a mix of housing types, densities and costs to serve a variety of households.

e) Locate housing retail, jobs, parks and civic uses in close proximity.

f) Create a sense of place and community identity.

C. Joint Development Opportunities

Joint development opportunities offer another means of realizing transit-oriented development and achieving the design concepts for the transit station plans. Joint development refers to the leverage of public ownership of land, buildings, or facilities by inviting private investment in mixed-use buildings, community services, child care, commercial buildings, hotels, recreational and civic facilities, etc. Joint development opportunities in the 46th and Hiawatha area could involve the acquisition and replacement of parking sites, surplus land related to right-of-way acquisition, or publicly-owned land adjacent to transit stops.

Table of Contents

I. Introduction

A. Land Use as Predictor of Quality of Life

Land use is the most basic record of human settlements. The configuration and intensity of land use in a community is a predictor of the health of the local economy and environment. By revealing the economic, residential and recreational choices that are available in a community, land use can predict some aspects of the quality of life in a given community.

B. Existing Land Uses in Conflict

One intention of building LRT in Minneapolis is to spur the redevelopment of existing land uses along the Hiawatha Corridor. However, LRT is only one of a number of factors exerting influence on the value of land and the direction of development in the study area. Unfortunately, if these different development forces are in conflict and are not coordinated they can't reinforce the intended impacts of LRT.

C. Making a Plan Based on Understanding Land Use

Over the long run, the changes in land value resulting from LRT construction will eventually result in major changes in land use along the corridor. However, the quality of the redevelopment and the speed with which it occurs will be hampered unless these conflicting land use forces are understood and coordinated. The purpose of this study is to plan the redevelopment to maximize its quality and its benefits to the surrounding community. This chapter is devoted to describing the existing physical makeup of the study area and analyzing the conflicting forces exerted by the varied land uses.

II. Existing Land Use in the Study Area

Though primarily a residential area, the study area also includes retail uses, light industrial uses, open space and, of course, streets and infrastructure. The commercial businesses are mainly located on the larger streets such as Hiawatha Avenue, 46th Street, and Minnehaha Avenue. About 3% or 16 acres of the study area is devoted to retail uses, and 5% or 27 acres of land is used for industrial businesses. See Figure 2.1 for a map of current land uses in the study area.

A. Housing

About 57% (285 acres) of the study area is made up of detached single-family bungalow homes at a density of four to five dwelling units per acre (du/ac). The lots are relatively small at about 60 ft. x 125 ft. on average. Parts of three neighborhoods are included in the study area and are discussed below.

B. Open Space

Open space covers about 19% or 96 acres of the study area. The half-mile radius covers portions of Minnehaha Park and Minnehaha Creek. However, Figure 2.2 maps the existing open spaces, includes a radius around each one based on a 5-minute walking distance. This exercise illustrates that there is a large area underserved by existing open space. Much of the study area is further than a five-minute walk from one of the existing parks.

Figure 2.1: Map of Land Use

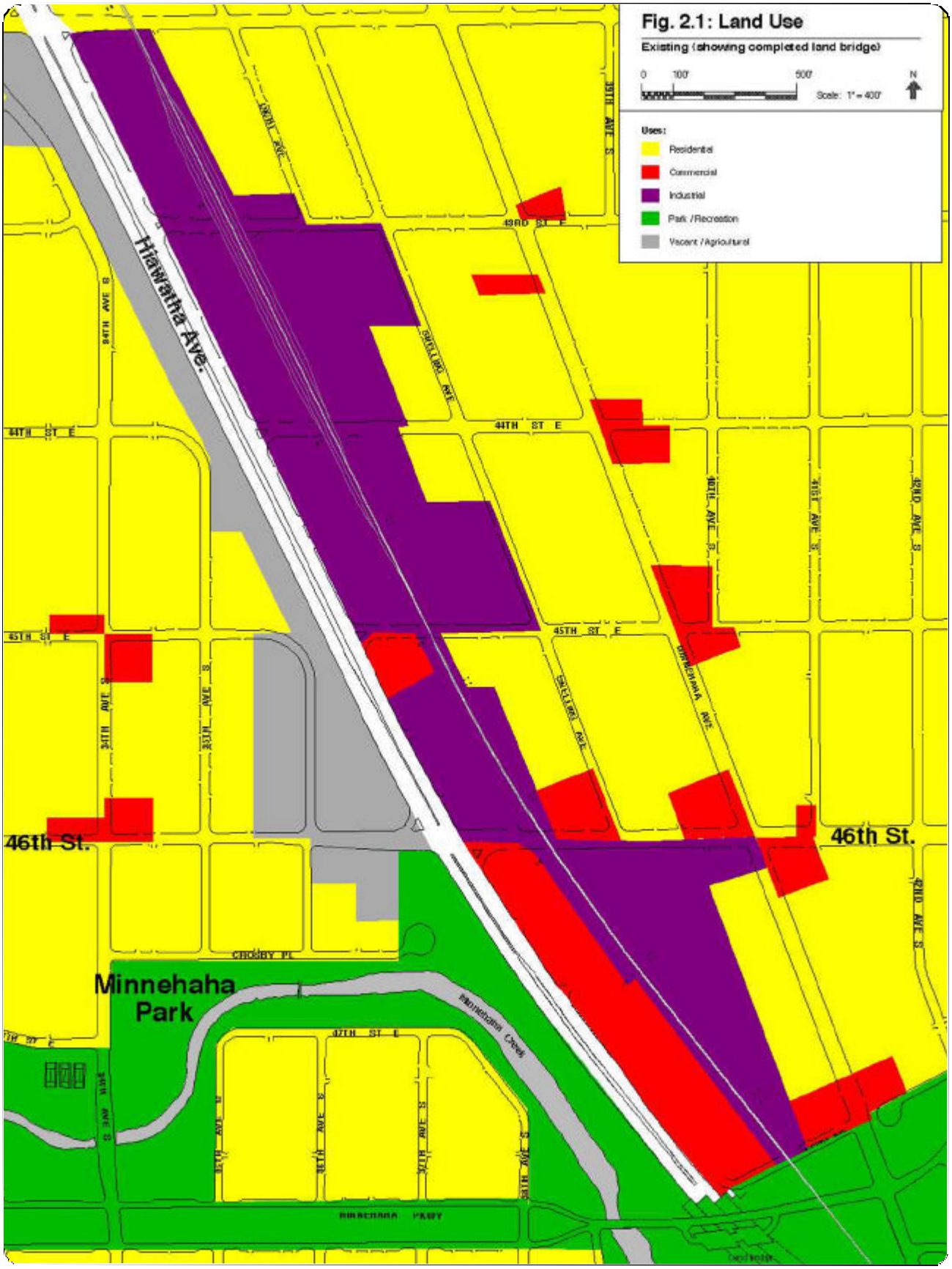
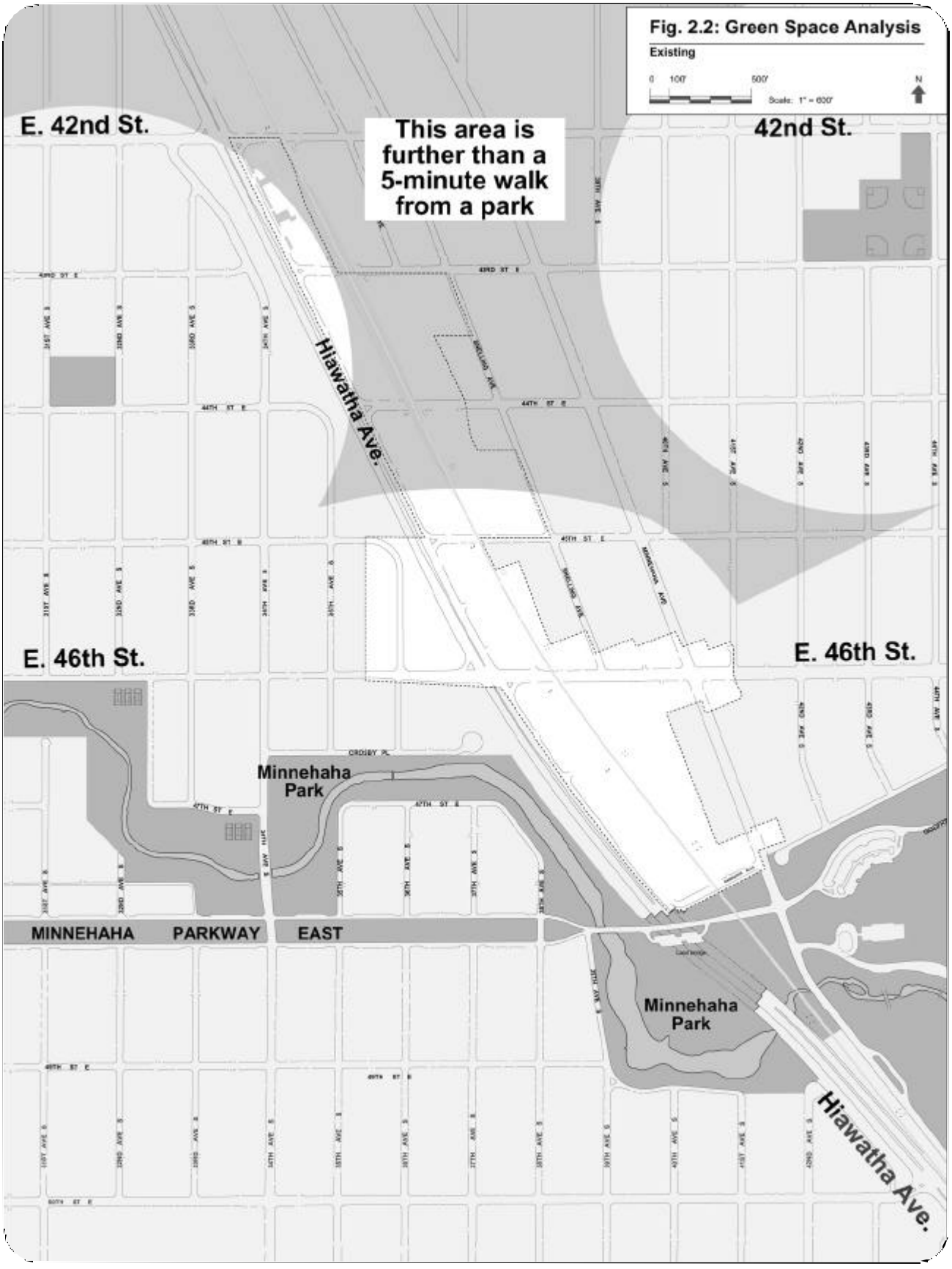


Figure 2.2: Map of Existing Open Spaces



III. Land Use Analysis

In order to understand the organizing structure of the land uses in the study area, it is important to analyze the land use systems which organize cities and towns. In simplified terms, the land use building blocks of cities and towns are neighborhoods, corridors, and districts, each with their own influence on adjacent land uses. This section will explain these three systems of land use organization and discuss how they apply to the study area. See Figure 2.3 for a map of neighborhoods, corridors and districts in the study area.

A. Neighborhoods

Neighborhoods are defined physical areas which contain a variety of land uses and ideally have an identifiable center and boundaries. According to architect and urban designer Peter Calthorpe, neighborhoods are diverse and walkable. Most neighborhoods are predominantly residential in land use but may also contain retail and employment uses. The study area includes parts of several well-defined neighborhoods.

Nokomis East

Nokomis East is on the west side of Hiawatha and south of Minnehaha Parkway. This neighborhood is made up of mostly single-family homes and open space, but also includes some retail uses in the tradition of the corner store.

The portion of Nokomis East that lies within the study area boundaries is called Minnehaha. In Minnehaha, the single-family detached homes are typically one to three-bedroom bungalows on lots that are about 60 ft. x 125 ft. Most homes were built between 1920 and 1960 (See figure 2.4).

The density of Minnehaha is five to six du/ac. The population of this neighborhood in 1990 was 4,334 people in 1,925 households. However, the study area only includes part of this population.

As is true with all residential areas of the study area, the neighborhood streets are generally quiet, well maintained, and well landscaped.

Standish-Ericsson

Standish-Ericsson is the neighborhood located west of Hiawatha and north of Minnehaha Parkway. Similar to Nokomis East, this neighborhood is mainly residential and open space with some corner retail (see figure 2.5).

Ericsson is the portion of Standish-Ericsson that lies in the study area. Like Minnehaha, single-family detached bungalow homes are the predominant building type in Ericsson. Again the average lot size is 60 ft. x 125 ft. and the majority of homes were built between 1920 and 1960. There are some new homes being built along Hiawatha dissimilar from the existing style in that they have garages in the front and use cheaper building materials. (See Figure 2.6).

This neighborhood will be most affected by the new LRT station and increased bus services. Currently, sound walls and berms buffer the neighborhood from the noise of Hiawatha Avenue, but neighbors are concerned with noise, pollution and safety issues affiliated with the new LRT facility.

Figure 2.3: Neighborhoods, Districts, Corridors

Figure 2.4: Bungalow homes typical of Nokomis East

Figure 2.5: Retail in Standish-Ericsson.

Figure 2.6: A new home along Hiawatha that doesn't fit into the existing neighborhood character.

The population of Ericsson was 3,235 in 1990, and the neighborhood includes 1,365 households. Only about half of these households are within the study area boundaries. The density is again 15-16 du/ac.

Longfellow

Longfellow is the neighborhood located east of Hiawatha and covers the eastern half of the study area. This area is where most of the retail and industrial uses in the study area are located, but is still mostly a residential neighborhood. Along Minnehaha Avenue, there are retail uses interspersed with housing. Some buildings are mixed-use with housing above shops.

The portion of Longfellow that is part of the study area is called Hiawatha. Once again, single-family detached bungalow homes are typical for this neighborhood, and the average lot size is 60 ft. x 125 ft. The homes are slightly larger than those on the west side of Hiawatha, but still fairly moderate.

The population of Hiawatha was 5,759 in 1990, a portion of which resides in the study area. The density in this neighborhood is slightly lower than the others about four dwelling units per acre.

B. Corridors

Corridors organize land uses around linear features such as roads, transit lines, rivers or trails. While a corridor's infrastructure has some unchanging function to serve such as carrying traffic, a corridor can adapt to local conditions along its length while still performing its essential task.

- Corridors and Land Use Conflicts

  Corridors impact the value of abutting land, thereby acting to attract or repel specific land uses much like a magnet. Fundamental conflicts exist when a corridor passes through a pre-existing land use, the value of which is adversely affected by the corridor. Understanding these systems and conflicts is essential to being able to prepare this master plan.

Hiawatha Avenue

Hiawatha Avenue is a major arterial in Minneapolis, carrying about 35,000 cars per day per direction and connecting downtown to the airport. In the 1930s this road was designated a Trunk Highway and road improvements were made in the 1970s by the Minnesota Department of Transportation (MnDOT). Designed as somewhat of a "hybrid" between a freeway and an arterial, Hiawatha meets American Association of State Highway and Transportation Officials (AASHTO) standards for a speed of 50 mph, but is signed at 35 mph. Anecdotal evidence from the community suggests that the comfortable driving speed is 50 mph or more on Hiawatha.

- Auto-Oriented Uses

  Because of the high average daily automotive trips along the Hiawatha Corridor, the most profitable use of abutting land will be as auto-oriented uses, i.e. drive through retail and fast food businesses, gas stations and other automotive support businesses. Were this land use change to occur, it would change the character of the corridor from low rise industrial to highly suburban franchise businesses.

Recommendation:

Overlay zoning should be used to prohibit auto-oriented uses along Hiawatha in the study area, except for those sites identified in the master plan as suitable for auto-oriented uses.

- Adapting to Local Conditions

  There is an opportunity for Hiawatha Avenue to adapt to local needs along the length of the corridor. Because of the introduction of LRT parallel to Hiawatha, there is a need to slow traffic, narrow lanes, eliminate free right turns and use other measures to increase pedestrian friendliness. These design accommodations would support the interests of local communities desiring to link pedestrian-friendly developments on opposite sides of the Hiawatha expressway and fulfill the pro-development justification for LRT.

Recommendation:

Metropolitan political leaders need to engage MnDOT to facilitate this local adaptation. While federal rules allow this redesign to occur, because of the conservatism and inertia related to regulations, state officials need to be directed to make these changes.

This issue will also be taken up in Chapter 5: Transportation.

Soo Line

The Canadian Pacific Railroad (CPR), a.k.a. Soo Line, passes through the study area, parallel to Hiawatha, about a half a block to the east.

- Industrial Use of the Soo Line

  North of 46th Street, the track is used to serve three or four grain elevators, the lumberyard, and possibly other industrial uses located in the study area. A connecting spur is being constructed so that the rail may be used to deliver the materials for the construction of the LRT.

- Recreational Use of the Soo Line

  According to CP Rail, the railroad track south of 46th Street is used only a few times each year to run historic rail cars to the Princess Depot in Minnehaha Park. Corbin Kitter, the volunteer Station Master of the Princess Depot believes that CP Rail runs 1920's vintage business cars one to four times a year. He understands that CP Rail executives are invited to department head meetings/retreats on these cars. These events usually last 2-3 days, while the cars stay on the rail spur in the park. This last happened in 1999, but has not happened since due to track damage.

- Ownership and Operations of Soo Line Tracks

  Canadian Pacific owns all of the Soo Line track, but Minnesota Commercial Railway (MCR) has a 15-year lease on the operations rights which began in 1998. As part of this lease, MCR is responsible for maintenance of the track, but CPR maintains underlying legal obligations.

- Ownership of Land Under Soo Line Tracks

  In 1995, CP Rail sold the land under the Soo Line between 46th Street and Nawadaha to the State of Minnesota, according to CP Rail. Minnesota Department of Transportation, as a state agency, then swapped this land for land it needed from the Park Board for the reconstruction of Hiawatha Avenue, according to the Park Board. Thus the land is currently under Park Board ownership. CP Rail reserved an operating easement along the width of the track between 46th Street and Nawadaha, and 20-foot wide easement for each track.

- Building Restrictions of Soo Line

  According to Mark Nordling at CP Rail, the retention of a 20' wide easement generally speaking, means one cannot build closer than 10' from the center of the track. It is acceptable to have a light post or something similar closer, but buildings, walls, fences, etc. must respect this easement.

- Use of Land Under Soo Line Tracks as Open Space

  CP Rail says that the Park Board can use this land however it likes, as long as it does not interfere with the easement rights.

Recommendation:

As part of this larger masterplan, the Park Board should swap this land for more useful park land elsewhere, in the study area. The Soo Line land should be under control of a public development agency such as the MCDA.

- Safety Issues of Using the Tracks as an Open Space Corridor

  A linear parkway can serve as an ideal pedestrian and bicycle connection between proposed development and Minnehaha Park. However, if such a parkway results in much more foot traffic near the tracks, CPR has indicated a concern about safety, though the line is rarely, if ever, used. They would support limited, well-marked pedestrian crossings at tracks.

- Track Damage and Repair

  Kitter, the Station Master, says that the track is damaged between 46th and Nawadaha. He has heard figures between $10,000 and $100,000 for the cost to repair this stretch of track. The Minnesota Transportation Museum has some funding available and also has a strong Executive Director that is working to raise funds from interested parties.

- Dissenting Views of Rail Spur

  During Workshop #4, several residents expressed the view that the rail spur was not important to them and they would prefer to have it removed south of 46th street. While the preferred scenario of the master plan accommodates this rail spur, the master plan does not rely on this rail spur.

Recommendations:

Preference is to retain and repair rail spur to the historic Princess Depot in the park to enhance and support the Princess Depot as a cultural attraction. However, should the rail spur emerge as a barrier to redevelopment and the community were in favor of removing it, then it could be removed while preserving the easement.

Use fences or water features to discourage crossing of railroad tracks at points other than intersections.

Power Lines Corridor

The high voltage power lines are suspended in the air rights above the Soo Line. In conjunction with the Soo Line tracks, the power lines form a powerful corridor which shapes abutting land uses. Due to concerns about electromagnetic radiation (EMF), the Power Lines are a deterrent to abutting residential and, to a lesser extent, commercial development. In essence, specific setback requirements have created a "no build" zone that varies in from 50 to 75 feet wide as it stretches through the middle of the redevelopment area. See Figures 2.7 and 2.8 for a diagram of the restrictions posed by the power lines and a map of the "no build" zone.

- Allowable Uses in "No-Build" Zone

  Though no buildings can be built in this zone, it is acceptable to use this area for parking, streets, sidewalks, open space, and bioswales. Xcel Energy has a list of small trees and shrub species that are suitable to plant in the power lines rights-of-way. None of the species listed grows to an average height more than 15 feet at maturity. No shrubs or trees can be planted within 15 feet of the tower bases.

- Burying the Power Lines

  The power lines which run through the study area serve to both transmit and distribute and cannot be relocated. It is technically feasible but very expensive to bury the wires. One developer interviewed as part of the study suggested burying the wires in exchange for increased development density. It is beyond the scope of this study to examine the feasibility of moving or burying the wires.

  Hennepin County Board Member Peter McLaughlin indicated that the state legislature had made funds available to bury power wires where they conflicted with adjacent uses, but that these funds were not available to projects in the Hiawatha corridor.

Recommendation:

The State legislators representing this district should work to make funding available to bury power lines in the station area (Nawadaha to 42nd perhaps) as a special exemption to the LRT restriction. As described in the market chapter, these power lines are an impediment to the economic development that LRT was built to stimulate. Further, since the station area abuts Minnehaha Park there may be a park beautification justification for burying these wires.

Figure 2.7: Building Restrictions of Power Lines.

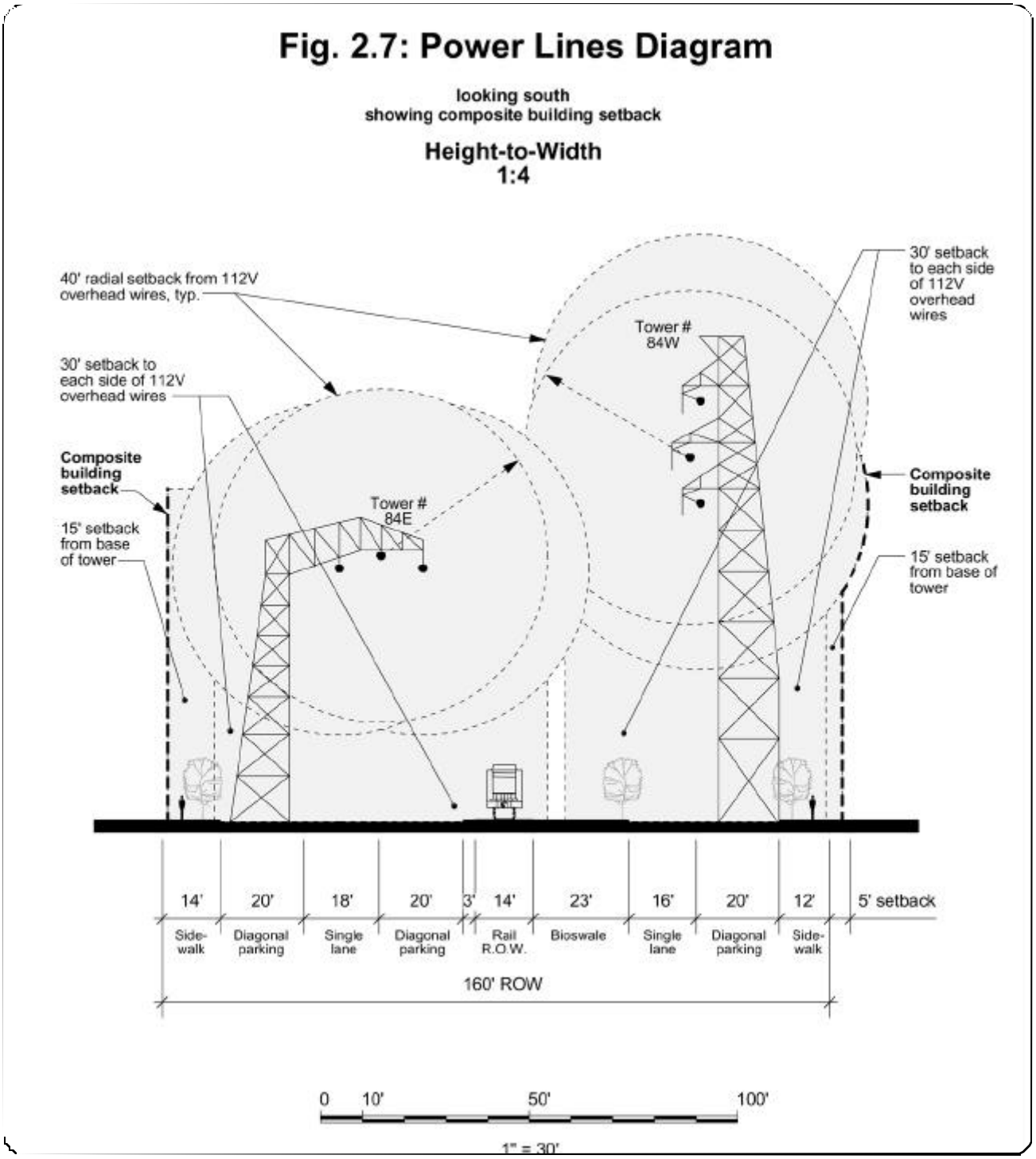
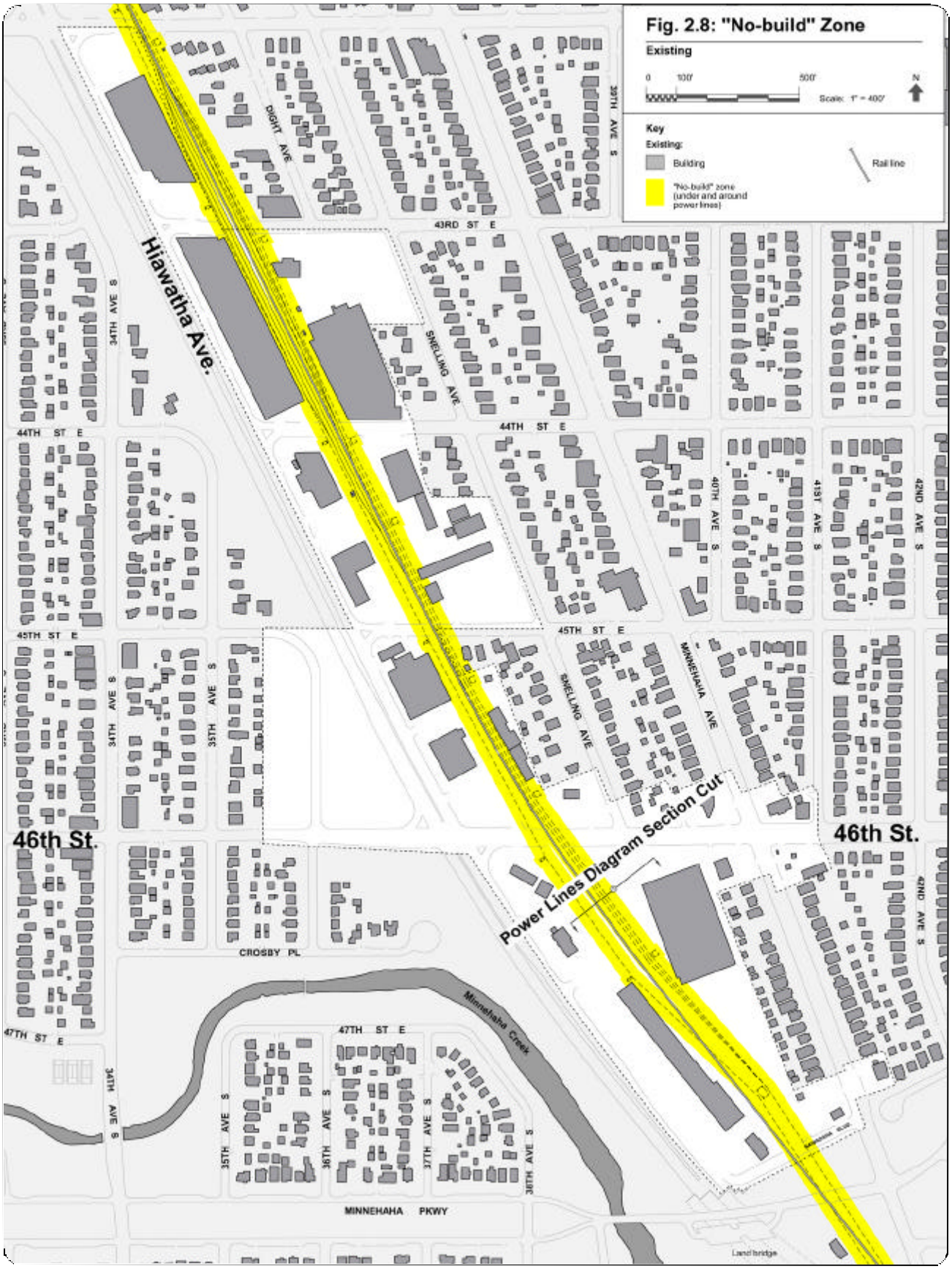


Figure 2.8: "No-Build" Zone



LRT Corridor

Across the board, LRT will enhance the value of nearby land by increasing mobility options for residents and workers. In addition, the neighborhood will become increasingly attractive to people who cannot or prefer not to drive to work and shopping.

The designers of the LRT have taken care to include berms and other sound barriers to redirect the noise generated by traffic along Hiawatha and the intermittent noise generated by LRT. This thoughtful design minimizes the adverse impacts of LRT on neighboring residents. Further, the experience from transit mature cities is that residents who abut the track will quickly internalize the small marginal noise generated by LRT.

Recommendation:

As a way to insure that property value, as well as density, is increased within the 1/2 mile study area as a result of LRT, auxiliary units (granny flats or coach houses) should be allowed as-of-right under overlay zoning in the study area. See Chapter 4: Zoning.

Minnehaha Creek

This creek extends through the study area, south of 46th and through Minnehaha Park eventually flowing into the Mississippi River. The creek bank is vegetated and natural and includes a multi-use trail for bikers, runners, walkers, rollerbladers, etc. This amenity, along with Minnehaha Park and the Mississippi River was the second highest ranked strength of the neighborhood during the public participation process.

As a corridor comprised of all publicly-owned open space protected from development, Minnehaha Creek greatly enhances abutting land values. The Minnehaha Creek Watershed District's emphasis on water quality and high environmental values further protects abutting land values.

The areas which could be greatly improved is where alleys and garages front the Creek. While residents seem to do an overall good job of maintaining their garages, it would be better not to have windowless double-wide garage doors facing the park.

Recommendation:

Zoning should allow for the addition of coach houses above garages along the creek to give the open space a more attractive edge and to increase safety by providing natural surveillance of the area by adding residents (see Figure 2.9).

C. Districts

Districts are portions of a town dominated by a single land use such as entertainment, shopping or industry. In a district there is typically an economic benefit to aggregating a particular land use. The district becomes known as a market for a particular good, service or use, increasing the identity and "draw" of the district.

Figure 2.9: Existing garages that front the Minnehaha Creek are not an attractive park edge and do not provide "eyes on the park."

Minnehaha Park

This large city park is of regional and national significance, drawing over a half million people each year. Summer weekends are the busiest time, when many people come for the various festivals or biking and running events. Visitors enjoy the varied landscapes of the Park from prairie land, forested areas, and bluffs along the Mississippi as well as historic structures, ball fields, trails and sledding hills. The park is also known for its natural waterfall that reaches up to 53 feet tall.

Deferred Maintenance

Minnehaha first became a park just over 100 years ago, and many of its facilities are inaccessible to disabled visitors and in need of renovation. The Minnehaha Park and Recreation Board is currently implementing their 1992 Park Renovation Plan to update these facilities, improve links to adjacent land uses, and increase parking among other goals. The land bridge being constructed over Hiawatha Avenue to Minnehaha Creek is part of this plan.

Industrial District

Other than the park land, the only land use in the study area which approximates a district is the industrial district along Hiawatha. Industrial uses were likely first established here due to access to rail spurs. In addition, prior to the improvement of Hiawatha into a local highway, the fairly narrow strip of land between the train tracks and Hiawatha was poorly suited to other land uses.

Industrial uses often conflict with residential uses due to unintended outputs of industrial processes: noise, dirt, train and truck traffic and the like. The rail spurs served to buffer the industrial uses from the housing to the east as Hiawatha buffered the housing to the west. Industrial users were thereby able to co-exist with the nearby

residents. And because there was little competition by other land uses, (except at the the corner of 46th and Hiawatha where retail replaced earlier land uses) the industrial land was not bid up in price, allowing it to remain industrial. (Industrial land sells for less than competing uses such as residential and retail).

Since Hiawatha was improved into a local highway, the increasing traffic counts have put pressure on industrial land to become drive-through retail. In addition, should the preferred development plan be built resulting in increased numbers of housing units, this may also put pressure on the industrial users to move. This strip of industry represents a base of jobs which are important to the economy of Minneapolis.

Recommendation:

The City of Minneapolis should work with the industrial users along Hiawatha to identify the number and pay scales of the jobs in the district and take measures to assure that these jobs are not lost to Minneapolis.

Table of Contents

Urban design is the intentional design of the space between buildings, using the following elements: sidewalks, parkways, streets, building facades, landscape and parks. This public space defines the character of an area, especially the pedestrian realm. This space needs to strike a balance among competing uses such as carrying pedestrians, moving auto traffic, creating shade, allowing fresh air to circulate, and creating a sense of enclosure.

I. First Impressions of the 46th and Hiawatha Area

Most people approach the study area in a car on either 46th Street or Hiawatha Avenue. The character of the four approaches varies a great deal. The approach from the north or south along Hiawatha provides a view of big-box retailers and sound walls, along the wide roadway. A few telling features and landmarks create a somewhat unique first impression, but aside from these, the highway-like conditions of this corridor are undistinguishable from any other place in the country.

A. Approach from the North

The grain elevators to the north of the site are a landmark that reminds visitors of the historic industrial activity that has been going on in this area for over a hundred years. Aside from this the route is lined with one-story light industrial buildings on the left and single-family homes behind sound walls on the right (See Figure 3.1).

B. Approach from the South

Driving north on Hiawatha from the south one can see Minnehaha Park on the right, and single-family homes behind sound walls on the left. The construction of a land bridge over Hiawatha was recently completed, which puts Hiawatha Avenue in a tunnel for a short stretch just before approaching 46th Street.

C. Approach from the West

The westerly approach to the study area along 46th Street brings a motorist through the quiet neighborhood of Standish Ericcson. The views are of the Minnehaha Creek and it's surrounding park land as well as historic bungalows. Coming from either the east or west, one sees much greenery and open space, making for a truly inviting first impression of the area.

D. Approach from the East

To the east of the study area is the Mississippi River with St. Paul on the other side. According to John Dillery of Metro Transit, 46th Street will play a large role in bringing commuters from St. Paul into the Longfellow neighborhood and to the light rail station. This route takes a motorists through a quaint residential community with tree-lined streets and bungalow homes dating from the early 1900's. On this approach 46th Street is a lushly landscaped route giving an accurate impression that the natural environment is important to the residents of this area. However, in contrast to the neighborhood street west of Hiawatha, this stretch of 46th Street is a four-lane roadway with relatively high-speed traffic.

Figure 3.1: View looking north along Soo Line 1950

Figure 3.2: View looking south at suburban-style signage and building types

II. Existing Study Area Character

A. Housing

As mentioned previously, most of the study area consists of detached single-family homes. Most of the homes have vehicle access from alleys supporting pedestrian-friendly streetscapes, but on some blocks the houses have driveways in front leading to detached garages in back. The grid of streets, garages in the back, and relatively small lot sizes create an urban feel to the neighborhood.

B. Retail

Some "mom and pop" shops and restaurants are located on the corners along Minnehaha Avenue and on some corner sites throughout the neighborhoods. These structures are typically built to the street, some are multi-story, and provide minimal off-street parking.

In contrast, national chains and more suburban-style buildings line Hiawatha. These businesses include Walgreens, Burger King, the Parkway Plaza strip mall, and a Conoco station, all of which have large parking lots in front and around the sides of the buildings and large pylon signs close to the street to attract motorists. See Figure 3.2 (view looking south at suburban-style signage and building types).

C. Industrial

Most of the buildings between Hiawatha and the Soo Line, north of 46th street house light industrial businesses. These structures are typically one-story tall with ample parking adjacent to the building. While the businesses are successful and have been a part of the neighborhood for decades in some cases, the buildings themselves have little architectural quality.

D. Street Spacing and Width

A gridded street system with alleys at the mid-block is the typical pattern throughout the three neighborhoods. Most of these streets are 32' feet wide and the building faces are 106' feet apart. The grid is interrupted only by Minnehaha Creek, Minnehaha Park and Hiawatha Avenue.

Hiawatha has a highway character and the buildings situated on Hiawatha are setback generously, typically with a wide parkway, and parking lot separating the two. The buildings are too short and too far apart from each other to achieve any sense of enclosure.

E. Paved area

Of the total study area, approximately 50% is paved area, consisting mostly of parking lots and streets. The overall perception of the area, however, is that it is very green, with plenty of open space and trees.

III. Proposed Drop and Ride Facility

Along with the implementation of the LRT, a bus transfer and drop and ride facility is planned for the station site on the northwest corner of 46th Street and Hiawatha.

A. Role of Buses

More than 80% of the LRT riders that board the train at this station are projected to arrive by bus. Plans indicate that nine different routes will service this station, bringing 40-44 buses per hour during rush hour (6 to 9 a.m. and 3:30 to 6:30 p.m.) and 20-25 buses each non-rush hour. (Plans could vary slightly.)

B. Added Bus Stop on 46th Street

Metro Transit has stated that two of the bus routes will come from the east, stop and then continue west, rather than turn around at this site. These buses could stop on 46th Street and continue west without ever pulling into the turn-around, which could alleviate congestion within the site and the turning movements at the entrance.

C. Development Opportunities

As shown in the Hiawatha Project Office's original plans for the LRT station site at 46th and Hiawatha, there was some residual space designated as a potential development pad on the southeast corner of the station site. However, more intense development on this site would be appropriate for several reasons, including increased surveillance and safety, stronger noise barrier for neighbors, convenience for commuters and increased tax revenue for the City and County.

Safety

There is a tendency of transit authorities to beautify a large station site by creating a good deal of open space and landscaping that becomes deserted in the evenings. To address the safety issue, the designers will then add excessive lighting to the plan. An alternative and more effective method of creating a safe station environment is to ensure 18-hours-a-day activity. The development of retail, office, and residential uses directly on the station site will increase the number of people keeping an eye on the station at any given time. The effect of this natural surveillance increases one's sense of safety in area that might otherwise become a desolate bus turnaround with concealing berms and bushes to walk past.

Noise Barrier

In Minneapolis, noise mitigation usually is dealt with by building high berms and/or sound walls to shield existing residents from a new infrastructure project. At the LRT station at 46th Street, there is an opportunity to plan for the construction of new buildings to shield existing homes from noise created by the buses and trains. It is true that occupants of these new buildings will be subject to the nearby noise, however, tenants and owners will choose to locate here, fully aware of the presence of buses and trains.

Convenience

Providing convenient services such as a day care, dry cleaners, coffee shop, and newsstand adjacent to a transit station, makes transit a more attractive choice and enlivens the station site. Grouping various uses in place and near the train allows

commuter to accomplish more than one task on a trip, reducing the need to use a car to go out again later.

Increased Housing Options

Providing housing units in any form on the station site, introduces a new type of housing, namely Car-Free Housing℠. This housing could have limited parking and could be designed for those individuals who choose not to own a car or who are unable to drive. Currently, it is not feasible to live in this neighborhood without the use of a personal vehicle.

IV. Pedestrian-Friendly Streetscapes

A. PedZone℠

The "PedZone℠" (short for pedestrian zone) is a servicemarked method for mapping the pedestrian friendliness of a street system. This exercise illustrates the pedestrian friendliness of a street or area. Pedestrian pathways are categorized into three zones based on the idea that pedestrians are most comfortable when walking on a sidewalk with a storefront built to the lot line, a landscaped buffer, and on-street parking (see Figure 3.3).

- PedZone℠ Green: Safe and Rewarding

  In these areas, the sidewalk is lined by storefronts built to the lot line and a buffer from moving traffic in the form of a landscaped strip or on-street parking.

- PedZone℠ Yellow: Safe but Unrewarding

  In these areas, pedestrians are forced to walk next to a parking lot or blank wall, which is uncomfortable, but not in conflict with cars.

- PedZone℠ Red: Unsafe and Unrewarding

  These are areas in which pedestrians are in direct conflict with moving traffic, i.e. crossing an intersection or driveway.

Streetscapes in a TOD should provide a continuous "Green" walkway and "Red" crosswalk lengths should be minimized by designing narrow intersections with bulb-outs and medians that provide a place of refuge mid-crossing, if appropriate. See Figures 3.4 and 3.5 for a PedZone℠ analysis of the existing conditions at 46th and Hiawatha.

Recommendation:

Pedestrian-friendly improvements should be made throughout the study area, but particularly to the intersection of 46th Street and Hiawatha Avenue. A "before and after" PedZone℠ analysis should show an elimination or great reduction of Yellow Zones, a reduction of Red Zones and a subsequent increase of Green Zones. (See Figures 8.9 through 8.12 and street section diagrams in Chapter 5). These improvements include, but are not limited to, median extensions and widening, new buildings built to the sidewalk, reduction of parking lot sizes, reduction lane widths, elimination of wide shoulder/lane, and construction of larger pork chop islands at the free right turns.

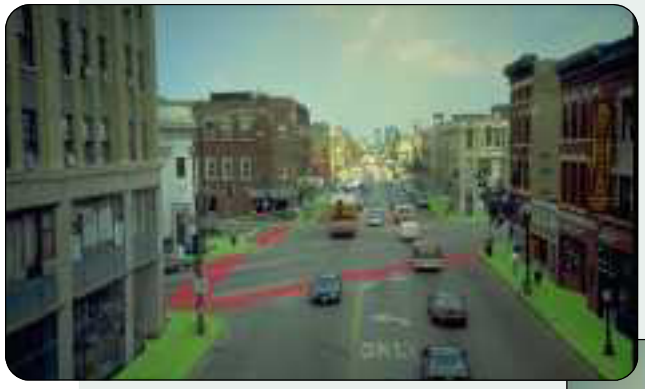


Figure 3.3 : The photo on the left shows an intersection where all sidewalks are designated as green zones through the PedZone℠ method, and red zones are kept to a minimum. Therefore, pedestrians are relatively safe and comfortable in this intersection. Below, yellow zones are introduced and red zones are more prevalent, as auto-oriented uses erode the pedestrian environment.

B. Design Guidelines

The following pedestrian amenities are recommended for all new development in the study area.

a) Appropriate building heights for the street widths to provide a sense of enclosure

b) Wide sidewalks, allowing for sidewalk cafes and landscaping including street trees in grates and flower planters

c) Pedestrian-scale lighting

d) Attractive signage and window displays (can upgrade on existing businesses as well)

e) On-street parking

f) Attractive sight lines

g) Appropriate street furniture (flower planters, garbage receptacles, bike racks, newspaper racks, etc.)

Building Heights

Building height was a major concern of many residents from the beginning of the public process. Rumors of an existing plan for high-rise condo development had circulated through the neighborhoods as a result of the previous market study, scaring many residents into attending the first workshop of the station area planning process. Partly because of this, the plan benefited from the participation of people with a wide variety views on the issues. The series of workshops revealed a spectrum of preferences among residents with regards to building height.

Building Heights Preferred by the Residents

At Workshop 1, residents preferred images showing buildings between two and four stories tall. At the second workshop, residents drew their own plans for the area and building heights ranged from two to six stories. At the third Workshop, almost all the groups mixed and matched between schemes B and C, which showed building heights of two to three stories and three to four stories respectively. At the last workshop, when asked what zoning policy should be enacted regarding building heights one group preferred a five-story maximum, four groups preferred a four-story maximum, one group preferred a three-story maximum and one did not respond. When asked if senior housing could be taller for economic feasibility, six of the seven groups said yes and typically set a new limit of five or six stories.

Market Forces on Building Heights

The market in this area can support a good deal of new residential development, the previous market study presumes about 1000 new units. One way for a building to offer pedestrian scale, high-density and distant views is to utilize upper-level setbacks. A building with a four-story base and a two more stories setback from the facade can create a pedestrian scale.

