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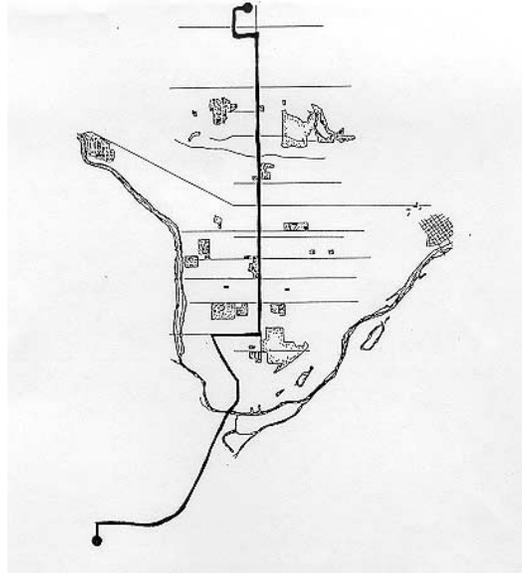
R E S E A R C H R E P O R T

**The Snelling Corridor and its Districts:
Developing and Enhancing a
Transit-Oriented
Lattice Connective Structure**

**Lance Neckar
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CTS 01-04

THE SNELLING CORRIDOR AND ITS DISTRICTS: DEVELOPING AND ENHANCING A TRANSIT-ORIENTED LATTICE CONNECTIVE STRUCTURE



FINAL REPORT

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EXECUTIVE SUMMARY

Streets have a dual role in cities: they provide the spatial armature, or framework, that defines and gives form to the public realm, and they serve as the primary circulatory system of cities accommodating a variety of modes of transportation. Historically, major corridor streets in a city have connected important locations and defined districts around critical intersections and provided employment and commercial services.

At the end of the nineteenth century and the beginning of the twentieth, fixed rail and bus transit had a large impact on the order and scale of cities in the western world because transit became a primary means of transportation for the public. Identifiable, densely used streets that worked well with transit became important civic arteries that facilitated movement, generated development, and gave form and identity to the districts of the city.

The accessibility provided by the physical structure of the street and its transportation systems became a basis for civic connectivity, and often good transit promoted a sense of vitality and shared community resources. Today, however, the automobile has recast these relationships. In many cities, fundamental civic planning and design decisions have been driven by single-purpose criteria that support the movement and storage of cars. Private transportation has eroded the quality of city streets, especially those corridors that have become arterial streets with large volumes of traffic.

In light of these changes, the researchers asked, “Can transit-oriented development build community values? Can older values that used physical connectivity to reinforce social cohesion shape the future? How would new (and old) locational values underpin a transit-oriented reinvestment in the existing city? What design and planning models might suggest how the Twin Cities could foster this kind of change?”

With the restructuring of transit authority in recent years, the Twin Cities Metropolitan Council now has the opportunity to operate as a transit authority and to coordinate planning and design with transit service provisions. The researchers began this project with an intense field investigation of and discussions with Met Council and Metro Transit staff about the possibilities for study of a metropolitan corridor that could improve ridership, and at the same time, enhance the livability of the districts that were served.

Among the metropolitan corridors considered was the Snelling Avenue Corridor, which stretches from one first-ring suburban edge to another. This route cuts a cross-section as it traverses across the entire fabric of the metropolitan area. It serves neighborhoods that reflect the growth tensions of the city of St. Paul, where investment is being pulled southwest and northeast, leapfrogging existing urban infrastructure. The route links some major origins and destinations (such as education, shopping, service, and job land uses) and along it, there may be opportunities for mixed-use development that would incorporate high-density residential.

The researchers concluded that the Snelling Avenue Corridor and the Route No. 4 bus service provided a significant opportunity to accomplish some immediate goals of Metro Transit and the city of St. Paul while also exposing the greatest variety of other issues that are accessible or solvable by corridor analysis and a transit-based urban design strategy.

The Snelling Avenue Corridor offers an important opportunity to use transit to revitalize neighborhoods and to restructure the city and the metropolitan area. Fundamental land use and urban design decisions must be coordinated with transit planning and operation on this corridor.

The unique locational advantage of this corridor means that an enhanced Snelling Avenue has the potential to alter the relationship between the core and the first ring of suburban growth on the north side of the city, since transit can cross and unite municipal jurisdictions. Critical to this opportunity is a mix of land uses that create jobs on or near the transit line.

The aim of this study was to suggest a pattern of transit-oriented redevelopment that will reinforce Snelling Avenue's role as an important north-south metropolitan armature and improve the connectivity of the Snelling Corridor with critical east-west transit corridors and their related districts. This strategy depends on public policy that emphasizes the central role transit plays in connecting the various centers that already exist on the corridor and that promotes improvements of the transit environment as a catalyst for private reinvestment.

This study recommends changing Snelling Avenue incrementally over time from a car-dominated environment to an armature that accommodates the needs of transit users while still serving as an important artery for cars and trucks. The transformation of the Snelling Corridor into a multi-modal street could be designed by:

- identifying compatible redevelopment opportunities,
- recommending transit-friendly adaptations of circulation,
- encouraging building patterns that support the Snelling Corridor as an identifiable civic street, and
- providing enhancement to the public armature through design.

The central design strategies must operate across the scales of the immediate site, the district, the city, and the metropolitan area.

INTRODUCTION

THE CONNECTIVITY OF STREETS: TRANSIT AND THE PUBLIC REALM

Streets have