Figure 3.4: Existing Ped Zones

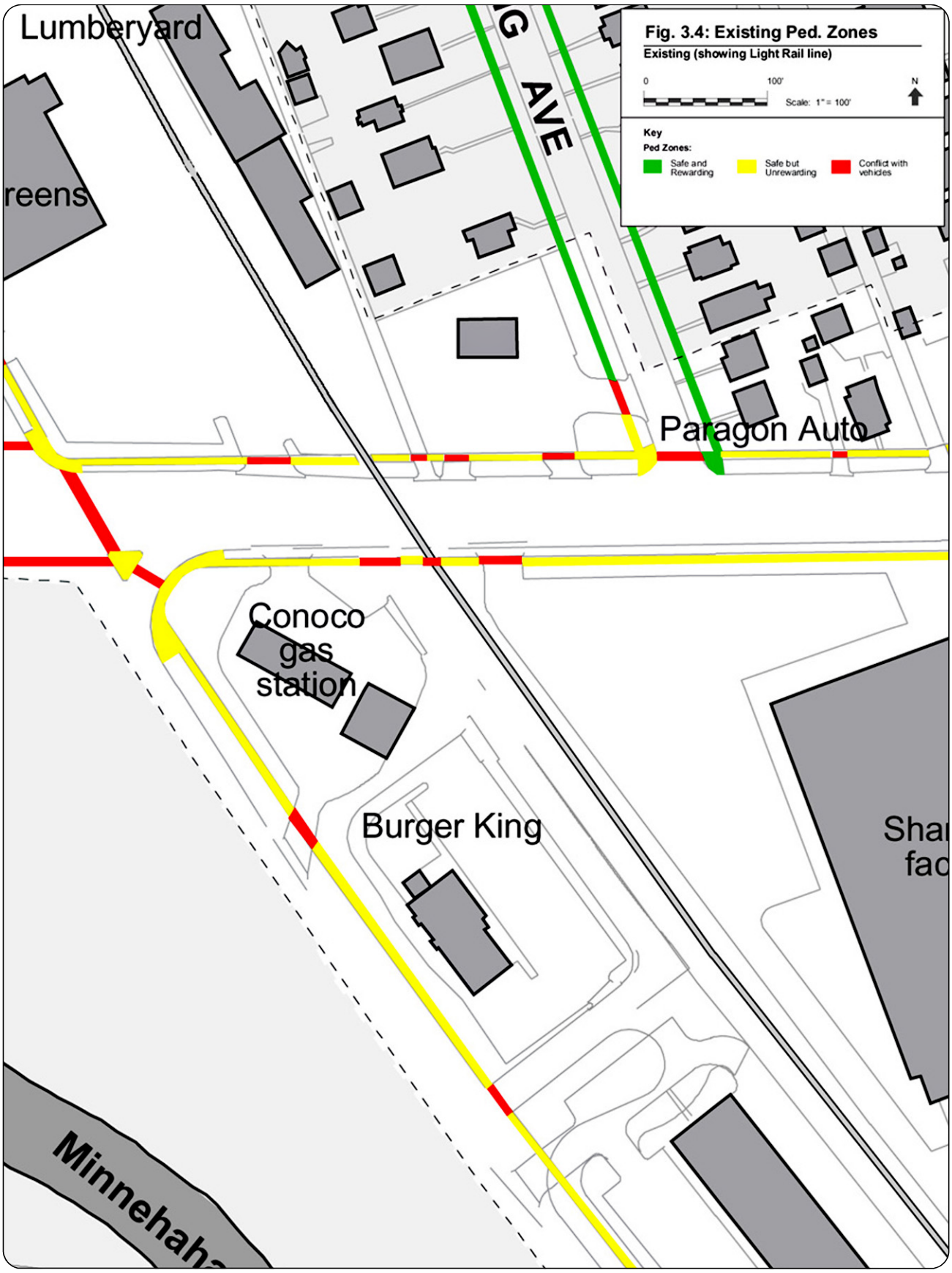
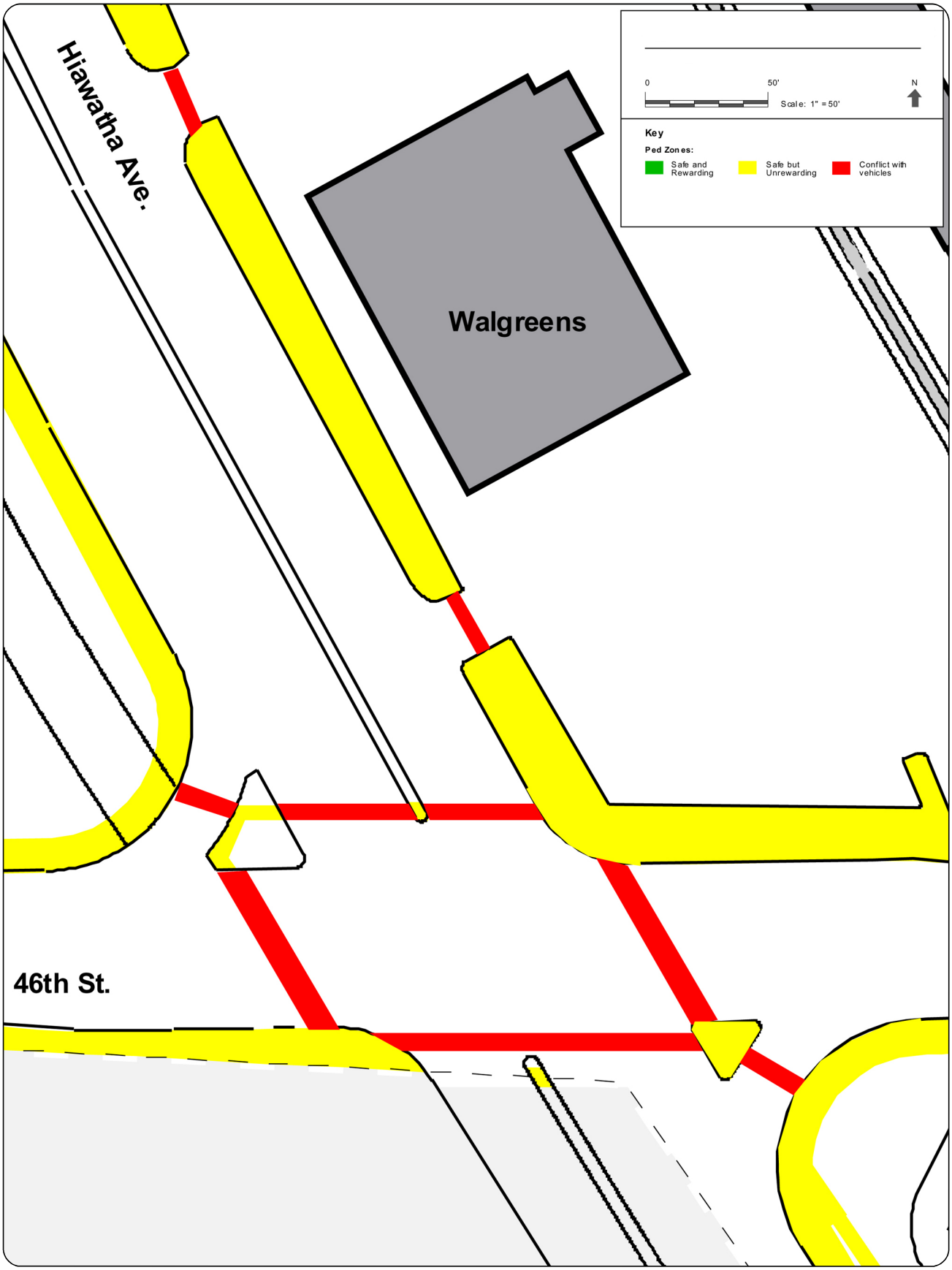


Figure 3.5: Ped Zones–46th and Hiawatha



Recommendation:

Allow the development of senior housing buildings with four-story base, and two setback residential floors above. These design requirements need to be worked out in great detail by a consultant prior to issuing a developer requests for proposal (RFPs).

Height-to-Width Ratio

Great streets are designed at different proportions of building height to face-to-face width. Outside of dense cities like New York City, Chicago and San Francisco, this ratio does not typically exceed 1:1. In order to achieve any spatial enclosure, the perceivable minimum for this proportion is 1:6. For example, a street that has opposing building faces that are 120 feet apart should have minimum building heights of 20 feet (Figure 3.6).

This proportion is based on several factors. The spatial enclosure of buildings should contribute to a sense of place, and a level of vitality which comes from higher-densities and narrower streets. At the same time, a lower height-to-width ratio allows more sunlight and air to reach the street.

Streets with trees in the parkway provide an added sense of enclosure. Because retail streets may not have street trees, which can obstruct views to storefronts and signs, they need to have a minimum height-to-width proportion of 1:4. See Figure 3.7 (Height to Width Proportions).

Recommendation:

The ideal height-to-width proportion for streets is 1:1. The ideal height-to-width proportion for public squares is 1:3. (However, under the proposed site plan this would result in eight-story buildings around the triangle-shaped park south of 46th street. When these proportions are in conflict with the height limitations discussed in this plan–three to four stories, except for senior housing at five stories–the height limitations should prevail.) For new development to achieve these proportions a minimum building height regulation is needed.

Sidewalk Widths

Sidewalks are crucial for a pedestrian-friendly environment. Trees in grates, street furniture, and sidewalk cafes enhance the environment, but can clutter a narrow sidewalk and act as nuisances to pedestrians. Wider sidewalks can accommodate these amenities and without sacrificing the comfort of pedestrians.

Street Trees on Retail Streets

Much care needs to be taken when placing street trees in front of retail uses. Trees can obscure display windows and signage which can hurt retail sales. Done carefully, however, well-placed trees can work on retail streets. Another location for street trees is in median planters. A combination of trees on the sidewalks and in medians can have attractive results without obstructing visibility of storefronts to drivers trying to locate a particular good or service.

Recommendation:

Around the square located just south of 46th Street sidewalks should be 20 to 25 feet wide from curb to building. Sidewalks on neighborhood retail streets should be at least 12 feet wide from curb to building to allow for trees in grates and a walking path. Residential streets can have traditional five to six feet wide sidewalks in addition to a planting strip between the sidewalk and curb. Expensive materials for pavements are unnecessary.

Lighting

Municipalities adopt standard approaches to public lighting, warehousing fixtures and parts for a select number of fixtures and installing them at predetermined spacings to achieve or exceed nationally acceptable lighting levels. However lighting a town center requires a different practice altogether.

Strategy for Lighting a Town Center

The traditional response for lighting a town center is to install historic looking fixtures on modestly sized poles to enhance the intimacy of the streetscape. However, there are other factors at work which require a more sophisticated (and intentional) approach. These other factors include the desire to provide accent lighting to building facades and features, the need to allow (perhaps require) retail shops to have after hours lighting for signage and displays and to avoid each lighting component to compete with the others.

Effects of Lighting on Upper Floor Housing

The proposed master plan includes housing on the upper levels of the mixed use buildings. It is important that the residential units not experience glare or bright lighting levels (light pollution) from either the public or retail lighting.

Lighting Near Minnehaha Park

Another consideration is the proximity of the site to Minnehaha Park. There is a growing acknowledgement that excess spill over lighting can be harmful to adjacent natural habitats. Artificial lighting can adversely alter the reproductive cycles of plants and animals and care should be taken to prevent unnecessary light pollution into these areas.

Preserving the Night Sky

One way to approach this is to embrace a growing movement spearheaded by an organization called the Night Sky Society. It is concerned with preserving the view of a starry night even as areas urbanize. The primary method to achieve this is to reduce/eliminate what is called sky glare. This is done by directing lighting downward and reducing outdoor lighting levels to the lowest acceptable levels.

Recommendation:

As the master plan goes forward, work with a nationally acknowledged lighting designer to achieve the desired results while balancing the interests of easy navigation, protection of upper-floor residential units, and preservation of the night sky.

Signage and Orientation

Figure 3.6 Ideal Height to Width Propositions

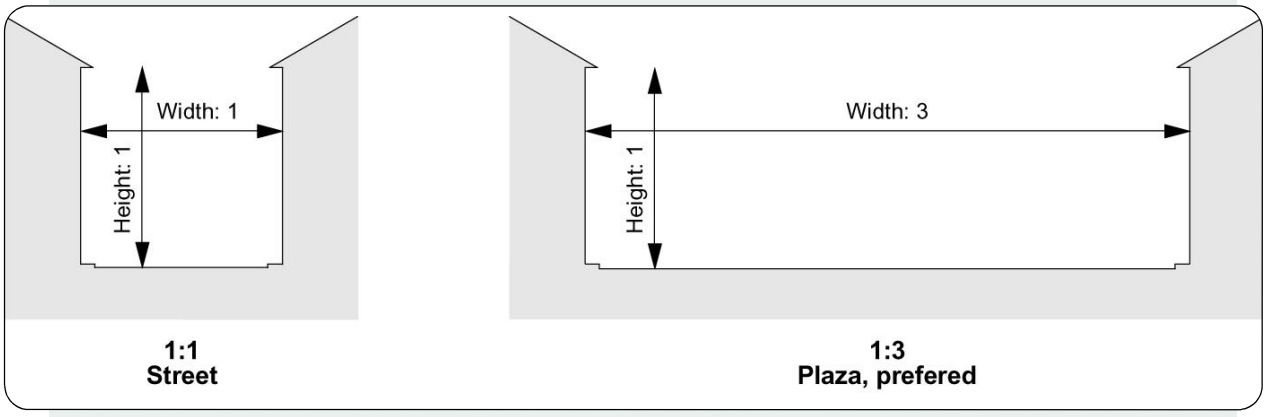
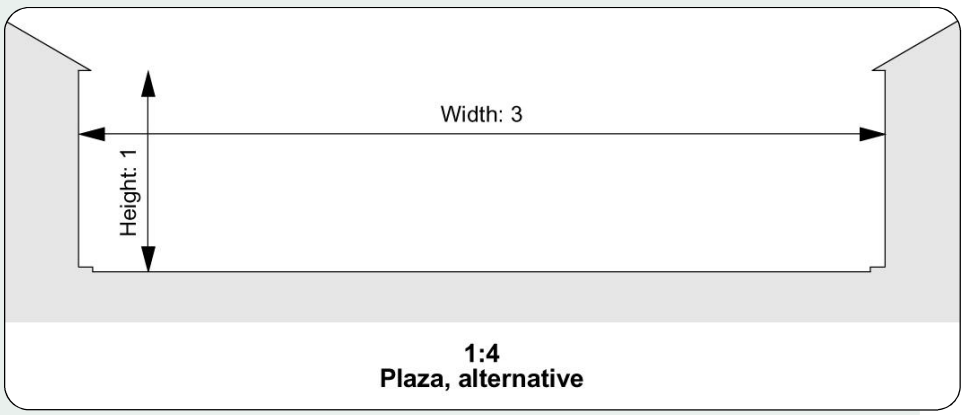


Figure 3.7 Alternative Height to Width Proportions



Navigational signage is important particularly to direct shoppers and other visitors to parking and pedestrians and bicyclists to the LRT station and bus transfer points.

Recommendation:

A new signage ordinance should regulate size, materials, and maintenance. 75% of a storefront should be used for window displays

On-Street Parking

On-street parking serves many purposes that result in a better street. First, it provides needed parking spaces. Second it helps retail sales. According to national retail experts, perceived available parking directly in front of a store encourages customers to visit that store. Third, on-street parking reduces speeds on the street as motorists drive slower due to the possibility of a door opening suddenly or a car pulling out in front of them. Finally on-street parking serves as a buffer between pedestrians and traffic, as discussed previously.

Recommendation:

With the exception of Hiawatha and possible parts of 46th Street, on-street parking, whether parallel, diagonal, or perpendicular should line the entire length of the streets in the study area.

Sight Lines

Attractive and interesting views from outside and within the study area are important for inviting commuters, shoppers and visitors into the site. The high traffic volume on Hiawatha Avenue needs to be taken advantage of by creating direct lines of sight to the amenities of the proposed development from adjacent streets.

Recommendation:

Locate key architectural buildings at street terminuses and important corners that are highly visible from adjacent arterials.

Street Furniture

Street furniture is a benefit to the pedestrian environment of a street, adding character and function. While many different types of street furniture exist, it is important not to clutter the street or obstruct the pedestrian way.

Recommendations:

The following street furniture should be included on sidewalks in the study area:

a) Bike racks, especially near the LRT station

b) Planters and possibly flower pots hanging from street lamps

c) Garbage cans

V. Architecture

A. Private Buildings

The quality of the pedestrian environment, including high-quality architecture will be the biggest attraction of the new transit village. It is up to the public sector to ensure that the architecture of new buildings is special enough to create a new destination in Minneapolis.

Recommendation:

In RFPs and design guidelines, require the highest quality architecture on the most prominent sites, and encourage the selection of award-winning architects.

B. "Green" Buildings

In addition to pursuing strategies to green open space, the City and County should make an effort to extend environmental values into building construction. While this may seem tangential to station-area redevelopment, it is another way to demonstrate that Minneapolis is forward-thinking and a special place. A high-quality "green" building which is constructed as a demonstration project can itself be an attraction for the this area. This demonstration could introduce high performance environmental architecture into the marketplace and maintain Minneapolis' position as a leader in architectural and environmental design. To read more on why designing "green" helps the environment, see Chapter 4.

LEED Rating System

The U.S. Green Building Council has designed a way to evaluate a building's environmental performance through the Leadership in Energy and Environmental Design or LEED™ rating system. The LEED scorecard is used to measure a building's green design elements and to rate at a Certified, Silver, Gold, or Platinum level depending on how it scores.

Recommendation:

All of the buildings built as part of the 46th and Hiawatha redevelopment should meet the Green Building Council's LEED criteria for environmental performance at a Certified level or better. In addition, the City and County should build one new public building each at a Gold level or better. The mixed-use transit center would be an ideal showcase for a Gold rating. Funding for many of the necessary enhancements may be available from the various funding sources identified in the Toolbox in Chapter 9.

Table of Contents

I. Introduction

The conventional purpose of zoning is to facilitate the orderly development of land. It can also be used as a tool to encourage development to take a preferred pattern. Zoning should make it easy for developers to do the right thing. The existing zoning requirements in Minneapolis limit new development that would create pedestrian-friendly environments (i.e. "the right thing"). The City needs to combat zoning that precludes transit-oriented design (TOD) possibilities.

Early zoning ordinances were adopted to assure adequate natural light and to prevent adjacent incompatible land uses. The emphasis of zoning changed after World War II to embrace a new suburban ideal of segregated land uses, isolated buildings set in the middle of a site and other characteristics of the postwar environment.

II. Existing Zoning

While an in-depth zoning analysis is outside the scope of this project, it is clear that the zoning within the study will need to change to allow for the type of development proposed in this report. See Figure 4.1 for a map of the existing zoning of the study area.

The study area is mostly zoned for low to medium-density residential with some commercial and industrial zoning along the main roadways and the Soo Line. In general, the minimum setbacks, maximum floor area ratios (FARs) and parking requirements would prohibit typical TOD building types.

III. Proposed Zoning

In order to allow for pedestrian-friendly zoning without going through the arduous task of creating new or modifying existing zoning classifications the City can enact overlay zoning. An overlay zone creates a special district in which certain regulations apply and can override the underlying zoning if necessary. An overlay zone can be created to impact regulations such as use, setbacks, parking, density, and height that will apply only to the redevelopment area.

The following is a list of recommended pedestrian-friendly zoning regulations to be written for the zoning overlay district. See Figure 4.2 for a conceptual map of where each regulation might apply.

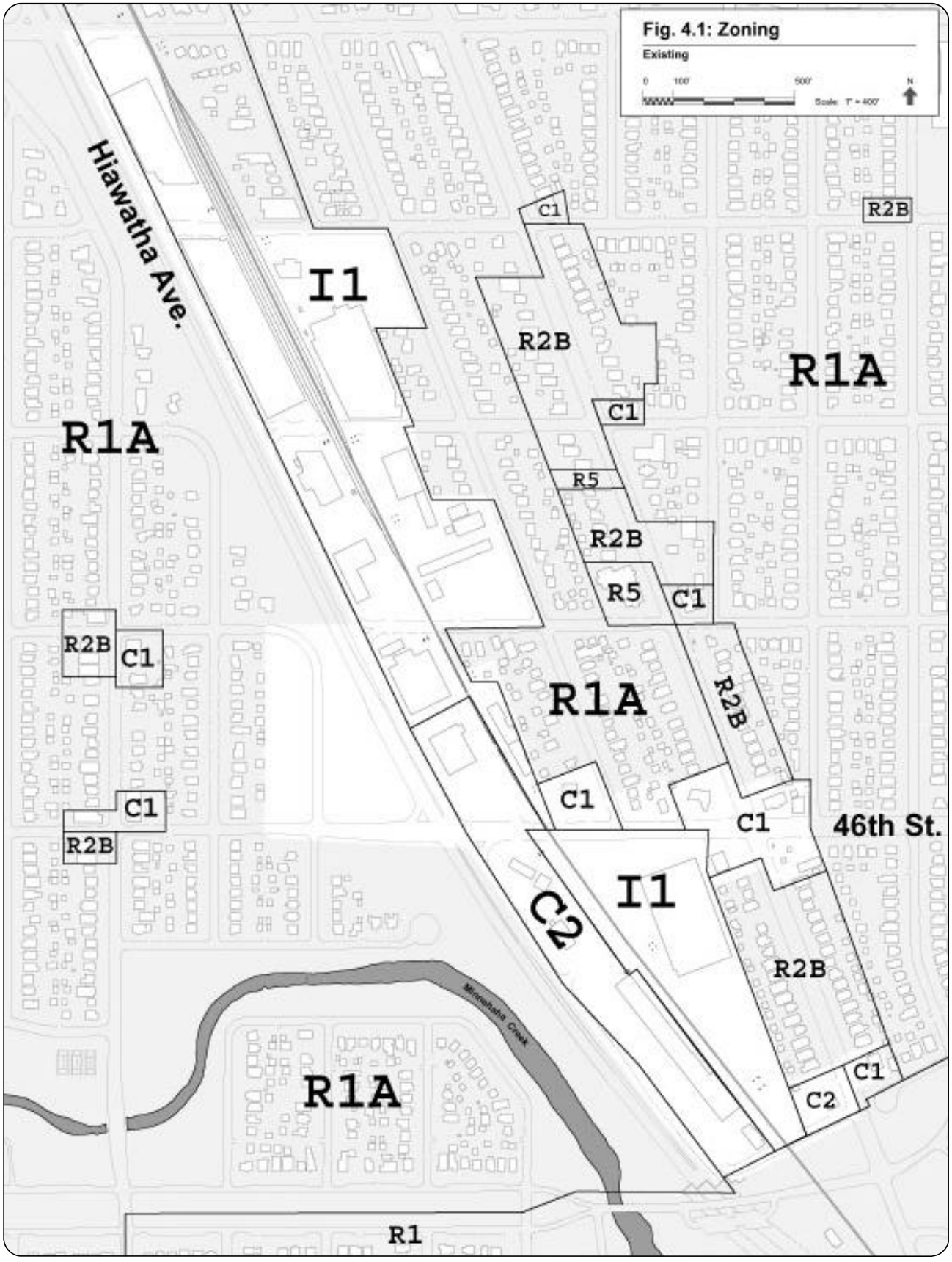
A. Mixed-Use

Allow different uses, such as retail, housing or office to coexist in the same building. Mixed-use buildings take advantage of shared parking, and contribute to 18-hours-a-day activity.

B. Built-to Lines

Require that all new buildings in the redevelopment area except single-family homes be built no more than 10 feet back from the sidewalk. This helps create a more comfortable walking environment. Buildings built close together and close to the street also give the street the sense of enclosure discussed in the previous chapter.

Figure 4.1: Zoning



C. Minimum Heights

Another factor in creating a sense of enclosure is building height. A minimum height is necessary based on the distance across the street to the facing building. At Workshop 4 in the planning process most groups preferred a building height minimum for the study area of two to three stories. This minimum height can and should change depending on the width of the street the building sits on, or for buildings surrounding open space. Though not directly related, minimum heights can affect the FAR levels, and appropriate FARs will need to be established as well.

D. Maximum Heights

Maximum building heights are important to maintain the desired scale of the neighborhood. Residents in this area are strongly opposed to high-rises, and wanted to keep most development at about four stories, allowing senior housing to be five or six stories.

E. Drive-Thrus

Prohibit drive-thru building types in the study area except to the far north. Drive-thrus erode the pedestrian environment.

F. Coachouses

Allow homeowner to construct coachouse units or "granny flats" above their garages. This new housing type will increase options for people wishing to reside in the study area.

IV. Zoning Bonus System

One technique to encourage developers to include particular amenities in their projects is to introduce a zoning bonus system. By providing desired amenities developers can gain additional allowable density according to some formula based on the value placed on the amenity and the cost to provide it. For example, a developer might provide a plaza in front of a building and be allowed to build an additional floor in height.

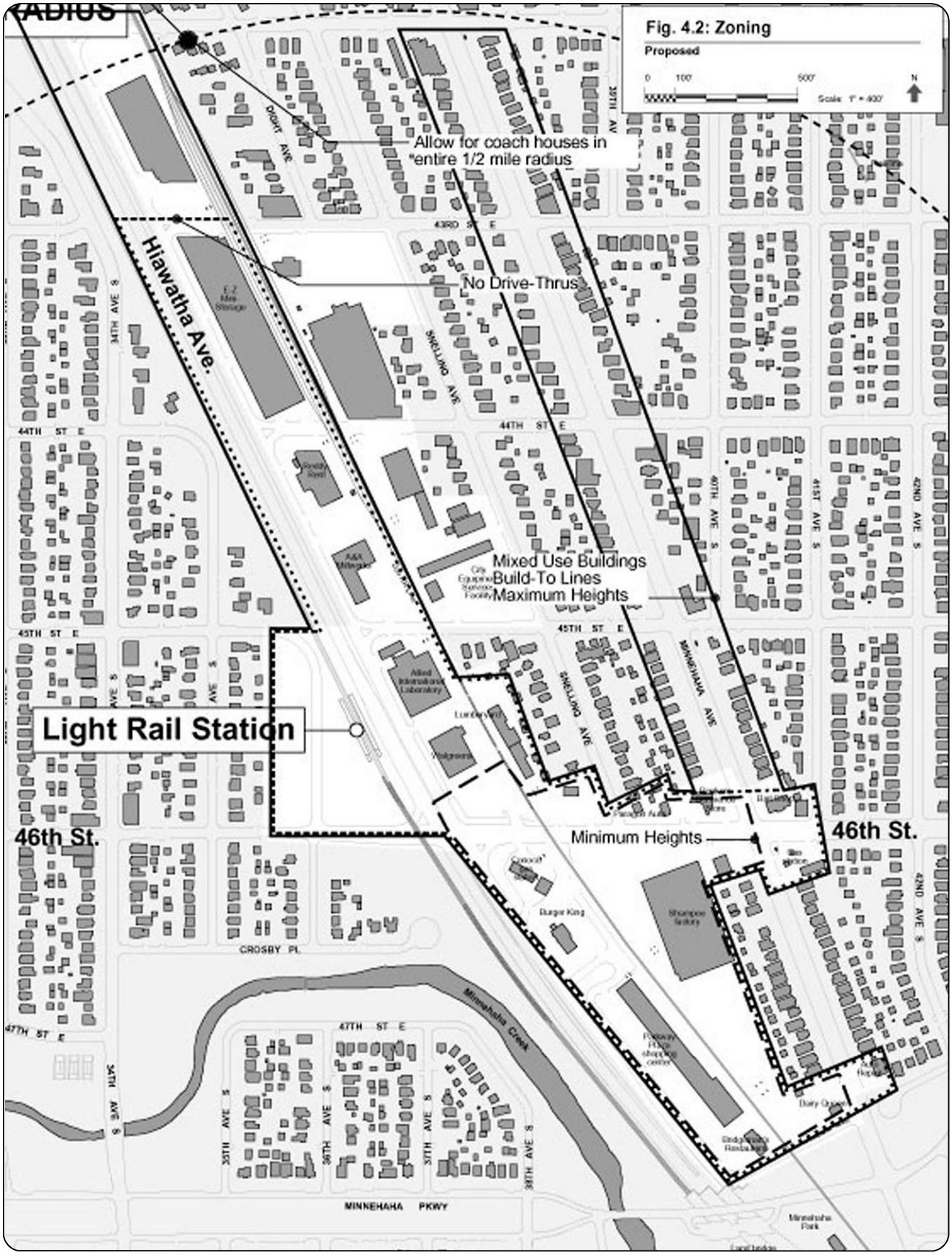
Some innovative planning tools that would well-matched amenities for this proposed plan could include a) car sharing, b)green building and, c) concealing power lines.

A. Car Sharing

Car sharing is a mobility tool being used widely in Europe and Asia and emerging throughout the U.S. The concept is simple. A car sharing organization, whether public, private, or non-profit has a fleet of cars available for use by its members. Cars are typically parked at different locations throughout a city and members typically live within walking distance of one of these locations. Members reserve a car for the amount of time they need to use it, and then pay by the hour and the miles driven to use the car. In this fashion, few cars can be shared by many, decreasing cost, need for parking, and congestion.

For those that need to drive only occasionally car sharing is cheaper and more convenient than owning a car. People who rely on other means of transportation for their daily needs have found car sharing a convenient mode for occasional shopping, errands, etc. Members tend to be families with one car, or do not own a car at all.

Figure 4.2: Zoning



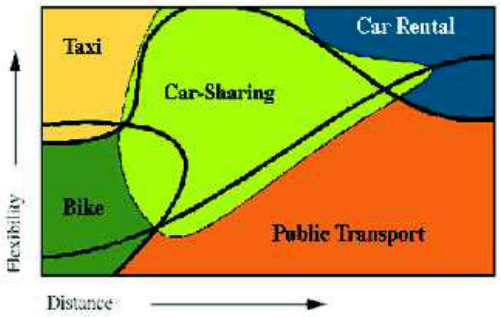


Figure 4.3: Car sharing can fill the gap in transportation needs. The diagram does not include personal vehicles.

A case study describing CarSharing Portland is described in Chapter 5.

B. Green Building

As described in Chapter 2 and discussed further in Chapter 8, the City should make an effort to encourage "green" building strategies to benefit the natural environment and demonstrate that Minneapolis is a progressive city and special place.

Why Design Green?

Buildings consume more than 30% of the energy used in the U.S and 60% of electricity. Construction also consumes land, materials and water, and produces waste. Building concepts such as green roofs, solar power, and recycled building materials all help to mitigate the negative impacts that development has on the natural environment. In addition to benefiting the natural environment, green buildings reduce operating costs, enhances a building's marketability, increases worker productivity, and reduces potential liability related to indoor air quality problems.[1]

LEED Rating System

As described in Chapter 3, The U.S. Green Building Council has designed a way to evaluate a building's environmental performance through the Leadership in Energy and Environmental Design (LEED™) rating system. The LEED scorecard is used to rate buildings at a Certified, Silver, Gold, or Platinum level based on green design.

LEED In a Zoning Bonus System

The LEED scoring system is a straightforward way to incorporate green building into a zoning bonus system. For example, if a building scores at the Silver level, the developer will be granted an additional .5 FAR, if it scores at the Gold level, the developer is granted .75 additional FAR, and so on. The LEED certification level would need to be determined early in the design process so that a bonus could be granted in time.

C. Case Study: Chicago Zoning Bonus System

Chicago has recently expanded the list of amenities in their 44-year-old zoning bonus system. One of the new amenities is a vegetated roof which is one of the concepts that add greatly to a building's environmental performance by reducing impervious surface.

[1] *LEED Reference Guide, Version 2.0, August 2000.*

Table of Contents

I.Introduction

This section presents issues, opportunities and constraints in transportation. It is worth noting that many of the concepts presented are preliminary. In particular, concepts related to the 46th Street and Hiawatha intersection are being refined by the Hiawatha Project Office for the design/build of the light rail transit project. Additional information is available by contacting the Hiawatha Project Office at (612) 215-8200, or visit the Web site http://www.dot.state.mn.us/metro/LRT/index.html

> "Transit-oriented development (TOD) emphasizes a pedestrian-friendly environment with compact residential and job-generating development and redevelopment surrounding transit stops or stations. Walkable tree-lined streets, street-facing retail and many types of compact housing in a variety of architectural styles are favored over high-traffic roads, surface parking lots and garage-front houses. The idea behind TOD is simple: If we encourage land use patterns that attracts jobs and housing to transit, people will use cars less and will walk and ride transit more." [1]

Transportation and land use are linked. Compact residential and mixed-use development uses make it easier and cheaper to provide transit service, and can attract pedestrian and bicycle activity. Mixing land uses provides opportunities for living, shopping, and working in the same area, reducing the need for vehicular travel.

The approach taken in this section is to look at roadway and streets as part of a larger, more complex transportation system. The way streets work is the result of many interactions between a street and adjacent activities, and the way a particular site's layout and design accommodate those activities. This set of interactions - some of which are very site-specific and some of which are determined by economic factors - significantly affects how a street works. Identifying and understanding these factors is important as the 46th Street Area focuses on making streets that work. A number of land use issues and urban design choices are presented in this report that are very powerful tools for making streets work.

By their very nature, some land uses lend themselves to certain kinds of street activity and transportation choices. For example, a car wash, gas station, fast-food place will be a magnet for automobile access. It will also create an environment that is generally convenient for driving to and from, but not pleasant for walking by or for a bus stop. However, fast food restaurants and banks can be very auto-oriented, or they can accommodate a variety of transportation choices, or be completely pedestrian-dependent (like walk-up cash machines and espresso carts). These various mixes of access (called "mode splits," to describe the split between various modes of transportation) have important effects on the street. Consider the impacts of a gas station or drive-up restaurant on a neighborhood commercial street. In addition to the noise and/or smells, there may be cars crossing the sidewalk (creating safety hazards for pedestrians) or lining up on the street (blocking the flow of traffic or access to on-street parking). On the other hand, a busy sidewalk espresso cart will attract lots of pedestrians and bicyclists, and customers lining up adds vitality to the street. In these examples, the activities are very closely tied to the

[1] *Metropolitan Council, 2000.*

patterns of transportation choice. They affect the character of the streets on which they are located. In this regard, the City of Minneapolis Land Use Code is an important tool for determining what happens the street.

II. Background

Examination of light rail transit (LRT) in Minneapolis began in 1978 with the initiation of the Hiawatha Location and Design Study, and the preparation of the environmental impact statement. The Draft Environmental Impact Statement (DEIS) and the Final EIS were prepared in 1982 and 1985. The documents defined the purpose and need for transportation improvements in the Hiawatha Corridor (Trunk Highway 55). The proposed improvements included various alternatives for a redesigned Trunk Highway (TH) 55 from Interstate 94 near downtown Minneapolis to the current TH 62.

Based on the analysis documented in the DEIS, supportive technical reports, and concerns raised throughout the study's public involvement process, a recommendation was made for a Locally Preferred Alternative (Alternative 4). The preferred alternative included the following components:

a. Reconstruction of Hiawatha as a four-lane divided at-grade arterial roadway with light rail transit;

b. The north LRT terminus to be located in the Minneapolis CBD; and

c. The south LRT terminus at the Minneapolis International Airport.

The LRT component of the preferred alternative was considered more desirable than the use of high-occupancy vehicle lanes or minor transit improvements, because it was more consistent with the City of Minneapolis Comprehensive Plan and with the long-range transportation plan for the region. It was also preferable because it results in minimal environmental effects, and it complies with the Clean Air Act standards required by the US EPA and the Minnesota Pollution Control Agency. In addition, the LRT component will generate higher transit ridership, and it will have greater long-term economic benefits to the Hiawatha Corridor and to transit riders.

Mn/DOT is responsible for design and construction of LRT in the region, including the Hiawatha LRT. The Metropolitan Airports Commission (MAC) will be responsible for the design and construction of a portion of the LRT within the MSP Airport boundaries. The Metropolitan Council will be responsible for operation and maintenance of the Hiawatha LRT.

In 2000 LRT station designs were completed. A design-build contract was awarded to a consortium of designers and builders calling themselves Minnesota Transit Constructors. Within this timeframe a Master Plan process for the 46th Street Station was begun. The challenge was how to integrate the Master Plan process and design efforts with the construction of the Station Site.

III.Automobile Traffic

Travel patterns by motorized vehicles are heaviest in north-south direction along Hiawatha Avenue. Major trip destinations along the corridor include the Minneapolis Central Business District, University of Minnesota, MSP Airport, the Mall of America, freeways, and St. Paul's Highland Park Ford Assembly Plant.

A summary of the issues not just at 46th Street, but along the entire Hiawatha Corridor are:

a. Vehicles don't yield to pedestrians and bicyclists at free right turn locations.

b. Multiple crossings (pedestrians, bicycles, turning vehicles, LRT) demand that those crossing watch for too many things.

c. In the mad dash to catch the train, people will take the most direct route putting themselves at risk of being hit by crossing vehicles.

d. Free right turns exist at every signalized intersection from Franklin Avenue to 52nd Street; 54th Street is not a free right.

e. The same solution should be implemented at all free rights. Consistency is powerful.

f. Traffic engineers are concerned that: (1) signalizing free rights would backup traffic; (2) the signals could be confusing to both pedestrians and motorists; and (3) pedestrians would ignore the additional pedestrian signals, crossing the slip lane whenever they see gaps in traffic rather than waiting for a WALK signal.

g. With 17 accidents reported in 1999, the number of traffic accidents at 46th Street/Hiawatha is the highest of any area along the corridor excluding the Minneapolis CBD.

The 46th Street area is predominantly single-family residential with an industrial corridor and railroad tracks (Soo Line) to the east, with residential neighborhoods beyond. Just north of East 46th Street, land use on the east side is occupied by a highway-oriented commercial strip uses, including a drugstore and fast food restaurants and a shopping center. Forth-sixth Street provides access to Saint Paul's Highland Park neighborhood across the Ford Bridge. An anchor to the city's economy for 76 years, about 2,100 people work at the Ford Motor Company's St. Paul plant (home of the Ford Ranger truck). A recent Ford Motor Company annual shareholder's meeting was held at the St. Paul plant. Ford's commitment is to continue producing Rangers through year 2005, but beyond that year no decision has been made.[2]

The LRT trackway is located to the west of Hiawatha Avenue. There are existing sound walls and berms on the west side, with new single-family housing behind them. Hiawatha has landscaped medians in this section. The most prominent industrial uses are several large grain elevator complexes, some of which are decorated with murals. Transmission towers and low trees help to define the east side of Hiawatha. There is an existing sidewalk/bikeway between the proposed LRT trackway and the road.

[2] *Pioneer Press, "Ford Commits Through 2005", May 11, 2001, Section C.*

Minnehaha Park lies east of the LRT alignment, with residential neighborhoods to the west. The alignment runs directly adjacent to Hiawatha through the tunnel under the land bridge that will extend to Minnehaha Parkway via Nawadaha Boulevard.

A. Existing Roadway Design

Reconstruction of Highway 55/ Hiawatha Avenue from Crosstown Highway 62 to Interstate 94 began in 1988. Work continued in the area between East 24th Street and I-94 from 1992 through 1997. Construction of the Hiawatha Avenue bridge over East Lake Street started in 1996 and the bridge was completed in the fall of 1997. Work on the approach roadways was completed and the bridge opened to traffic on July 27, 1999. Hiawatha Avenue reconstruction continued between East 32nd Street and East 24th Street was completed in fall 2000. Construction of a temporary roadway between East 46th Street and Minnehaha Creek began July 26th, 1999. Traffic used this temporary roadway during construction of Hiawatha Avenue near East 46th Street. The final stage of Hiawatha Avenue reconstruction consists of realigning the roadway between East 54th Street and Crosstown Highway 62, along with rebuilding the interchange of Hiawatha Avenue and Highway 62. Bids were let on September 24th. Completion of the entire Hiawatha Avenue project is slated for year 2004.

Today, Hiawatha Avenue (TH 55) is a north/south four-lane divided roadway that carries a Trunk Highway 55 designation and a Principal Arterial roadway functional classification.

Roadway design characteristics include:

a. Average roadway width of 109 feet Southbound.

b. Average lane width of 14 feet Southbound; 13 feet Northbound.

c. Right turn ("pork chop") slip lanes/islands in Northbound/southbound lanes. Right turn is "free" to the motorist whereby there the car does not stop. This presents a hazard to pedestrians crossing Hiawatha.

(See Figure 5.1.)

East 46th Street (County Road 46) extends east over the Ford Parkway Bridge into Highland Park, St. Paul; and west toward Hiawatha Lake. East 46th Street west of Hiawatha is a two-lane undivided roadway designated as a Municipal State local roadway. East 46th Street east of Hiawatha is a four-lane divided roadway designated as a County State Aid minor arterial roadway. On both the north and south legs of its intersection with East 46th Street, Hiawatha Avenue has four lanes of approach with one exclusive left-turn and one exclusive right-turn lane. The east leg of the Hiawatha Avenue at East 46th Street intersection has three lanes of approach with one exclusive left and one exclusive right-turn lane. The west leg of the intersection is also a three-lane approach, but with only an exclusive left-turn lane. The intersection is controlled by an actuated traffic signal. The north-to-west and south-to-east left turn movements both have protected/permitted left turn phases. The posted speed limit on Hiawatha and East 46th Street are 35 MPH and 30 MPH, respectively. Hiawatha Avenue's posted speed is below standards for this classification of roadway. Given the roadway's design and volume, auto traffic often exceeds the posted speed limit especially during non-peak periods with fewer cars.

Figure 5.1: Break down lane ("striped" lane) often functions as passing or third travel lane during peak travel times.

Figure 5.2: Traffic Volumes at the intersection of Hiawatha Avenue and 46th Street

Characteristics	Hiawatha	46th Street
ADT Volume (2000)	41,000 Northbound 31,000 Southbound	16,000 Eastbound 9,600 Westbound
ADT Volume (2010)	46,500 Northbound 46,000 Southbound	21,000 Eastbound 11,600 Westbound
ADT Volume (2020)	54,000 Northbound 49,500 Southbound	25,000 Eastbound 12,500 Westbound [3]

[3] *Source: Hennepin County Transportation System Plan, October 2000.*

Other Roadways

Internal automobile circulation through the local street system follows a grid pattern, with Hiawatha/Minnehaha diagonal arteries interrupting this pattern.

Minnehaha Avenue supports two lanes of traffic in each direction plus parking along the curb. Striped bicycle lanes were recently installed on Minnehaha between the 29th Street greenway and Minnehaha Park. In-line skating and other pedestrian uses are prohibited on the bike lanes. The bicycle lanes extend far enough from the curb to allow cars to park along Minnehaha.

B.Traffic Volumes

Hiawatha Avenue operates as a high volume principal arterial with an eroding level of service especially during peak periods of morning and evening travel. Currently, Hiawatha Avenue operates in a coordinated traffic signal mode, providing progressive traffic movement while also maintaining service levels to the cross streets.

Hiawatha Avenue/46th Street's capacity is at level of service (LOS) F. Between 46th Street to 42nd Street the LOS fluctuates between C and D, and 50th Street is at LOS A. The term "level of service" (LOS) is used to characterize the operational conditions of a roadway with six designations from LOS A to LOS F with LOS A representing the best operating conditions and Level-of-Service F the worst. Specifically, the levels-of-service are as follows:

a. Level of Service A represents free flow. Auto users are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speed and to maneuver within the traffic stream is extremely high.

b. Level of Service B is in the range of stable flow, but the presence of other auto users in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver within the traffic stream from LOS A.

c. Level of Service C is in the range of stable flow, but marks the beginning of the range of flow in which the operation of auto users become significantly affected by interactions with others in the traffic stream. The selection of speed is now affected by the presence of others, and maneuvering within the traffic stream requires substantial vigilance on the part of the auto user.

d. Level of Service D represents high-density, but stable flow. Speed and freedom to maneuver are severely restricted, and the driver and/or pedestrian experience a generally poor level of comfort and convenience.

e. Level of Service E represents operating conditions at or near the capacity level. All speeds are reduced to a low, but relatively uniform value. Freedom to maneuver within the traffic stream is extremely difficult, and it is generally accomplished by forcing maneuvers.

f. Level of Service F is used to define forced or breakdown flow. This condition exists wherever the amount of traffic approaching a point exceeds the amount that can traverse the point. Queues form behind such locations. Operations within the queue are characterized by stop-and-go waves, and they are extremely unstable.

The general unit of measure for traffic on a highway is the average daily traffic (ADT) which is the total volume during a given time period. ADT statistics surrounding 46th Street/Hiawatha indicate high traffic volumes with significant increases in future years.

Traffic volumes at the 46th Street/Hiawatha intersection are projected to increase 28% by 2010, and another 12% by year 2020 at volumes approaching 103,500 ADT (two-directional). With a 31% increase in ADT over ten years, East 46th Street has lower traffic volumes, but higher growth rates than the intersection[4] (See Figure 5.2).

Traffic volumes are greatest in north-south direction along Hiawatha; southbound Hiawatha left-turn onto East 46th Street; eastbound 46th Street onto Hiawatha.

C. Investigate Roadway Reclassification

Highway classification defines how a road is envisioned to function within the overall transportation system. Hiawatha is classified as a Principal Arterial and this means it's a high volume roadway serving major centers of activity. However, with the introduction of light rail transit along Hiawatha, the functional classification could be re-evaluated to reflect the changing nature of the corridor. Hiawatha will continue to function as a high volume roadway, but light rail and associated TOD concentrates more pedestrian traffic along the corridor.

Recommendations:

Redesign Lane Configurations

A logical approach on lane and shoulder widths is to provide a width related to traffic demands. The capacity of highways is significantly affected by lane widths. Highway engineers remain dependent on road standards published and revised for the last 34 years by the American Association of State Highway and Transportation Officials (AASHTO).

AASHTO recommends a lane width of 3.6m (11.8 feet) on roadways with high traffic volumes, with a corresponding design speed between 45 mph and 50 mph: "The 3.6 m lane widths are most desirable and are generally used on all higher speed, free-flowing, principal arterials" (AASHTO, A Policy on Geometric Design of Highways and Streets, 1994, page 515). What this shows is that reduced lane widths are feasible and can accommodate traffic volumes safely along Hiawatha at the current posted speed limit of 35 mph.

To accommodate LRT facilities at the 46th Street Station Site, consultants to the Hiawatha Project Office are proposing the following design recommendations: (1) enlarged southbound "porkchop" island; (2) southbound lane narrowing to a average width of 11 ft.

It is important to note that many factors come into play when designing appropriate roadway dimensions such as safety, weather and environmental conditions, traffic and pedestrian volumes, and topography.

See cross-section diagrams at the end of this chapter.

[4] *MnDOT, Traffic Database, 2001*

D.Manage the Growth in Automobile Traffic Induced By New Development

Future developments occurring within a half mile of the station area will increase congestion at intersections and aerials. The area east and south of the 46th Street station offers solid market opportunities. Increased traffic from St. Paul via Ford Parkway to the LRT station would provide increased demand, and the location of Minnehaha Park as a first rate amenity contributes to the emergence of a strong residential and mixed-use transit-oriented development market. On the plus side, the increased traffic along 46th Street could be supportive of ancillary commercial retail and services in this area. The downside, it will contribute to a greater number of automobile trips above the already projected higher volumes.

E.Manage Station Site Development

The Proposed Plan shows potential future development within the kiss-n-ride/bus transfer facility that fronts 46th Street. This location provides good visibility to automobile traffic, and traffic along this street is anticipated to continue given the station location and access at this spot. However, a number of factors could constrain development of this site. The turning and queuing congestion anticipated west of Hiawatha for cars and buses accessing the drop-off poses a challenge to transit-related pedestrian traffic to businesses located on the site.

F.Manage Neighborhood Traffic

Increasing levels of automobile traffic regardless of light rail transit (LRT) development may spillover into the neighborhoods. The City of Minneapolis, through its Department of Public Works, Transportation Division, continues to expand its efforts to reduce the impact of traffic in residential neighborhoods. The Transportation Division is in the process of developing a policy regarding traffic calming. Traffic calming measures take many forms, but the most common changes to city streets are the construction of speed bumps, alley humps, lane reduction measures, and intersection chokers (which make the intersection narrower). These are all useful measures because they reduce the comfort level of high speed driving. Traffic calming measures are often installed on a temporary basis to determine neighborhood acceptance prior to implementing a permanent measure.

G.Incorporate "Context Sensitive Design" Principles and Applications

"Highway projects can be designed with imagination, creativity, and collaboration to preserve and enhance the character and quality of a community without sacrificing transportation mobility and safety," says Thomas Warne, President of the American Association of State Highway and Transportation Officials (AASHTO).

This approach has application for City, County, and State operated roadways. There are recently adopted aesthetic design guidelines for Hiawatha Avenue (TH 55) that addresses the principles of Context Sensitive Design.

Context Sensitive Design (CSD) is a new approach to transportation planning that looks "beyond the pavement" to the role that streets and roads can play in enhancing communities and natural environments. Through a planning and design process that encourages practitioners to collaborate with communities, context sensitive design responds to local needs and values while accommodating the safe movement of motor vehicles.

FHWA designated five pilot states – Minnesota, Connecticut, Maryland, Kentucky, and Utah – to implement context-sensitive highway design within their respective transportation departments based on the qualities and characteristics developed from Maryland's 1998 workshop.

The following are some potential applications of CSD:

a. Conversion of Hiawatha "Breakdown Lane" to a Bioswale

A ten-foot stripped shoulder/breakdown lane occupies the edge of the roadway in both southbound/northbound direction of Hiawatha. A part of the currently paved area (3 - 4 ft.) could be replaced with landscaping or bioswale that could improve water quality. A bioswale is a component of an open drainage system that acts by infiltration through the soil. It is a linear depression on the ground parallel to Hiawatha. When permitted by subsoil conditions, runoff treated by infiltration is environmentally superior to a closed, storm water system with treatment. It is also less expensive.

b. Improve Non-Motorized Travel Conditions

Encouraging walking and cycling can be improved by sidewalks, paths, cross-walks, protection from fast vehicular traffic, and providing street amenities (trees, awnings, benches, pedestrian-oriented lighting, etc.).

c. Incorporation of the Hiawatha Corridor LRT Aesthetic Design Guide (March 21, 2000)

The Design Guide addresses LRT system elements between station sites. Likewise, the design of Hiawatha has been established through a separate document: TH 55 Aesthetic Design Guide (Mn/DOT, June 1997).

These Design Guidelines convey principles and an overall approach to the aesthetic enhancement of the LRT system elements and roadway in the Hiawatha corridor. The principles are applied by the Hiawatha Project Office and their designers, Minnesota Transit Constructors. The aesthetics component is scheduled for completing designs by August 2001 for the 46th Street segment. The landscape plan for the 46th Street Station site will be coordinated with the landscape plan of the Hiawatha Corridor wherever possible, in particular with the water quality retention pond located at the 46th Street Intersection.

Recommendations in this document include:

a. Sidewalk / bikeway between LRT alignment and Hiawatha. It is important to sequence the construction of track work with improvements to sidewalk / bikeways. Existing bikeways are constructed of concrete material that create a jarring ride for the bicyclist. These concrete walkways can be replaced concurrent with the laying of new LRT trackways with a bituminous bikeways.

b. Median areas along Hiawatha should be treated as a landscape amenity, when possible, and as a feature of the highway experience. To avoid stunting from salt damage, and physical damage from snow plowing, all plants used in the median will be herbaceous, non-woody plants, and vines that are capable of coming back from the roots. The chief ground cover will be grasses, selected to tolerate salts,

sand abrasion, and low maintenance. Taller (medium height) ornamental or native grasses are desirable if they can be clustered into sinuous beds that resemble intentional garden plantings. Short grasses may be used in combination to fill space and create a rhythm of short and taller planting heights. The color and movement of grasses in the wind provides a softening effect within the pavement areas.

c. The southwest corner of the 46th Street Interchange has the beginnings of a water quality pond. Due to the MSP airport's proximity, it is desirable to keep the water covered with emergent vegetation to discourage ducks and geese. The pond form is dictated by the gradients required by the interchange, and the size of the interchange. Adding to the green mass of the vegetated pond with additional plantings above the water line can enhance this shape. A vegetated band of varying width shall surround the pond to create a pleasing, free form shape. Soils should be placed so that they match the appropriate habitat in terms of soil moisture. Conversely, the side slopes could be built with soils that support a drier plant habitat, such as sandy or claylike topsoil instead of peaty topsoil. Using a rich variety of native plan materials, including flowering plants, shall provide habitat for songbirds and beneficial insects.

For more information on CSD consult Mn/DOT's, "Design Policy - Design Excellence Through Context Sensitive Design", Technical Memorandum No. 00-24-TS-03, November 9, 2000), or visit the Context-Sensitive Design web site at http://www.fhwa.dot.gov/csd.

H.Encourage Development that Reduces Vehicular Travel

The 46th Street Master Plan proposes several new development design schemes with compact residential and mixed-use building and recreational uses. All of these new design forms potentially reduce vehicular traffic. The table below summarizes estimated travel impacts that can typically be achieved by application of Smart Growth/TOD principles. These impacts vary depending on specific policies, geography, demographics, and time frame (See Figure 5.3 on page 5-14).

IV. Parking and Access Management

The 46th Street Station Area community is not intended to be auto-free. Cars will continue to be a major transportation option to access station areas and transit facilities. However, a major objective is to balance the need for automobile access with the desire to create compact, mixed-use, pedestrian-friendly station areas that emphasize transit, walking, and biking. Providing parking for station area users--transit riders, shoppers, workers, and residents--is one of the most difficult tasks to be confronted in creating a station area community. Parking management can help balance the conflicting demands of various travel modes. Parking management should address the supply, cost, location, and design of automobile as well as bicycle parking. The following is a set of recommendations to consider:

Recommendations:

Control Parking Supply

Too much parking in a station area discourages transit-oriented development by consuming land, disrupting pedestrian walkways, and making distances between uses greatly inconvenient.

Parking Charges to Control Demand

There is no such thing as free parking; it is always paid for by somebody -- usually the employer or business. Shifting the cost of parking from the employer or retailer to the vehicle driver can significantly increase transit use and non-motorized travel.

Limit Surface Lots

Where large surface parking lots exist, they should be visually and functionally segmented into several smaller lots, using landscaping, street placement, or building design.

Design Surface Lots to Convert Over Time

The amount of land devoted to surface lots could be reduced over time if redevelopment is considered in advance. This type of strategy allows for surface lots as a temporary, first phase of longer-term development strategy.

Develop Parking Structures

The single most effective way of reducing the impact of large areas devoted to parking is to build parking structures. This may be financially prohibitive for a developer, and is often subsidized by City public finance programs.

Line Parking Structures with Other Uses

Design parking lots and structures so they do not dominate the frontage of pedestrian-oriented streets or establish impediments to pedestrian routes. Retail or other land uses should be located on the ground floor and incorporated into the building design.

Hide Surface Parking

Surface parking should be located behind buildings or in the interior of a block so pedestrians' access to building entrances are not impeded.

Keep Pedestrians in Mind

All automobile drivers become pedestrians after they park. Pedestrian walkways should be clearly delineated, well lit, and located within parking lots to all building entrances and out to the street.

Bicycle Parking

Provide bicycle parking that is centrally located and easily accessible to building entries in commercial areas, at major employment sites, and close to public facilities.

On-Street Parking

On-street parking is critical to keeping the focus of a community on the street, rather than the interior of lots. On-street parking helps to create street activity, as well as buffer the pedestrian from vehicle traffic. This is extremely difficult along Hiawatha, and impedes traffic circulation on 46th Street.

Access for Transit Vehicles

The location and design of parking lots should not cause conflicts with transit vehicle circulation. Where transit riders must cross parking lots to enter buses, safe travel routes should be provided. Bus stops provided at the station site or along East 46th Street/Snelling improve transit patrons accessibility.

Shared Parking

Parking demands fluctuate at different times of the day, creating opportunities for joint use of the same space by different users. Shared parking is convenient to all nearby uses.

Many parking lot designs result in far more spaces than actually required. This problem is exacerbated by a common practice of setting parking ratios to accommodate the highest hourly parking during the peak period. By determining actual average parking demand instead, a maximum number of parking spaces can be set. Figure 5.4 provides examples of conventional parking requirements and compares them to average parking demand.

In theory, mass transit like bus or LRT can reduce the demand for individual vehicles subsequently reducing the number of parking spaces required. In addition, shared parking allows adjacent land uses to share parking lots if peak parking demands occur during different times of the week.

Despite the challenges of this may present, several communities have successfully used mass transit, shared parking, or both, as credits toward reducing the total number of parking spaces created. One such example is Oakland, California where a study of short and long term parking demand was conducted by the Parsons Corporation. By taking an inventory of existing land uses, parking, and occupancy; and by considering vacancy factors, mass transit access, low auto ownership, and operations of special use facilities, the study concluded that parking rate for office space could be reduced from three spaces to 1.44 spaces per 1000 gross square feet. A study with similar results was conducted in Portland, Oregon and San Jose, California of LRT corridors. In Seattle, Washington they have a relatively high transit share in the downtown at 45 percent while imposing a maximum requirement of one space per 1,000 square feet. The City has also imposed requirements on developers to encourage transit and improved transit service.

Shared parking may be applied when land uses have different parking demand patterns and are able to use the same parking spaces/areas throughout the day. Shared parking is most effective when these land uses have significantly different peak parking characteristics that vary by time of day, day of week, and/or season of the year. In these situations, shared parking strategies will result in fewer total parking spaces needed when compared to the total number of spaces needed for each land use or business separately.

Applicable land use categories at the 46th Street Station Area Master Plan that are good candidates for shared parking arrangements include office, restaurants, retail, and residential, and special event situations. Shared parking is inherent in mixed-use developments, which include one or more businesses that are complementary, ancillary, or support other activities.

Considering the type of land uses proposed for the 46th Street Master Plan development, shared parking will occur and will result in a total on-site parking demand that is less

Figure 5.3: Travel Impacts of Land Use Design Features

Design Feature	Reduced Vehicle Travel
Residential Development around transit centers	10%
Commercial Development around transit centers	15%
Residential Development along transit corridor	5%
Commercial Development along transit corridor	7%
Mixed-use development around transit centers	15%
Mixed-use development around transit centers	20%
Mixed-use development along transit corridors	7%
Mixed-use development along transit corridors	10%
Mixed-use development	5%
Mixed-use development	7%[4]

Source: MnDOT Traffic Database, 2001

Figure 5.4: Conventional Minimum Parking Ratios

Land Use	Requirement Parking Parking Ratio	Actual Average Parking Demand Typical Range	ActualAverage Parking Demand
Single family homes	2 spaces per dwelling unit	1.5 - 2.5	1.11 spaces per dwelling unit
Mixed-Use (retail on bottom)	4 spaces per 1000 ft2 GFA	2.0 – 10.0	2.8 per 1000 ft2 GFA
Shopping center	5 spaces per 1000 ft2 GFA	4.0 - 6.5	3.97 per 1000 ft2 GFA
Convenience store	3.3 spaces per 1000 ft2 GFA	2.0 - 10.0	2 per 1000 ft2 GFA
Industrial	1 space per 1000 ft2 GFA	0.5 - 2.0	1.48 per 1000 ft2 GFA
Medical/ dental office	5.7 spaces per 1000 ft2 GFA	4.5 - 10.0	4.11 per 1000 ft2 GFA

GFA = Gross floor area of a building without storage or utility spaces.

Figure 5.5: Proposed Parking Standards (per 1,000 square feet of development space, and per unit.)

Use	Met Council TOD Handbook Parking Standard	46th Street\Hiawatha Parking Standard
Retail	3 to 5	3
Office	2 to 4	2
Residential	N/A	1

than the number of parking spaces required by the City of Minneapolis Zoning Code. According to a study conducted by Barton-Aschman Associates, Inc. (a predecessor organization of the Parsons Transportation Group) for the Urban Land Institute (ULI),[5] shared parking is the result of two conditions:

a) Variations in the peak accumulation of parked vehicles due to time differences in the activity patterns of adjacent or nearby land uses (by hour, by day, by season).

b) Relationships among land use activities that result in people being attracted to two or more land uses in a single auto trip to a given area or development.

The result of the two shared parking conditions is that the parking demand for the development as a whole will usually be less than the sum total of peak parking demands for the individual land uses on the site. The time differences in activity patterns of a site such as the Master Plan's development area nearest the Minnehaha Park tend to be complementary (e.g., many parking spaces used by retail, commercial, and small offices tenants during the day will be available for residential parking in the evening). Second, some office employees will patronize cafes, and restaurants (e.g., a single parking space will serve an office employee who is also a restaurant patron.).

The shared design methodology developed by Barton-Aschman for ULI provided the basis for assessing the parking demand and hourly parking accumulation for the various components of the proposed 46th Street Station Area Master Plan development.

The peak parking demand calculation considers that some of the mixed-use with retail on the ground floor and office tenants and housing residents may patronize cafes, restaurants, and a grocery store. These people would already have their cars parked on-site and would not generate additional parking demand. Thus, they are considered captive patrons of the site. It was estimated that 10 percent of the peak parking demand for cafe/restaurants and grocery store would be captive.

It is typically desirable, however, to provide a parking supply of up to 10 percent more spaces than needed to accommodate the peak demand, for customer convenience, to reduce vehicles circulating in search of a parking space, and to accommodate the occasional surges in parking activity on the site. This 10 percent parking supply overage can be worked out between developer and City. Once a formal site plan has been submitted with anchor tenants and main residential developments identified, the City's Site Plan Review Committee may require a parking demand study to ensure sufficient parking is provided (See Figure 5.5).

The above standards are well-below City standards and anticipate a significant percentage of access to the development via transit or walking, in addition to joint parking arrangements. Thus, offsetting standard parking demand requirements.

The number of parking spaces that could be shared in close proximity via a reciprocal parking agreements is best suited at the Master Plan location bounded by Snelling Avenue and Hiawatha. Given the above standards, this sub-area of the Master Plan provides approximately 630 parking spaces. Shared/joint use parking arrangements are applicable for senior housing, townhomes with retail/office uses. If fully implemented could result in a reduction of available parking spaces by 10 percent, or approximately 60 spaces.

[5] *Shared Parking Demand for Selected Land Uses, Parsons Transportation Group (Barton-Aschman Associates, Inc.) for the Urban Land Institute, September 1983.*

Implementation Considerations

Reduced parking requirement policies should be coordinated with local transportation demand management programs and enforcement of on-street parking controls to guard against potential spillover of parking into neighborhood areas. The City of Minneapolis should require that a shared parking plan be submitted. This could be included in the site plan and landscaping plan information require for parking areas or as a separate document. If so, this shared parking plan could include one or more of the following:

a. Site plan of parking spaces intended for shared parking and their proximity to land uses that they will serve.

b. A signage plan that directs drivers to the most convenient parking areas for each particular use or group of uses (if such distinctions can be made).

c. A pedestrian circulation plan that shows connections and walkways between parking areas and land uses. These paths should be as direct and short as possible.

d. A safety and security plan that addresses lighting and maintenance of the parking areas.

Reduced Parking Requirements

Parking requirements can be reduced at sites that implement travel demand management (TDM) programs. For example, a developer's parking requirements could be reduced 20% if they implement commute trip reduction or location efficient development program for residential homeownership.

Cash Out Free Parking

"Cashing Out" parking means that work commuters who are offered subsidized parking are also offered the cash equivalent if they use alternative travel modes. This tends to reduce automobile commuting by 15-25%, and is more equitable than providing free parking with no comparable benefit for non-drivers. This would be especially effective at high employment locations along the Hiawatha LRT line such as the Minneapolis CBD, Fort Snelling, and MSP Airport.

Unbundle Parking

Parking facilities are often "bundled" with building costs, which means that a certain number of spaces are included with building purchases or leases. This assumes that all building users (residents, businesses, employees, etc.) have equal and unchangeable parking requirements. It is more fair and efficient to sell or rent parking separately, so building occupants pay for just the number of spaces that they require, and can adjust their parking supply as their needs change.

V.Bus Transit Service

Nationally, ridership among the 25 largest bus agencies increased 1.8 percent last year. The nation's 17th largest bus system, Metro Transit customers boarded its 939 buses 73.5 million times last year (up 2.2%), the highest ridership in 15 years. A recent study by the Minneapolis Travel Management Organization found that bus trips accounted for 37% of all trips entering the downtown area during peak periods.

With the coming of the LRT, the existing bus routes in the Hiawatha corridor will be re-designed to make convenient connections at most of the light rail stations at all times. The light rail route is planned to operate every 7.5 minutes in the rush hours, every 10 minutes in the midday, and every 15 or 30 minutes in the evenings and on weekends. New cross-town bus routes are also planned to enhance access to the LRT line and between neighborhoods. Non-rush hour riders will see the greatest improvements in bus frequency. In most cases, travel times will be significantly shorter, for both trips to downtown and neighborhood to neighborhood trips, due to the various routes meeting at the stations.

Some city streets will have more buses traveling on them than at present, including 46th Street between 46th Avenue South and St. Paul. Streets getting buses for the first time have been kept to a minimum. A new cross-town route is proposed on the streets south of Lake Nokomis to tie the neighborhoods east and west of the lake together with the Hiawatha line. This route, and a new cross-town to Edina via 46th and West 50th Streets is to be operated with a new fleet of minibuses. Some streets have been avoided altogether for any kind of bus line. An example is 46th Street between 46th and 28th Avenues.

The 46th Street Station is a significant transfer point ("bus hub") between the local bus system and LRT. In fact, the number and frequency of buses is the third highest along the LRT system. Over 80% of the LRT patrons will be arriving by bus. All access to and exit from the station area for buses, automobiles, and Metro Transit maintenance vehicles is via a driveway on the north side of 46th Street at 36th Avenue South. About 37 buses per hour will be entering/exiting the station during rush hours.

Immediately west of the bus waiting area is an area for automobiles to drop-off/pick-up passengers. An electrical substation is located northerly of the drop off and ride area between the bus waiting area and the berm. Potential redevelopment sites include areas between the station site and 46th street, and between the station site and the existing alley immediately to the west. In addition to the berms, landscaping is provided for on the north side of 46th Street between the driveway entrance and the LRT tracks.

As originally conceived, 36th Avenue south of 46th Street is terminated by a cul-de-sac. The purpose of this cul-de-sac is to make 46th Street operate more efficiently by reducing the conflict of 36th Avenue traffic coming in to 46th Street and also by preventing traffic that may be backed up at the traffic signal or backed up due to LRT crossings from turning down 36th Avenue and driving through the neighborhood. The Hiawatha Project Office's recent plan revisions will keep 36th Avenue open as is - without a cul-de-sac. A new cul-de-sac north of the station is proposed at 35th Avenue. The Station Area Master Plan proposes a right-in/right-out alternative at 36th Avenue.

The cost for a transit patron to use the LRT will be the same as the bus system with transfers treated the same as they are today. No park and ride facilities have been planned around the stations located in Minneapolis. The city intends to rely on best practices within Minneapolis (such as controlled on-street parking) to ensure that LRT riders do not flood neighborhoods adjacent to the line with all-day, on-street parking.

A.Signalizing Station Entrance/Exit

Future conditions are such that eastbound/westbound automobile traffic may block buses from exiting the station site. A bus traffic actuated signal could help. It will be sequenced with intersection signals and bus frequencies to avoid bus delays and automobile conflicts.

Recommendation:

- Install a special traffic-actuated signal at the entrance/exit to the LRT station site.

B.Bus Stop on 46th Street

Along East 46th Street at the Station Site, bus service could be enhanced by providing room for a bus to stop a few seconds for riders to exit/enter a bus traveling westbound. This will have to be carefully planned so as not to conflict with automobile right-turns onto 46th Street. In addition, a bus turnout stop in vicinity of the development site at East 46th Street/Snelling Avenue provides convenient service to housing, retail, commerce, and recreation. This option would be especially useful for senior adults and people who are transit dependent.

Recommendation:

- Design/construct on-street bus drop-off points on 46th Street just west of Hiawatha Avenue. A zone accommodating one bus is normally from 80 to 160 feet in length with a minimum 4-foot wide clearance zone from the curb so that opening bus doors are not blocked by street furnishings, sign posts, landscaping, or other obstructions; with 9 feet of clearance from the curb for wheelchair lift operation.

C. Clean Buses

Given the number and frequency of buses at the Station Site, clean buses that are propelled by fuel-cells, hybrid engines, or use innovative "fly-wheel" engine technology would enhance the environmental quality of the area. According to Aaron Isaacs of Metro Transit, they have already purchased a five hybrid electric buses for its fleet. These buses will be tested in 2002 for reliability and cost effectiveness. If the tests are successful, Metro Transit will pursue efforts to purchase more of these buses.

Recommendation:

- All routes stopping at 46th and Hiawatha should be high priority routes for receiving hybrid-electric buses, due to the proximity of the bus-turn-around to housing and shops.

D. Technology Supported Bus System

A number of technologies can be implemented such as automatic vehicle location (AVL), computerized trip-planning for customers, an automated scheduling system, signal-timing at intersection, and smart fare cards that enhance seamless multi-modal transfers between buses and light rail.

Recommendation:

- Continue to develop and employ technology that supports seamless transit operations

E.Information Kiosk

A transit information kiosk would include technologies listed above, and would also include information about the neighborhood area and events.

Recommendation:

- Locate a transit information kiosk at the station area.

VI.Light Rail Transit Service

Light Rail Transit (LRT) has been in the planning stages for many years. The Hiawatha LRT is designed to run along Hiawatha Avenue (Highway 55), connecting downtown Minneapolis, Bloomington, Mall of America, and the airport. There will be 17 stations. The 46th Street Station Area at the northwest corner of the intersection lies between 46th and 45th Street and between the alley east of 35th Avenue and the LRT line. LRT proceeds north from the 46th Street Station along the west side of the TH 55 right of way between the existing residential area on the west and a sidewalk/bicycle path on the east. LRT crosses a signalized intersection at 42nd Street at grade, and 46th Street at grade. A berm topped by a wood wall lies west of the LRT alignment between 40th Street and 46th Street. (See Figure 5.6.)

The 46th Street Station Area will include the LRT platform, a circulation system for local buses and drop-off and ride area, berms along the west side of the station area and transit-oriented development sites.

Construction started March 2001, and will continue in stages until the entire line is completed in Fall 2004. The timetable for construction along the line between 26th Street to Minnehaha Park (including the 46th Street Station) is Spring 2001 to Summer 2003. Service between downtown Minneapolis and Ft. Snelling is scheduled to begin in Fall 2003, with the entire line open for service by Fall 2004.

The Light Rail track sections will be constructed within a 65-foot wide strip along the west side of Hiawatha. Sound barriers, made of timber walls or earth berms, were constructed to separate the roadway from the residential area. The top of the sound barriers is typically 12 feet above Hiawatha curb elevations.

Hiawatha LRT is designed to be an integral part of Metro Transit. Bus routes and schedules along the Hiawatha corridor will be redesigned to provide faster trips to major destinations. Service will include feeder routes that will provide convenient access to Hiawatha LRT. The 46th Street Station is designated as a major transit hub/transfer point along the LRT line. In fact, other than downtown locations, with eight routes converging at the station, the 46th Street stop has the second highest number connecting bus routes. The Mall of America is number one with over a dozen bus routes.

Figure 5.6: the Hiawatha Light Rail Transit route

Passenger safety is a big concern. Trains will have two types of audio signals: a trolley-type bell which will be sounded upon approaching each station; and a louder air horn, which will be used as a warning signal at the discretion of the LRT operator. At the 46th Street Station there will be several gate crossings. The gates are designed to lower 20 to 25 seconds before a train reaches the intersection. Gates will be operated across all major traffic turning movements in vicinity of the LRT station. It is proposed by the Hiawatha Project Office that gates will be positioned at the existing traffic island and at 46th Street near the station, west of Hiawatha.

In addition, stations will be regularly patrolled by Metro Transit police officers. Also, Metro Transit employees will be at each station during hours of operation to check fares and offer assistance to passengers.

Every station will have closed-circuit television (CCTV) monitoring; public address systems; and emergency call boxes.

Stations will be well lit, and are designed with an "open feel" which eliminates dark and hidden corners.

Figure 5.7 shows renderings of the 46th Street Station. The sloped roof form, substantial foundation wall, colors, materials and art images reflect the residential neighborhoods and the market heritage of Hiawatha Avenue. Letterforms or regional icons on the canopy fascia are future sculpture opportunities. In addition, passenger amenities are designed into each station, helping to create a safe and comfortable waiting area: canopies and windscreens, overhead radiant heaters, maps, information kiosks, bicycle racks, lockers, benches, leaning rails, litter receptacles, clear signage/graphics and public art.

Safe and convenient connection for passengers riding between Metro Transit buses and trains is mandatory objective for the Hiawatha LRT system. This objective is especially important for the 46th Street Station where the projected ridership is to be at least 82% from connecting buses.

A profile for the 46th Street Station is as follows:

a. Bus Service:

37 buses will arrive each hour during the peak period when LRT opens.

20 buses arrive each hour during the peak period today.

b. Ridership:

19,300 daily ridership in year 2004 for the entire line.

24,800 daily ridership by year 2020 - a 29% increase for the entire line.

3,300 daily ridership at the 46th Street Station in 2020.

The statistics for 46th Street reveal that the majority (82%) of ridership arrives via the bus. The ridership projections don't anticipate increases in transit-oriented development. If they did they would show a higher number of walk-access to the LRT station. However, bus access to the station will still be disproportionately higher than walk access (Figure 5.8).

The Hiawatha Project Office (HPO) is managing the design/construction of the LRT facilities and station site.

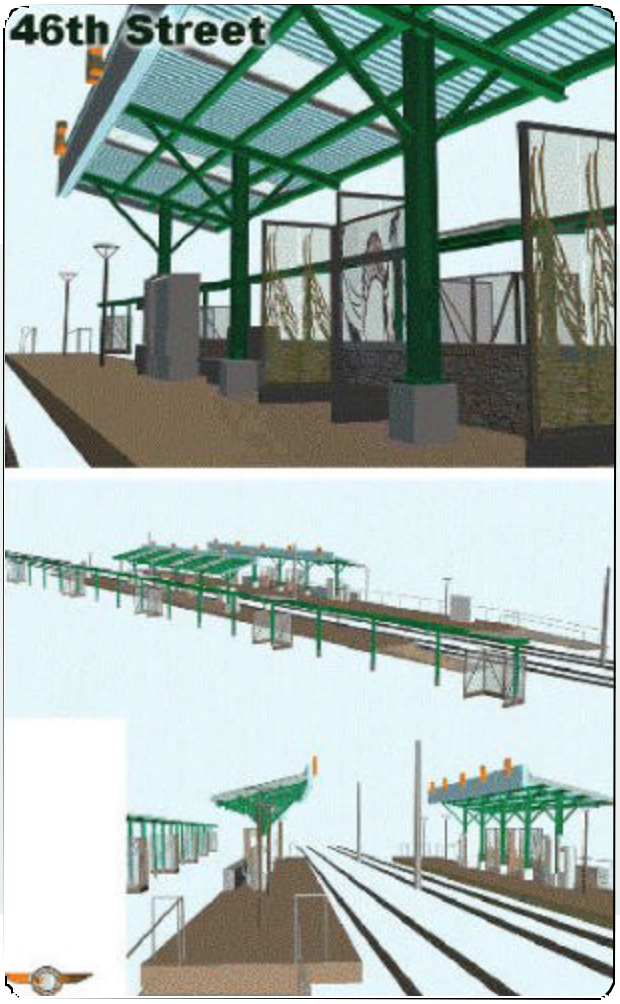


Figure 5.7: This is architectural concept for the 46th Street Station.

Figure 5.8: Projected daily ridership by access-mode for year 2004 and 2020

Station	Year	Boardings/ Alightings	Walk	Bus	Auto
38th Street	2004	1900	850	950	100
	2020	2400	1050	1200	150
46th Street	2004	2700	450	2200	50
	2020	3300	550	2700	50
Minnehaha Park	2004	600	455	100	50
	2020	700	550	100	50

Source: Metropolitan Council, Hiawatha LRT Ridership Statistics Year 2020.

VII. Pedestrian Travel (Non-Motorized)

Every trip begins and ends as a pedestrian trip - whether walking to a bus stop, across a parking lot to your car, or boarding a light rail transit train. Needs of pedestrians include safe streets and walking access, convenience, visibility, comfort and shelter, an attractive and clean environment, access to transit and bicycles facilities, interesting things to look at while walking, and social interaction.

The drop and ride facility will bring together many modes of transportation, and it is important to encourage a healthy mix of choices. Getting to and from the site as well as throughout the TOD and neighborhoods should be made rewarding, safe and convenient regardless of the mode of transportation.

A. Summary of the Pedestrian Environment at 46th Street

Pedestrian travel by walking accounts for about 4 percent of all trips in Hennepin County. However, the percentage in the 46th Street area is below that figure. Studies in different metro areas have shown that denser development within an easy walk of a TOD center and transit station will generate walk trips, and that these trips may substitute for vehicle trips.

Existing conditions for self-propelled modes of travel (walking, bicycling, rollerblading, etc.) in the neighborhoods surrounding 46th and Hiawatha are good. Sidewalks are continuous along East 46th Street and west side of Hiawatha.

B. Bicycling in the Study Area

Bicycling is on the rise in Minneapolis. A 1999 zoning code revision has required all new office developments and major renovations located in downtown Minneapolis to incorporate bicycle facilities (clothing storage lockers and showers) into buildings of 500,000 square feet and larger.

Bicycle use in the County is about 3% of all trips. The incidence of bicycle use is very high at 46th Street especially during the weekend as bicyclist travel along the Creek trails and travel to the Park or into St. Paul. Biking should be encouraged as a means of transportation as well as a recreational activity. Providing for bicycle convenience will increase ridership at the station. For bicyclists to feel as though biking to transit is an easy and convenient mode of getting to work, home, shopping, etc. this station needs attractive and time-saving facilities for them.

There is a good network of bicycle routes serving 46th Street as shown in Figure 5.9.

This network includes:

a. Lake Hiawatha Bicycle Trail - part of the Minnehaha Creek Park & Trail system - from the Lake to Hiawatha Avenue.

b. Hiawatha Avenue - north-south, paved off-street bicycle route.

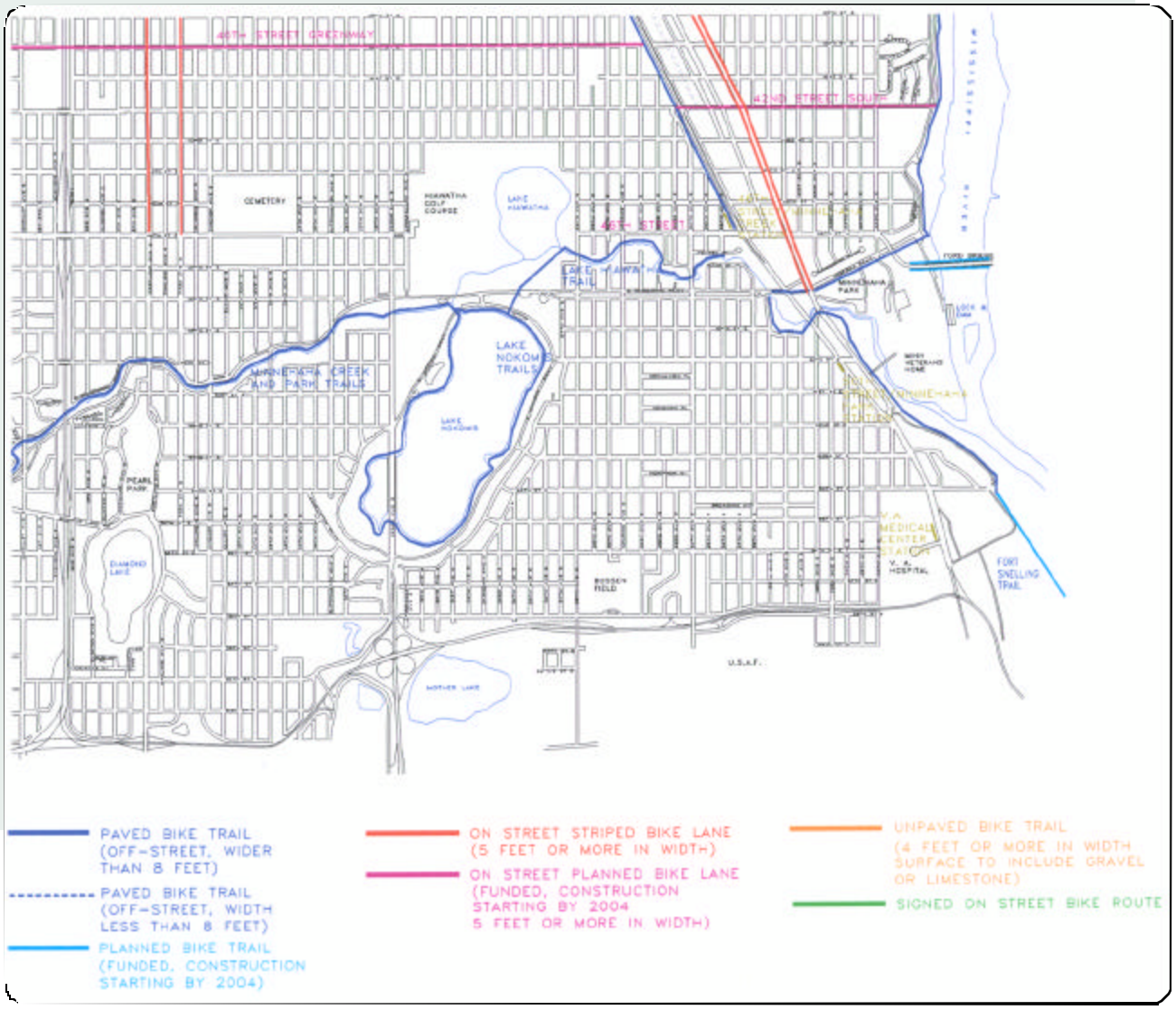
c. Minnehaha Avenue - on-street striped bicycle lane.

d. 42nd Street provides good east-west bicycle paths.

The Minnehaha Avenue is a painted bicycle lane that connects directly with the Park. The Hiawatha Bicycle Trail will be constructed as part of the LRT project.

The Hiawatha Bicycle Trail will be a continuous trail from downtown Minneapolis to Fort

Figure 5.9: Bike Map 46th Street Station Area and Connecing Rates



Snelling State Park near the MSP Airport. The bicycle facility will be constructed from 11th Avenue South near the Metrodome south to East 46th Street. The route of this bicycle trail starts along the north side of Minnehaha Creek (south of 46th) and goes under 34th Avenue South, crosses over the Hiawatha Avenue tunnel, and then follows the reconstructed TH 55 alignment on the east side to East 54th Street. An at-grade crossing of East 54th Street will be included in the Mn/DOT and Park Board plans.

C.Encouraging Walking and Biking

The factors that encourage people to walk are often subtle, but they most regularly focus upon the creation of a pleasant environment for the pedestrian. Increasing the likelihood that people will walk to and within a station area significantly increases the probability that they will use public transit and improves the viability of the entire station community. Success in attracting people to walk rather than drive depends on the quality of the walkways, type of destinations, perceptions of safety, and number of obstacles or conflicts encountered along the way.

The following are a set of principles that could be applied:

a. Identify and enhance "pedestrian streets" within the station area.

Pedestrian streets should be identified that are primarily designed to serve people on foot. Auto travel should be minimized, speeds reduced, on-street parking allowed, and bike travel encouraged.

b. Establish continuous and uninterrupted walking routes.

A continuous sidewalk system should be established within the station area. Pedestrian routes should be located along or visible from all streets and provide clear, comfortable, and direct access to the core commercial area and transit stop.

c. Ensure safe, convenient, and frequent street crossings.

Pedestrians must be able to cross streets easily and safely at many different points within the station area if they are to do without their automobiles.

d. Design intersections that balance pedestrian and auto movements.

Intersections should be designed to facilitate both pedestrian and vehicular movement by slowing traffic and reducing pedestrian crossing distances.

e. Locate building entrances close to public walkways.

Buildings within station areas should be required to be built to the sidewalk edge. This creates better access for pedestrians and establishes an interesting walking environment connected to other land use activities.

f. Orient commercial establishments based on their different needs.

Large anchor stores, that have greater parking needs and depend on visibility, should be oriented to arterials and station entrances. Smaller businesses, that are dependent upon pedestrian activity, should be along pedestrian streets.

g. Design parking areas for pedestrian movement.

All parking lots should be planted with sufficient trees and screened from streets with buildings or landscaped treatments. They should also have clearly delineated walkways that provide easy access to building entrenches.

h. Establish a coordinated system of bikeways.

Important destinations, such as core commercial areas, transit stops, employment centers, schools, and bike routes should link other community facilities.

i. Provide pedestrian amenities within the station area.

Incorporate landscaping, weather protection, public art, street furniture, street lighting, public phones, and other pedestrian amenities in public and private developments. These amenities will establish a more comfortable and visually interesting place for pedestrians.

D.Recommendations for Improving Conditions of Ped/Bike Travel

In addressing the above principles, the following recommendations are put forth. Principles that relate to the LRT station and bus transit facilities are being incorporated in the LRT Station site design. Other aspects of the pedestrian principles are discussed in Chapter 3: Urban Design.

Hiawatha is unfriendly to pedestrians. The roadway acts as a barrier to the creation of a neighborhood center that is walkable and bikeable. There is a tool kit of design elements that can make drivers drive reduce speeds, stop when making a "free" right turn, and just generally change behavior to give peds and bikes priority in an area, without even posting signs and rules. In the case of 46th and Hiawatha, the most appropriate design tools recommended are as follows:

Underpass

An underpass beneath Hiawatha, just north of 46th Street would increase safety for both bicyclists and pedestrians as well as cut down on the bike-to-station time. This makes biking to the station a more viable option for those living up to five miles from the station. This increase of the capture area for the station will increase ridership among nearby residents.

Underpass Feasibility

The feasibility of either a pedestrian bridge or underpass at the 46th Street and Hiawatha Avenue intersection has been evaluated by Hennepin County. Soil conditions, hydrology, and cost were some of the issues evaluated for an underpass.

The following is an excerpt from a recent letter to Hennepin County from a consultant conducting the study:

TKDA has nearly completed the Phase I - Investigation portion of the referenced project. Based on our research to date, underpass construction *appears to be feasible.*

A geotechnical investigation has been performed by American Engineering Testing (AET). Based on TKDA's verbal discussions with AET, the soil and groundwater conditions are suitable for tunnel construction. Based on TKDA's preliminary review of utility information, we expect that the top of the tunnel will need to be approximately six to eight feet below grade to prevent interference with underground utilities. Assuming eight feet of soil cover, a two-foot thick tunnel roof, and a ten foot high tunnel interior, the tunnel floor slab will be approximately 20 feet below grade. The length of each approach ramp will need to be approximately 400 feet in order to limit the slope to 5%. At this point, the underpass has been determined to be technically unfeasible due to depth of utilities.

Underpass Design

Earlier in the public process, many residents had a negative perception of an underpass as a dark seedy place where bad things can happen. It is true that a poorly-designed underpass can become a place that is forgotten about, resulting in a dirty, dark and scary place. However, there are examples nationally of well-designed underpasses that are well-like places and well taken care of. Making the underpass wide and bright is the first step to designing such a place.

The designers of the underpass in Figure 5.10 went several steps further by making each opening a small public plaza, including interesting relief sculpture along the side walls, and creating a skylight in the median of the street above to let natural light into the tunnel.

Recommendation:

- Construct an underpass beneath Hiawatha immediately north of 46th Street.

  The underpass should be at least 25 feet wide and allow for ample natural light to enter. Either end of the underpass should be design for the most active uses as possible, increasing surveillance of the tunnel.

Storage

Those riding bicycles to the LRT station as part of their daily commute need to feel safe leaving their bikes for the day. For convenience and choice there should be racks outdoors and lockers indoors. For optimal safety both should be in locations that are highly visible to passers-by, shoppers, commuters, etc.

Recommendation:

- The existing concrete bike lane between Hiawatha Avenue and the LRT alignment will likely get torn up during the construction of the LRT. When the path is rebuilt, it should have a bituminous surface, such as asphalt, which is preferred by bicyclists and less expensive as well.

Blank-out Signs

Blank-out signs (Note: already programmed in the Hiawatha LRT Design/Build project) look like television screens on which messages like "prepare to stop" would appear when the light rail train is approaching and blank out when it has crossed. These signs would be placed on the boulevard of signalized streets crossing Hiawatha.

Recommendation:

- Install blank-out signs (Note: already programmed in the Hiawatha LRT Design/Build project) to warn motorists of upcoming train crossings.

Figure 5.10: This underpass in Boulder, CO is well-lit, inviting, safe, and attractive due to careful consideration in its design.

Pedestrian Signage

Pedestrian crossing signage in fluorescent yellow-green can make a difference in safety.

Recommendation:

- Use mounted signs in fluorescent yellow-green on the pedestrian islands indicating pedestrian crossing.

Variable or Textured Material in Crossings

For safer crossings textured walks or paths across streets help delineate crossings to motorists and pedestrians while the texture material functions to reduce car speeds. Changes in pavement color and texture raise a motorist's awareness through increased visibility, noise, and vibration.

Recommendation:

- Use variable or textured paving for pedestrian crosswalks. Crossings constructed with special paving should use non-slip bricks or unit pavers. Scored or stamped colored concrete surfaces can also be used, and are generally more durable over the long term than unit pavers, with more uniform joints and less chance of displacement. Special paving surfaces should be installed and maintained in a smooth, level, and clean condition. Care should be taken to ensure that grooves and joints do not impact accessibility.

Crosswalks and Traffic Calming

Creating an environment in which it is safe and comfortable to cross Hiawatha Avenue and 46th Street is essential to the success of the proposed development. Several design features can more clearly give the pedestrian the right-of-way when crossing the street. Clear crosswalks with grooved pavement, extended medians, street trees, and narrowed street widths at intersections are a few examples. Other streets throughout the study area will benefit from these amenities as well.

Recommendation:

- At intersections throughout the redevelopment area, street widths should be narrowed to include only the traffic lanes, not the on-street parking lanes, to minimize the length of the crosswalk.
- Traffic lane widths can be as narrow as ten feet (11 on Hiawatha) to reduce traffic speeds and make drivers more cautious.
- Crosswalks should be clearly painted or paved at each intersection.
- Medians should be landscaped and extend into the crosswalks.

Free-Right Turns and Right-Turn Channelization (Slip) Lane

Existing conditions allow the slip lane traffic for right-turners on Hiawatha to bypass the signal intersection and make a "free right turn". The slip lane is separated from the originating street by a triangular refuge island sometimes called a "porkchop" island. A free-right turn is allowed at the intersections for northbound and southbound traffic. Automobiles execute the right turn at speeds that endanger pedestrian safety. To address this safety issue signalization, signage, and textured paving channelization are recommended at the right-turn intersection.

In addition, along Hiawatha's intersections, there is a triangular space between the through-lane and the right-turn lane ("slip" lane) with a raised pedestrian refuge island that helps in crossings. At this and other locations along Hiawatha with high numbers of right turning movements, slip lanes should be protected with a signal, marking and/or signage to provide pedestrians opportunities to safely cross. It is appropriate to use pavement markings to indicate the crosswalk location at a slip lane, since both pedestrians and motorists need guidance as to the correct location for crossing. Also, refuge islands should be designed with an elongated tail, which stretches out the turning movement and provides vehicles more space to slow and observe pedestrians crossing the lane. (Note: This elongated design is recommended by the Handbook for Walkable Communities as a method to make right-turn slip lanes safer for pedestrians. It has not yet been incorporated into the AASHTO Green Book.) Refuge islands need to provide curb cuts, or cut-throughs if space is limited, for accessible passage.

Recommendation:

- Eliminate "free-right turns" by installing a flashing red signal or stop sign. In addition, use textured paving on the channelization lane, a tight turning radius, and enlarged refuge island to cause motorists to slow down when turning right off of Hiawatha. Triangular refuge islands should be a minimum of 20 to 25 feet long and not less than 3.3 feet wide in the crossing region and 1.6 feet wide in the tail region. Pedestrian push buttons may be needed when the signal timing doesn't allow all pedestrians to cross the street on one crossing phase. (Note: As part of the LRT project, the southbound pedestrian refuge is being proposed for enlargement to accommodate the LRT facility gate arms and pedestrian crossing.)
- All of the above design elements will reduce crossing distances for pedestrians, slow vehicular movement through the intersection, heighten awareness of pedestrians, improves signal timing because the time for the pedestrian crossing phase can be reduced.

Existing Signalized Crossings

For north-south travel off of Hiawatha, existing pedestrian crossings are at signals located at East 46th Street and the following cross streets: 46th Avenue South, Minnehaha Avenue, and 42nd Avenue South.

Recommendation:

- Pedestrian-crossings at 46th, Minnehaha Parkway, and 42nd should be delineated with prominent markings and textured materials such as raised crosswalk, zebra strips, or other forms that improve pedestrian crossings.

Median Noses

Median noses improve pedestrian crossing and safety especially when combined with "zebra" crossing at intersection.

Recommendation:

- Install raised "median noses" at all four crossings of 46th and Hiawatha.

Median Landscaping/Aesthetics

Landscaped medians improve the area for everyone. This is especially applicable to East 46th Street median. Such treatments enhance the character and may improve the real estate value of existing and new development.

Recommendation:

- Apply aggressive greening of medians to enhance aesthetics of roadways.

E.Barriers to Implementing These Recommendations

Lacking a policy on roadway classification for arterials adjacent to LRT, Mn/DOT staff would struggle with making pedestrian-friendly improvements to a Trunk Highway, as they do not want to impede traffic flow. Mn/DOT staff feel some of the recommendations such as the grooved paving, tighter radii, median noses or raised crosswalks could be explored and possibly implemented.

Installing a flashing red or stop sign is objectionable, because of driver non-compliance. Mn/DOT staff is worried about giving pedestrians a false sense of safety and having drivers fail to change their behavior.

To address this concern, the City, County and Mn/DOT need to make improvements to change driver expectation throughout the Hiawatha corridor. The presence of trains and therefore more pedestrians and bicyclists make Hiawatha a special type of roadway and may warrant its reclassification as such.

Recommendation:

- Met Council needs to support this project and persuade the Governor and others at the State level to create a special classification for Hiawatha Avenue that would allow these pedestrian-friendly improvements.

VIII. Overall Recommendations

A.Transportation Management Organization

Coordinated with other Transportation Management Organizations (TMOs) in a network, a TMO could be established with the existing neighborhood organizations and located at the 46th Street Station Site. The mission of many TMOs within the City is to promote congestion reduction and mobility strategies and advocate for environmentally sound transportation policies.

Recommendation:

- Establish a Transportation Management Organization. TMO activity could include the following: providing transportation services in way of transit passes, programs, information for commuters and general public; and providing information to commuters, residents, and businesses about transit system and alternatives to driving, telecommuting and flexible work arrangements.

B.Travel Demand Management

The Twin Cities region already has in place Travel Demand Management (TDM) Strategies. The purpose of TDM is to reduce the number of single-occupant vehicles (SOV) using the roadway system. TDM strategies provide incentives for travelers to use alternatives to SOV.

Recommendation:

- Continue to implement Travel Demand Management strategies. Examples of TDM strategies include the following:

  a) Work hour modifications such as compressed work weeks, flexible / staggered work schedules and telecommuting;

  b) Incentives to using other modes of travel such as employer-based ridesharing programs; special car-pool / van-pool parking privileges; employee transit pass subsidies; guaranteed rides home for transit users; car-sharing; and bicycle-sharing arrangements.

  TDM programs usually employ a combination of many of the above items to achieve overall reductions in drive alone trips. Recent implementation of TDM programs on regional, corridor, activity area, and employment site, has found that the greatest effectiveness has been achieved at the site level. This is because TDM strategies at a site can be chosen to meet worksite characteristics, operational characteristics and commuter's travel characteristics.

Recommendation:

- Information should be targeted and disseminated to the employees working at shops, retail, or office uses at 46th Street Station Area and other employment centers along the Hiawatha Corridor.

Recently, on May 17, transportation advocates celebrated the 10th anniversary of their efforts to get commuters to try an alternative to driving single-occupant vehicles called "B-BOP Day". B-BOP stands for bike, bus or pool. Celebration of B-BOP Day started in 1991 to raise awareness of commuting options and persuaded people to not use their automobiles. "B-BOP Day presents a great opportunity for people to try a different way of commuting," said State Transportation Commissioner Tinklenberg. "I encourage everyone who can to bike, bus, carpool, walk or telecommute."

C.Parking for Walkable Communities

Parking requirements for walkable access to businesses, work, shopping, housing, recreational and civic destinations near the 46th Street TOD should be reduced to reflect a reduction in vehicle usage for local trips.

Recommendation:

- It is recommended that current minimum parking requirements be discounted by 15% to 20% to account for parking demand offset by transit access. At the early stages of Master Plan implementation, parking requirements should be reviewed on a project-by-project basis to establish ratios that are appropriate to the intended uses and location. Shared parking opportunities should be explored where possible.

D.Spillover Parking

To avoid parking creeping into the neighborhood streets, spillover-parking problems could be addressed with pricing and enforcement strategies. Residential neighborhoods could create a "Parking Benefit District", where on-street parking is charged (at least for non-residents) with revenues used for neighborhood enhancement or to reduce property taxes. Resident's vehicles can be exempted from these charges. This is a used often in Los Angeles, Santa Monica, and northern California.

Recommendation:

- Work with neighbors to determine the best strategy for enforcing restrictions on spillover parking.

IX.Mobility Innovation: Car Sharing

As described in Chapter 4: Zoning, car sharing is an emerging trend in transportation that can decrease one's dependency on the personal automobile and work well in a TOD setting. Below is as case study on CarSharing Portland.

A.Case Study: CarSharing Portland

CarSharing Portland is a two-year-old privately owned and operated car sharing business in Portland, Oregon. CarSharing Portland is a good example of a car sharing system and related emerging practices. Most of the information that follows was gathered during a March, 2001 phone interview with Dave Brooks, the founder of the company.

Figure 5.11: Car sharing is on the rise in the U.S. This image shows a dedicated parking space for a car sharing car in Seattle's Flexcar system.

Figure 5.12: The European Car Sharing Organization has over 45,000 members in five countries.

Demographics and Habits

The Planning Workshop, in the Master of Urban and Regional Planning (MURP) program at Portland State University completed a study on the program and found out the following information about the demographics and habits of its members:

a. 80% have a college degree or higher educational attainment
b. Most have moderate incomes. According to the founder, Dave Brook, the program is not typically appealing to low-income residents, except those that are low-income by choice.
c. 50% of have avoided buying a car or sold theirs after joining car-sharing. (The caveat to this is that these are people that choose to become members of car sharing, not a random sample of population.)

Impetus to Joining Car Sharing Program

According to Brook, members typically join when they have to make a choice/change with their current modes of transport. i.e. divorce, moving (especially from out-of-town), major car break-down, etc. (See Figure 5.11.)

Car Sharing and TOD

Brook believes that a transit-oriented neighborhood helps the success of car-sharing. A mix of uses especially grocery store, near the car sharing location is helpful. However, Brook has no data to prove that car sharing helps the success of a TOD.

Parking Ratios

Developers in Portland have not yet used car sharing as a tool to request a parking ratio reduction from the City, but on-site car sharing is a sought-after amenity.

Developer Relations

Car Sharing Portland has made deals with developers so that developers can offer a car sharing membership free when you buy a condo. Developers have paid several thousands of dollars up front to have get a car share car on the construction site before they have sold the units to use it as a marketing tool.

Car Sharing in the Twin Cities

There are no car sharing programs in Minneapolis yet, but several non-profits are interested in starting one.

Car Sharing Elsewhere

Other North American cities with developed car sharing programs include, Boston, San Francisco, Toronto, Montreal, and Vancouver. Car sharing is much more established in Europe, where the largest program spans five countries and has over 45,000 members. Information about most of the car sharing programs throughout the world can be found on www.carsharing.net. (See Figure 5.12).

Figure 5.13: Existing street section of Hiawatha Avenue just south of 46th Street, facing south.

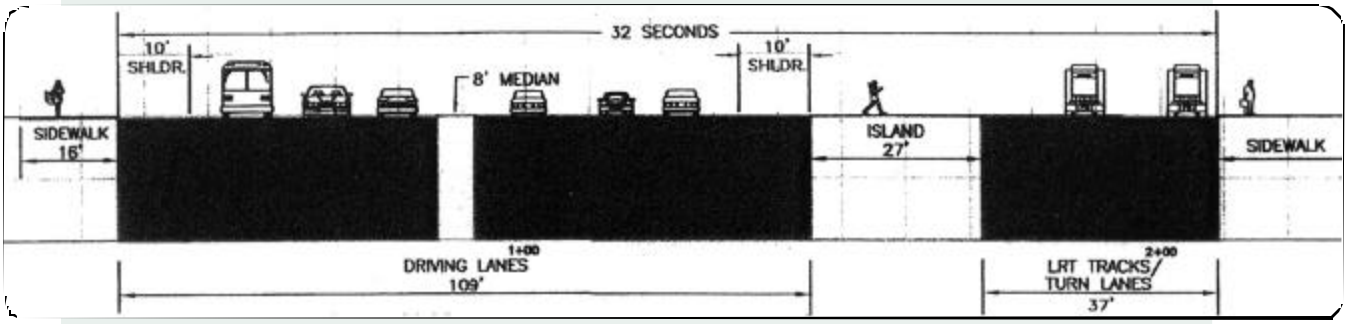


Figure 5.14: Proposed street section of Hiawatha Avenue just south of 46th Street, facing south.

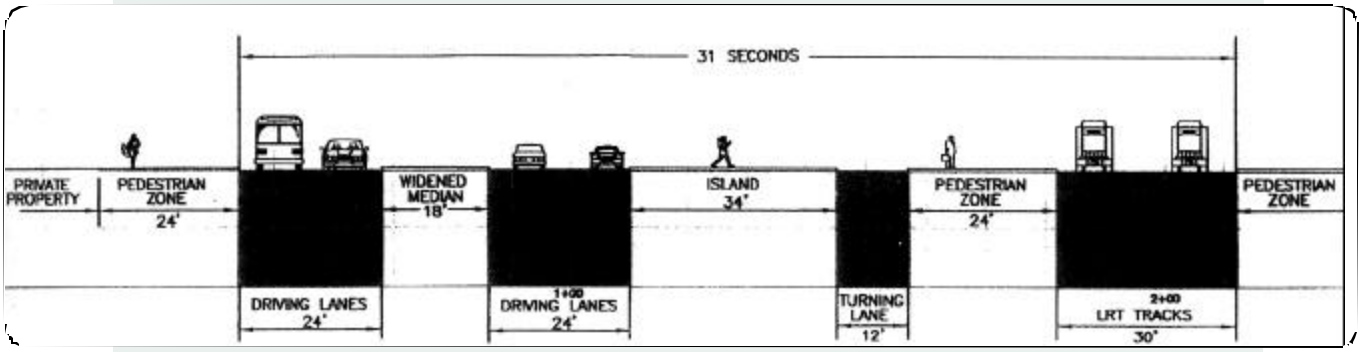


Figure 5.15: Existing section of CP rail line north of 46th Street, facing north.

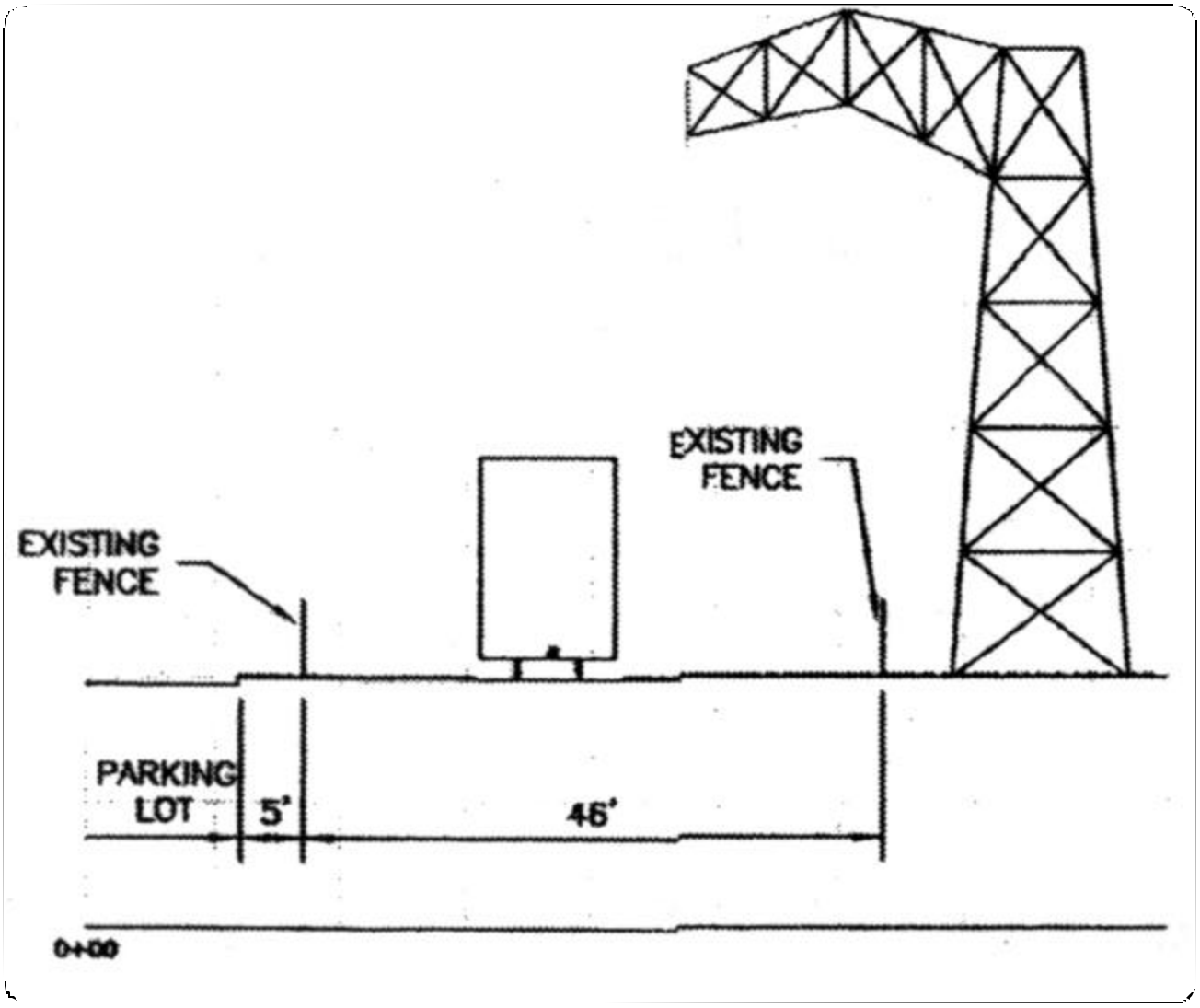


Figure 5.16: Existing street section of 46th Street between Hiawatha and 36th Avenue, facing east.

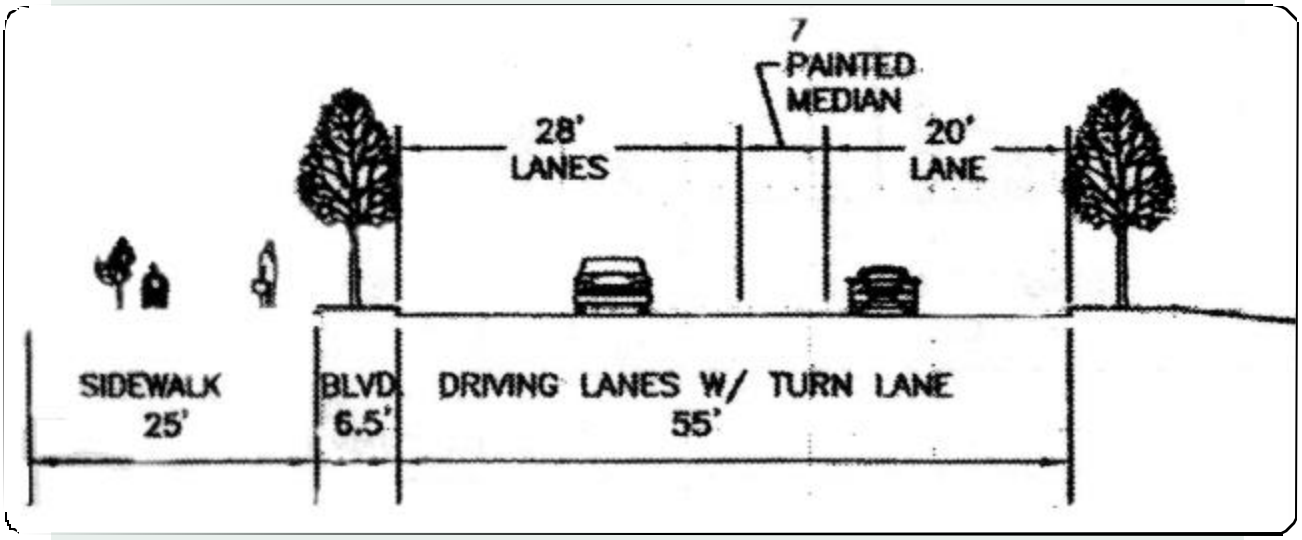


Figure 5.17: Existing street section of 46th Street between CP rail line and Hiawatha, facing east.

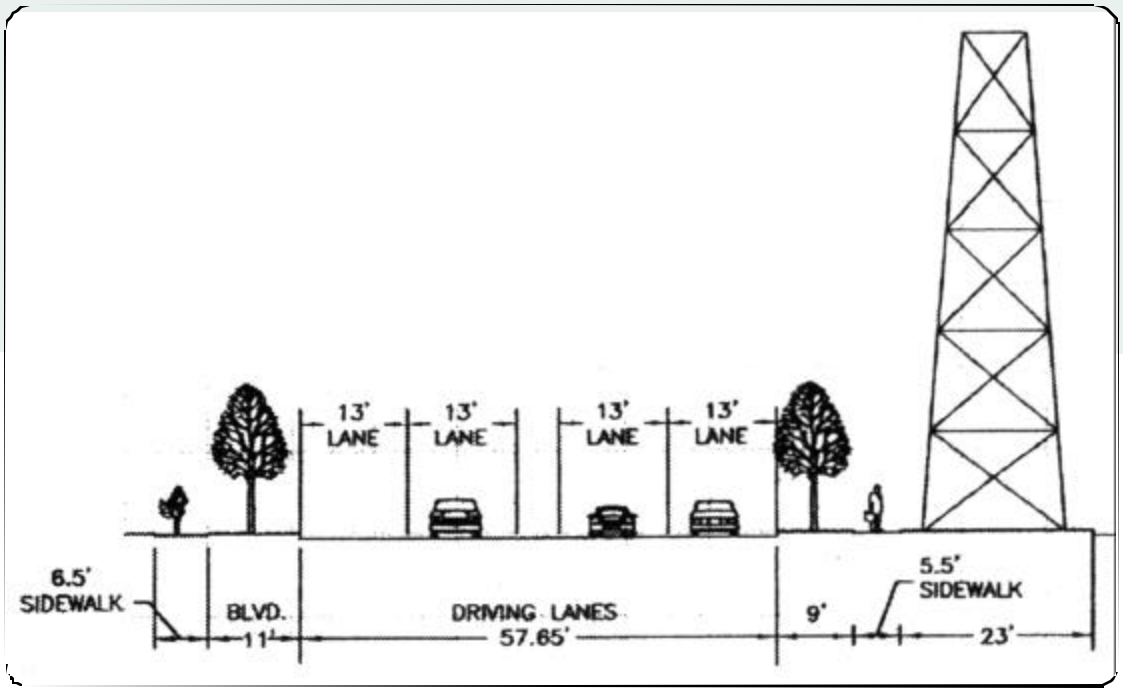


Figure 5.18: Existing street section of Hiawatha Avenue, between 46th Street and the Land Bridge, facing south.

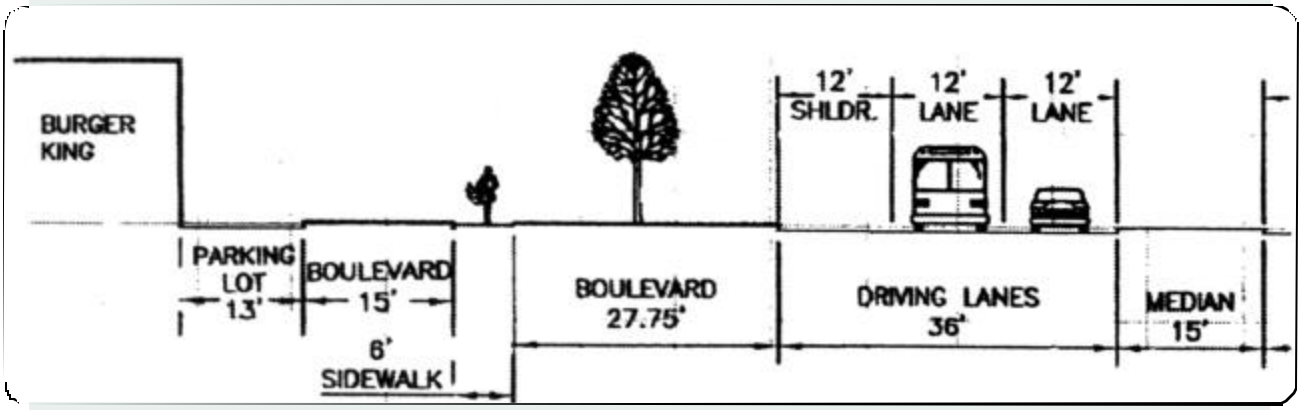


Figure 5.19: Existing street section of Hiawatha Avenue between 46th Street and 45th Street, facing south.

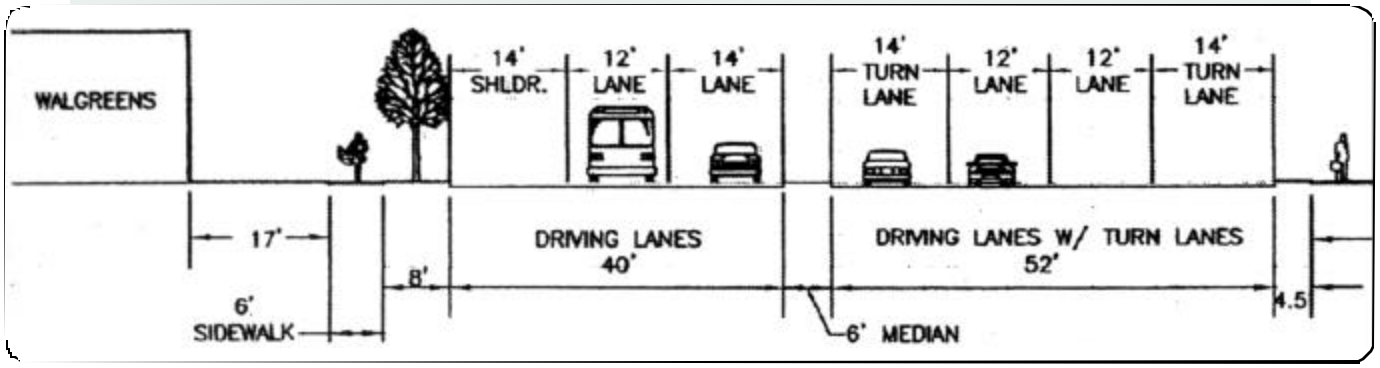


Table of Contents

I. Introduction

A. Background

ZHA, Inc. was retained to evaluate the market support for various land uses within a half mile radius of the 46th Street Light Rail Transit Station ("46th Street Station Area" or "Study Area") in Minneapolis, Minnesota. The 46th Street Station is sited on the northwest corner of Hiawatha Avenue/State Highway 55 and 46th Street. In a December 1999 study entitled the "Hiawatha LRT Corridor: Transit-Oriented Development Market Study", ZHA (in association with other economic consultants) identified the 46th Station Area as well positioned for transit-oriented development.

B. Structure of This Chapter

This Chapter of the report identifies market opportunities for various land uses over time. It begins by highlighting the economic framework within which 46th Street Station Area development will take place. The character of the 46th Street Station Area is then summarized. The market for various land uses is assessed in Sections IV through VI. Market conclusions and implementation considerations are summarized in Section VII.

II. Regional Framework

A. Population and Households

As defined by the Twin Cities Metropolitan Council, the Twin Cities Metropolitan Area consists of seven counties: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington. The 46th Street Station Area is located in the City of Minneapolis in Hennepin County. Just south of the 46th Street Station Area is the City of Richfield and the airport (Figure 6.1).

According to Minnesota Planning there are approximately 2.64 million people in the Twin Cities Metropolitan Area. Hennepin County gained the greatest number of residents in the Metropolitan Area during the 1980's and 1990's. Dakota County was a close second in population growth over the last decade (Figure 6.2).

The Metropolitan Council estimates that there were approximately 1 million households in the Metropolitan Area in 2000. The region gained nearly 140,000 households in the 1990's, which is more than the 121,000 households gained in the 1980's. Metropolitan Area households have grown at an average annual rate of 1.4 percent over the last 10 years (Figure 6.3).

Household growth is projected to continue at a pace comparable to the 1980's. Hennepin County household growth rate is projected to slow. This is likely due to limited land available for residential development.

B. Employment Trends

The Metropolitan Area has experienced robust job growth over the last decade. The unemployment has remained below 3 percent since 1996. The jobless rate was 2.0 percent during the first quarter of 2000. The region has a very high percentage of its working-age population in the labor force. A broad industrial mix fuels the region's economy.

Figure 6.1: Population Twin Cities Metropolitan Area

County	1980	1990	2000	'80-'90 Change	Avg. Ann.	'90-'00 Change	Avg. Ann.
Anoka	195,998	243,641	298,084	47,643	1.1%	54,443	2.0%
Carver	37,046	47,915	70,205	10,869	1.3%	22,290	3.9%
Dakota	194,279	275,227	355,904	80,948	1.8%	80,677	2.6%
Hennepin	941,411	1,032,431	1,116,200	91,020	0.5%	83,769	0.8%
Ramsey	459,784	485,765	511,035	25,981	0.5%	25,270	0.5%
Scott	43,784	57,846	89,498	14,062	1.4%	31,652	4.5%
Washington	113,571	145,896	201,130	32,325	1.3%	55,234	3.3%
Total	1,985,873	2,288,721	2,642,056	302,848	0.7%	353,335	1.4%

Source: Minnesota Planning; ZHA, Inc.

Figure 6.2: Household Trends Twin Cities Metropolitan Area

County	1970	1990	2000	'70 - '90 Change	Avg. Ann.	'90 - '00 Change	Avg. Ann.
Anoka	39,688	82,437	103,600	42,749	3.7%	21,163	2.3%
Carver	7,937	16,601	23,900	8,664	3.8%	7,299	3.7%
Dakota	37,560	98,293	129,110	60,733	4.9%	30,817	2.8%
Hennepin	309,719	419,060	452,820	109,341	1.5%	33,760	0.8%
Ramsey	148,930	190,500	201,570	41,570	1.2%	11,070	0.6%
Scott	8,486	19,367	28,530	10,881	4.2%	9,163	3.9%
Washington	21,314	49,246	71,520	27,932	4.3%	22,274	3.8%
Total	573,634	875,504	1,011,050	301,870	2.1%	135,546	1.4%

Source: Metropolitan Council; ZHA, Inc.

Figure 6.3: Household Projections Twin Cities Metropolitan Area

Average Annual Growth County	2000	2010	2020	'00 - '10	'10 - '20
Anoka	103,600	119,720	135,720	1.5%	1.3%
Carver	23,900	32,070	41,640	3.0%	2.6%
Dakota	129,110	155,590	183,900	1.9%	1.7%
Hennepin	452,820	486,500	520,110	0.7%	0.7%
Ramsey	201,570	212,490	222,760	0.5%	0.5%
Scott	28,530	40,900	54,040	3.7%	2.8%
Washington	71,520	90,850	111,130	2.4%	2.0%
Total	1,011,050	1,138,120	1,269,300	1.2%	1.1%

Source: Metropolitan Council; ZHA, Inc.

Like household growth, Metropolitan Area employment growth is projected to stay robust over the next decade (see Figure 6.5).

C. Other Economic Factors

Metropolitan households' median income is higher than the national average. The population is relatively young and well-educated as compared to the country as a whole.

The Minneapolis-St. Paul International Airport provides a broad network of urban air connections. All the major domestic airlines with the exception of Southwest, operate at the airport. Northwest Airlines operates a hub out of Minneapolis-St. Paul International Airport. The Airport is a contributor to the region's national and local competitiveness. (See Figure 6.6 on next page).

D. Development Patterns

Office and retail development continues to thrive in the Metro region. Growth has occurred in the growing suburbs, mature suburbs and the central cities. Most of the

major commercial projects (projects in excess of $1 million value) proposed or underway in 1999 were congregated along Interstate 494 and Interstate 394, in downtown Minneapolis and St. Paul and along Interstate 94. The Airport area has also experienced significant growth.

Minneapolis accounted for 41 percent of all square feet and over 50 percent of the value of the Metropolitan Area's proposed or underway major commercial projects. One quarter of the major commercial projects proposed or underway in the Metropolitan Area in 1999 were located in St. Paul or Minneapolis, attesting to healthy job growth and strong interest in redeveloping urban areas. Most of the large office projects underway in the Metro region were in Minneapolis or the southwest sector.

The 46th Street Station Area is well positioned with regard to regional development patterns. The Station Area is between two of the strongest sub-areas of the regional economy: the Minneapolis' Central Business District and the Southwest sector.

III. 46th Street Station Area

A. Location and Regional Access

Access

The 46th Street Station Area is located on Hiawatha Avenue or State Highway 55 (Hiawatha Avenue/State Highway 55). State Highway 55 has recently been improved to provide a direct, limited access connection from 46th Street to the airport and the regional freeway system. This improved access makes Hiawatha Avenue/State Highway 55 competitive with alternative access points at I-35W, Highway 62 (the Crosstown), and Highway 5.

St. Paul can be accessed via 46th Street and the Ford Bridge. Other river crossings are located north at Lake Street and south at Route 5. Many people cross between St. Paul and Minneapolis using 46th Street.

Minnesota Department of Transportation projects the average daily traffic (adt) on Hiawatha Avenue at 46th Street to increase from 28,500 in 1998 to 54,000 in 2020.

Figure 6.4: Employment by Place of Work - Metro Area 1990

County	1990	2000	Total Change	Avg. Ann. Growth	2010	Avg. Ann. Growth	2020	Avg. Ann. Growth
Anoka	81,132	101,170	20,038	2.2%	118,870	1.6%	126,620	0.6%
Carver	18,014	28,880	10,866	4.8%	35,460	2.1%	38,230	0.8%
Dakota	106,029	145,560	39,531	3.2%	169,700	1.5%	184,100	0.8%
Hennepin	723,095	836,300	113,205	1.5%	910,970	0.9%	955,350	0.5%
Ramsey	286,835	327,170	40,335	1.3%	364,650	1.1%	381,300	0.4%
Scott	18,731	29,770	11,039	4.7%	39,130	2.8%	43,270	1.0%
Washington	39,164	58,220	19,056	4.0%	71,140	2.0%	79,800	1.2%
Total	1,273,000	1,527,070	254,070	1.8%	1,709,920	1.1%	1,808,670	0.6%

Source: Metropolitan Council; ZHA, Inc.

Figure 6.5: Projected Employment by Place of Work - Metro Area 2000 to 2010

County	2000	2010	Avg. Ann. Growth
Anoka	101,170	118,870	1.6%
Carver	28,880	35,460	2.1%
Dakota	145,560	169,700	1.5%
Hennepin	836,300	910,970	0.9%
Ramsey	327,170	364,650	1.1%
Scott	29,770	39,130	2.8%
Washington	58,220	71,140	2.0%
Total	1,527,070	1,709,920	1.1%

Source: Metropolitan Council; ZHA, Inc.

Westbound 46th Street traffic is projected to almost double from 13,100 in 1998 to 25,000 by 2020. The 46th Street and Hiawatha Avenue intersection is projected to reach a Level of Service (LOS) "F" by 2005 (see Figure 6.7).

Metro Transit offers bus service at 46th Street and Hiawatha. Bus route 7 provides north-south connections. Bus route 4 provides east-west connections. Bus route 7 provides a connection to St. Paul's Highland Park neighborhood.

The 46th Street Station Area will be accessible to both the Downtown and the Airport via light rail. The Station Area possesses excellent access to downtown Minneapolis, St. Paul, surrounding residential neighborhoods and the airport.

Circulation

For the most part, the half-mile area around the Station Area possesses a standard street grid. The exception is the area immediately east of the 46th Street and Hiawatha Avenue intersection. Here traffic circulation is compromised by the presence of parking lots and curb cuts. Patrons to the gas station, Burger King, and Blockbuster Shopping Center enter 46th Street from an access road, which is very close to the Hiawatha Avenue intersection.

Infrastructure

There are active railroad tracks and power lines traversing the east side of the Study Area. The railroad tracks are used infrequently by the industrial uses to the north of the Study Area. The power lines follow the railroad track right-of-way. These uses pose a barrier to development between Hiawatha Avenue and Minnehaha Avenue to the south of 46th Street and between Hiawatha Avenue and Snelling to the north of 46th Street.

These power lines represent a development constraint. Some households will not live next to these power lines for fear of the electric and magnetic fields (EMF's) surrounding these lines. The impact of EMF's, however, is a subject of debate. While housing development can occur near these lines, it would be preferable for these lines to be removed or placed underground.

B. Mix of Land Uses

The Study Area contains a broad mix of land uses. To the west of Hiawatha Avenue, the Study Area contains primarily single family, detached houses. To the east of Hiawatha Avenue there is a cluster of commercial uses.

On 46th Street between Hiawatha Avenue and Minnehaha Avenue is a drive-through Walgreens, a Conoco Station, an outdoor storage site, an industrial use, a bait shop in an old gas station building, and a convenience store. An auto repair shop, gasoline station, and clothing store are located at the intersection of 46th Street and Minnehaha Avenue. South of 46th Street with frontage on (and above) Hiawatha Avenue is a Burger King, a 35,000 square foot shopping center anchored by a Blockbuster Video, and a Bridgeman's. A Dairy Queen faces the Park on Nawadaha Boulevard. All of these uses service the neighborhood and some, notably the Burger King, Conoco, and Walgreens, capitalize on the Hiawatha traffic.

North of 46th Street on Hiawatha Avenue are a mix of light industrial, warehouse, and office uses. These businesses are likely attracted to this location for its access and affordability. These uses abut small lot, single family residential uses on Snelling Avenue.

Figure 6.6: Large Office Projects Underway, 1999

Community	Project	Developer/Contractor	SF (000s)	Value (000s)
Bloomington	8000 Tower	Teachers/United Properties Normandale Lk Phase IV	262.5	na
	Ceridian Corp	Ceridian	207.0	na
	MarketPointe Phase I	Ryan Cos/Lutheran Brotherhood	244.0	na
	Norman Pointe I	Duke Realty	210.0	na
Eagan	Blue Cross and Blue Shield	Blue Cross and Blue Shield	69.0	$24,000
Edina	Centennial Lakes Office Pks Phase V	United Properties	184.0	na
Golden Valley	Golden Hills Office Center	United Properties	190.4	$12,260
	Golden Hills Phase IV	MEPC/Duke	230.0	na
	James Ford Bell		41.7	$11,500
Maple Grove	Arbor Lakes Corporate Center	Opus	230.0	na
Minneapolis	444 Marquette	Opus	600.0	na
	50 South Sixth Street	Hines	683.1	$140,000
	American Express Client Service Center	American Express/ PCL Const. Services	900.0	$70,000
	Broadway Ridge Office Center	Chute Cos/Adolphson & Peterson	180.0	$12,551
	John Deere Building	Ames and Fisher	180.0	$5,000
	Marquette Plaza (Old Fed Reserve Bank)	FRM Associates	536.0	$59,000
	Target Tower, Phase II (South)	Ryan Cos	1,114.0	$60,000
Minnetonka	301 Carlson Parkway	Carlson Real Estate	215.0	na
	Crescent Ridge Corp Center, Phase II	Opus NW LLC	300.0	na
St. Louis Park	1600 Tower	Duke/MA Mortenson	264.0	$21,300
St. Paul	Lowry Professional Building		na	$11,000

Source: Minneapolis Metropolitan Council, "Major Non-Residential Construction Projects in the Twin Cities. Metropolitan Area, 1999"; ZHA, Inc.

Figure 6.7: Average Daily Traffic Count Projections - Hiawatha Avenue and 46th Street - 1998, 2010, 2020

	Southbound			Northbound		
	1998	2010	2020	1998	2010	2020
Hiawatha ADT's	28,500	46,500	54,000	25,400	46,000	49,500
Increase from 1998		63%	89%		81%	95%
	Westbound			Eastbound		
	1998	2010	2020	1998	2010	2020
46th Street ADT's	13,100	21,000	25,000	6,100	na	na
Increase from 1998		60%	91%		na	na

Source: Minnesota Department of Transportation; Parsons Transportation Group, Inc.

The 46th Street Station is within easy walking distance to Minnehaha Park and Minnehaha Falls. From this location, bicyclists can access Lake Nokomis and Lake Harriet via the Minnehaha Parkway and Minnehaha Creek Trail. These recreational amenities are regional destinations, which contribute to the Study Area's attractiveness as a place to live, work and play.

There is very little physical or functional synergy among the land uses in the Study Area. The commercial mix indicates that there are few multi-purpose trips occurring in the commercial area. The commercial area is not conducive to walking or biking. The commercial and residential development density is suburban in character and not transit-oriented.

C. Social-Demographic Characteristics

Claritas, Inc. data were used to compare the Study Area's social and economic characteristics to those of Minneapolis and the Twin Cities Metropolitan Area (see Figure 6.8).

The area within a half-mile of the 46th Street Station has remained relatively stable in terms of population and households. In 2000, there were an estimated 9,470 people within a half-mile of the station and 4,155 households. The average household size in 2000 was 2.23 (see Figure 6.9).

In terms of retaining households, the Study Area fared better than the City as a whole between 1980 and 1990. Between 1990 and 2000, both the City and the Study Area lost households, however. As would be expected with suburbanization, the Metropolitan Area grew markedly between 1980 and 2000 (see Figure 6.8).

The median age is 38.9 in Study Area. The Study Area's median age is high when compared to the City (34.8 years old) and the Metropolitan Area (34.9 years old). As would be expected in an older urban neighborhood, there is a relatively high percentage of the population over the age of 65 years old. Almost 10 percent of the Study Area's population is over the age of 75 (see Figure 6.10).

The Study Area's households are doing relatively well economically. Median and average income have grown in the Study Area faster than the Metropolitan Area as a whole over the past decade. Over 70 percent of the households in the Study Area have incomes between $35,000 and $100,000. There are relatively few (10 percent) households with incomes in excess of $100,000.

Median household wealth is high in the Study Area because households are older and there is high home ownership. Owning a home and aging in a location that is increasing in value often translates to wealth.

The economic indicators demonstrate that the Study Area is an attractive location for households with the means to move to other parts of the Metro Area.

IV. Retail Market Analysis

In this section, ZHA analyzes the potential for various types of retail in the 46th Street Station Area. Given this potential, a retail development strategy is presented to maximize the Station Area's transit-oriented development potential.

Figure 6.8: Population and Household Trends - 46th Street Station Area

	1980	1990	2000	1980 - '90 Change	Avg. Ann.	1990 - '00 Change	Avg. Ann.
Population	4,444	4,363	3,975	-81	-0.2%	-388	-0.9%
Households	1,829	1,908	1,734	79	0.4%	-174	-1.0%

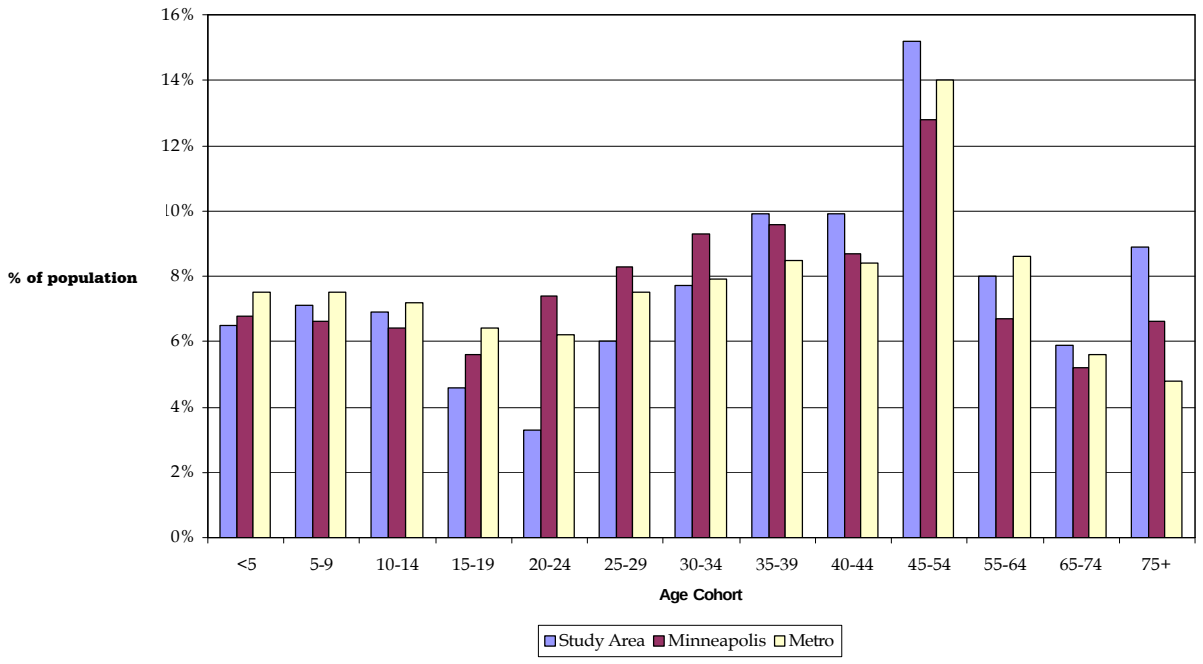
Source: Claritas, Inc; ZHA, Inc.

Figure 6.9: Household Trend Comparison - 46th Street Study Area, Minneapolis, Metro Area

	Number of Households			1980 - '90 Change	Avg. Ann.	1990 - '00 Change	Avg. Ann.
	1980	1990	2000				
Study Area	161,858	160,682	153,383	79	0.4%	-174	-1.0%
Minneapolis	161,858	160,682	153,383	-1,176	-0.1%	-7,299	-0.5%
Metropolitan Area	721,444	875,504	986,192	154,060	2.0%	110,688	1.2%

Source: Claritas, Inc; ZHA, Inc.

Figure 6.10: Age Distribution



A. Existing Conditions

The Study Area is already supporting a limited supply of convenience retail immediately east of Hiawatha Avenue around 46th Street. There is an older strip center of approximately 37,500 square feet in the Study Area called the Parkway Plaza. The Parkway Plaza is anchored by a Blockbuster Video store and contains primarily service businesses.

When originally developed the strip center had excellent visibility to Hiawatha Avenue traffic. With the tunnel and land bridge improvements, the strip center now is above Hiawatha Avenue. The center is visible to southbound traffic, but not northbound traffic. Because of the compromised visibility, retail occupants have been replaced by service businesses.

Additional retail in the Study Area includes a Walgreens Drug Store, a Conoco Gas Station, Burger King, Bridgeman's restaurant, a Dairy Queen, a "Bait Shop", a convenience store, a gasoline service station, and a clothing store. There is currently very little physical or functional synergy among the retail uses in the Study Area.

A neighborhood shopping center provides convenience shopping opportunities for the local neighborhood. The tenant mix of a traditional neighborhood retail center contains both retail and service uses. Generally, retail and eating and drinking establishments account for 90 percent of the space in a neighborhood retail center (Figure 6.12).

As compared to the average tenant mix of a neighborhood shopping center, the 46th Street Station Area does not offer a full complement of neighborhood-serving retail. The Parkway Plaza shopping center is occupied by primarily service establishments, not retail. The average tenant mix among neighborhood shopping centers was obtained from the Urban Land Institute 'dollars and Centers of Shopping Centers, 2000' publication.

B. Neighborhood-Oriented Retail

Competitive Supply

Households in the Study Area shop for convenience goods (like groceries) at shopping centers in the Highland area of St. Paul, at Lake Street or at the Hub shopping center in Richfield. Highland Shopping Center and Highland Village Center are approximately 1.2 miles away from the Hiawatha Avenue and 46th Street intersection. These shopping centers are surrounded by additional retail. A full-line grocery store, Lunds, is located in this area. This is the closest retail node to those households residing just south and east of the 46th Street Station (Figure 6.13).

Like the Highland area, the Lake Street retail node contains a full complement of community-oriented retail. The Lake Street area contains full-line grocery stores, a Target, and other shoppers goods stores. The Lake Street retail node is approximately 2 miles away from the Hiawatha Avenue and 46th Street intersection.

Households to the south of the Station shop at the Highlands area of St. Paul or possibly at the Hub shopping center in Richfield. The Hub shopping center is approximately 3.5 miles away from the Hiawatha Avenue and 46th Street intersection. Like the other competitive retail nodes, a full-line grocery store, convenience and shopper's goods stores are present at this location.

Figure 6.11: Economic Indicators -
Study Area, Minneapolis, Metro Area - 1989 (Census) and 2000

	1990	2000	Change
Median Household Income			
Study Area	$34,476	$55,932	62.2%
Minneapolis	$25,330	$39,457	55.8%
Metro Area	$36,804	$57,524	56.3%
Average Household Income			
Study Area	$36,125	$59,664	65.2%
Minneapolis	$33,260	$55,031	65.5%
Metro Area	$44,347	$72,691	63.9%
2000 Median Household Wealth			
Study Area	na	$104,054	na
Minneapolis	na	$35,854	na
Metro Area	na	$90,994	na

Source: Claritas, Inc; ZHA, Inc.

Figure 6.12: Tenant Distribution - Average Neighborhood Center vs. 46th Street

Retail Category	Neighborhood Center (in SF)	Less/More	Comment
General Merchandise	8,400	-	Bait Shop
Food & Beverage	25,000	-	None
Food Service	1,800	+	BK, Bridgeman's, DQ
Apparel and Accessories	4,621	-	Pink Closet
Furniture and Home Furnishings	5,121	-	None
Building Materials	4,775	-	None
Drug and Proprietary	9,176	Equal	Walgreens
Miscellaneous	14,647	-	Blockbuster
Retail Square Feet	73,540	Much Less	
Other	7,535	Much More	
Personal Services			
Recreation/Community			
Financial			
Offices			
GRAND TOTAL	81,075	Opportunity for Retail	

Source: ZHA, Inc., ULI Dollars & Sense of Shopping Centers.

Each of these retail nodes offers convenience goods as well as shoppers goods. There is no vacancy among the competitive shopping centers.

The competition makes a community shopping center unlikely at 46th Street. Community centers are larger than neighborhood shopping centers and they tend to have a shoppers goods anchor (like a Target). These types of centers draw from at least a three-mile radius. At this time, the existing supply of community centers covers the market adequately.

As will be discussed in the subsequent section, the location of the competition does not preempt convenience-oriented retail or a neighborhood shopping center. The density of development surrounding the 46th Street station coupled with the traffic and visibility of the location, make neighborhood serving retail a potential land use.

Demand

Given the location of competitive shopping centers, ZHA has identified the Primary Retail Market Area ("Primary Market Area") for a neighborhood shopping center as those households within 1-mile of the Hiawatha and 46th Street intersection. The Primary Market Area does cross into St. Paul. Many people cross the Ford Bridge to access either 46th Street or St. Paul, today. Therefore, the river is not considered a market barrier.

The Primary Market Area does include Nokomis. Nokomis contains a growing share but a limited amount of convenience retail. This retail serves the convenience retail needs of households in the immediate area. Retail development in the 46th Street Station Area will compete with Nokomis retail on a limited basis. Because 46th Street will be less convenient, those store-types duplicated at 46th Street will likely not capture Nokomis households' expenditures. Those stores at 46th Street that offer different products than those offered in Nokomis will likely attract Nokomis households' expenditures.

The Secondary Retail Market Area ("Secondary Market Area") consists of those households within 1.5-miles of the Hiawatha and 46th Street intersections. Because of the competition, ZHA's Market Areas are tightly defined. Households in these trade areas will have convenience retail choices available. The 46th Street location will, however, be a competitive location for convenience shopping (Figure 6.14).

Even within the tightly defined Trade Areas there are a significant number of households. Without taking into consideration competition, together these trade areas contain enough households to support a community shopping center (Figure 6.15).

Using the experience of Hennepin County in 1997 as a proxy for 2000 estimates, retail and eating and drinking expenditures account for 40 percent of total personal income. Households in the Primary Market Area possess $160.8 million of retail spending potential. Net of the Primary Market Area, households in the Secondary Market Area possess 1.25 times that amount or $201.9 million of spending potential (Figure 6.16).

Figure 6.16 demonstrates the Primary and Secondary Markets' retail sales potential by retail category. These retail categories are often represented in neighborhood commercial centers. Motor vehicle sales, gasoline sales, and non-retail store sales are excluded.

ZHA compared the Trade Areas' sales potential to the retail sales volume necessary to support a new neighborhood shopping center. The sales volumes required by tenant type

Figure 6.13: Community Shopping Centers Asking Rents and Vacancies

Name of Property	Year City	Built	Total SF	Vacancy	Asking Rate High	Asking Rate Low	Lease Type	No. of Stores Anchors
Highland Shopping Cntr	St. Paul	1979	56,675	0%			Net	21-Blockbuster
Highland Village Cntr	St. Paul	1995	54,085	0%			Net	10-Lunds Grocery, Freestanding Barnes&Noble
Hi-Lake Center	Mpls	1996	130,521	0%	$8.00	$15.50	Net	10-Saver's, True Value, Hancock Fabrics
Rainbow Plaza	Mpls	1985	73,288	0%	$14.00	$14.00	Net	7-Cost Cutters, Vision World
Calhoun Commons	Mpls	1999	66,150	0%	$23.00	$25.00	NNN	8-Chipotle, Caribou Coffee, Noodles
Minnehaha Mall	Mpls	1999-R	252,938	0%	$7.00	$10.00		Gross Target, Only Deals, Petters Warehouse
The Hub Shopping Cntr	Mpls	1992-R	78,300	0%				Rainbow Foods, Marshalls, Michaels Crafts
Totals			711,957	0%	$13.00	$16.13		

Sources: 2001 Towle Report, and the Organization of Commercial Realtors

Figure 6.14: Trade Area Retail Sales Potential - 46th Street Station Area - Year 2000

		Primary 1.0 Mile Radius	Secondary 1.5 Mile Radius
Population		15,887	34,683
Per Capita Income		$25,298	$26,140
Total Income		$401,909,326	$906,613,620
Net Retail Spending Potential*	40%	$160,763,730.40	$201,881,717.6 Net of primary market.

**Ratio of County's total retail and eating and drinking sales to personal income in 1997.*
Source: Claritas, Inc.; ZHA, Inc.

Figure 6.15: Retail Trade Area Households and Population - 46th Street Station Area - Year 2000

	Primary 1.0 Mile Radius	Secondary 1.5 Mile Radius
Population	15,887	34,683
Households	6,925	14,929

Source: Claritas, Inc.; ZHA, Inc.

are not medians for neighborhood centers because these medians are often below the sales volume necessary to support the rent required for a new center. ZHA has estimated the sales volumes necessary to support rents in a new center using 10 percent of sales as the rent benchmark. A new neighborhood shopping center in the 46th Street Station Area must capture approximately $14.8 million of sales from the Market Areas (see Figure 6.18).

ZHA tested the feasibility of a neighborhood retail center at 46th Street and Hiawatha by evaluating capture rates. ZHA assumed that the Primary Market Area would account for 65 percent of all sales in a neighborhood shopping center. Overall, the capture rates appear reasonable. To be feasible primary market households must spend 9.4 percent of their convenience-oriented retail budget at 46th and Hiawatha. Secondary Market Area households must spend approximately 5 percent of their convenience-oriented spending.

Approximately 9 percent of the average neighborhood shopping center's space is in service establishments like banks, community office space, insurance businesses, etc. Today, the strip shopping center in the Study Area contains a number of such establishments. If redevelopment were to occur, it is likely that an additional 10,000 to 20,000 square feet of space could be absorbed by such uses (see Figure 6.19).

ZHA concludes that a neighborhood shopping center of 82,500 to 103,500 square feet of neighborhood-serving retail and service space is supportable at the intersection of Hiawatha and 46th Street.

C. Highway-Oriented Development Potential

Whether desired or not, there is a significant retail market generated by the traffic on Hiawatha Avenue/State Highway 55. Over the next 10 years traffic volume on this highway is projected to increase to over 46,000 average daily trips. This volume of traffic is sufficient to support such uses as fast food restaurants, auto-oriented uses, suburban banks, and drug stores. Some of these uses are already present in the Study Area.

In addition to neighborhood serving retail, ZHA believes that the 46th Street and Hiawatha Avenue intersection has the potential to develop in a commercial strip mall fashion. From the airport, this is the first commercial node on the way to the Central Business District. It has excellent access to St. Paul and is highly visible to vehicular traffic.

ZHA estimates that the market could support the following vehicle-oriented mix of land uses on Hiawatha Avenue:

a) Three fast food or convenience stores (including the Burger King);

b) A Drug Store (Walgreens);

c) A Video Store (Blockbuster);

d) A Local Bank with Drive-Thru;

e) A Gasoline Station (Conoco);

f) Two Vehicle-Oriented Repairs and Service

These uses alone could amount to 30,000 to 40,000 square feet of retail space. While not transit-oriented, these uses capitalize on State Highway 55 improvements. Because this

Figure 6.16: Retail Expenditure Potential - Primary and Secondary Market - Year 2000

Retail Category	Share of Total Retail Expenditure	Primary Mkt Potential	Secondary Mkt Potential
General Merchandise	10.3%	$16,579,455	$20,819,926
Food & Beverage	10.5%	16,879,290	21,196,448
Food Service/Eating and Drinking	9.3%	14,987,685	18,821,033
Apparel and Accessories	5.8%	9,309,916	11,691,081
Furniture and Home Furnishings [2]	6.5%	10,430,361	13,098,099
Building Materials	7.8%	12,558,816	15,770,941
Drug and Proprietary [3]	3.1%	5,012,930	6,295,070
Miscellaneous [4]	6.2%	9,895,342	12,426,240
Total	59.5%	$95,653,795	$120,118,838

1. *Based on 1997 Census of Retail Trade. Excludes sales or non-retail uses, motor vehicles, and gasoline.*
2. *Includes electronics and appliance sales.*
3. *Health and personal care included in this category.*
4. *Hobbies, music, liquor, florists, etc.*

Source: 1997 Census of Retail Trade; ZHA, Inc.

Figure 6.17: Sales Volume Required - Average Neighborhood Center

Retail Category	Neighborhood Center	Avg. Sales /sf	Required Sales (000's)
General Merchandise	8,400	$200	$1,680
Food & Beverage	25,000	$200	$5,000
Food Service	1,800	$250	$450
Apparel and Accessories	4,621	$200	$924
Building Materials	4,775	$200	$955
Drug and Proprietary	9,176	$200	$955
Miscellaneous	14,647	$200	$1,835
Total	$68,419		$11,799

Source: ZHA, Inc., ULI Dollars & Sense of Shopping Centers

type of retail is more often than not stand-alone, development will require relatively little land assembly. These uses will demand the corner lots at the Hiawatha and 46th Street intersection and to a lesser extent the intersection of Minnehaha and 46th Street. These uses will also demand land with direct access to Hiawatha Avenue.

D. Retail Market Conclusions and Considerations

Approximately, 100,000 to 150,000 square feet of retail/service space is supportable in the Study Area. This projection is inclusive of the retail and service space currently operating in the Study Area. A significant portion of this space will seek to capitalize on the traffic on Hiawatha Avenue/State Highway 55. Careful planning and regulatory initiatives will be necessary to influence the design and location of retailers seeking to capitalize on traffic. Without such an approach, the Study Area's pedestrian environment will be compromised as well as its ability to attract a full-complement of land uses.

The magnitude of neighborhood retail projected is feasible only if a critical mass of space is developed at once. The Study Area will not support the magnitude of development projected if retail is developed incrementally, store by store. A full complement of retail must come on line at once to establish the 46th Street Station Area as a neighborhood shopping destination.

Figure 6.20 represents ZHA's projected absorption of new retail space. The near-term absorption can be realized if a neighborhood shopping center is developed. Such a project will require significant land assembly.

The longer-term absorption assumes that the neighborhood shopping center establishes the Station Area as a commercial node and, as such, attracts additional retail and services. Long-term absorption also assumes that the existing suburban-style retail in the Study Area gets redeveloped.

The retail market is dependent on near-in household spending and traffic. Light rail complements the retail market, it does not establish it. If convenience retail is present, it is likely that LRT riders will patronize it. The LRT riders, themselves, will not create the retail market necessary to support the development of a neighborhood center.

With this in mind, parking must be handled carefully. Many of 46th Street's retail patrons will be driving. Investors will require parking ratios closely approximating suburban standards.

V. Office Market Analysis

Office development is often necessary to achieve a fully integrated mixed-use community. Office employees patronize retail and service establishments and can also be a target market for residential units. In this section, ZHA evaluates the market for office development in The 46th Street Station Area.

A. Metropolitan Office Market

The Economic Framework summarized employment growth trends in the Twin Cities Metropolitan Area. The office market has capitalized on this growth. The Metropolitan Area currently contains approximately 61.8 million square feet of office space. Between second

Figure 6.18: Sales Capture Required - Neighborhood Shopping Center

Retail Category	Neighborhood Center	Req'd. Sales (000s')	Primary Capture	Secondary Capture
General Merchandise	8,400	$1,680	6.6%	2.8%
Food & Beverage	25,000	$5,000	19.3%	8.3%
Food Service	1,800	$450	2.0%	0.8%
Apparel and Accessories	4,621	$924	6.5%	2.8%
Furniture and Home Furnishings	5,121	$1,024	6.4%	2.7%
Building Materials	4,775	$955	4.9%	2.1%
Drug and Proprietary	9,176	$1,855	23.8%	10.2%
Miscellaneous	14,647	$2,929	19.2%	8.3%
Total		$14,817	10.1%	5.1%

Source: ZHA, Inc., ULI Dollars & Sense of Shopping Centers

Figure 6.19: Neighborhood Shopping Center - 46th Street Station Area

	Low	Moderate	High
Retail	72,500	73,500	83,500
Services	10,000	15,000	20,000
Total	82,500	88,500	103,500

Source: ZHA, Inc.

Figure 6.20: Retail and Service Space - 46th Street Station Area

	Development/Redevelopment		
	2000 - 2007	2007 - 2015	2015 - 2025
Square Feet	80,000	30,000	<40,000

Source: ZHA, Inc.

quarter, 1999 and fourth quarter, 2000, the office supply in the Metropolitan Area increased by approximately 8 million square feet or 15 percent (Figure 6.21 & Figure 6.22).

Vacancy rates increased slightly as a result of the new supply. As of the fourth quarter, 2000, Towles Collier reported an 11 percent vacancy rate for the Metro area. Metropolitan office market equilibrium is estimated to be 10 percent. As of the fourth quarter, 2000, the CBD's vacancy rate was only 7.2 percent. The Downtown's vacancy rate is projected to increase as planned supply and projects under construction enter the market (Figure 6.23).

Minneapolis accounts for approximately 40 percent of the office supply in the Twin Cities Metropolitan Area. Over 90 percent of Minneapolis' office supply is located in the Central Business District (CBD). The southwest sector (Richfield, Bloomington, Eden Prairie) of the Metropolitan office market accounts for approximately one-quarter of the office supply. Over the last two years, Minneapolis and the southwest sector have experienced the greatest increase in office supply and command the greatest asking rents (Figure 6.24).

Within the Metro region, Downtown Minneapolis achieves the highest asking rents. According to the Towles Report, rental rates remained stable during 2000.

On the whole, the Metropolitan office market is projected to soften in the upcoming years. There is a significant amount of sublease space available on the market as a result of business expansion and relocation as well as business contractions among "dot.com" companies. Vacancy rates are increasing as a result of increased supply. It is likely that the office market, particularly Class-A, will be a buyers market during the next five years.

B. Salient Market Conditions

Location

The 46th Street Station Area is strategically located between the airport, the Minneapolis Central Business District and St. Paul. This area will be an unparallel location for those businesses that desire affordable office space with easy access to these destinations.

Accessibility

The 46th Street Station Area will be accessible via a full complement of transportation modes including car, bus, light rail, foot and bicycle. By car, 46th Street Station Area is accessible from St. Paul via the Ford Bridge; downtown Minneapolis and points south via Highway 55; and, points west via the Minnehaha Parkway. North/south bound and east/west bound buses are available at 46th Street. Light rail transit will link the Station Area to the Airport and the Downtown. Lastly, the Station Area is part of the Metropolitan Area's recreational trails network.

Visibility

The 46th Street Station is visible to the market. By the year 2010, 46,000 vehicles will pass this station each day. The visibility and access of the 46th Street Station Area translates into office location value.

Land Availability

The 46th Street Station Area is ripe for development and redevelopment. The environment immediately surrounding the east side of the Hiawatha Avenue and 46th Street intersection is commercial. Much of the land in this area is underutilized or occupied by land uses that do not require the locational attributes of the Station Area. These

Figure 6.21: Office Vacancy and Absorption - Twin Cities Metropolitan Area - 1998-2000

	1998 2 Qtr	1999 2 Qtr	2000 2 Qtr	2000 4 Qtr	Change 2Q 1998 - 4Q 2000	
Minneapolis						
CBD	21,890,252	22,075,422	23,493,078	23,480,962	1,590,710	7.3%
Out-of-CBD	1,370,991	1,370,991	1,385,516	1,554,062	183,071	13.4%
Anoka County	413,917	483,917	489,966	466,966	53,049	12.8%
Dakota County	1,059,203	1,306,524	1,533,524	1,620,297	561,094	53.0%
Northeast Metro	1,491,620	2,433,620	2,199,500	2,240,616	748,996	50.2%
Northwest	929,212	929,212	993,996	993,067	63,855	6.9%
St. Paul						
CBD	6,107,284	6,133,447	7,149,085	7,613,524	1,506,240	24.7%
Out-of-CBD	1,830,870	1,841,870	1,928,806	1,928,682	97,812	5.3%
Southwest	12,776,979	13,611,594	13,675,883	14,476,052	1,699,073	13.3%
Washington	280,877	323,527	359,077	417,413	136,536	48.6%
West	5,656,708	6,074,940	6,371,035	7,006,439	1,349,731	23.9%
TOTAL	53,807,913	56,585,064	59,579,466	61,798,080	7,990,167	14.8%

Source: Colliers Towle, "2001 Towle Report: Minneapolis/St. Paul, Minnnesota"; ZHA, Inc.

Figure 6.22: Office Vacancy Rates - Twin Cities Metropolitan Area - 1998-2000

	1998 2 Qtr	1999 2 Qtr	2000 2 Qtr	2000 4 Qtr
Minneapolis				
CBD	7.1%	6.0%	6.3%	7.2%
Out-of-CBD	9.1%	11.2%	9.6%	12.0%
Anoka County	7.2%	10.1%	11.6%	7.7%
Dakota County	9.1%	16.5%	16.8%	18.1%
Northeast Metro	9.5%	9.4%	12.8%	14.0%
Northwest	10.8%	21.9%	26.1%	13.4%
St. Paul				
CBD	9.5%	6.9%	11.5%	16.1%
Out-of-CBD	14.8%	11.0%	9.9%	10.6%
Southwest	4.3%	8.4%	8.2%	12.5%
Washington	1.5%	9.1%	9.8%	18.0%
West	6.2%	12.8%	10.8%	12.4%
TOTAL	7.0%	8.3%	8.9%	11.0%

Source: Colliers Towle, "2001 Towle report: Minneapolis/St. Paul, Minnesota"; ZHA, Inc.

conditions can translate into affordable land prices and, as such, make this location ripe for redevelopment.

Potential for Mixed-use

The Station Area has the potential to be a mixed-use urban village. The Station Area has the capacity to support retail, residential, and office development. With its access, amenities, and visibility, the area has the potential to become an urban node with many uses.

Class-B Office Space

The Station Area is a prime location for class-B office space. The strongest Class-A office locations in the Metropolitan Area are within 3-miles of the 46th Street Station Area (downtown Minneapolis and Bloomington). It is unlikely that 46th Street will effectively compete with these and other locations for Class-A tenants. The Station Area's access, visibility, and existing land use make it a prime location for Class-B office space.

C. Competition

ZHA evaluated the character and performance of Class-B suburban office buildings within approximately 3 miles of the Station (Figure 6.25).

ZHA evaluated the Class-B office supply with approximately 3.5 miles from The 46th Street Station. The Class-B supply is commanding relatively high rental rates. The Plaza on Parkway is located in the Highland area of St. Paul, immediately across the Ford Bridge. While this building is old, it is achieving high rents and high occupancy.

The Shepard Park Office Center is located at 2177 Youngman Avenue. It is an old three-story building. The building is currently 37 percent vacant. The buildings age and small floorplate make it the least competitive of the competitive supply. It is impressive that the building is still achieving net rents of $12.00 to $13.00 per square foot.

The University Office Center building is an older property. The building was renovated in 1996. Asking rents at the University Office Building are $10.50 to $12.00 per square foot triple net. These rents are still relatively high. The building is 24 percent vacant.

Located in Richfield, Woodlake Park Office Building is the newest among the competition. Built in 1998, this 98,000 square foot building is 95 percent occupied. It is achieving net rents between $15.50 and $16.00.

The Mendota Office Center is also relatively new. Rents in this building are comparable to the Plaza on Parkway. There is no space available in this 60,000 square foot building.

The Safari Office building is a relatively new 43,000 square foot building located in Eagan. The single-user of this building recently moved out. The building has not been vacant for long (within the last 6 months). The building is expected to lease up quickly.

The performance of the Class-B office competitive supply indicates a healthy market. These buildings are achieving relatively high rents. The newer, larger buildings have the highest asking rents and occupancy.

D. Market Conclusion and Considerations

The locational attributes of 46th Street make it an attractive office location. The competitive supply of office indicates a healthy market, particularly for new product. The asking rents are sufficient to support new construction.

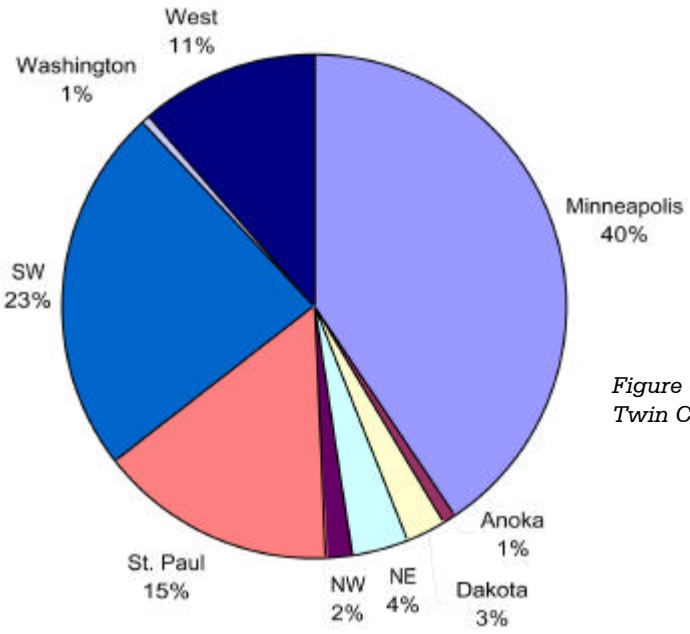


Figure 6.23: Share of Office Space by Location - Twin Cities Metropolitan Area - 2000

Figure 6.24: Vacancy - Twin Cities Metropolitan Area - 1998-2000

Average	Rent	Rent Range	
		Low	High
Minneapolis CBD			
Class A	$16.46	$12.00	$24.00
Class B	$12.78	$8.50	$15.50
Class C	$10.92	$5.00	$14.50
Renovated	$11.36	$4.50	$14.00
Out-of-CBD	$13.44	$7.00	$18.00
Anoka County	$11.24	$6.60	$14.00
Dakota County	$11.32	$7.50	$15.50
Northeast Metro	$11.99	$7.00	$17.50
Northwest	$9.28	$6.00	$12.00
St. Paul CBD			
Class A	$14.10	$12.50	$16.00
Class B	$10.85	$6.00	$16.00
Class C	$8.39	$6.00	$11.00
Out-of-CBD	$11.08	$5.75	$14.00
Southwest			
Class A	$15.88	$13.00	$19.00
Class B	$12.72	$8.00	$17.00
Washington	$12.88	$9.00	$15.00
West			
Class A	$16.75	$16.50	$17.50
Class B	$12.35	$9.00	$16.00

Source: Colliers Towle, "2001 Towle report: Minneapolis/St. Paul, Minnesota"; ZHA, Inc.

ZHA concludes that the Study Area can support approximately 100,000 square feet of Class-B office. To be affordable the buildings will likely be four stories or less with surface parking (Figure 6.26).

Because the City's and region's office market is projected to soften as more supply comes on line, ZHA does not think it is realistic to assume office construction within the next five years. The office market will engage when light rail is operational. ZHA projects the first phase of office development to occur between 2005 and 2010.

From a transit-oriented development potential standpoint, it is important to recognize that Class-B office will not support structured parking in the foreseeable future. The asking rents achievable will simply not support the capital cost associated with structured parking. Subsidies will be required if structured parking is desired.

The light rail transit station enhances the market for office in the Study Area. Like retail, office will demand corner sites and sites along Hiawatha. Office investors will likely accept lower parking ratios as a result of the bus and rail availability in the 46th Street Station Area.

VI. Residential Market Analysis

A. Introduction

In a December, 1999 study entitled, "Hiawatha LRT Corridor: Transit-Oriented Development Market Study" ("Hiawatha Transit-Oriented Development Potentials Analysis"), ZHA worked with Zimmerman Volk Associates (in association with the Parsons Corporation) to determine the potential for housing development along the Hiawatha Corridor and particularly within the 46th Street Station Area. Zimmerman Volk Associates applied its proprietary target market methodology to determine residential development potential. In this section, ZHA builds upon the Zimmerman Volk Associates' work for the Hiawatha Transit-Oriented Development Potentials Analysis to assess near-term residential development potential in the 46th Street Station Area.

B. Transit-Oriented Development Potential Analysis

Zimmerman Volk Associates' proprietary target market methodology identifies potential by analyzing the market from the standpoint of potential buyers/renters. The methodology is necessary because conventional market analysis rarely applies in older, urban areas. Conventional residential market analysis requires there to be projected growth to identify demand. Like the 46th Street Station Area, very few older urban areas are projected to grow over the next five to ten years. Conventional market analysis would conclude that there is no demand for residential units in these areas when urban pioneers have proven that there is demand.

The following paragraphs summarize the conclusions of the Hiawatha Transit-Oriented Development Potentials Analysis regarding residential development potential:

Households living in Minneapolis and St. Paul, and the northern and western first-ring suburbs of Minneapolis constitute the main source of demand for new market rate housing units within the Hiawatha Light Rail Corridor. Households living in the balance of Hennepin and Ramsey Counties and in adjacent Dakota and Anoka Counties represent secondary sources of demand.

Figure 6.25: Competitive Office Buildings - 46th Street Station Area - 2001

Name of Property	City	Year Built	Total SF	Available	Vacancy	Asking Rate		Lease Type	Anchor Tenants
						Low	High		
The Plaza on Parkway	St. Paul	1988	86,673	5,600	6%	$12.00	$14.50	Net	Lifetime Fitness
Shepard Park Office Center	St. Paul	1981	22,600	8,309	37%	$12.00	$13.00	Net	Good Samaritan
Woodlake Point Office Bldg	Richfield	1999	98,000	5,300	5%	$15.50	$16.00	Net	Medical
University Office Plaza	Minneapolis	1996	103,000	25,000	24%	$10.50	$12.00	NNN	U of M
Mendota Office Center	Mendota Heights	1998	60,000	0	0%	$13.50	$14.00	Net	Not Available
Safari Office Development	Eagan	1997	43,000	43,000	100%	$21.00	$21.00	Gross	Not Available
Totals			413,273	87,209	21%	$14.08	$15.08		

Sources: 2001 Towle Report; Organization of Commercial Realtors

Figure 6.26: Class-B Office Absorption - 46th Street Station Area 2000 - 2020

	2000-2005	2005-2010	2010-2020
Gross Square Feet	0	40,000	60,000

Source: ZHA, Inc.

Figure 6.27: Potential Housing Market by Household type - 38th/46th/VA Hospital Station Areas

% of Household Type	Rental Total	For-Sale Apartments	Townhouse/ Apts/Lofts	Live-Work
Empty Nesters & Retirees	29%	27%	32%	33%
Families	7%	7%	5%	10%
Younger Singles & Couples	64%	66%	64%	58%
Total	100%	100%	100%	100%

Source: Zimmerman Volk Associates, "Residential Market Potential Transit Oriented Development, Hiawatha Light Rail Transit Corridor", 1999; ZHA, Inc.

The location of the 38th Street, 46th Street, and VA Hospital Station Areas between the two major employment centers of the region (the Minneapolis Central Business District and Bloomington) makes these station areas particularly attractive to suburbanites. A significant portion of the younger singles and couples who make up the market for new housing units in this area will be moving from the Minneapolis suburbs. These suburban households are predominantly professional singles and dual-income couples and are likely to comprise two-thirds of the market for new housing units at these station areas.

A similar mix of senior households moving from Minneapolis neighborhoods, moving back into the City from the suburbs, and moving from older housing in the suburbs represents the market for senior apartments.

Only a small number of family-oriented households represent potential market for housing around the 38th Street, 46th Street, and VA Hospital Station Areas (Figure 6.27).

Zimmerman Volk Associates identified the potential housing market for the 38th Street, 46th Street, and VA Hospital Station Areas as summarized above.

The optimum mix of housing types to support transit-oriented development includes:

a. Rental Apartments (one- and two-story apartments in mansion, courtyard, low- to mid-rise buildings, accessory buildings or mixed-use buildings);

b. For-sale apartments (lofts and one- and two-story apartments in mansion, courtyard, or low- to mid-rise buildings);

c. For-sale attached housing (duplexes, townhouses, and live-work units);

d. For-sale small lot, single family detached housing.

e. To maximize the opportunities for transit-oriented development over the long term (2020), the optimum market for the 46th Street Station Area was determined to be:

   – 100 Rental Units over Retail;

   – 525 Rental Apartments;

   – 250 For-Sale Mansion Apartments; and

   – 125 Live-Work Townhouses;

   – 1,000 Total Units

C. Salient Market Considerations

This Section highlights salient market indicators to supplement the Zimmerman Volk Associates analysis and conclusions:

Growth in the Twin Cities

There has been rapid growth in the twin cities metropolitan area and Hennepin County. As summarized in Table II-2, Hennepin County was the fastest growing County in the Twin Cities Metropolitan Area during the 1990's. As an urban County, this indicates the market's willingness and desire to live in an urban area.

Rate of Income Growth

Households in the 46th Street station area have experienced a faster rate of income growth than the metropolitan average. As summarized in Figure 6.11, the average and

median household income among 46th Street Station Area households increased at a faster rate than the Metropolitan Area as a whole. Typically, first-ring suburb household income growth lags behind suburban household income growth. This trend indicates that the 46th Street Station Area is an attractive location for households with growing incomes.

Stability of Neighborhood

Over 50 percent of the households in the 46th Street station area have lived there for over 20 years. Many of the same households who have experienced above average income growth have chosen to remain living in the 46th Street Station Area. This is another indication that this area is a desirable place to live.

Access and Amenities

The 46th Street station area offers excellent regional access in a high-amenity environment. Minnehaha Park and regional recreational trails are available and accessible from the 46th Street Station Area. The area is easily accessible to the Minneapolis CBD, Bloomington and the airport via car, bus, and, ultimately light rail. Because of the Ford Bridge the 46th Station Area offers excellent access to St. Paul via car or bus. The Station Area's location is between two major employment centers, Minneapolis Central Business District and Bloomington.

Elderly Population

There is a growing elderly population to potentially support the development of retirement housing. Within one mile of the 46th Street Station, over one-quarter of the households (1,720 households) are over 65 years old. Within 3 miles of the Station, 20 percent of the households (11,380 households) are over the age of 65.

Housing Choices

The housing choices available in the 46th Street station area are limited. Over 90 percent of the housing units in the 46th Street Study Area are single-family detached units or duplexes. Over three-quarters of the units in the 46th Street Study Area are owner-occupied.

Older Housing Stock

The residential supply in the 46th Street station area is old. According to the 1990 Census, over 93 percent of the housing units in the Study Area are over 30 years old. While these units are in very good condition, they generally do not offer the range of amenities available in newer units.

Low Vacancy Rates

There is low vacancy among housing units in the 46th Street station area and among comparable competitive facilities. According to the 1990 Census, there was less than a 5 percent vacancy rate among housing units in the 46th Street Station Area. As will be demonstrated in the following section, comparable, competitive housing projects are experiencing very low vacancy rates.

D. Market Testing

The 46th Street Station Area Plan is a product of an intense community participation process. As a result of community input and urban design considerations, the following residential program recommended is shown in Figure 6.28.

ZHA evaluated the performance of apartment, townhouse, and senior (independent living) housing projects to ascertain the health of the market for these types of units.

Metropolitan Area

The Twin Cities rental market is tight (Figure 6.29). With vacancy at 1.5 percent, the market is well below the market's 5 percent equilibrium vacancy rate. According to the 2001 Towles Report, senior housing, luxury downtown and suburban developments, along with the mixed-use, town center projects dominate the Twin Cities rental market (Figure 6.30).

Average rents in the Metropolitan Area increased by 7 percent from 1999 to 2000. Rental rates have increased well above the gains made in the last five years.

The 2001 Towles Report projects that redevelopment sites, senior housing, and 'village communities' will dominate the market in the future. The Report projects that the vacancy rate will continue to be below equilibrium. Affordable housing will also be an increasing problem.

Competitive Apartment Projects

There are seven competitive apartment projects within approximately 3.5 miles of the 46th Street Station. These projects contain 954 rental units (Figure 6.31).

Recently, there have been very few multi-family housing units developed in the vicinity of the 46th Street Station Area. The one exception is the 111-unit Oaks on Pleasant in Richfield. This project reached full occupancy within its first year of operation. On the whole, market rate rental buildings in the vicinity of the 46th Street Station Area experience very high occupancies and achieve rents in excess of $1.00 per square foot.

Conclusion:

Given the market assets of the 46th Street Station Area, the performance of competitive facilities and Zimmerman Volk's conclusion that there is the potential for multifamily units, ZHA concludes that the 400-units called for in the Masterplan can be supported by the market.

Townhouse Supply

The Masterplan contemplates 81 townhouse units. Five townhouse projects are within approximately 3.5 miles of the 46th Street Station (Figure 6.32).

The competitive supply of for-sale townhomes indicates a healthy market. The most recent townhouse project in the vicinity of 46th Street Station is Ridgewood, which sold out quickly at $160-plus per square foot. There is no vacancy among the competitive supply. Absorption and prices indicate a strong market for townhouse development.

Conclusion:

Given the market assets of the 46th Street Station Area, the performance of competitive facilities and Zimmerman Volk's conclusion that there is the potential for

Figure 6.28: Residential Mix - 46th Street Station Area Master Plan

	Units
Apartments/Condominiums	400
Townhouses	81
Senior Housing	48
Single-Family	8
Total	537

Figure 6.29: Apartment Vacancy and Average Rent - Twin Cities Metropolitan Area - September 2000

Sector	Units	Vacancy
Anoka	7,506	1.2%
Dakota	18,547	1.2%
Minneapolis	21,668	1.4%
Northeast	14,126	1.2%
Northwest	13,305	1.5%
St. Paul	15,539	1.1%
Scott	841	1.9%
Southwest	19,775	2.3%
Washington	5,217	2.1%
West	18,900	1.8%
Metro Total	135,424	1.5%

Source: Colliers Towle, "2001 Towle Report: Minneapolis/St. Paul, Minnesota"

Figure 6.30: Rental Rates - Twin Cities Metropolitan Area - 1998-2000

Avg Unit Type	Year	Units	Rent	Average Rent Range Low		High
STUDIO						
	1998	7,953	$383.71	$401	-	$578
	1999	7,273	$478.42	$421	-	$554
	2000	7,390	$517.16	$375	-	$638
ONE BEDROOM						
	1998	62,917	$577.89	$523	-	$671
	1999	62,466	$640.65	$584	-	$706
	2000	63,010	$686.83	$521	-	$885
TWO BEDROOM						
	1998	56,753	$717.80	$632	-	$821
	1999	57,267	$790.77	$670	-	$906
	2000	58,016	$838.78	$643	-	$1,376
THREE BEDROOM						
	1998	6,134	$929.58	$700	-	$1,175
	1999	6,437	$1,072.69	$817	-	$1,238
	2000	7,008	$1,119.76	$800	-	$1,926

Source: Colliers Towle, "2001 Towle Report: Minneapolis/St.Paul, Minnesota"

125 townhouse units, ZHA concludes that the 81 units called for in the Masterplan can be supported by the market.

Senior Housing Supply

The Masterplan contemplates 48 units of senior housing. In the Hiawatha Transit-Oriented Development Potentials Analysis, Zimmerman Volk Associates concluded that 29 percent of the housing potential on the Corridor would be derived from senior households. An analysis of the demographic composition of the Study Area and immediate environs indicates a high proportion of households in excess of 65 years old. There are 11,000 households within 3-miles of the 46th Street Station over the age of 65.

If they plan to stay in the region, seniors who make the move to a senior housing product tend to prefer locations within their same neighborhood. Senior housing is best sited in locations with various modes of transportation available, a range of services close-by, and amenities. The 46th Street Station Area is planned to possess all of these attributes.

In reviewing the competitive supply of senior housing, it is evident that the market is strong. The competitive supply has no vacancy and achieving strong rent and/or sales value. The cooperative form of ownership is attractive to the senior market.

Conclusion:

Given the number of senior households, the accessibility and amenities of the 46th Street Station Area, and the performance of the competitive supply, the market should easily absorb the 48-units of retirement housing planned.

Single Family Housing

The Masterplan contemplates eight single-family housing units. These units interface with the existing single-family unit development north of 45th Street on Snelling Avenue. While the Hiawatha Transit-Oriented Development Potentials Analysis did not incorporate a projection for single family housing this was not because of lack of market. Single family was not included because the Hiawatha Transit-Oriented Development Potentials Analysis concentrated primarily on creating residential density to support transit.

Conclusion:

Given the stability of the neighborhood, its access, and range of amenities, the market will quickly absorb the 8 single-family housing units envisioned in the Masterplan (Figure 6.33).

ZHA concludes that there is market to support the 537 units contemplated by the plan. The absorption of these units will largely depend upon the availability of land. If land were available and development could occur as the market warrants, ZHA estimates that these units could be absorbed within the next five years. Given the presence of existing buildings on the land in the Study Area, however, it is likely that these units will be developed and absorbed over a 10-year period.

In light of the ZHA Team's findings in the Hiawatha Transit-Oriented Development Potentials Analysis, ZHA further concludes that additional residential development and density could be supported in the Station Area.

Figure 6.31: Market Rate Rental Buildings - 46th Street Station Area - 2001

Name of Property	City	Year Built	Units	Rent Range Absorp.	Vacancy	Low	High	Rent/Sq. Ft.	Type
Highland Ridge	St. Paul	1988	228	N/A	1%	$915	$1,530	$1.12-$1.20	Elevator
Crosby Pointe	St. Paul	1989	73	N/A	2%	$895	$1,275	$.98-$1.10	Elevator
Woodstone	St. Paul	1985	154	N/A	2%	$830	$1,070	$1.07-$1.17	Elevator
740 River Drive	St. Paul	1962	164	N/A	2%	$900	$2,500	$1.05-$1.45	Hi-Rise
Riverwood	Lilydale	1988	133	N/A	3%	$920	$2,620	$.97-$1.25	Elevator
Oaks on Pleasant	Richfield	2000	111	12/mo.	0%	$795	$1,385	$.92-$1.09	Elevator
Hill Plaza	St. Paul	1983	91	N/A	2%	$760	$1,200	$.97-1.09	Elevator
Totals			954		0%	$859.29	$1,654.29		

Source: Maxfield Research Inc.

Figure 6.32: Townhome Properties - 6th Street Station Area - 001

Name of Property	City	Year Built	Units	Price Range Absorp.	Vacancy	Low	High	Price/ Sq. Ft.	Unit Sq. Ft.	Types
Riverview Townhomes	St. Paul	1974	4	N/A	0%	$180,000	$190,500	1,500	$120-$127	2BR
Ridgewood Bluff Townhomes	St. Paul	2000	12	4/mo.	0%	$275,000	$324,000	1,714	$160-$189	3BR
Manhattan on Grand	St. Paul	1985	3	N/A	0%	$200,000	$224,000	1,440	$139-$156	2BR
Parkway Place	Mpls.	1985	22	N/A	0%	$309,000	$324,500	2400-2700	$120-$129	3BR
Hiawatha Commons	Mpls.	1999	8	3/mo.	0%	$155,000	$180,000	1650-1971	$91-$94	2BR,3BR
Totals			49		0%	$223,800	$248,600			

Source: Maxfield Research Inc.

Figure 6.33: Residential Absorption - 46th Street Station Area

	2000-2005	2005-2010	2010-2020
Dwelling Units	137	400	200 - 500

Source: ZHA, Inc.

Table of Contents

I. Introduction

Robust community input is essential to formulating a concept plan which best meets local needs and will be widely supported throughout the community. The 46th and Hiawatha master planning process benefitted from robust public participation from the very beginning.

A. Community Steering Committee

In addition to the large public workshops which are discussed below, a simultaneous set of meetings occurred with a Community Steering Committee (CSC). The CSC was made up of community leaders representing residents of the three neighborhoods involved. Early meetings with this group introduced the most prominent concerns of residents regarding LRT and station area planning, bringing the consultants up-to-date on the climate of the neighborhood. The meetings continued throughout the process and were used as a forum for the committee members and consultant team to shape the agendas of the large public workshops.

B. Public Workshops

Approximately 500 people participated directly in the planning process by attending at least one of the public workshops. However, many people attended two, three or even all four of the workshops. In addition, the planning session participants were characterized by a diversity of views and representing the key constituencies: residents, business owners, and public officials.

For the County, MCDA and City Council faced with the decision on what course of action to take concerning this area, the aggressive community process that has taken place should provide some comfort. Through a series of four public workshops, citizens were asked what they think of the existing conditions in their neighborhood and what they would like to see happen in this area. The consultant team used this input to shape a final concept plan for the 46th and Hiawatha area that will enjoy much community support.

II. Workshop #1

The first public workshop was held twice on consecutive evenings from 6-9 pm, the first in the Standish Ericsson neighborhood at the Ericsson Elementary school and the second at Hiawatha Elementary in the Longfellow neighborhood. The two meetings were designed to be identical and were held separately only for the convenience of residents on both sides of Hiawatha. All residents and business owners within a half-mile radius of the proposed light rail station at 46th and Hiawatha were invited to attend either meeting. About 110 people attended at least one of the two meetings. The attendees represented a diversity of views, both for and against light rail, and the key constituencies: residents, business owners, non-governmental organizations and public officials.

Each meeting consisted of four basic elements; the land use survey, the Strengths Weaknesses, Opportunities and Threats (SWOT) analysis, the Image Preference Survey (IPS), and a best practices slide show, all of which are described below. However, at the meeting held at Ericsson Elementary the consultants ran out of time and were unfortunately not able to present the best practices slide show on the first evening.

A. Land Use Survey

This informal survey was conducted by posting a list of possible land uses on the wall and allowing the workshop attendees to "vote" by placing dot stickers beside land uses they would like to see within the vicinity of 46th and Hiawatha. This voting occurred throughout the meeting, and the complete results can be found in Appendix A. In general, those that voted, tended to prefer neighborhood-oriented uses such as a family restaurant, coffeeshop, bookstore, senior center and open space.

B. Strengths, Weaknesses, Opportunities, and Threats

At the first workshop, the consultant team used the SWOT process, a planning tool that helps identify both a community's core assets and limitations.

In a group process, residents, business owners, staff of public agencies, and elected officials identified strengths, weaknesses, opportunities, and threats they see in their neighborhood. This exercise opens a dialogue about the existing conditions of the area and the potential of future growth to improve the quality of life. The SWOT process dissects the various systems that make up a community such as infrastructure, local economy, transportation, demographics, available land parcels, land uses, zoning, political climate, and the natural environment, to determine community perceptions of the study area.

The results of the SWOT analysis were then printed out on large sheets of paper and posted at the next workshop. Upon entrance, attendees of Workshop 2 were asked to "vote" using dot stickers for the strength, weakness, opportunity and threat that they felt were most important.

The complete results of the SWOT analysis can be found in Appendix B and the items that received the most votes can be seen in Figure 7.2, under Workshop 2.

C. Image Preference Survey

Next, the consultant team conducted an Image Preference Survey (IPS). The IPS is a tool used to guide the formulation of design standards for architectural character and scale, various land uses, street treatment, and other urban design issues.

The participants at the September workshops were shown a slide show of numerous photographs. Two images were shown at a time, but they are paired randomly with no intended relationship between the pair. Images taken from the study area are mixed with images from elsewhere to place the local images in a larger context.

On a survey form, each participant rates each image on a 20-point scale according to how well they feel the scenes would fit in the Hiawatha and 46th Street station area. In addition to assigning a numeric value to each image, the participants were also asked to choose a caption they would use to describe each image. Examples of captions include adjectives such as quaint, well-kept, ugly, tacky, etc, and phrases such as "We love it!" or "Not for our neighborhood" Farr Associates then compiled both the quantitative and qualitative data from the IPS, and a summary of those results are presented below. The highest and lowest-rated image from each category is included here along with the captions that participants supplied.

Although the IPS was conducted at both evening workshops, the results from each evening were fairly similar, and therefore the results were combined. Top three and bottom three images in each category can be found in Appendix C.

This IPS show consisted of 96 slides shown in 48 pairs and divided into the following eight categories:

First Impressions

Sustainable neighborhoods welcome outsiders as visitors, consumers and potential residents. People judge the desirability of a neighborhood by many things, among them the visual impression they form upon approach. Most visitors will form their impression of a place while passing through in a car, on a bicycle or while riding transit, primarily on arterial streets.

In this category participants gave low ratings to a first impression of their neighborhood showing auto congestion on Hiawatha. Images they liked included the well-landscaped approach along 46th Street from the west, as well as pedestrian-friendly retail streets with sidewalk cafes, and distinguishing landmarks.

Housing

An earlier market study concluded that the 46th Street station area would be a suitable location for new housing development. Currently, the neighborhoods around 46th and Hiawatha consist of predominantly single-family homes. Sustainable neighborhoods offer a variety of housing choices allowing residents to remain in their neighborhood as their housing needs change through life. The images in this category showed a wide range of housing types which differ in scale, materials, character and cost.

In this category, participants favored single-family and low-rise housing up to about three and a half stories. They gave very low ratings to any image of high-rise housing.

Sidewalks

The introduction of light rail at 46th and Hiawatha offers new opportunities for pedestrian-oriented development in the neighborhood. In order to encourage walking, pedestrian concerns must be understood and addressed in the urban design character recommended by this study. This section is concerned with the pedestrian path alongside streets which are most likely to be used intensively by pedestrians. (The next section addresses pedestrian concerns while crossing streets.) The primary concerns of pedestrians are reducing conflicts with cars, safety, comfort, and interest, concerns which can be addressed through urban design guidelines.

In this category participants favored images that showed continuous walkways with buildings built to the sidewalk, retail windows, and wide sidewalks. Low rated images showed sidewalks next to parking lots with many curb cuts.

Crosswalks

Crosswalks can be intimidating to pedestrians especially along wide, busy streets like 46th and Hiawatha. Because the light rail is located west of Hiawatha while the redevelopment area is predominantly east of Hiawatha, these crosswalks are a vital link for the station area. The design of the crosswalks will need to be optimized for pedestrians if there is to be successful redevelopment of this area. The design options

may include landscaped medians, lane narrowing, textured crosswalks, traffic tables and pedestrian bridges and tunnels.

In this category participants favored crosswalks with clear pathways, special paving, and those crossing narrower streets.

Parks and Open Space

The proximity of Minnehaha Park presents the possibility of extending the character of the park into the redevelopment area. This could be in the form of a greenway connection between the two, among other open space opportunities.

The slides in this category showed different types of parks and open space. These images are all attractive and the tendency was to give them all high ratings. However, the intent of this category is to determine which type of open space will best fit into the areas identified. Images shown ranged from highly manicured to naturalistic environments and from passive to active open space.

An image of a biking trail with heavy tree cover was the highest rated image in the category of parks and open space. Small spaces between buildings were called useless and given low ratings, as well as an image of the railroad corridor just east of Hiawatha.

Buildings Abutting Minnehaha Park

In traditional city planning, buildings facing a large park such as Minnehaha Park feature architecturally distinguished facades. Individual buildings form a "street wall,"providing a sense of enclosure around the park. A low-rise version of this pattern exists on Nawadaha Boulevard. Redevelopment presents choices regarding the character and scale of the buildings which would be built facing the park. These images array some of those choices that would apply along the north side of Nawadaha Avenue, the east side of Hiawatha Avenue, and parts of Minnehaha Parkway adjacent to open space.

An image of a continuous streetwall of three-story mixed-use buildings and an image of single-family housing next to a park were the highest rated slides for this category. Generally the participants did not like anything too tall or too bulky next to the park.

Parking

Cars are a part of modern life and some amount of parking must be provided for automobiles in any development. The intensity of development proposed by this study along with the ability of alternative modes of travel (light rail, bus, bicycle, walking) to reduce car dependence will determine the amount and type of parking needed. The types of parking include on-street, surface, structure and underground.

The lowest rated image in this category showed the surface parking lot in front of the neighborhood strip mall. Residents preferred well-concealed parking, either underground or highly-landscaped.

Signage and Commercial Character

The image of a neighborhood is affected by the type and appearance of its commercial uses. The character of retail and service uses can help to create a more pedestrian-friendly environment that is inviting to residents and visitors. Visual clutter or a generic commercial character can be avoided through the use of design guidelines and signage regulations.

Participants gave high ratings to images showing interesting displays in the windows, smaller-scaled signage, awnings, and well-maintained facades and disliked auto-oriented signage and poorly-maintained storefronts.

Appendix C displays the highest and lowest-rated images for each category.

III. Workshop #2

More than 160 people packed the Ericcson Elementary School cafeteria on Tuesday, November 14th, 2000 for Workshop 2 of the 46th & Hiawatha station area planning process. The attendees again represented a diversity of views and key players: residents, business owners, City and County staff and elected officials. The purpose of the meeting was to gather input from residents and business owners about what they would like the 46th & Hiawatha redevelopment area to look like. This area was roughly defined as the commercial areas east of Hiawatha within a half-mile of the 46th and Hiawatha light rail station, as well as the station site itself.

A. Group Work

Workshop attendees were organized in 12 groups of 8 to 12 people plus a facilitator from the Community Steering Committee, City or County Staff, or the consultant team at each table. The teams worked independently in various rooms throughout the school. Using markers and maps, each group was charged with completing various tasks that made them think about the future of the redevelopment area.

For every task, groups were encouraged to write any notes that they thought would help communicate their ideas directly on the map.

After about 45 minutes, the meeting reconvened in the cafeteria where one person from each group presented their land use plan. The various land use plans varied from beautifying the existing conditions to proposing up to 5-story new buildings on the site. However, considerable consensus was reached on several components of the plans.

See Figure 7.1: Results of Group Work. The consultant team refined and consolidated the ideas illustrated in these 12 plans into three different schemes to be presented at the following Workshop.

B. SWOT Prioritization

As explained above, workshop attendees were asked to review the posted results from the SWOT analysis exercise that was conducted during Workshop 1 and set priorities. After viewing the four lists, those attending Workshop 2 were asked to vote on which item in each category they felt was most important. Figure 7.2 shows the three items that received the most votes for each category.

At this workshop, the consultant team showed the highest and lowest-rated images from the IPS exercise at the previous workshop. The team also showed slides from various pedestrian and bicycle-friendly neighborhoods and towns once again.

Figure 7.1: Results of Group Work

Consensus
Every group included new housing in their plan. The types and density of this housing varied from single-family, to townhomes, to senior housing, to condos above shops. 3 groups specified that they did not want subsidized housing.
5 groups set building height limits at 2 stories, 4 groups allowed 3 or more stories, the remaining did not specify limits.
7 groups showed a park on the southeast corner of the Soo Line and 46th Street, 5 groups showed a park on the City Services facilities site at 45th and Snelling. Overall there was a strong emphasis on open space, trees and other greening strategies.
5 groups called for a grocery store in their plan. Other comments throughout the plans detailed coffeeshops, delis, medical offices, upscale and/or family restaurants, and day care.
6 groups showed at least one underpass, and 3 groups showed at least one overpass. These were drawn across Hiawatha or 46th, typically at their intersection, but some were in nearby locations.

Figure 7.2: Results of SWOT Prioritization

Strengths	Weaknesses	Opportunities	Threats
1. Private Homeownership	1. Lack of confidence in the public process	1. Make everything ped/bike-friendly	1. Rumor of an existing plan
2. Minnehaha Park & Creek, Mississippi River	2. Not pedestrian/ bike-friendly, can't cross Hiawatha	2. Create housing that fits the character of the neighborhood	2. Crime and noise from LRT
3. Small-town feel	3. Suburban-like intersection, sprawling & auto-oriented	3. Meet a need for senior housing	3. Unsure how to preserve the small-town character

IV. Workshop #3

On Tuesday January 30th, 2001, approximately 135 people attended the third public workshop of the 46th & Hiawatha station area planning process in the Hiawatha Elementary School gymnasium. Once again, those attending represented a diversity of views and key players: residents, business owners, City and County staff and elected officials. This 3-hour public workshop again emphasized small-group interactive participation, but first the consultant team presented the alternative land use schemes for the area developed by the consultant team based on input from the previous workshops.

The three schemes developed have some common elements including new single-family homes, new mixed-use development (retail with housing or office above), open space opportunities, and congestion mitigation efforts. Key features of each scheme are as follows:

Scheme A–Limited Change (Figure 7.3)

- Retention of some auto-oriented uses
- Infill of new mixed-use buildings along 46th, 1-2 stories
- New single-family homes
- Open space at LRT station site
- Change of orientation of the strip mall so that it faces the Soo Line

Scheme B–Main Street (Figure 7.5)

- Retail development focused on 46th Street as a “Main Street"
- Retain Walgreens at its present location
- Extension of Snelling Avenue, elimination of driveway entrances along 46th St.
- Infill of new mixed-use buildings along 46th and along the Soo Line, 2-3 stories
- New housing types including units above shops, senior housing building, townhomes, and single-family detached homes.
- New open space opportunities
- Retail and housing at the LRT station site

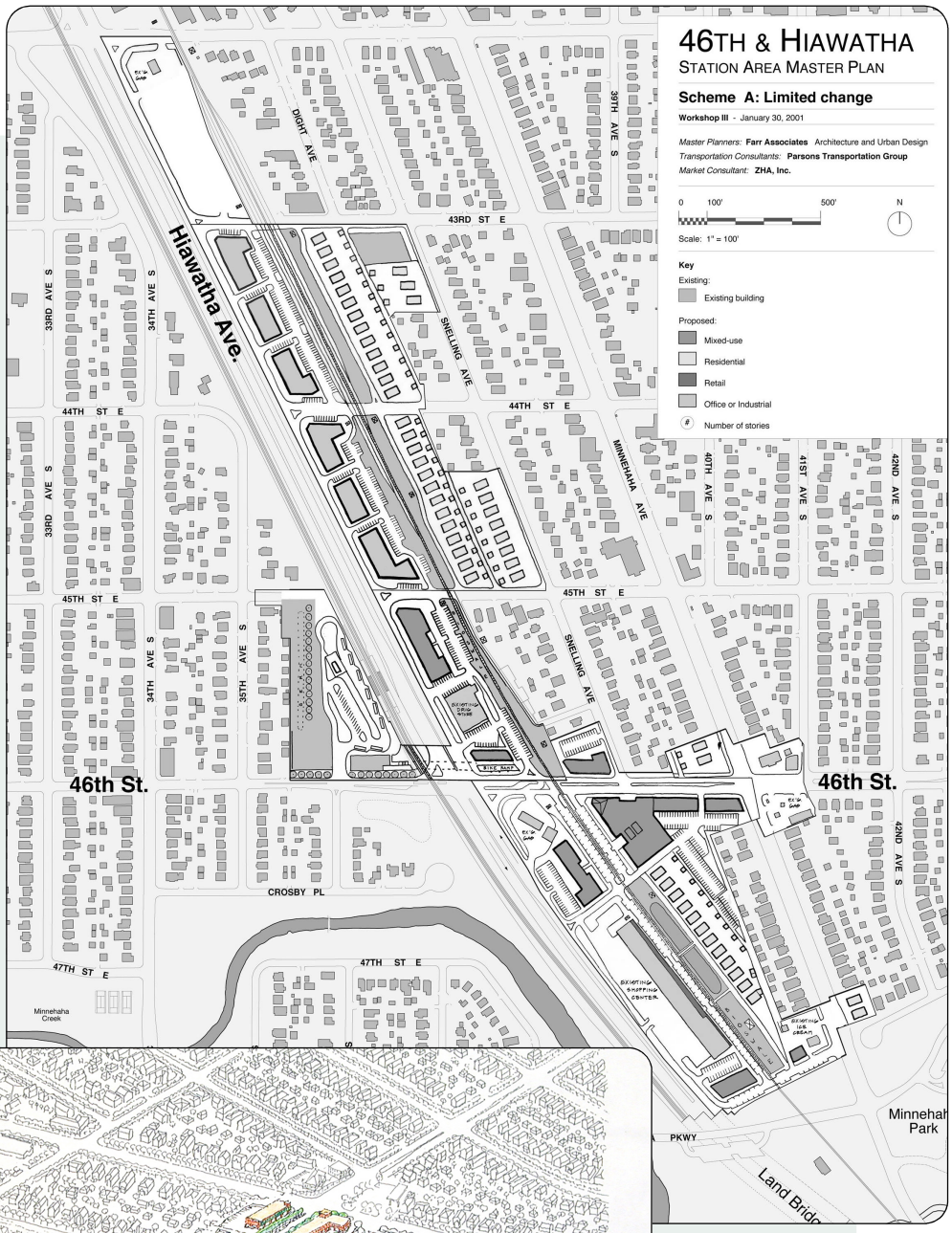


Figure 7.3: Scheme A, Limited Change

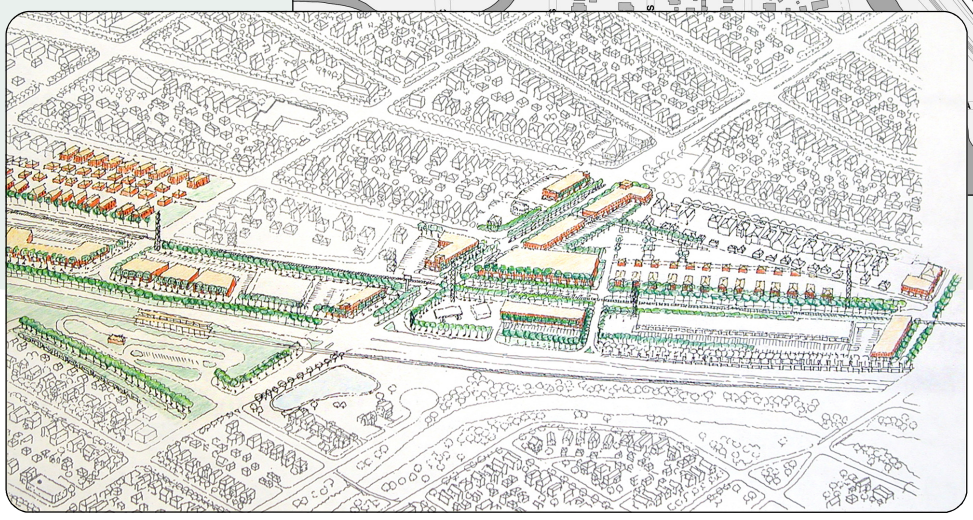


Figure 7.4: Perspective A

Figure 7.5: Scheme B, Main Street

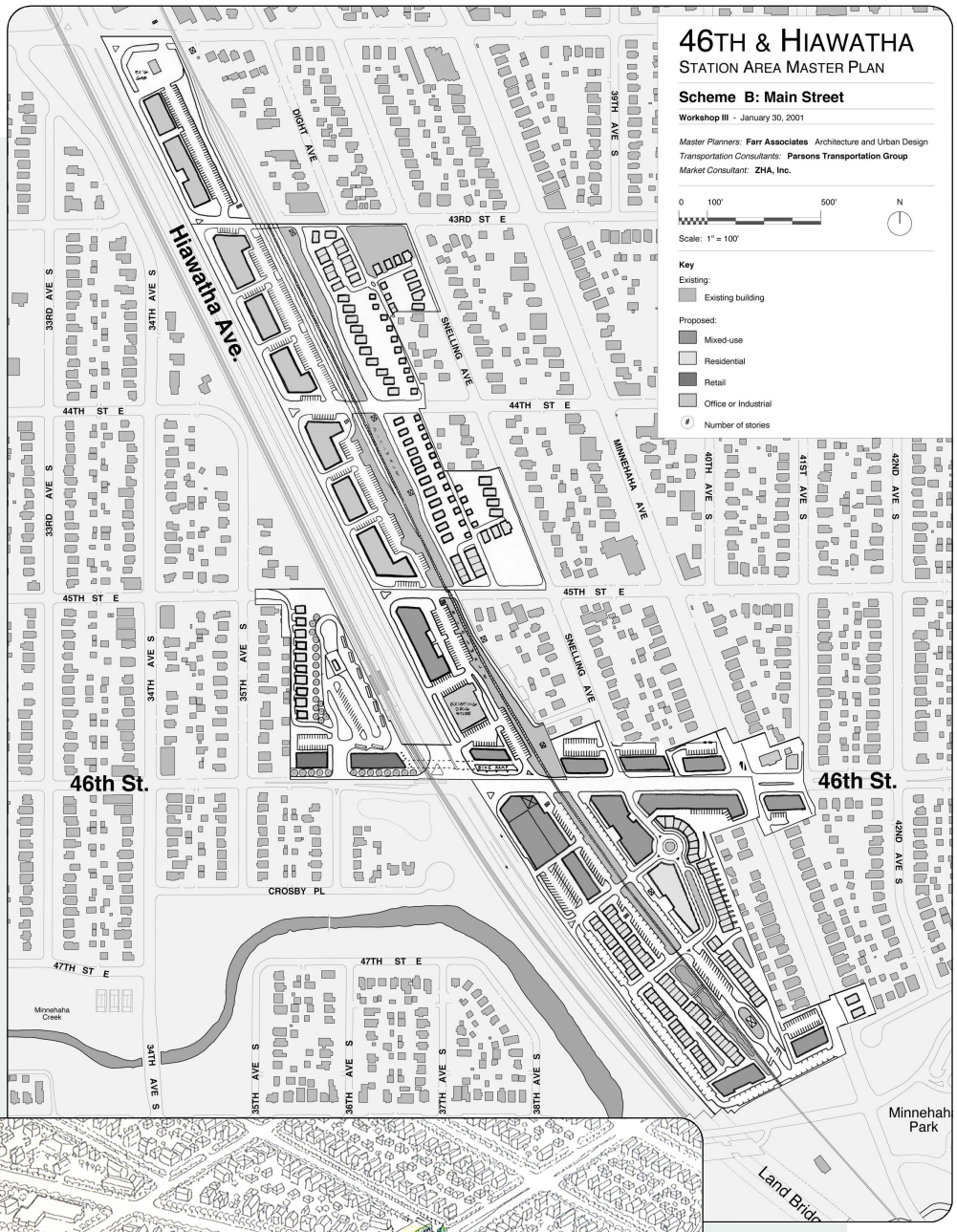
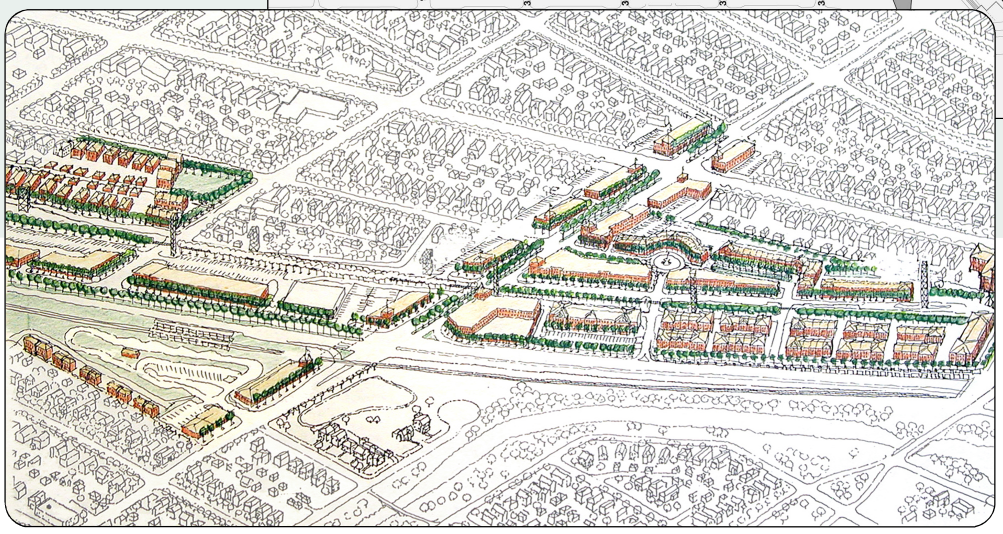


Figure 7.6: Perspective B



Scheme C–Town Square (Figure 7.7)

- Retail development focused around a "Town Square" south of 46th Street
- All auto-oriented uses at 46th and Hiawatha are replaced with pedestrian-oriented uses
- Extension of Snelling Avenue, elimination of driveway entrances along 46th St.
- Infill of new mixed-use buildings along 46th and along the Soo Line, 3-4 stories
- New housing types including units above shops, senior housing building, townhomes, and single-family detached homes.
- New open space opportunities
- Mixed-use buildings and housing at the LRT station site

A. Group Work

After the schemes were presented, the workshop attendees were organized in 20 groups, each with a facilitator from the Community Steering Committee, City or County Staff, or the consultant team. The teams worked independently at different tables to discuss and assess the schemes. Each group was charged with evaluating plans for different sub-areas of the schemes and attempting to reach consensus on which scheme they preferred for each sub-area. They voted on each sub-area determining whether it was "preferred," "acceptable," or "unacceptable." Lastly, the groups were able to cut and paste their preferred subareas from each scheme onto a base map to develop their overall preferred plan.

After about 45 minutes, the large group reconvened and one member from each table reported out the results of their exercise. Overall, Scheme C was preferred most often, with Scheme B in a close second place. Typically, Scheme B was deemed acceptable while Scheme A was deemed unacceptable by most groups.

B. Market Assessment

One of the biggest concerns of residents early on this process was the results of a previous market study that had been completed for the entire Hiawatha LRT line. In order to clear up some misconceptions and to comment on the viability of each land use scheme, Sarah Woodworth, the market consultant working on this project, gave a brief presentation on the market conditions of the area. She outlined some basic opportunities and threats facing the the redevelopment of this area.

Opportunities

a. The location of the station area and its access to downtown Minneapolis, St. Paul, and the airport by car, LRT, bus and bicycle.
b. The proximity to Minnehaha Park and regional recreational trails
c. The area's stable neighborhoods
d. High traffic volumes projected for Hiawatha give the area high visibility
e. Potential redevelopment land is currently organized in several large parcels
f. 17% of the people and 26% of the households are over the age of 65, making senior housing a viable form of new development

Figure 7.7: Scheme C, Town Square

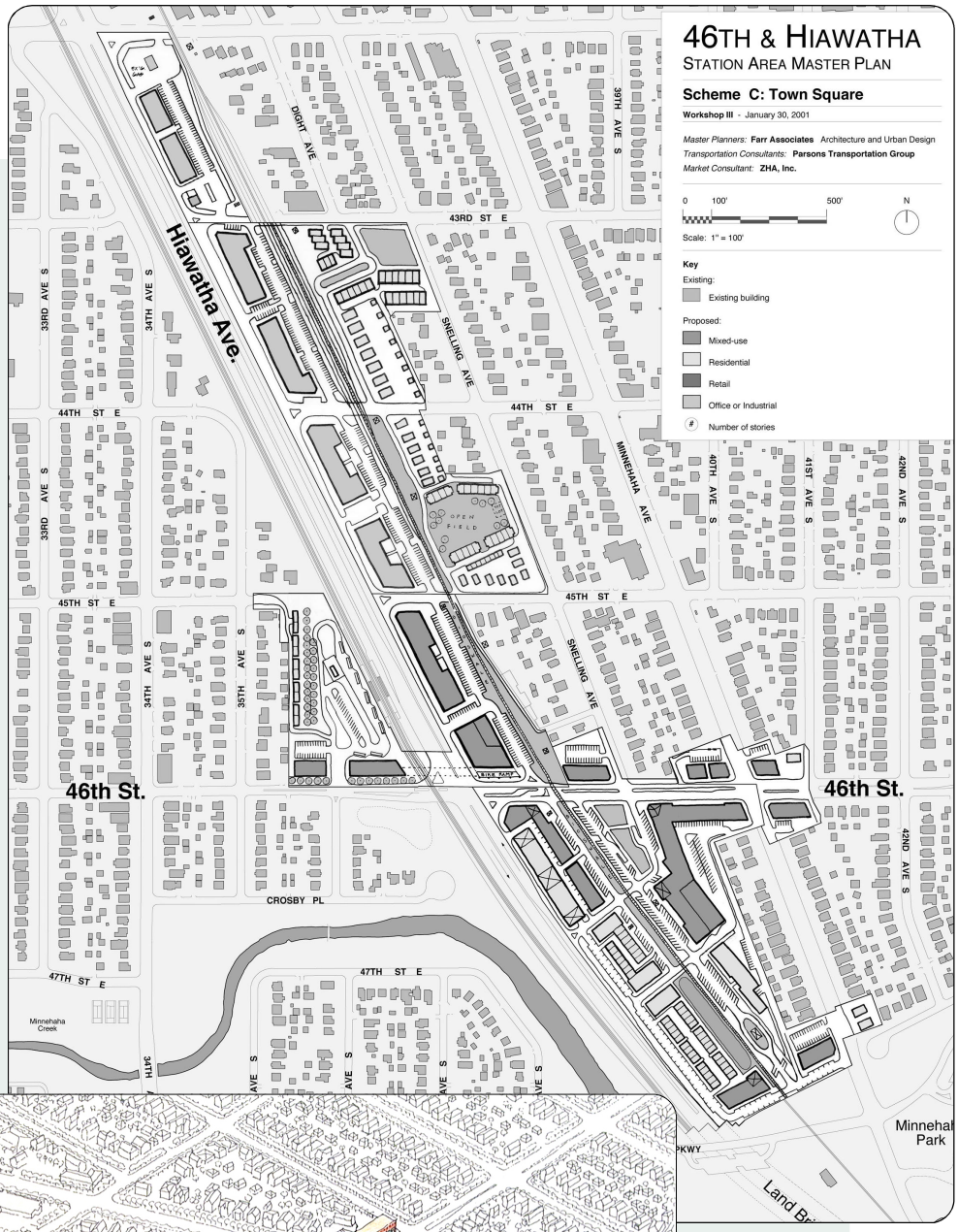
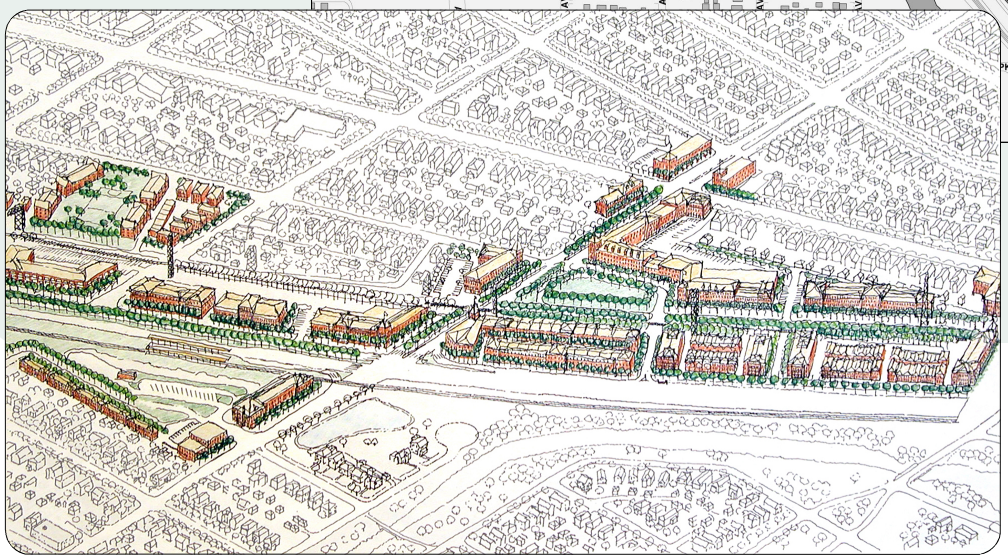


Figure 7.8: Perspective C



Threats

a. Internal circulation problems

b. High traffic volumes projected for Hiawatha will attract drive-thrus, gas stations, and other auto-oriented uses

Supportable Uses

In addition, the market consultant reported on her market assessment of the area in terms what uses and how much of each is supportable. The following is a list of uses that are projected to be supportable in the station area over the next 25 years:

a. Up to 1000 residential units (the three schemes do not propose enough new residential buildings to accommodate this many units)

b. 40,000 to 200,000 square feet of office/light industrial space

c. 40,000 to 150,000 square feet of neighborhood retail

V. Workshop #4

On Tuesday March 27th, 2001, approximately 80 people attended the fourth and final public workshop of the 46th & Hiawatha station area planning process in the Ericsson Elementary School gymnasium. Residents, business owners, City and County staff, and elected officials attended the workshop. The purpose of the meeting was to present the final consensus plan, and survey preferences on implementation policies. The final plan was created based on input from the previous three workshops.

After the plan was presented, the consultants arrayed a list of recommendations they would like to make for the implementation policies that will put the plan into effect. These recommendations ranged from setting a maximum building height to requiring environmentally sound building practices.

A. Group Work

The workshop attendees were organized in seven groups of six to 10 people, each with a facilitator. The teams worked independently at different tables to discuss the final scheme and to vote on what level of policy should be enacted to implement the plan. Each group was charged with evaluating 17 different recommendations and choosing one of three policies for each recommendation. Typically they chose whether the recommended action be mandatory under zoning, whether building owners would *receive incentives,* or if there should be no policy dealing with the recommendation.

This group activity lasted about an hour, at which point, the votes were tallied on a master ballot at the front of the room. Participants were quickly able to see the results of the group work. Figure 7.9 highlights some of the key results from the group work.

After the results had been tallied and it was clear which policies had wide support and which did not, the key players in implementation took the microphone to assume responsibilities for the next steps.

City Council Member Sandy Colvin-Roy and City Planner Mike Larson spoke about the process involved in creating an overlay zoning designation that could codify the

Figure 7.9: Community Reaction to Proposed Policies

Public Infrastructure Action Steps	
Extend street grid into redevelopment area south of 46th, including the extension of Snelling and signalization of its intersection with 46th.	6 groups agreed and one could not come to consensus.
Construct an underpass or overpass beneath/over Hiawatha Ave. immediately north of 46th Street.	All 7 groups agreed.
Zoning Action Steps	
Should zoning set a building height minimum for non-residential buildings in the redevelopment area?	4 groups preferred a 2-story minimum, 2 preferred no minimum, and one group specified 3-stories next to the town square and 2 stories elsewhere.
Should zoning set a building height maximum for the redevelopment area?	1 group preferred a 5-story maximum, 4 preferred a 4-story maximum, and 1 preferred a 3-story maximum.
Can senior housing be an exception to a height maximum if economically necessary?	6 groups said yes, but set a new limit, typically noted at 5-6 stories.
Should zoning prohibit the construction of new of addition to existing auto-oriented building types in the redevelopment area?	4 groups favor prohibiting this type of construction, and 3 want to limit location and amount of auto-oriented building types.
Should new zoning allow for the development of coachouses/granny flats above garages throughout the entire half-mile radius?	All groups wanted to allow residents to build coachouses over their garages, and 2 groups wanted to give incentives to do this.

supported recommendations. Each step would involve public hearings and input will be gathered from residents along the way. They estimated that a new zoning overlay could be adopted within 9 months to a year.

VI. Additional Stakeholder Meetings

In addition to the extensive public process through workshops and Community Steering Committee meetings planning process included the following stakeholder meetings:

a. A series of Technical Advisory Committee (TAC) meetings with staff from various transit agencies, City departments, County Departments, Minnehaha Creek Watershed Council, and the Metropolitan C Development Agency, among others;

b. A series of private meetings with elected officials typically to discuss implementation and advocacy efforts;

c. A meeting with Excel Energy to learn about and discuss the high-voltage power lines in the study area;

d. A meeting with the Park Board to learn about and discuss ownership of land beneath the Soo Line;

e. Two meetings with Met Council staff to learn about and discuss funding opportunities;

f. A meeting of the Canadian Pacific Railroad to learn about and discuss ownership and operations of Soo Line;

g. Breakfast with several local developers;

h. Two informal meetings with a bicycle planner at the City of Minneapolis, to discuss existing biking facilities and needs for the study area; and

I. Two meetings with MCDA staff to discuss implementation efforts.

Table of Contents

I. Introduction

This chapter is devoted to describing the redevelopment plan and alternates which resulted from this study. It presents a single preferred alternative which strikes a balance between competing opportunities and risks, based on what is known and knowable at this time. The preferred plan is technically feasible, can be developed as a real estate venture or ventures (though it differs from mainstream development practice), and is likely to encounter overall community approval.

Plan Shaped by Dynamic Factors

Three key factors shaped the plan: 1) physical limitations imposed by the site, 2) community input and preference and 3) the real estate market. Each of these factors can change over time: the power lines could be buried; the neighborhood could come to embrace a denser town center concept; and the real estate industry could figure out how to provide retail services in smaller boxes. Should these factors change, the preferred plan would change to reflect those new conditions.

II. Elements of the Plan

A. Retail

The retail space in the plan is all on the first floor of multi-story, multi-use buildings. The plan allows for approximately 145,000 square feet of retail space.

Grocery Store

A 30,000 s.f. grocery store is included in the plan as an anchor for the retail. The consensus plan calls for an arcaded entry across the front of the store facing 46th Street. This arcade can provide two secure entrances outside the point of sale (the cash registers), allowing access from parking lots both to the east and west. The west parking is “down front”, shared parking highly visible from 46th street. The east parking lot is located behind a row of north-south buildings and is accessible from two different directions.

B. Residential

Housing is in high demand in the Twin Cities, and this plan proposes a way to concentrate new housing near transit stops. This plan includes approximately 540 new residential units in the form of detached single-family homes, single-family townhomes, apartments or condos in both mixed-use buildings and multi-family buildings, and senior housing. In addition, allowing coachouses to be built over garages any where in the study area has the potential to add hundreds of new relatively affordable housing units.

Single-Family Homes

When residential is called for in the plan adjacent to existing single-family homes, the building type chosen was detached single-family homes (See Figure 8.5). Eight new detached single-family homes are proposed in the plan.

Townhomes

Townhomes are proposed for much of the redevelopment area north of 45th Street and east of the Soo Line. This housing type allows slightly higher density than detached homes without needing more height in this entirely residential area. Also, townhomes

Figure 8.1 Consensus Plan

Figure 8.2 Redevelopment Sub Areas

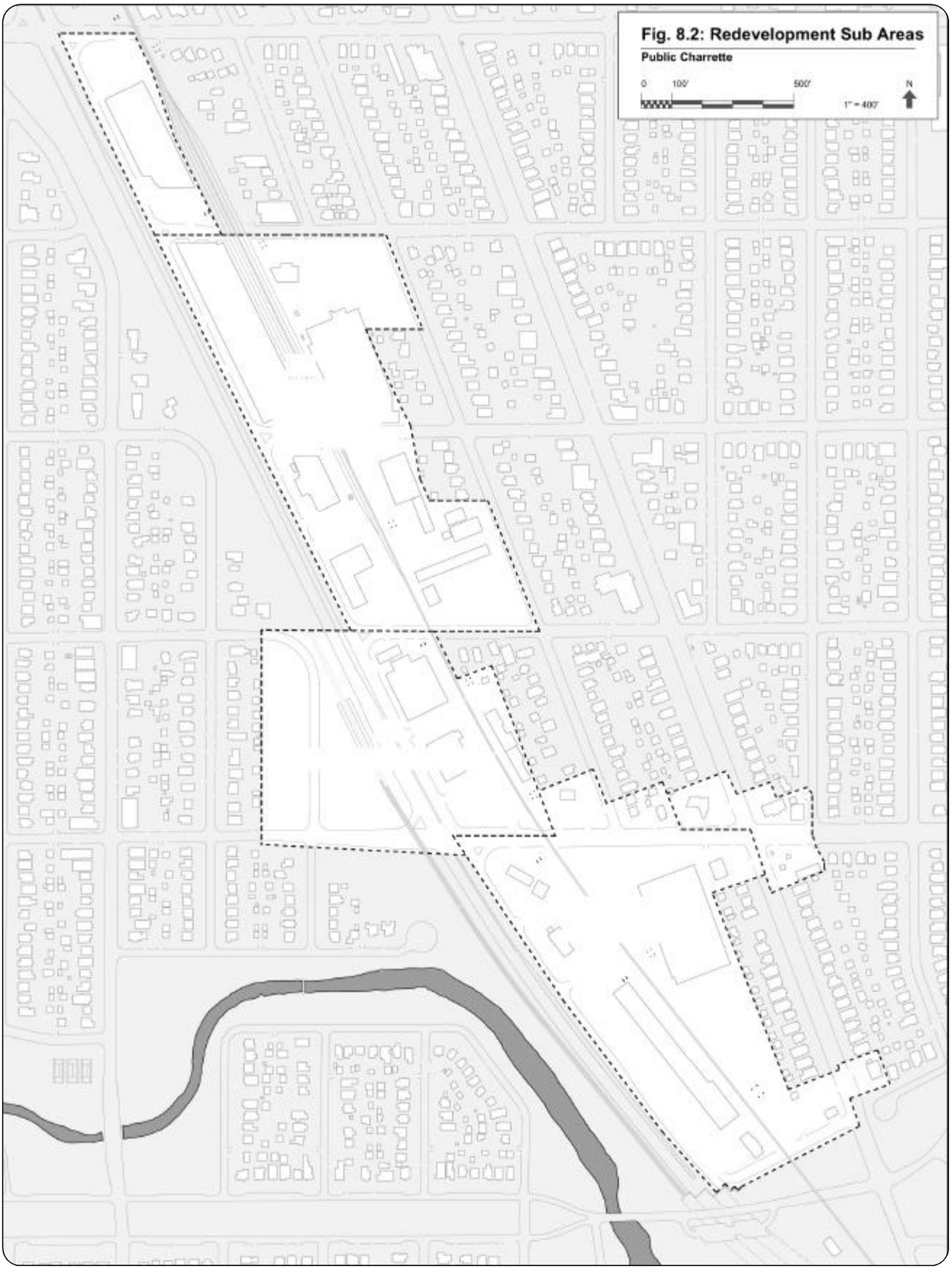


Figure 8.3 Consensus Plan

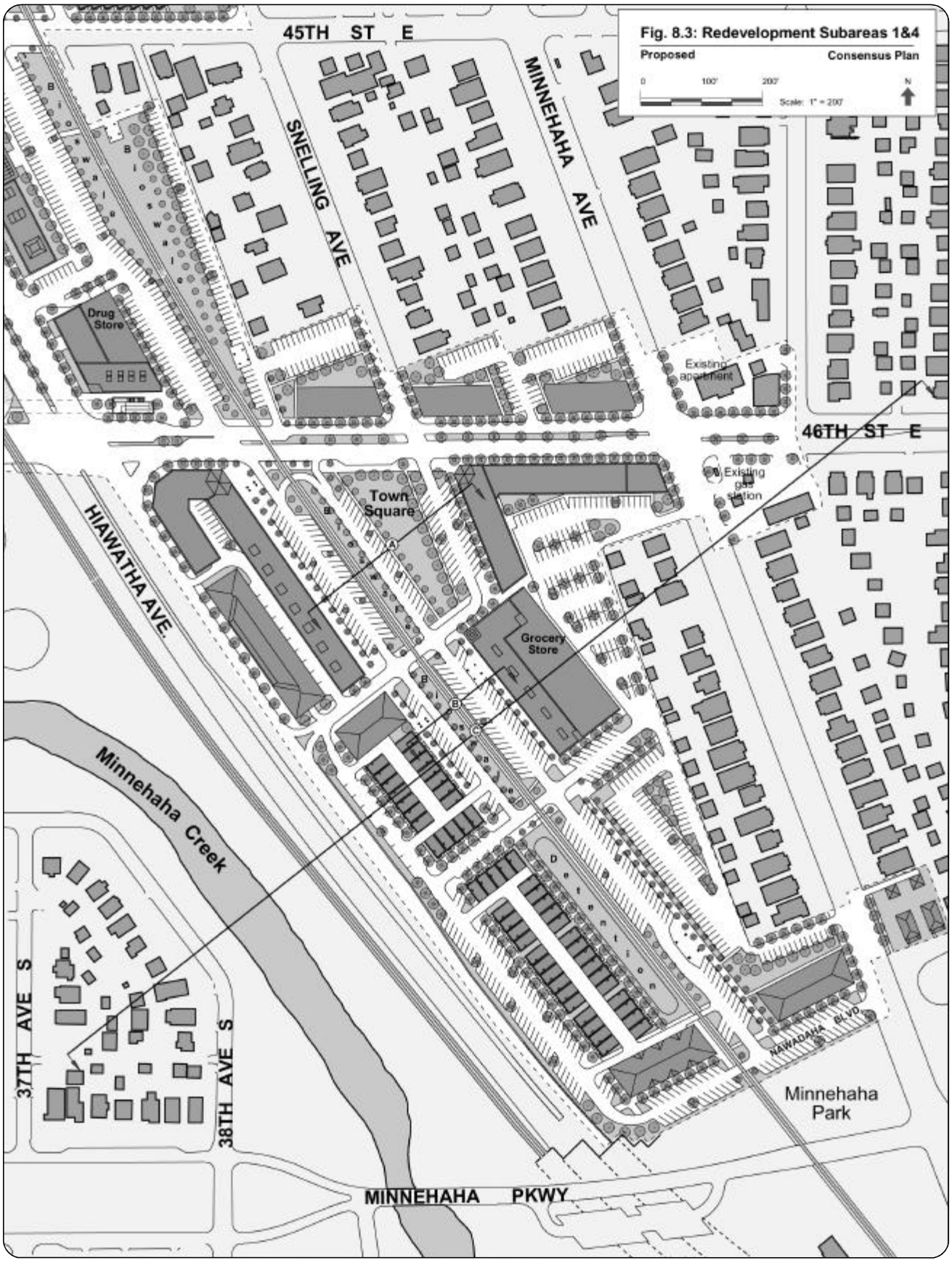


Figure 8.4 Redevelopment Subarea 2

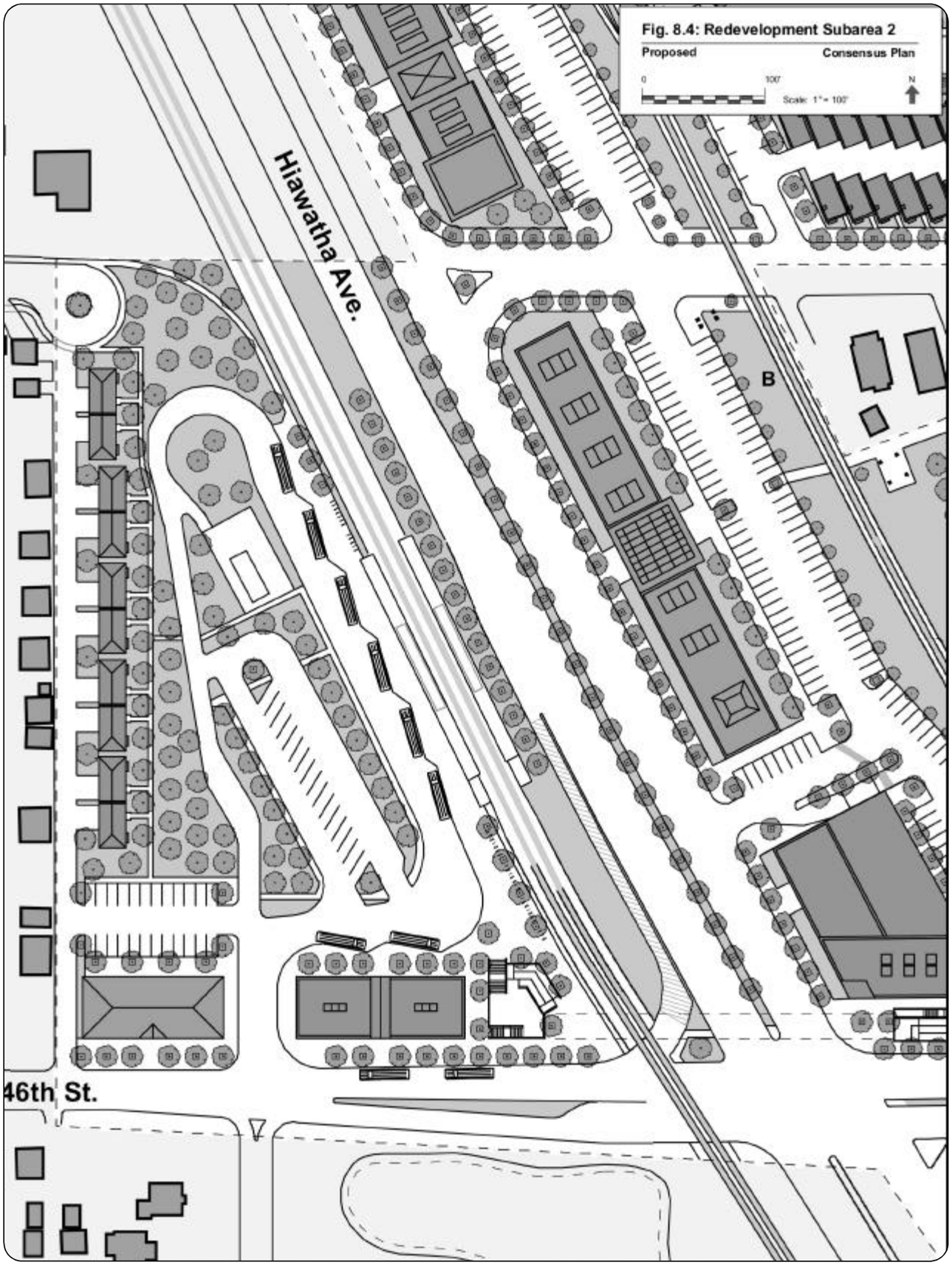


Figure 8.5 Redevelopment Subareas 3 & 5

border the new neighborhood parks proposed in this area, which give the park a greater sense of enclosure than detached homes. A total of 81 Townhomes are proposed in the plan.

Apartments/Condominiums

Most of the upper-floor space of the mixed-use buildings around the park and elsewhere is devoted to apartment or condominium uses. This type of housing is essential for gaining the density to support proposed retail and the LRT stop and to help create 18-hours-a-day activity. Approximately 400 apartments and/or condominiums are proposed in the plan. This number can fluctuate depending on market demand for different unit sizes.

Senior Housing

Senior housing was asked for many times throughout the community process. The neighborhoods involved all have sizeable senior populations and these residents have expressed a concern about not being able to stay in the neighborhood when the upkeep of their homes becomes more difficult. This plan allows for 48 senior housing units near transit and convenience shopping.

C. Office/Convertible Space

The market report clearly states that 46th and Hiawatha could be an attractive location for office development. The amount of office supportable over the next 20-25 years is uncertain, but the number is likely around 100,000 square feet. However, the plan allows for approximately 220,000 square feet of what is labeled of “office space/convertible space.” This means that this space can be designed in a loft-style and be used for either office uses or residential uses as the market dictates. This space would also allow for live-work situations, music studios, gallery space, theater space, etc.

D. Open Space

Based on the analysis of areas underserved by existing open space shown in Figure 8.6, three new parks and a new green corridor are included in the plan. The introduction of these new open spaces almost completely eliminates the area that is not within a five-minute walk of a park (See Figure 8.7). See Figure 8.8 for a more detailed view of the proposed open spaces.

Green Corridor Along Soo Line

The plan calls for heavy vegetation along the Soo Line throughout the study area. This greenway includes bioswales and a detention pond for stormwater run-off.

Town Square

This greenspace amid three and four story-mixed-use buildings will have a more urban feel than any of the other proposed open spaces. This space will serve as a place to sit take a break from shopping, perhaps eat lunch from a nearby restaurant while children play in the tot-lot, etc.

Figure 8.9 shows a section cut across the town square to illustrate the height of buildings and power towers in relation to the distance from building face to building face.

Large Neighborhood Park

A larger neighborhood park, big enough for a soccer field is planned for on Snelling Avenue mid-block between 45th Street East and 44th Street East. This land is currently owned by the City of Minneapolis who does not need it anymore for it’s current use.

Figure 8.6 Green Space Analysis

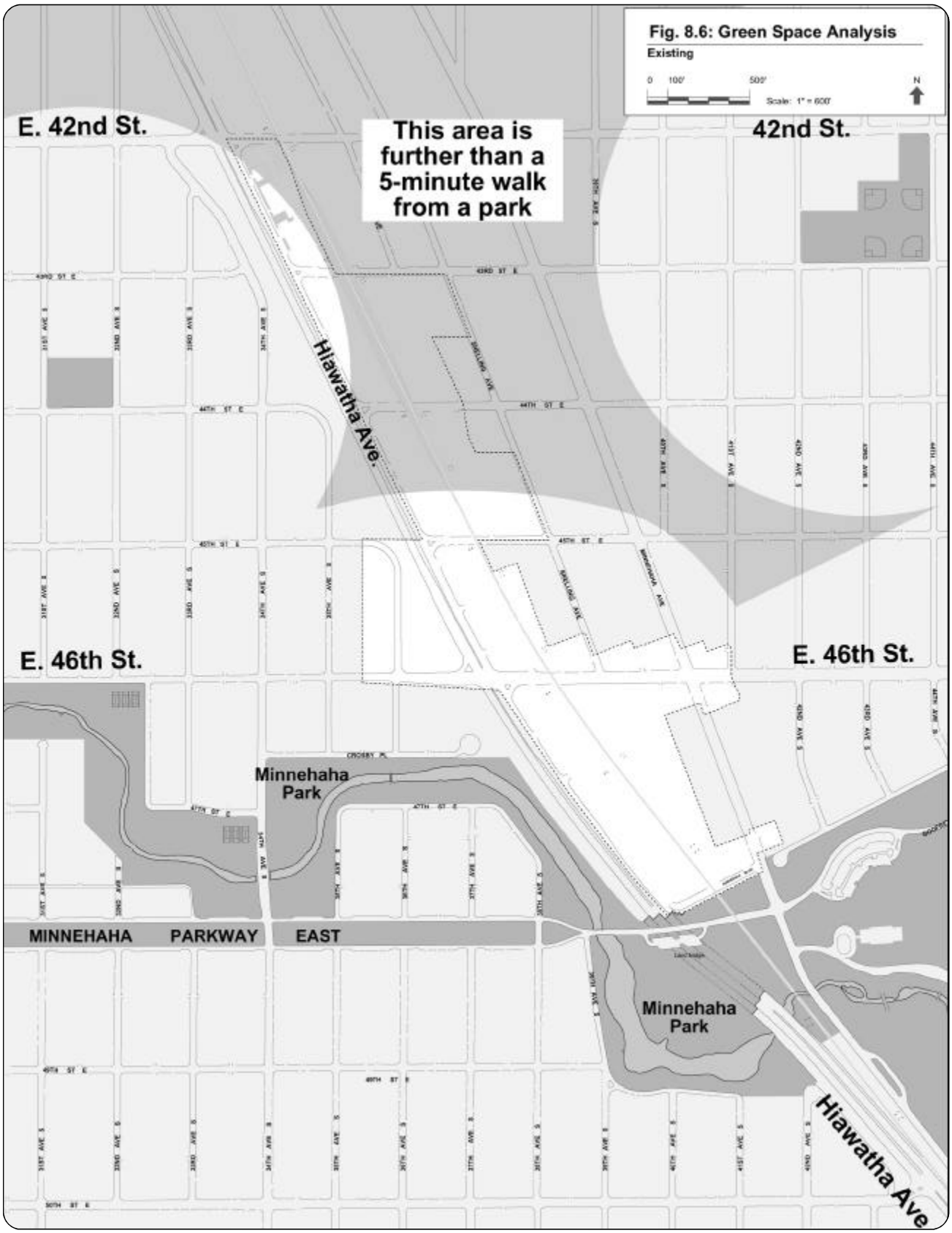


Figure 8.7 Green Space Analysis

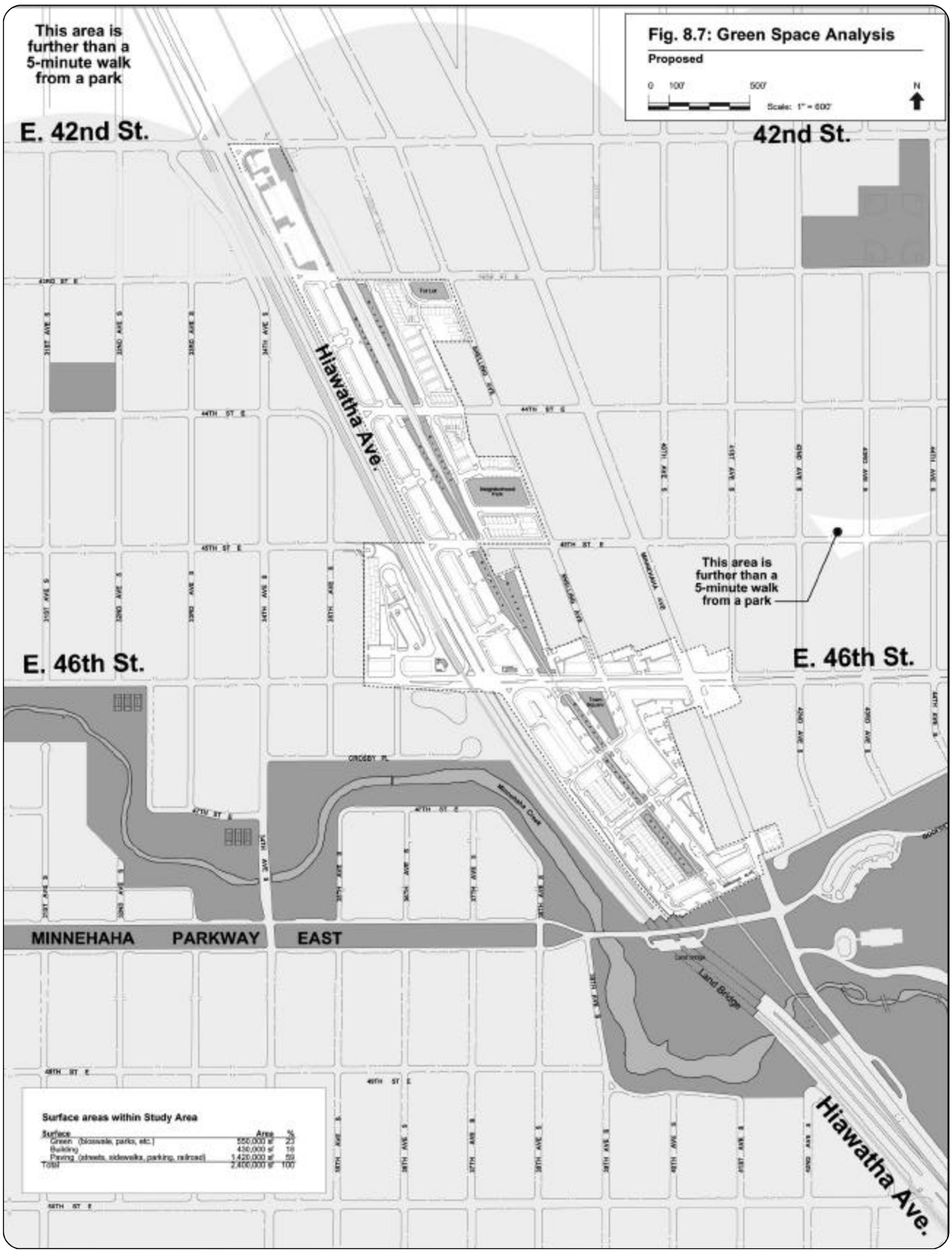
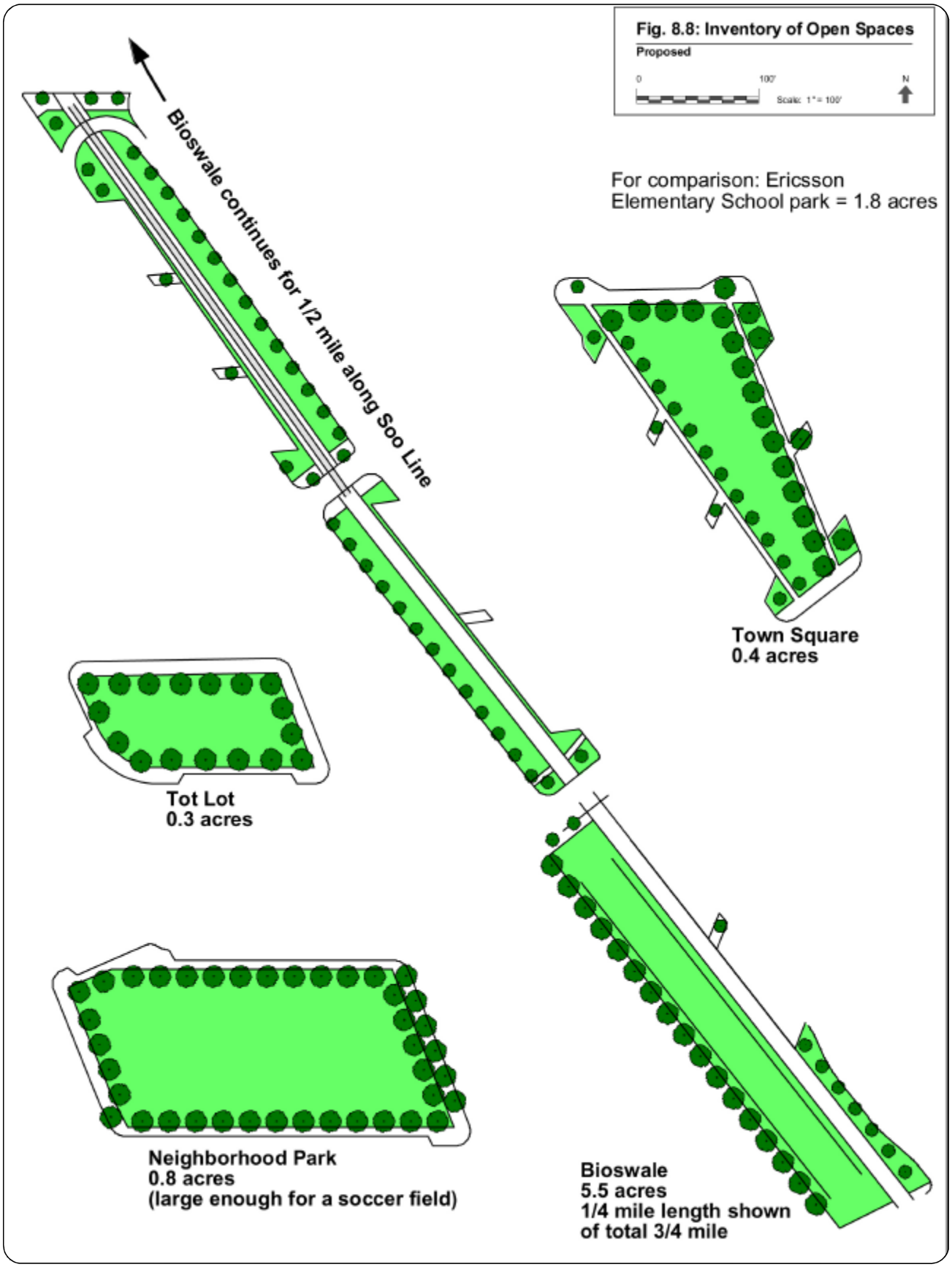


Figure 8.8 Inventory of Open Space



Small Neighborhood Park

This smaller corner park at Snelling Avenue and 43rd Street East could include a tot-lot and serve as either active or passive open space in this otherwise underserved area.

E. Infrastructure

Public sector involvement will be crucial for this master plan to go forward in terms of investing in new infrastructure, including cutting several new streets through the redevelopment area, supplying public parking, both on and off-street, constructing a pedestrian underpass beneath Hiawatha, and making pedestrian-friendly improvements to the intersection of 46th and Hiawatha.

New Streets

In order to increase circulation options, alleviate some existing traffic concerns, and create more developable land, this plan proposes an extension of the existing street grid into the areas south of 46th Street, between Hiawatha Avenue and Minnehaha Avenue. This includes the extension of Snelling Avenue south of 46th Street, a divided boulevard with the Soo Line in the median, and other connector streets.

Figure 8.10 shows a section cut across the Soo Line street south of the town square to give a sense of the sense of enclosure provided by the buildings and power towers on this street.

Parking

On-street parking is provided for in the plan on all streets throughout the redevelopment area. Also two surface parking lots are included in of the plan. Structured or underground parking is not considered supportable by this level of development, but should the market shift in its favor in the future, the surface lots could be sites for structured lots.

Underpass

For reasons described in Chapter 3, a pedestrian and bicycle underpass is proposed beneath Hiawatha, immediately north of 46th Street. The underpass will bring people into the station site at a sunken plaza with shops at the same level. The conceptual design for this underpass can be seen in Figure 8.11.

Pedestrian Enhancements at the intersection of 46th Street and Hiawatha Avenue

As discussed previously, The various pedestrian improvements proposed for the 46th and Hiawatha intersection include:

a) Reduction of pedestrian crossing by eliminating 10 striped shoulder along Hiawatha Avenue within the Hiawatha/46th Street intersection area.

b) Extending, widening, and landscaping medians within intersection area.

c) Elimination of free right turn.

d) Extended pork chop island.

e) Preservation of Development Opportunities adjacent to station along 46th Street.

Figures 8.12 through 8.15 show a “before and after” PedZone^{SM} analysis of both the intersection and redevelopment area around the town square. By adding buildings built

Figure 8.9 Street Section
Looking South
Showing Composite Building Setback

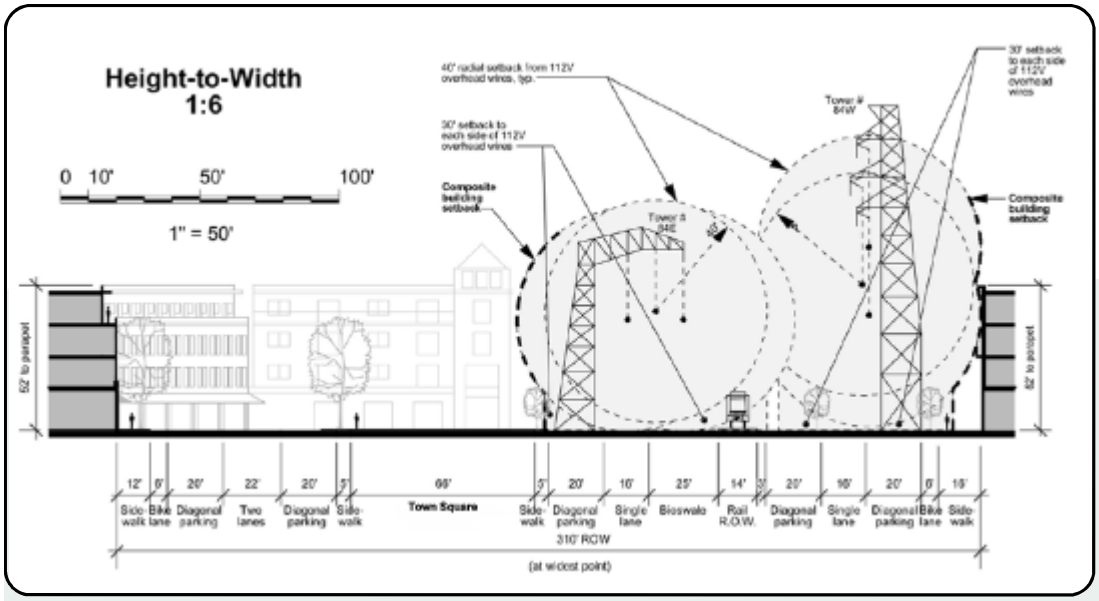


Figure 8.10
Street Section
Looking South
Showing Composite
Building Setback

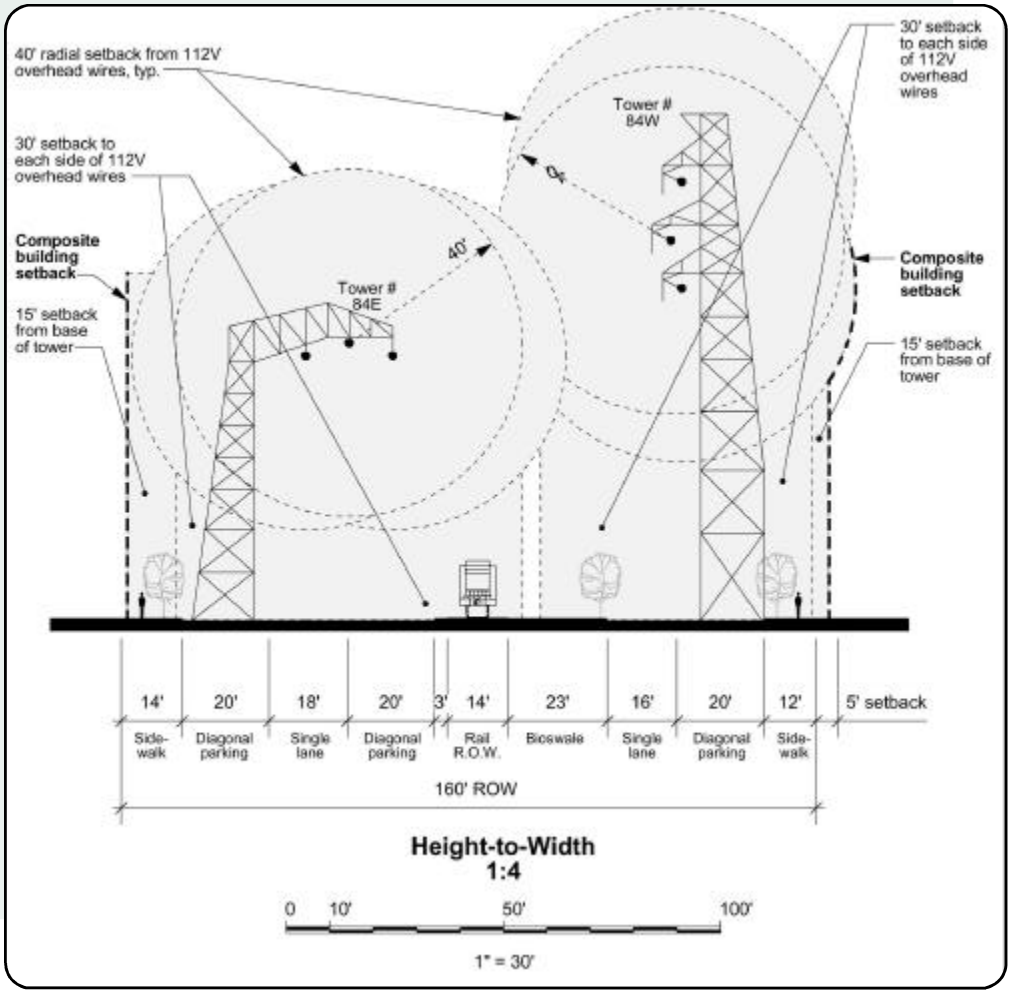


Figure 8.11

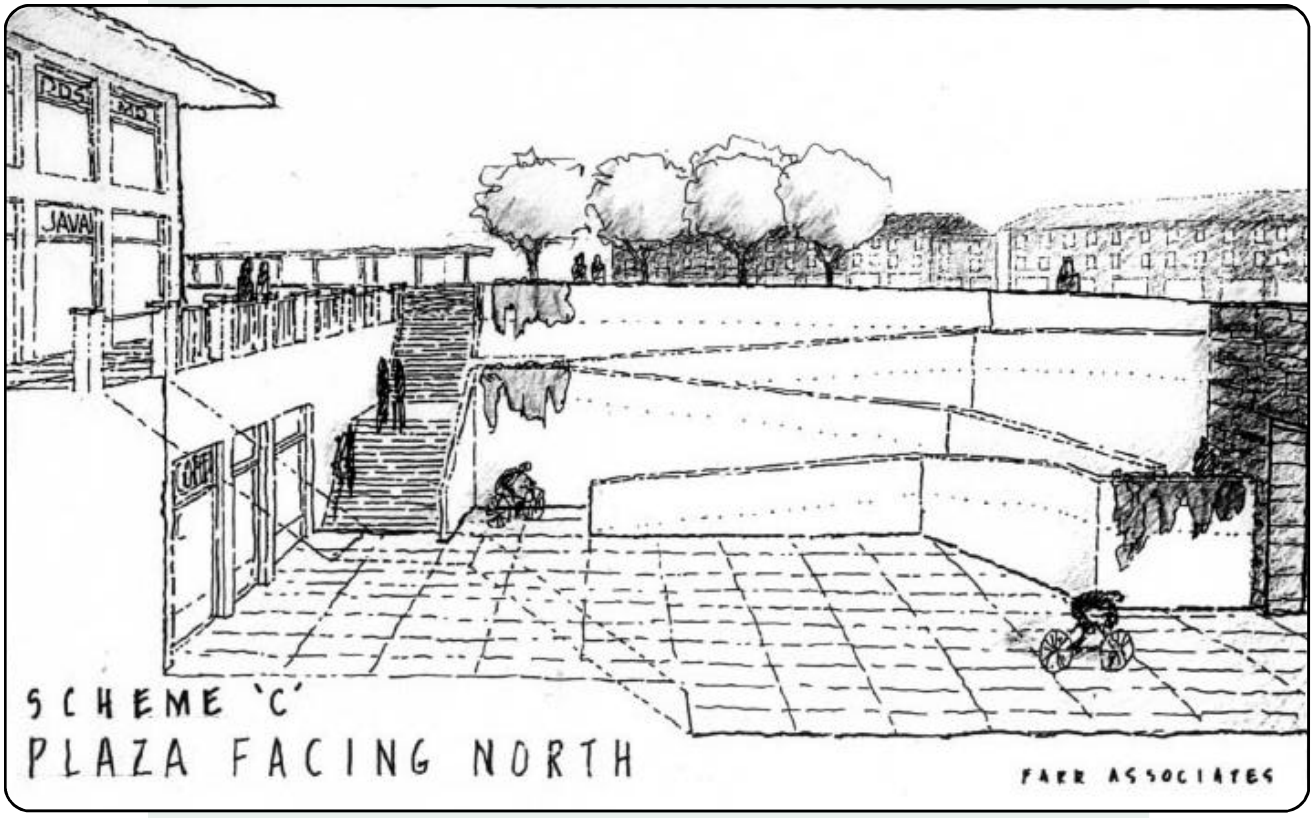


Figure 8.12 Ped Zones: 46th and Hiawatha

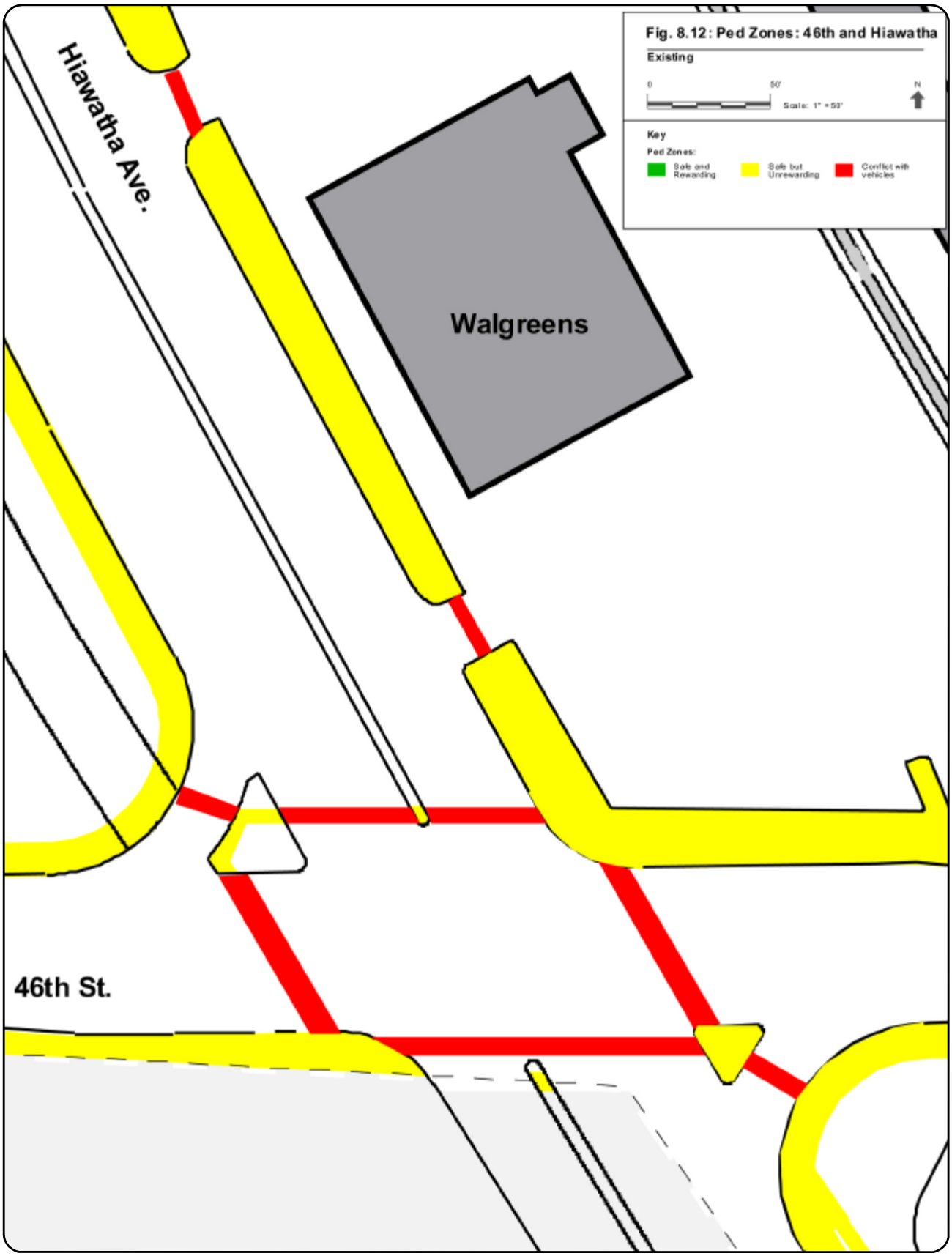


Figure 8.13 Ped Zones: 46th and Hiawatha

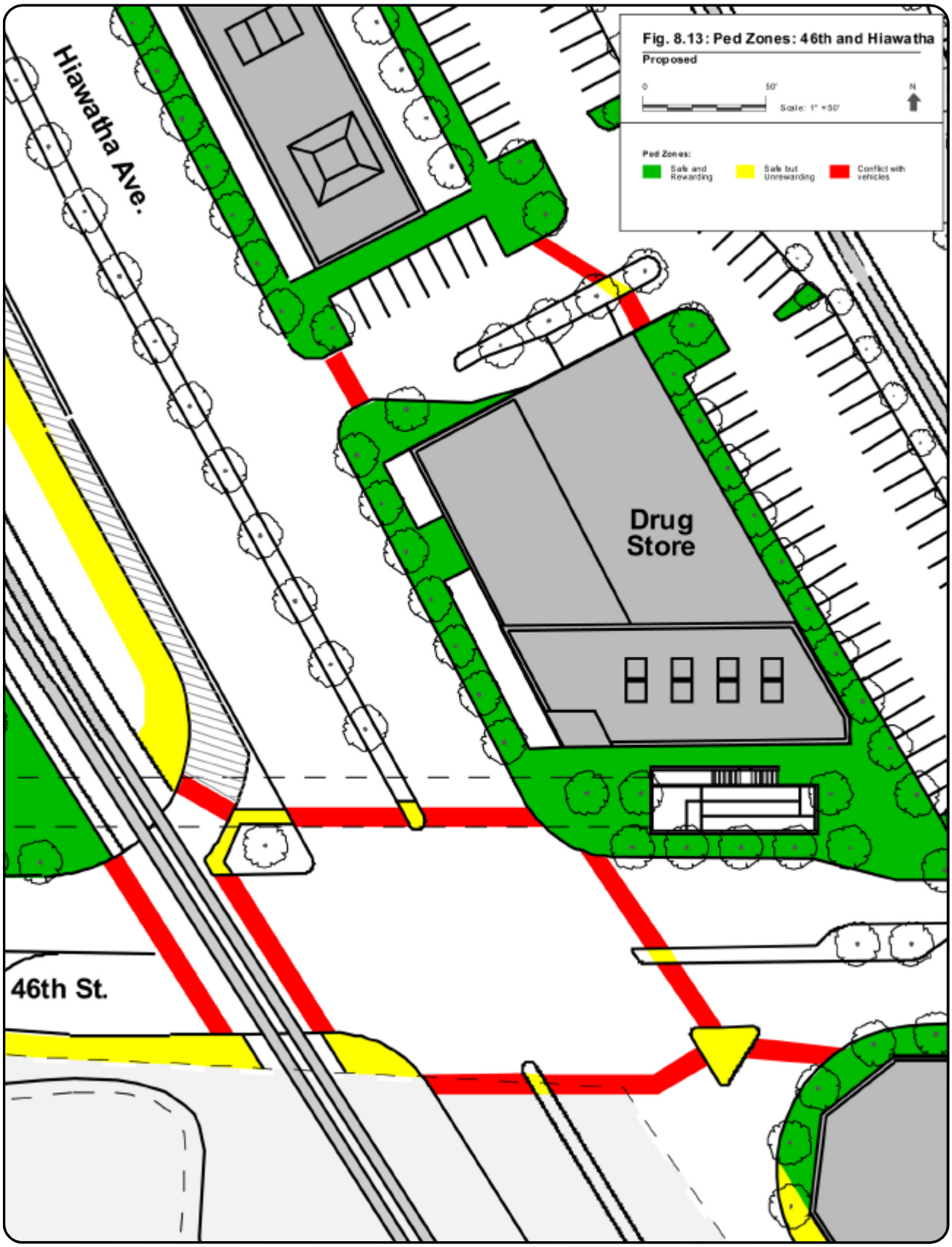


Figure 8.14 Ped Zones: Town Square

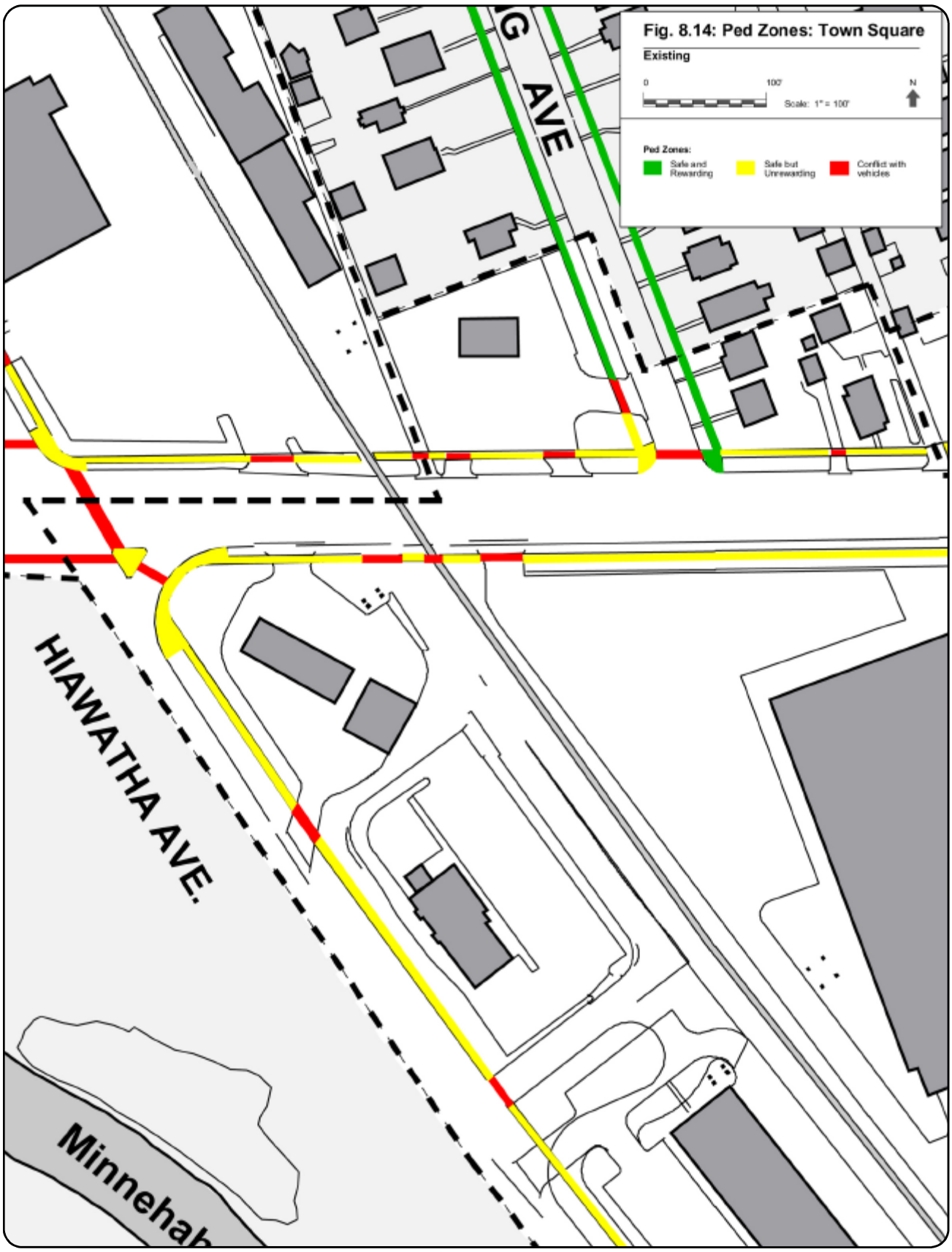
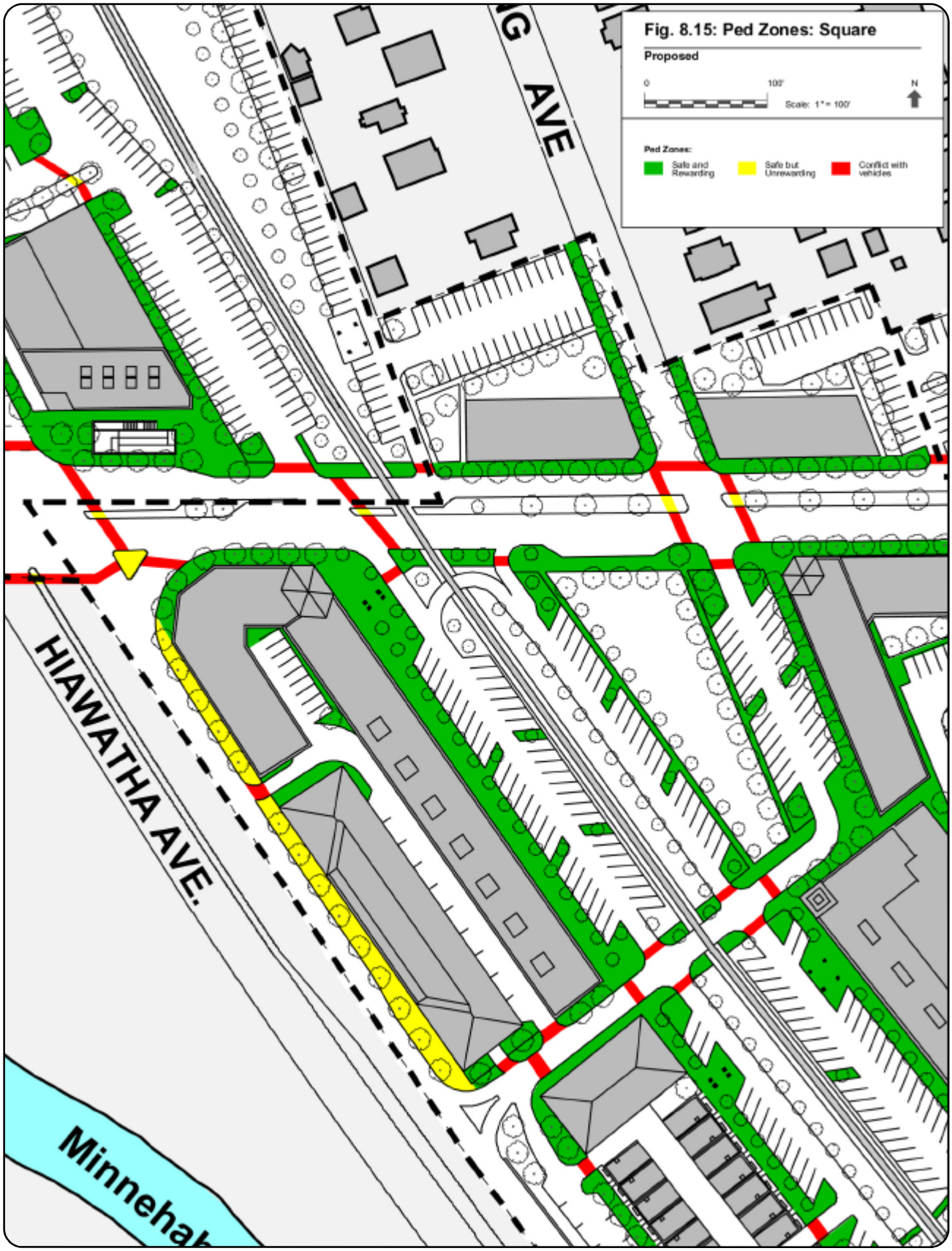


Figure 8.15 Ped Zones: Square



to the street and narrowing lane widths, Yellow and Red zones are reduced greatly and Green zones are increased dramatically.

Bicycle Paths and Storage Facilities

In addition to the existing bike routes and trails, the proposed plan allows for new bike paths off the street, adjacent to the sidewalk (See Figure 8.17 for a map of existing and proposed bike routes). This configuration is safest for bicyclists and supports the retail uses on the ground floor. Figure 8.16 shows and example of these "side lanes" as they are sometimes referred to.

F. Drop and Ride Site

The development proposed for the drop and ride site (LRT station site) includes, two to three-story mixed-use buildings and twelve townhomes. This level of development on this site should generate activity 18 hours a day which would increase safety of the station site and make the area a more attractive destination.

III. High Environmental Values

While not apparently linked to the redevelopment of the LRT station area, towns and cities such as Portland, Seattle, Boulder, Berkeley, and Austin have embraced high environmental standards as enhancements of their town. As part of a comprehensive campaign to position itself as a special place, Minneapolis should consider adopting high environmental standards for both its LRT -related redevelopment and general practice.

A. Greening

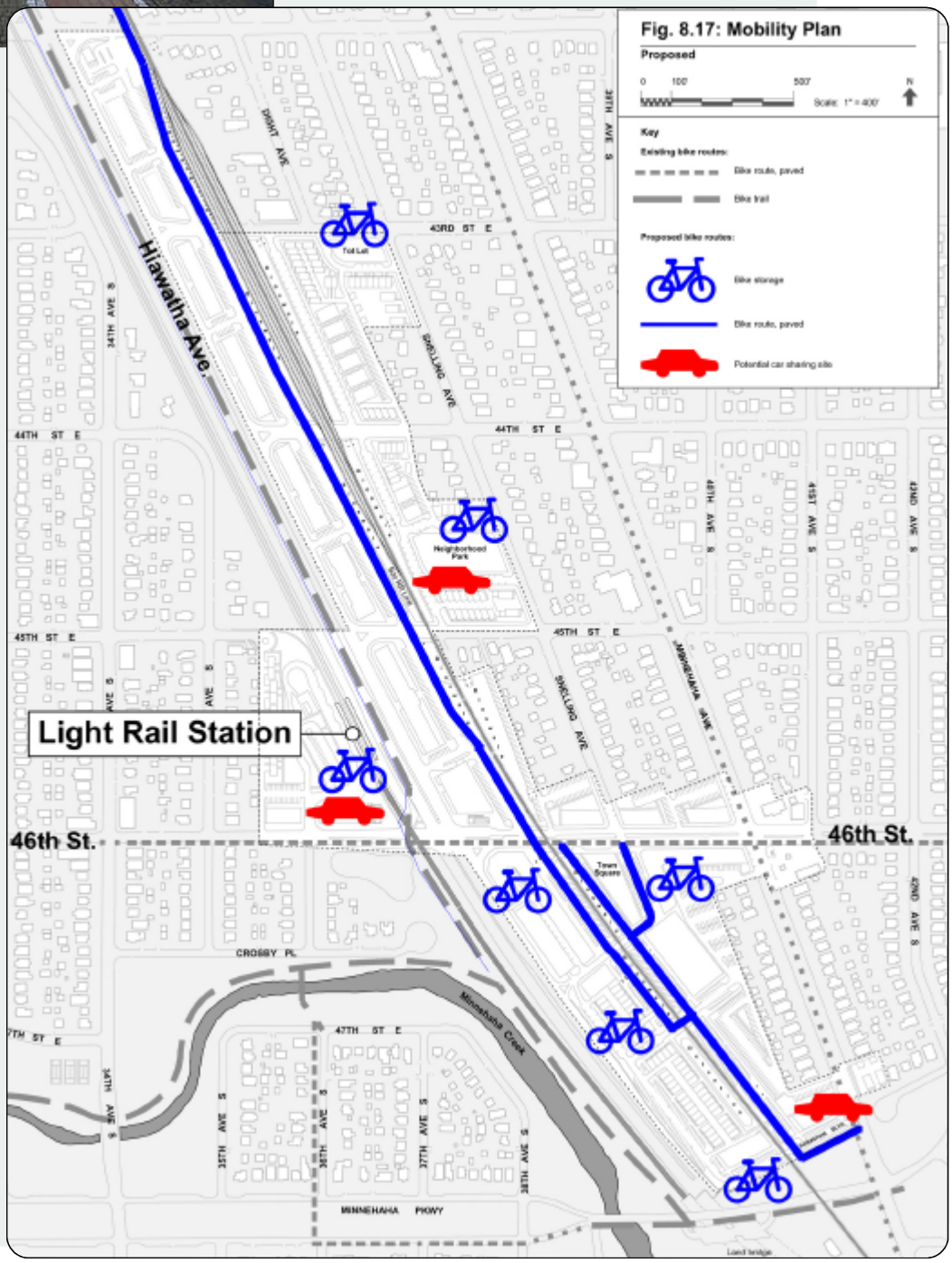
Adding landscaping, or "greening" is another widespread beautification strategy for cities and towns. Minneapolis is exemplary in its greening efforts as well as environmental conservation, and this needs to be reflected in the station area. In addition to improving the appearance of corridors and parks, there is an opportunity to continue to reintroduce wildlife habitat and a natural landscape, while reducing urban heat island effects. In Chicago, Mayor Daley takes great pride in having planted more than 230,000 trees and introduced pole mounted flower baskets where space is not available for trees. Both residents and tourists benefit from this greening strategy. The greening of high-traffic approach corridors, such as Hiawatha Avenue, is especially important for image. If nothing changes, a light rail travelers' initial view of the study area will be of six lanes of asphalt lined with sound walls and "big-box" retailers. A first impression of the rail corridor would greatly improve if it lushly landscaped with a variety of trees, shrubs and flowers.

Recommendations:

The City and County should work with a landscape architect to develop a conceptual approach for greening the corridor and designing the bioswales and detention pond.

Figure 8.16 Bike lanes between the sidewalk and street is safe and supports the adjacent retail uses.

Figure 8.17 Mobility Plan



B. Urban Heat Islands

Urban heat islands are created when the majority of land in an area is treeless, paved, and buildings are built with dark materials. Heat is absorbed by the dark building materials and reradiated, making the area feel warmer. In the summer, urban areas can be uncomfortably hot because of this phenomenon. Light colored pavement and rooftops which will reflect the heat can be specified to mitigate the urban heat island effect.

Recommendations:

- Where possible, plant trees or swales and create parks to absorb sunlight.
- Landscape parking lots to create a tree cover of 10 to 40% of the land area.
- Use light-colored materials for streets and sidewalks such as concrete and road oil.
- Avoid using blacktop.
- Create rooftop gardens, and/or use light colored materials for roofs.

C. Water Quality [1]

During the community input process Minnehaha Creek and Falls were identified as the single greatest strength in the planning area. Policies maintaining the high quality of the surface and ground water feeding Minnehaha Creek have broad public support and are essential to conserving this core asset. The Minnehaha Creek Watershed District has played a key role in establishing and enforcing high research and performance standards to fulfill this popular environmental mandate.

The 46th Street Area is within an ecological and environmental sensitive district. Major issues for future development within the study pivot on the extent of impervious surfaces, the quantity and quality of site runoff, pollution prevention, and approaches to treat and mitigate. The 46th Street Station site has approximately two acres of impervious surface, the proposed development property east of 46th Street has occupies approximately 20-acres with six-acres of impervious surface.

The management of water quality is under the jurisdiction of the Minnehaha Watershed District and Upper Mississippi Watershed District. The majority of the study area lies within the Minnehaha Creek District as authorizing and permitting agencies; the City of Minneapolis and the Minnehaha Creek Watershed District (MCWD) regulate storm water discharge from the station site and the broader area. Rule N of the MCWD and the City's general site development regulations apply to the 46th Street area. Specifically, storm water discharge rates must be attenuated to maintain the predevelopment 10-year runoff rate. Storm water quality treatments, such as a 50 percent removal rate for the total suspended solids, are also required.

The landscape within the broader station area is a flat outwash plain. The surface soils are good to excellent for drainage. In test borings, ground water has been encountered at depths ranging from 22 to 30 feet below the surface.[2] The quality of subsoils for potential drainage is unknown, but would be a requirement of any future development in the area.

[1] *This section produced by the Parsons Corporation*
[2] *Braun Intertech, Inc., "Geotechnical Evaluation Report", August 4, 1999*

Connections to the City drainage system is scrutinized because the city streets in the area have experienced frequent flooding with the most frequent reoccurrences documented for the 40th Street area.

Effective stormwater management is often achieved from a management systems approach as opposed to individual practice. That is, the technique from any given management system is viewed as the sum of its parts taking into account the range of effectiveness associated with each single practice, the costs of each practice, and the resulting overall cost-effectiveness. Some individual practices may not be very effective alone but, in combination with others, may provide a key function.

Best Management Practices

In order to eliminate the need for a centralized storm water pond, a combination of Best Management Practices (BMPs) should be incorporated into station and area-wide site design. These should include water detention ponds, bio-swales, rain gardens, extra sump in catch basins, and frequent sweeping / maintenance. Bioswales, also referred to as grassy swales, vegetated ditches or infiltration swales, are considered to be one of the better best management practices (BMP's) for treatment of stormwater runoff. The proposed bioswales would provide partial compliance but other BMP's may also be required. Wet ponds, like the one proposed for the southwest corner of 46th and Hiawatha, rank as the most efficient forms of treatment for runoff. Due to constraints, such as space, many sites are unable to provide wet ponds. In those cases, BMP's are implemented for stormwater treatment. A treatment train, or multiple BMP's used in succession, is the most efficient use of this technology.

Rain gardens, infiltration measures in parking lot medians, a regular schedule of impervious area sweeping, and sump catch basins are examples of other BMP's that might be employed on the site but do not constitute an exhaustive list. For developers, it is important to start early with the MCWD to answer questions and try to recommend methods as development site plans progress.

The pond mentioned above will be built by MnDOT this year and will complete the remaining requirements for stormwater treatment for the TH 55 project. As such, the design of that pond has been previously approved and is not subject to change. Some aspects of the LRT project were included in TH 55 permit but areas like the 46th Street station were not. The transit commission is preparing an analysis of new impervious area to verify the need for additional treatment methods.

Redevelopment Limited to Surface and Shallow Excavation

This transit-oriented-development study is concerned with identifying opportunities for the community to adapt over time to better take advantage of the construction of the LRT. While the consensus plan proposes to change land use in large sections of the study area, with the exception of a possible pedestrian underpass below Hiawatha, nothing is contemplated to excavate more than basement depth.

Consensus Plan Embraces Best Management Practices

The existing land uses feature a high percentage of impervious surfaces (both paving and buildings) and no best management practices for stormwater filtration or groundwater recharge. By contrast, the consensus plan embraces best water management practices including vegetated swales and settling ponds.

Recommendations:

Without compromising its popular environmental standards, it would be prudent and helpful if the Minnehaha Creek Watershed Council could work with appropriate public authorities and private sector developers to identify a clear and comprehensive framework for projects in the study area to comply with applicable water-related regulations.

Low Impact Development

Future site designs should integrate a low-impact-development (LID) approach to enhance infiltration and water pollutant filtering processes. A LID design could include creating a grass swale along the edges of pavements, constructing curb cuts to divert pavement runoff to grass swale, and grading detention areas.

LID strives to achieve storm water control through the creation of a hydrologically functional landscape that mimics the natural hydrologic regime.

As the Master Plan Concept scheme illustrates, storm water runoff will be conveyed via the construction of new storm water lines under the proposed parking areas and outfall to a system storm water ponds. Depressing the areas in islands and boulevards behind the curbs will allow rainfall and snow melt water to collect. The depressions will act as small infiltration basins reducing discharge to the stormwater ponds and prefiltering the water. Wet and dry detention ponds per city of Minneapolis stormwater management plan will be incorporated into the final plan.

Parsons Transportation Group used an EPA P-8 program to model the effectiveness of pollutant removal process by a sample of LID designs that are illustrated in the Master Concept Plan. The results are shown below in a summary of water quality improvements:

Pollutant	Removal Rate	Permit Requirements
Total Suspended Solids	75%	50% by MCWD 70% by City
Total Phosphorous	50%	No Specific Requirement

The LIDs capabilities are considered comparable to a dry swale that in theory can remove a maximum of 91% of total suspended solids, 67% of total phosphorous, 92% of total nitrogen, and 80-90% of metals.

"Green" Parking

While reducing the number of parking spaces created is essential to reducing the amount of impervious cover, reducing the size of standard parking stall dimensions is another opportunity. Parking lots can also be reduced by minimizing standard parking dimensions in length and width, amending parking codes to require a fixed percentage for compact

cars, and requiring designation of spillover parking areas using alternative paving materials. Some real challenges to these techniques are that there is an increasing trend toward larger sports utility vehicles and the performance of alternative pavements is not well documented. In addition, construction costs for alternate pavers are generally greater than conventional surfaces, but the reductions in stormwater management and storm drainage construction and maintenance may offset those costs.

Parking lots are a significant source of stormwater pollution. Bioretention areas, dry swales, perimeter sand filters, and filter strips, are some of the different strategies that can be used to treat stormwater. Parking lots can be made more attractive and provide stormwater management at the same time. While parking lot islands help visually break up the pavement in parking lots, these islands could also be designed for on-site stormwater treatment.

A "green parking" approach includes setting maximums for the number of parking lots created, minimizing the dimensions of parking lot spaces, utilizing alternative pavers in overflow parking areas, using bioretention areas to treat stormwater, encouraging shared parking and providing economic incentives for structured parking.

Another green parking lot technique is to minimize the dimensions of the parking spaces. This can be accomplished by reducing both the length and width of the parking stall. Parking stall dimensions can be further reduced if compact spaces are provided. While the trend toward larger sport utility vehicles (SUVs) is often cited as a barrier to implementing stall minimization technique, stall width requirements in most local parking codes are much larger than the widest SUVs.

Utilizing alternative pavers is also an effective green parking technique. They can replace conventional asphalt or concrete in both new developments and redevelopment projects. Alternative pavers can range from medium to relatively high effectiveness in meeting stormwater quality goals. The different types of alternative pavers include gravel, cobbles, wood mulch, brick, grass pavers, turf blocks, natural stone, pervious concrete, and porous asphalt. In general, alternate pavers require proper installation and more maintenance than conventional asphalt or concrete.

Parking spaces are not cheap. In an average surface parking lot, each stall can cost between $2,500 and $4,000 to construct. Each space in a parking structure can cost between $10,000 and $15,000 each. Each parking space not built saves money.

Shared parking in mixed use areas also green parking techniques that can further reduce the conversion of land to impervious cover. A shared parking arrangement could include usage of the same parking lot by an office space that experiences peak parking demand during the weekday with a church that experience parking demands during the weekends and evenings. Costs may dictate the usage of structure parking, but building upwards or downwards can help minimize surface parking.

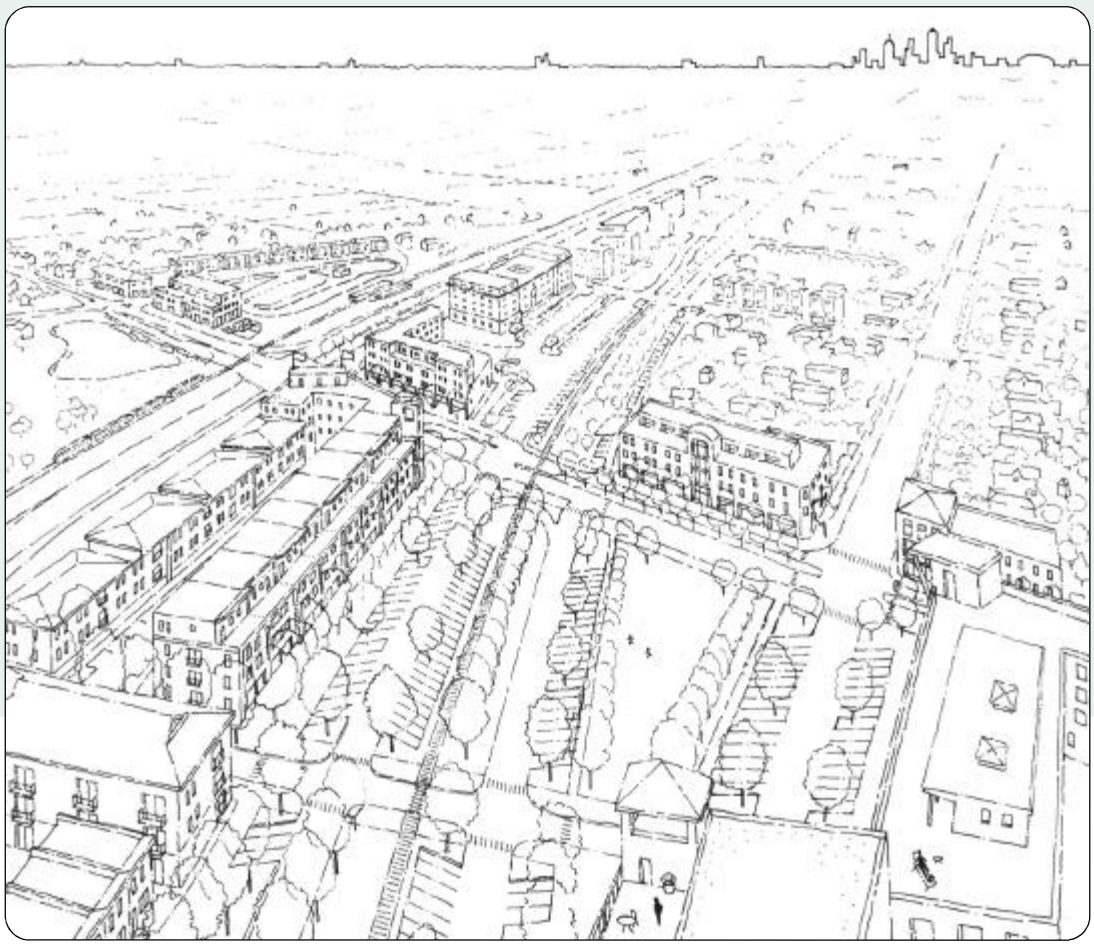
Some limitations to applying green parking techniques include applicability, cost, and maintenance. For example, shared parking is only practical in mixed use areas and structured parking may be limited by the cost of land versus construction. Alternative pavers are currently only recommended for overflow parking because of the considerable cost of maintenance and bioretention areas can be costly to construct.

Overall, utilizing green parking lots can dramatically reduce the amount of impervious

Figure 8.18: This bioswale in a parking lot reduces impervious surface and serves as an alternative filtration system for stormwater run-off.

Figure 8.20: Street-level perspective rendering looking south at proposed town square.

Figure 8.19: Aerial perspective rendering of proposed plan looking northwest.



cover created. The level of the effectiveness depends on how much impervious cover is reduced as well as the combination of techniques utilized to provide the greenest parking lot.

Vegetated Open Channels

Where density, topography, soils, and slope permit, vegetated open channels should be used in the street right-of-way to convey and treat stormwater runoff. This concept is being proposed for the “striped” breakdown lane along Hiawatha. Open vegetated channels remove pollutants on site by allowing infiltration and filtering to occur. In addition to removal of pollutants a vegetated swale reduces the peak flow by slowing runoff. (See Figure 8.18.)

Table of Contents

9 IMPLEMENTATION

The plan presented in Chapter 8 fulfills the policy intent of transit-oriented development. As projected in the LRT corridor study and confirmed in this market study, there is long term market demand for the proposed land uses at, or in excess of, the buildable areas shown.

I. Flexible Vision

In order to be implemented, this plan must overcome both foreseeable and unforeseeable obstacles. To accomplish this the plan must remain flexible throughout the development process while preserving the consensus vision. The best strategy to achieve this is for all parties to the process to be fully informed about the particulars of the preferred plan. Specifically two areas are worth discussing: the potentially fragile consensus in support of the plan and the need for ongoing education.

Fragile Coalition

This plan can be implemented in phases over the next five to fifteen years. However, experience has shown that the first few years of implementing a plan are the most critical. The development of a plan is a consensus and team building exercise. The consensus which emerged from the plan development process can prove to be fragile. Parties to the consensus overcame individual objections to some aspect of the plan to achieve a greater good.

Ongoing Education

Over a period of months and years following the development of the plan, members of the team move on and are replaced with people who were not involved in the planning process. There is a need to constantly educate new parties to the process about the plan and their role in implementing it. Without this ongoing education, common practice seems to indicate that the momentum and consensus built during the public process can dissipate in just a few years.

Enhancing Viability

To enhance the viability of the plan over time, this chapter does two things: 1) lists the obstacles involved with implementing the plan 2) lists the role of the public sector in overcoming these obstacles and 3) establishes a Task/Responsibilities matrix to identify steps toward implementation and the parties responsible.

II. Obstacles to Overcome

a. Because neither the City nor County have a policy or track record for development on publicly-owned land at LRT stations, the public sector will need to overcome institutional barriers.

b. The existing zoning in the study area is inconsistent with the preferred plan in several key areas: 1) not enough allowable density, 2) required setbacks and parking ratios, and 3) permissive of drive-thrus and other auto-oriented building types.

c. The classification of Hiawatha as a Trunk Highway and recent upgrades to the roadway have created a pedestrian barrier through the middle of the study area that will be difficult to change.

d. By classifying 46th Street one of the four "catalyst sites," the LRT corridor market study created an expectation that the private sector would create a Transit Oriented Development (TOD) around this station needing little or no public involvement.

e. Fragmented land ownership around the town square site will work against the integrated town center concept described in the preferred plan.

f. The Minnehaha Creek Watershed District has set high standards upon development in the study area.

III. Role of the Public Sector in Implementation

In order to overcome the obstacles listed above and others that may come up along the way, the public sector has a large role to play to ensure the implementation of this plan. These roles include:

a. Issuing Requests for Proposals (RFPs) for the land that is currently owned by public sector agencies, i.e. the station site and the City Services Vehicle Facility site.

b. Adopt an overlay zoning ordinance that applies to the half-mile radius. Among other regulations detailed in Chapter 4, this overlay zoning ordinance should prohibit auto-oriented uses along Hiawatha; adopt regulations to allow the development shown in the proposed plan; and allow for the development of coachouses over garages within the half-mile radius.

c. Make pedestrian-friendly improvements to Hiawatha Avenue and its intersection with 46th Street as described herein.

d. Assemble land or coordinate with separate land owners to implement the plan. (Different parts of the town center may be more profitable than others.)

e. Construct streets and other infrastructure to ready the area for redevelopment.

f. Work closely with existing land owners or new land owners and developers to get the type of development prescribed in this plan.

More detail on points D and E follow:

<u>Replatting of Land</u>

The disjointed street pattern in the area of the proposed town center is a barrier to the subdivision and redevelopment of this land. In order to support redevelopment of this area, improved access must be provided for pedestrians, bicycles and automobiles, Specifically this requires the planning and construction of new streets, the demolition of the vacant warehouse building, and the resulting resubdivision of land.

Assembling Public Land to Build Streets

The construction of new streets will require the land under the proposed streets to change from private to public ownership. Theoretically there are three different ways to accomplish this: 1) work with the existing landowners to demolish their buildings and sell the land under the proposed streets to the public, 2) to have a public entity purchase the land, demolish the buildings, build the roads and sell the newly subdivided parcels, or 3) selectively condemn land and demolish buildings for new streets and leave the remaining land parcels in public hands.

Condemnation for Streets as Last Resort

Condemnation should be thought of as a last resort to achieve the redevelopment of the area and only be considered after negotiations for self-subdivision or outright sale have been exhausted. Given the complexity of valuing and selling portions of several parcels of land, this involuntary acquisition may be necessary for the greater public benefit.

New Streets Proposed Elsewhere

Outside the vicinity of the proposed town center, the only area proposed to receive new streets is along the east side of the Soo Line tracks. The lumber yard just north of 46th Street is the parcel of land most likely to be affected if this street were built. Because of the large scale of this study and the lack of detailed information about land ownership, it is not known whether this proposed street is laid out on private land.

Figure 9.1: Tasks and Responsibilities Matrix

Party Responsible	Contact	Action Step	Deadline
City of Minneapolis	Mike Larson	Draft new zoning overlay district to allow for the development described in the proposed plan.	6 months
		Organize and conduct further public meetings related to zoning changes.	3-4 months
		Identify appropriate sub-projects that apply to Met Council's various funding programs.	3 months
		Apply for appropriate MetCouncil grants.	6 months
		Work with MCDA to implement plan.	Ongoing
		Engage in land transfer with Park Board (described under Park Board below).	1 year
		In order to ensure predictability for developers, the City should commission a study to assess the environmental constraints throughout the area to inform developers about how and what they can build in the redevelopment area.	4 months
Minneapolis City Council	All members	Adopt proposed master plan.	2 months
		Adopt zoning overlay.	8 months
Metro Transit	John Dillery, Aaron Issacs	Put bus routes that pass through the 46th Street Station, high on the list of those that might receive hybrid-electric buses, if testing of these buses is sucessful.	2-3 years
		Confirm feasibility of allowing buses to stop on 46th Street.	1 month
MCDA	Mark Garner	Issue RFP for station site.	1 year
		Issue RFP for City Vehicle Facility.	1 year
	Review appraiser	Estimate land values.	1 month
		Establish a redevelopment area.	3 months
		Acquire key parcels.	Ongoing, long-term
Hiawatha Project Office	Ed Hunter	Advocate for and follow through with changes to drop'n'ride facility design.	Currently underway
		Keep City and County staff informed about how to incorporate findings from our study in actual construction.	Ongoing until complete
		Advocate for elimination of free rights.	Ongoing
		Rebuild bike lane immediately east of LRT tracks with bituminous materials instead of concrete.	2 years
Elected Officials	Sandra Colvin-Roy, Peter McLaughlin	Continue to advocate for changes to bus transfer/ kiss'n'ride facility design.	Ongoing until complete

Party Responsible	Contact	Action Step	Deadline
Elected Officials (cont'd)		Advocate for hybrid-electic buses on appropriate routes due to likely proximity of bus transfer site to retail and housing.	Ongoing until purchased
		Advocate for public purchase of key sites in the redevelopment area.	Ongoing, long-term
		Advocate for aggressive pedestrian-friendly improvements at 46th & Hiawatha.	Ongoing, long-term
		Push zoning overlay through for Council's approval.	8 months
		Advocate that RFPs for public land (station site and City vehicles site) are in accordance with the proposed plan.	1 year
Minnehaha Creek Watershed District	Jim Hafner	Identify brownfield sites in watershed and work with the City to phase out these uses.	6 months
		Work with the City of Minneapolis to draft overlay zoning which prohibits land uses that generate liquid toxics (gas stations, automotive uses, dry cleaners, select industry) within a certain distance of the Minnehaha Creek.	9 months
		Conduct a follow-up study to map the land areas on which development would likely require a permit from MCWD, to better inform potential developers.	9 months
		Create a working group of technical experts to define the development threshold at which a permit from MCWD becomes necessary.	6 months
MN/DOT		Explore possibilities of lane width reduction and lane elimination on Hiawatha.	8 months
		Allow for greening opportunities along highway right-of-way and medians.	1 year
		Extend medians on 46th and Hiawatha to reach crosswalks and serve as refuge island.	1 year
		Consider elimination of free right turns at 46th & Hiawatha, by installing either stop signs or flashing red lights.	1 year
Met Council	Ted Mondale, Caren Dewar	Determine a special roadway classification for Hiawatha that would allow for pedestrian-friendly design and safety.	Ongoing, 2 years
		Grant funds to appropriate aspects of redevelopment effort.	Ongoing, 5 years

(continued on next page)

Figure 9.1 (continued)

Party Responsible	Contact	Action Step	Deadline
Park Board	Judd Rietkerk	Engage in land transfer with the City/MCDA so that the Park Board receives the land for the large neighborhood park proposed at Snelling Ave. between 44th and 45th, and the City/MCDA receives the land beneath the Soo Line between 46th St. and Nawadaha.	1 year

Figure 9.2: Tool Box of Funding and Assistance Sources

A) Transportation	
Discounted Transit Fare Programs Program Description Various types of reduced fare programs available to employers, destinations, etc. This program applies to MetCouncil's goal increasing transit ridership. Qualifications N/A Additional Information N/A	Contact Information Jim Macchitelli Metro Transit (612) 349-7694
FTA Livable Communities Initiative Program Description In 1994, the Federal Transit Administration (FTA) launched the Livable Communities Initiative providing financial support for linking land use and transit investments. The Initiative funds community facilities located adjacent to rail and bus lines that are aimed at increasing transit ridership. Qualifications N/A Additional Information N/A	Contact Information Federal Transportation Authority
Transportation Benefit District As described in the 1987 statute authorizing the formation of Transportation Benefit Districts (TBDs), the districts are designed to enhance the "capability of cities, towns, and counties to make and fund transportation improvements necessitated by economic development." Qualifications N/A Additional Information N/A	Contact Information Unknown

A) Transportation (continued)	
Transportation Improvement Board Program Description The Transportation Improvement Board (TIB) is an independent agency founded in 1988 that distributes funds through the Urban Arterial Trust Account (UATA) and the Transportation Improvement Account (TIA). The UATA funds city and urban county road projects to reduce congestion, improve safety, and address design and structural problems. Qualifications N/A Additional Information N/A	Contact Information Unknown
Section 26 Planning and Research Funds (DOT) Program Description Provides funds for research, planning, training, and design of local transportation facilities and projects Qualifications N/A Additional Information N/A	Contact Information USDOT John Spencer 202-366-4050
TEA-21 Transportation Enhancement Fund Program Description Funding for non-traditional transportation projects including activities that strengthen cultural, aesthetic and environmental aspects of intermodal systems, or facilitate bicycle and pedestrian use, including parks and open space, trail corridors, preservation of historic features and protection of scenic areas. Qualifications Competitive process open to state agencies, Metropolitan Council, other transit providers, Indian Tribal governments, counties, cities, and towns within TCMA, and 10 regional park implementation agencies. Additional Information $48.6 million available, for years 2005-2006, limit $1 million, federal share, per project, apply 8/01. This program is federally funded, authorized by TEA21. In the Twin Cities the Transportation Advisory Board selects projects with approval by the Metropolitan Council.	Contact Information Don Koski Metropolitan Council (651) 602-1721

(continued on next page)

Figure 9.2 (continued)

A) Transportation (continued)	
Livable Communities Demonstration Account Program Description Provides funds for creating models of compact, mixed-use, pedestrian and transit-oriented development that may include affordable and life-cycle housing. Geared toward "bricks & mortar" projects, including development, site planning, and design and construction costs that will result in "livable" community development, but also includes soft costs, i.e. planning and predevelopment. Applies to Metropolitan Council's smart growth goal of increasing affordable housing through transit-oriented development. Qualifications Competitive process open to cities, counties, development agencies; applicants respond to criteria (including density, mix, design, affordability, etc.) Additional Information $6.5 million/year plus additional supplement for transit, Apply in Spring/Summer. Typically 30-40 project applications submitted and 5-10 are funded annually.	Contact Information Joanne Barton Metropolitan Council (651) 602-1385
Congestion Mitigation and Air Quality Impt. (CMAQ) Program Description Eligible activities might include the transit and transit-related portion of pedestrian-oriented and mixed-use development projects, traffic flow improvements, shared ride programs, demand management, pedestrian/bicycle programs, improved facilities, park and ride programs, programs that limit parking, bicycle storage and transportation projects that reduce automobile emissions. Qualifications Competitive process open to state agencies, Metropolitan Council, other transit providers, Indian Tribal governments, counties, cities, and towns within TCMA, and 10 regional park implementation agencies. Additional Information $20.5 million available for years 2005-2006, limit $5.5 million, federal share, per project. Apply 8/01. This program is federally funded, authorized by TEA21. In the Twin Cities the Transportation Advisory Board selects projects with approval by the Metropolitan Council. These funds support projects that reduce vehicle emissions in Clean-Air non-attainment or maintenance areas as well as other projects eligible under the Federal Transportation Act and US Title 23.	Contact Information Don Koski Metropolitan Council (651) 602-1721

A) Transportation (continued)

TEA-21 Surface Transportation Funding

Program Description
Funding for highways, bridges, transit capital facilities, bikeways, walkways, and intermodal projects.

Qualifications
Competitive process open to state agencies, Metropolitan Council, other transit providers, Indian Tribal governments, counties, cities, and towns within TCMA, and 10 regional park implementation agencies.

Additional Information
$46.5 million available, for years 2005-2006, limit $5.5 million, federal share, per project, apply 8/01. This program is federally funded, authorized by TEA21. In the Twin Cities the Transportation Advisory Board selects projects with approval by the Metropolitan Council.

Contact Information
Don Koski
Metropolitan Council
(651) 602-1721

B) Housing

HUD Home Investments Partnership (HOME)

Program Description
HOME is the largest federal block grant program whose focus is providing affordable housing opportunities. HUD establishes Home Investment Trust Funds for each participating jurisdiction, providing a line of credit that can be tapped for various forms of housing assistance.

Qualifications
N/A

Additional Information
N/A

Contact Information
Mimi Kolesar
202-708-2470

HUD SF Counseling Grants

Program Description
Provides grants to counsel homebuyers, homeowners, and tenants.

Qualifications
N/A

Additional Information
N/A

Contact Information
Deborah Williams
202-708-3175

(continued on next page)

Figure 9.2 (continued)

B) Housing (continued)	
Multi-Family Housing Authority (MFHA) Program Description Provides loans for rehabilitation of housing for low-, very-low and moderate-income persons. Qualifications N/A Additional Information N/A	Contact Information David Villano 202-720-1608
John Heinz Neighborhood Development Program Program Description The John Heinz Neighborhood Development Program provides funding for local organizations engaged in development activities that are focused on low- and moderate-income households. The funding support offered through this program must be matched by some other source of funds secured by the organization. Qualifications N/A Additional Information N/A	Contact Information Unknown
Community Development Block Grant (CDBG) Program Description CDBG provides eligible communities with direct grants for the purpose of neighborhood revitalization, economic development, expanding affordable housing opportunities or improving community facilities and services. The grants are intended for the principal benefit of low- and moderate-income households. Qualifications At least 51% of the units must be available to low and moderate income persons below 80% of the median income. Additional Information Maximum loan term is 24 months at an interest rate of 40% of prime.	Contact Information U.S. Department of Housing and Urban Development

B) Housing (continued)	
HUD Program: Section 108 Economic Development Loans Program Description Section 108 program is designed to assist local governments that are participating in the CDBG program with federally guaranteed loans to support large economic development projects. This program allows local governments access to larger pools of capital by allowing them to pledge future CDBG grants as support for the loans. Qualifications To apply for a Section 108 Guaranteed Loan, you must contact your local HUD office* in advance for help in preparing an application. Additional Information N/A	Contact Information U.S. Department of Housing and Urban Development
Smart Commute Program Description A program offered to buyers of homes located within a quarter of a mile from public transportation in the seven counties that make up the metro area. Under the initiative, eligible buyers will qualify for mortgages that require monthly payments of up to 35 percent of their gross income. Available through Irwin Mortgage and Marquette Mortgage. Qualifications Unknown Additional Information Metro Transit will provide each Smart Commute household with a free transit pass during the first year of the mortgage, as well as discounts following that. Borrowers who purchase a residence in a Minneapolis Empowerment Zone also stand to receive $2,500 in down-payment and closing-cost assistance.	Contact Information Metropolitan Council
Local Housing Incentives Account Program Description Provides funds to acquire rehab and construct affordable and life-cycle housing. Applies to MetCouncil's goals of reducing sprawl and increasing affordable housing, by leveraging other State housing resources. Qualifications Competitive process open to cities. Additional Information $1.5 million/year available each summer/fall	Contact Information Guy Peterson (651) 602-1418

(continued on next page)

Figure 9.2 (continued)

B) Housing (continued)	
Homeownership Zones Initiative (HZI) Program Description The HZI program is designed to address blighted and under-utilized areas in inner cities and inner suburbs by providing grants and loans for housing development and to stimulate investment in the area. Funding for this program is from the Economic Development Initiative and Section 108 loan programs. Qualifications N/A Additional Information N/A	Contact Information Unknown
C) Financing/Tax Incentives	
63-20 Financing Program Description An alternative method of obtaining tax-exempt financing that is available under the Internal Revenue Code. This method allows a nonprofit corporation to issue tax-exempt debt on behalf of a political subdivision for the purpose of financing facilities. Qualifications N/A Additional Information N/A	Contact Information Unknown
Construction Loan Program Program Description This program provides loans for the repair, replacement, rehabilitation, reconstruction, or improvement of existing roads or facilities. Project selection is based on two criteria: 1) the ability to demonstrate good management practices (60 percent) and 2) project need (40 percent). Qualifications N/A Additional Information N/A	Contact Information Unknown

C) Financing/Tax Incentives (continued)	
Local Improvement District Program Description A Local Improvement District (LID) is a special taxing district that is formed for the purpose of funding a capital project or a series of improvements. Bonds are sold and repaid through a special property tax assessment on benefited properties in proportion to the estimated project benefits. Qualifications N/A Additional Information N/A	Contact Information Unknown
Transit-Oriented Development (TOD) Program Description Revolving Fund Jurisdictions can take advantage of changes in FTA rules (1997) that allow local agencies to use funds generated by joint development for other transit-oriented development activities. For example, income for the sale of surplus property or air rights development can be deposited into a revolving fund for the purpose of supporting other transit-oriented development activities. Qualifications N/A Additional Information N/A	Contact Information Unknown
D) Economic Development	
Community and Individual Investment Corp. (CIIC) Initiative Program Description The CIIC initiative provides capital for community-based organizations that invest in low-income areas. This CIIC provides initial capital for forgivable loans for workforce development, job creation, business growth, and rental housing rehabilitation. Qualifications N/A Additional Information N/A	Contact Information Unknown

(continued on next page)

Figure 9.2 (continued)

D) Economic Development (continued)	
Empowerment Zones and Enterprise Communities (EZ/EC) Initiatives Program Description The EZ/EC initiative targets tax incentives, grants and loans to designated low-income areas for the purpose of fostering job creation and business expansion opportunities. To apply for EZ/EC status, local jurisdictions and states must identify local needs and develop strategies to meet those needs. Contact Information Unknown Qualifications N/A Additional Information N/A	Contact Information Unknown
One Stop Capital Shop Program Description Provides technical assistance to women-owned and minority-owned businesses. • Small business lending company Microenterprise • Certified development company Qualifications N/A Additional Information N/A	Contact Information Dept. of Planning/EZ 312-744-7001 HUD/Samuel A. Gentile, Sr. 202-205-6657
US Small Business Association 7(a) Loan Guaranty Program Program Description SBA's primary loan program, this program guarantees major portions of loans made to small businesses, thus reducing lender risk. The small business applies to a lending institution, if the lender decides it requires additional support in the form of an SBA guarantee, SBA backing is requested by the lender. Qualifications Use of proceeds: expand or renovate facilities; purchase machinery, equipment, fixtures and leasehold improvements; finance receivables and augment working capital; refinance existing debt with compelling reason; finance lines of credit; construct commercial buildings; and/or purchase land or buildings. Additional Information Terms, interest rates and fees vary. Your business must be operated for profit and fall within size standards set by the SBA. Variations under the US SBA include: Low Doc, FA$TRAK, CAPLines.	Contact Information Private lender

D) Economic Development (continued)	
Tax Base Revitalization Account Program Description Funding for clean-up of polluted sites and buildings, primarily for commercial/industrial (job) redevelopment, but may include mixed-use development, including housing with commercial. Qualifications Competitive process open to cities, counties, and their economic development agencies; ranked on tax base recovery and job growth. Additional Information $5 million to $7 million/year available. Apply in Fall. Typically 20 applications submitted annually, and 12 funded.	Contact Information Wayne Nelson Metropolitan Council (651) 602-1406
E) Open Space	
Service Learning Opportunities of Minnehaha Academy Program Description Sophomore Biology class at Minnehaha Academy volunteers for neighborhood clean-up, plantings, or anything environmentally related. Qualifications N/A Additional Information 46 students in the class volunteered to do a 1-day project in May 2001.	Contact Information Rachel Sheild rsheild@visi.com of Longfellow
Regional Parks CI Funding Program available for recreational improvements to ten regional (City and County) parks. Tied to approved master plans. Applies to MetCouncil's goal of reducing sprawl. Qualifications N/A Additional Information $5.3 million/year available	Contact Information Arne Steffund (651) 602-1360
MN Wildlife and Recreation Program Program Description This program funds four categories of wildlife and recreation projects: water access, local parks, trails, and urban wildlife habitats. This is potentially a good source for trails and natural system enhancements within station areas. Qualifications The four project categories are Water Access Projects, Local Park Projects, Trail Projects, and Urban Wildlife Habitat Projects. Additional Information N/A	Contact Information Unknown

(continued on next page)

Figure 9.2 (continued)

E) Open Space	
Innovative Stormwater Management Systems Grants Program Description Incentive grants to local units of government to apply innovative stormwater treatment management systems such as rain gardens. Qualifications N/A Additional Information $230,000 available; Criteria will be developed and application solicited for 2002.	Contact Information Jack Frost Metropolitan Council (651) 602-1078
F) Historic Preservation	
Federal Historic Tax Credits Program Description Tax credits for substantial rehabilitation of commercial, agricultural, industrial, or rental residential buildings that are certified as historic. Qualifications Not applicable to private residences. Must follow the Secretary of the Interior's Standards for rehabilitation. Additional Information Equal to 20 percent of the rehabilitation expenditures for certified historic buildings or 10% for non-historic buildings dating before 1936.	Contact Information U.S. Secretary of the Interior[1]s Office
G) Health and Safety	
Water Resource Management Plans Grant Program Program Description Applies to MetCouncil's goal of improving water quality. Qualifications N/A Additional Information $160,000 available	Contact Information Metropolitan Council
Metro Environment Partnership Grants Program Description Applies to Metropolitan Councils goal of improving water quality with non-point source pollution and abatement programs. Qualifications Local governments, watershed districts, non-profits, others Additional Information Approximately $1.5 million available annually	Contact Information Joe Mulcahy Metropolitan Council (651) 602-1104

H) Other

Energy Credit

Program Description
Tax credit for owners of energy property, which is defined as:
a) equipment that uses solar energy to generate electricity, to heat or cool a structure, or to provide solar process heat, or b) equipment used to produce, distribute, or use energy derived from a geothermal deposit.

Qualifications
The energy property must be constructed by the taxpayer or the taxpayer has to be the original user of the property.

Additional Information
N/A

Contact Information
Internal Revenue Service
Investment Credit Form 3468

Public Works Trust Fund

Program Description
Administered by the State Department of Community, Trade and Economic Development, the Public Works Trust Fund is a revolving loan program providing low-interest loans to local governments and special-purpose districts for the repair, replacement, rehabilitation, reconstruction, or improvement of existing public works systems.

Qualifications
N/A

Additional Information
N/A

Contact Information
Unknown

Next to each item is the number of votes that item received during Workshop 1, one evening 1, then evening 2. On the first evening the workshop took place in the Standish Ericcson neghborhood. On the second evening the workshop took place in Longfellow.

Figure A.1: Land Use Survey Results

Evening	1	2
Neighborhood Retail		
Dry Cleaners	0	0
Newsstand	1	1
Bookstore	10	10
Pharmacy	0	2
Convenience store	0	1
Hardware store	0	0
Shoe store	0	0
Barber/beauty shop	0	1
Art Gallery	2	1
Travel Agent	0	2
Clothing store	2	5
Shoe repair	1	0
Delicatessen	2	8
Bakery	3	6
Coffee Shop	5	6
Card shop	1	2
Housewares	0	1
Toy store	1	0
Video store	0	1
Bank	0	0
Equipment Rental	WI	
Pet Store	WI	
Big Box Retail		
Supermarket	0	7
Drug store	2	0
Bookstore	1	1
Public Art		
Fountain	10	8
Contemporary sculpture	1	2
Classical sculpture	1	1
Conceptual Art	0	2
Open Space and Recreation		
Totlot	1	1
Amphitheater	0	0
Garden	17	4
Large city park	2	4
Smaller neighborhood park	4	7
Wetlands	10	9
Ponds	5	1
Municipal swimming pool	1	1
Municipal gymnasium	0	0
Private health club	0	0
Health spa	0	0
Auto-Oriented Uses		
Car rental	0	0
General automotive repair	2	0
Auto parts store	2	0

Evening	1	2
Entertainment		
Cinemas	0	0
Repertory theater	1	0
Nightclub	0	0
Neighborhood pubs	1	4
Champagne/wine bar	0	2
Bowling Alley		WI
Conference facilities		
Hyatt/Hilton/Marriott Hotel	0	0
Motel Six/Sleep Cheap Hotel	0	0
Vanilla box conference facilities	0	0
Shared municipal facilities	0	1
Office Space		
Medical and dental offices 2	2	5
Realtors	0	0
Shared service offices	1	1
Accountants	0	0
Attorneys	0	1
Trade School	0	1
Art Studios	4	3
Family Facilities		
Day care center	1	0
Community center	1	1
Senior center	11	2
Social service center	3	1
Dance School	0	0
Public Facilities		
Post office	2	1
Library	10	2
City Hall	0	0
Art museum	1	0
Concert Hall	0	1
Aquarium	0	1
Elementary school	0	0
Computer center	2	1
State Government Offices	0	0
Federal Government Offices	0	0
Restaurants		
Bagel shop	4	2
Sandwich shop	1	3
Family restaurant		
Family restaurant	17	7
Natural foods restaurant		
Natural food restaurant	3	6
Gourmet restaurant		
Gourmet restaurant	1	4
Fast food	0	0
24-hour restaurant	3	0
Ice cream shop	1	3
Drive Through Facilities		
Banking	2	0
Fast food	4	0
Car wash	0	0

APPENDIX B: SWOT ANALYSIS RESULTS

Strengths

Private Homeownership

Low crime rate

Small-town feel

Quiet, no trains

LRT is coming

Not too much traffic compared to suburbs

Minnehaha Park, Minnehaha Creek, Mississippi River*

Wildlife: herons, ducks, geese, mink

Stability, long-time residents*

Increasing property values

Good schools

Close to airport, but not too close that it is noisy

Nearby shopping in Highland Park and Nokomis Village

Diversified churches

Diversity of residents

Active residents

Charm

Conoco station, Walgreens

Local businesses*

Businesses in the strip mall

Convenience of strip mall

Easy access to downtown, and to all directions*

Growing family population

Increasing property values

Free transfers between LRT and buses

Kids can play in parks and on the streets

Density is comfortable

Varying housing sizes, including some "granny flats"

Some renters, but very small percentage

Nokomis Square and Becketwood (senior housing)*

Weaknesses

Neighborhood separated by railroad, east and west

Tough to get in and out of strip mall

Stinking/polluting businesses

Window-shattering airport noise

Have to leave neighborhood to shop

Suburban-like intersection, sprawling and auto-oriented

Opportunities

Waiting lists for Nokomis Square and Becketwood present an opportunity to meet a need for senior housing and allow seniors to stay in the neighborhood*

Land use controls curtail private market forces

Provide affordable housing while maintaining controls and parameters*

Create housing that fits the character of the neighborhood

Learn crime potential from local police

More vegetation, trees, etc.

Improve water quality with amenities

Improve options for alternative modes of transportation

Reconnect neighborhoods across Hiawatha

Make everything pedestrian and bicycle-friendly especially the Hiawatha and 46th Street intersection

Existing businesses can get new buildings

New use such as a youth or senior

Effective use of private and public investment coming into the neighborhood

We can get a better restaurant

The public participation process

Threats

Increased density, especially housing*

Increasing property values*

Crime and noise from LRT

Cannot control development

Non-residents parking on neighborhood streets

Foot traffic, non-residents parking and passing through

LRT riders parking in businesses parking lots and taking spaces away from customers

Houses being taken (condemned)*

Urban blight around the station itself: litter, graffiti, loitering

Speed of cars on 46th; interfering with kids playing

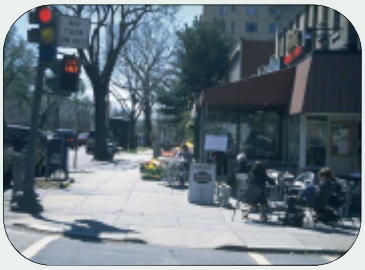
High-speed design of Hiawatha (people drive 45-55)

*Indicates an item that was mentioned on both evenings of Workshop 1.

First Impressions

Top 3

6.46 "Home, neighborhood, relaxed, excellent, comfortable, traditional"



3.79 "Friendly, relaxing, warm, cozy, bad architecture, charming, human-scale, inviting"

3.05 "Small-town, historic, quaint, pretty, heritage"

Bottom 3

-5.66 "Traffic, awful, parking lot, need transit, noisy, get me out of here!'

-4.43 "Tacky, grungy, hate the warehouse, who let them build it?!"

-3.19 "Eyesore, scary, junky, good neighbor, only place w/in miles that sells bait"

Housing

Top 3

7.15 "Fits our neighborhood, traditional, child-friendly"

3.19 "Doesn't fit, a little bulky, attractive, inviting, nice porch"

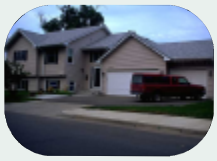
2.67 "Classic, needs more green, appealing, too big, trying to be old"

Bottom 3

-7.75 "Good use of eminent domain, Ugh! unlivable, Bolshevik!"

-7.11 "Obscene, Soviet, NO WAY!"

-5.05 "Too big, monster, worse than grain elevators"



2.46 "Suburban, boo! character doesn't fit, cheap, plastic, $190,000!"

1.40 "Classic, historic, frat houses, old St. Paul, beautiful, charming, old world"

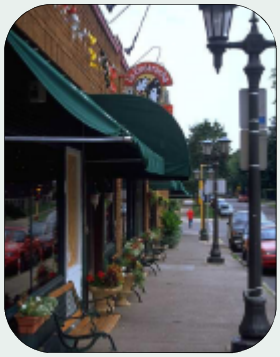
1.18 "Massive, like the brick, well-maintained, friendly, a little too tall"

.7 "Down with Timbercraft, too big for the lot, cheap copy, HUD, too small"

.49 "Multi-use, nice mix, yuppie, good start, inviting, colorful, cookie-cutter"

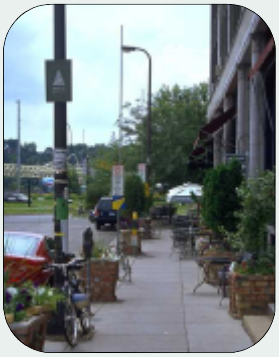
Sidewalks

Top 3



5.21 "Inviting, warm, coffee drinking, nice awnings, ped-friendly, good windows"

4.90 "Inviting, small town, window shopping,friendly, safe, well-landscaped"

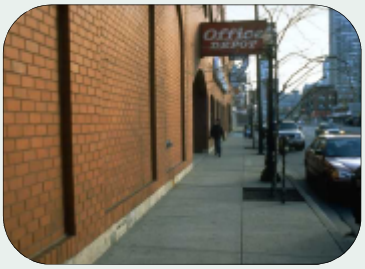


4.49 "Nice, charming, narrow, a little cluttered, intimate, social, green"

Bottom 3

-6.56 "Discontinuous, nothing to walk to, ugly, robotic, pedestrians unwelcome"

-3.46 "Boring, ugly, crowded, quick-in and out, no landscaping, auto-oriented, death!"



-2.72 "Walk faster, unfriendly, no windows, too narrow"

Crosswalks

Top 3

5.32 "Friendly, traffic control, well-marked, intimate"

1.93 "Suburban, overwhelming in scale, safe, out of the way, monolith, expensive"

1.41 "Too wide, easy to miss, well-defined,no median"

Bottom 3

-5.33 "No crossing, dangerous, chaotic, no markings, no hope!"

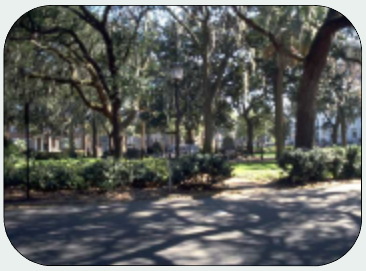
-1.00 "No crosswalk, discontinuous, poorly marked, least expensive option"

-0.39 "Way too long, medians too small and not helpful, Olympic run"

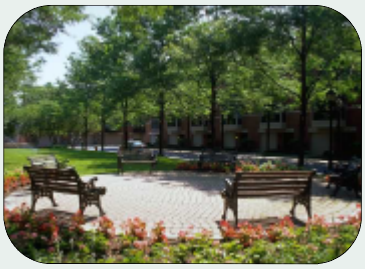
Parks and Open Space

Top 3

5.49 "Classic, French, southern, our neigh-borhood, flexible, campus-like"



3.79 "Friendly, relaxing, warm, cozy, bad architecture, charming, human-scale, inviting"



4.94 "Resting place, lunch hour, good transition from parks to housing"

Bottom 3

-3.63 "Abandoned, has potential, industrial, wasted space, dangerous"

-0.89 "Wasted space, claustrophobic,inaccessible, afterthought"

-0.86 "Too much concrete, urban interesting, not accessible"

Buildings Abutting Minnehaha Park

Top 3

2.31 "Attractive, Euro, not too tall, like the angled parking, village, nice landscaping"

1.80 "Good scale, friendly, colorful, all right but not by park"

.4 "Suburban, out of character, too much lawn, starter castle, golf course"

Bottom 3

-6.21 "Too urban, sterile, out of scale"

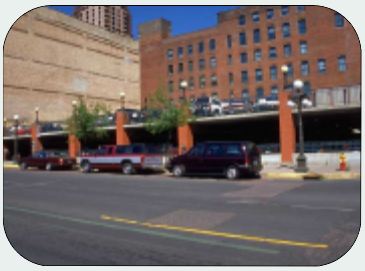
-5.81 "Tacky, run-down"

-4.73 "Too tall, Boo! cartoonish, too dense"

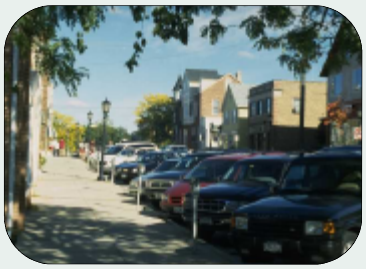
Parking

Top 3

.49 "Out of sight, too expensive, owners pay for it, good use of space, hidden"



.48 "Not bad for a ramp, functional, dense, needs more landscaping"



-.34 "Crowded, like the parking, small town, don't like meters, not available here"

Bottom 3

-3.05 "Strip mall, ugly, you could get to it but can't leave it, suburban, dangerous, horrible"

-2.88 "Ugly, boring, expensive, no sidewalks"

-1.23 "Not well disguised, too downtown, too dense"

Signage and Commercial Character

Top 3

3.46 "Upscale, nice, too cute, attractive, sign is just right"

3.31 "Nice awnings, ped-friendly, nice lighting, nice seating"

2.61 "Ok, traditional, could be better, more subtle than ours, dignified"

Bottom 3

-5.15 "Skanky, eyesore, indigestion"

-4.21 "Outdated, ugly, no sidewalk, dangerous, paved paradise"

-3.14 "Looks like every other suburb, visual pollution"

Minnehaha Park Renovation Plan

Minnehaha Park is located within the half-mile radius of the proposed LRT station, east of Hiawatha Avenue and south of Godfrey Parkway. The 1992 Minnehaha Park Renovation Plan is now being implemented. This plan outlines several objectives concerning the areas immediately adjacent to the park. These include:

- Strengthen relationships to adjacent points of interest.
- Study opportunities to acquire adjacent non-residential land such as open spaces and underutilized land.
- Encourage sensitive treatment of off-site land development and reclamation of the natural river bank.
- Ensure visual and functional integration of Highway 55 with the park.
- Encourage rezoning of adjacent property to compatible land uses.
- Encourage appropriate uses of adjoining railroad tracks.[1]

Recommendations:

- In accordance with goal 1, design trails and sidewalks that make pedestrian/bicycle access between the park and the redevelopment area easy and convenient.
- In accordance with goal 3, utilize drainage strategies that protect water quality of Minnehaha Creek, such as bioswales.
- In accordance with goals 2 and 6, design a finger park as an extension of Minnehaha Park on the site of the abandoned Soo line rail spur behind the existing strip mall.
- In accordance with goal 5, the City should rezone the rail spur site as open space.

Linking Light Rail Transit to the City

This study was completed by landscape architecture students at the University of Minnesota Center for Transportation Studies. The document outlines existing conditions, issues and opportunities, and potential development scenarios for six neighborhood LRT station areas.

The students identified the following opportunities and issues for the 46th Street neighborhood:

Opportunities

- Abundance of underutilized land
- Proximity to Minnehaha Park
- Rail spur as new green connection to park

[1] *Minnehaha Park Renovation Plan, Minnesota Park and Recreation Board, Summer 1992.*

Issues

- High-speed, auto-oriented character of Hiawatha
- Transit facility in close proximity to residential neighborhood west of Hiawatha

Community Input

When asked what they valued most about their neighborhoods, residents agreed that the proximity to the river and park as well as the safety of the area were most important. Concerns focused on safety and comfort of crossing the railroad tracks and Hiawatha, and traffic.

When asked what they most wanted to see in station-area development, residents favor a mix of uses, pedestrian-scale landscaping and streetscaping, mid-rise buildings, and convenience retail. Residents do not want to see "parking lots or large stores" and are concerned with the threat of non-resident parking occurring on the neighborhood streets.[2]

Hiawatha Corridor LRT Aesthetic Design Guide

This document sets guidelines for the design of the parts of the LRT corridor that lie between the stations. Specifically the plan regulates the design of overhead wires, poles, crossing gates, fencing, railings, lighting, bridges, and landscaping. It is intended for use by the Minnesota Department of Transportation when they design and construct these elements of the corridor.

The seven design principles laid out in this study are:

1. Respond to the character of corridor districts
2. Seek system-wide design continuity
3. Provide "background" and "foreground" elements
4. Provide opportunities for public art enhancements
5. Express broad and unifying design themes
6. Landscape as a transit greenway
7. Maintain important views

The 46th Street Station falls in the district that this report calls "grain elevators." The design features called for in this area include decorative fencing, a ped/bike path between the LRT and Hiawatha, new sound walls, large-scale public art in berm area, and special lighting of grain elevators.[3]

[2] *Linking Light Rail Transit to the City: Six Neighborhood Station Districts, University of Minnesota Center for Transportation Studies, August 1999.*

[3] *Hiawatha Corridor LRT Aesthetic Design Guide, Minnesota Department of Transportation, March 2000.*

Standish-Ericsson Neighborhood Association LRT survey results

In October 1998 The Standish-Ericsson Neighborhood Association (SENA) conducted a survey of its residents regarding light rail transit (LRT). The survey asked open-ended and multiple-choice questions about the light rail itself, the potential redevelopment that light rail might generate, and the neighborhood as whole. The results of the open-ended questions are summarized as follows.

What do you like most about this neighborhood?

When asked this question residents repeatedly responded that they value the proximity to open space, lakes, and the creek. They also like their neighbors, the strong community feel, the affordability, residential character, and location (close to downtown) of the neighborhood.

What issues related to LRT, do you feel need to be addressed in the planning process?

Residents are concerned with the issues of property values, safety, congestion, and the environmental impacts of increased development and bus service. They are also concerned about non-residents parking on the neighborhood streets.

How would you like to see the area around the light rail station used?

Residents responded that they would like to see coffee shops, restaurants, quaint retail, increased open space and mixed-income development. They did not want a bus turn-around or park-n-ride in their neighborhood, and would like to see the area remain pedestrian and bicycle-friendly.

Longfellow Planbook

The Longfellow Community Council produced this book of architectural plans for traditional Longfellow bungalows. These plans are meant to help residents retain the architectural integrity of their homes when making additions or changes to them. This document provides a brief history of residential architecture in this neighborhood and promotes the importance of maintaining the historic character.

Nokomis East Neighborhood Association LRT survey results

The Nokomis East Neighborhood Association (NENA) surveyed residents in September 1999 about the proposed light rail and the potential development that a new station at 50th and Hiawatha might incur. While this survey focused on a different station than the one in this study, it may be expected that the residents of Nokomis East may have similar opinions about the 46th Street station. About two-thirds of respondents were in favor of building light rail in general and a slightly larger percentage were in favor of building a station at 50th Street.

The questions regarding new development in the area focused on the possibility of higher-density housing. About two-thirds of residents opposed higher-density housing along the rail line and three-fourths opposed it in their neighborhood. When asked what kind of higher-density housing would be most acceptable, residents preferred housing for a mix of ages and incomes and would least like to see high-income condominiums.

In a final question, residents identified loss or degradation of park land as their number one concern.

Grand Rounds Scenic Byway Interpretive Master Plan

The Grand Rounds Scenic Byway is a series of roadways that travel along various scenic parkways and lakes, circling the Minneapolis metropolitan area. This document lays out a plan for raising cultural and recreational awareness of the byway. This plan includes:

- Interpretation sites where educational programs and exhibits will be located
- Informational kiosks with maps and educational materials
- Uniform signage and reference markers throughout the byway directing motorists, pedestrians, bicycles, etc to points of interest and route connections
- Orientation and hospitality centers
- Byway access areas from interstates and other major roads
- New landscape features
- Upgrading of amenities such as benches, fountains, restrooms and public telephones
- Extension and connection of bike/ped paths

The plan also recommends additional historic documentation of the area, both narrative and photographic, and the development of a Grand Rounds Byway website.

Hiawatha / Lake Station Area Master Plan

This masterplan was completed in June 2000 as the first of the series of studies to be completed for the area encompassed by the half-mile radius around each light rail station on the Hiawatha corridor. 46th Street is the second of these studies to be conducted.

This report consists of the following elements:

- Outline of the principles of transit-oriented development
- Report on existing conditions in terms of land use and the neighborhoods
- Analysis of the opportunities and constraints
- Identification of potential redevelopment sites
- Assessment of market-based development potential
- Recommendations for streetscape improvements and guidelines
- Proposed redevelopment plan
- Implementation strategies

Longfellow Community NRP Action Plan, 1995

This NRP Action Plan describes improvement programs and projects residents have chosen for their neighborhood through a grass-roots community process. These programs

range from creating community gardens to youth recreation programs. Each program satisfies a goal identified under the category of Neighborhood Safety, Environment and Transportation, Housing, Community Development, or Youth and Families.

Nokomis East Neighborhood Association NRP Full Plan, 1998

This NRP plan begins with the history and demographics of the Nokomis East Neighborhood. Next it describes the process by which residents created the plan. The bulk of the report is devoted to describing the various improvements that residents want for their neighborhood.

Forty-two programs and projects, from tree-planting to low-interest home improvements to installing traffic-calming devices are detailed in this document. Thirty-six were being implemented and funded within 17 months of the plan's approval. The programs fall into the broader categories of Safety, People Services, Housing, Environment, and Economic Development.

Standish & Ericsson Neighborhoods NRP Full Neighborhood Action Plan, 1998

This document described the results of a community-based process of identifying needed improvements in the neighborhood. The residents of Standish-Ericcson organized the following action groups: Commercial, Crime Prevention and Safety, Housing, Parks and Environment, People and Community, and Transportation. Each group had general goals for neighborhood improvement such as "improve traffic safety," "protect and enhance the environment," or "increase positive opportunities for youth." For each goal they established objectives and strategies which were turned into programs and projects. These are described in the report, along with funding and implementation details.

Demographic briefs on Hiawatha, Minnehaha, Standish, Keewaydin, and Ericsson

Hiawatha LRT Corridor Transit-Oriented Development Market Study

This market report outlines the potential for new transit-oriented development for the station areas along the length of the Hiawatha corridor.

According to this report, 46th Street is considered one of four catalyst station areas "that offer: 1) market potential, 2) an opportunity for LRT and TOD-promoting measures to enhance development potential; and 3)available land." The report urges public entities to focus funding and other resources at these four station to stimulate the general success of the LRT and TOD efforts.

The market study states that the 46th and Hiawatha station area has the potential to absorb the following:

- Approximately 150,000 square feet of new commercial space
- Redevelopment of 160,000 square feet of commercial and industrial space
- Approximately 1000 townhouse and apartment units

Minnehaha Creek Watershed District's Rule N: Stormwater Management for Land Development

According to the Minnehaha Creek Watershed District (MCWD) website, all new development within the district that will create any new impervious surface or alter the contours of the land must submit a stormwater management plan. Also the developer must obtain a permit from the MCWD that approves this plan.

Vegetated Swales of the Landscape Architectural Technical Information Series from ASLA, 1998

This document details the effects, uses and proper design of vegetated swales or bioswales as they are called in this report. The author explains that as areas urbanize, and paved area increases, stormwater run-off is unable to infiltrate the soil. The run-off also collects urban pollutants. Vegetated swales are one solution for mitigating these negative affects. Swales can reduce of peak flows and reduce pollutants.

However, bioswales are not the answer in all locations. According to this report, bioswales are inappropriate on steep slopes, in fill areas, in high-density areas, on sites with concentrated flows or sandy soils either of which would erode the vegetation.

This document continues to describe the correct design of swales including guidelines on size, shape, inlets, outlets, vegetation, check dams, aesthetics and construction.

Recommendation:

This document should serve as a guide when designing and constructing the bioswales proposed in the recommended plan herein.

Chapter 6 of the Pedestrian Facilities Guidebook, 1997

This document is from a pedestrian guidebook prepared for the State of Washington. The selected chapter focuses on pedestrian and bicycle considerations involved in designing intersections. Text and drawings describe urban design features such as intersection bulb-outs, extended medians, and elongated refuge islands. All of these features are applicable to the intersections of 46th and Hiawatha and/or nearby intersections.

These guidelines should be considered when designing the pedestrian and bicycle-friendly improvements to intersections in the half-mile radius, particularly the 46th and Hiawatha intersection.

Recommendation:

- Intersection bulb-outs should be utilized at appropriate intersections.
- The "pork-chop" islands adjacent to the free right turn lanes at 46th and Hiawatha should be enlarged and elongated to increase the comfort zone of the pedestrians and to slow the speeds of motorists making the right turn.
- Medians should be extended into the crosswalks to serve as a refuge spot for pedestrians.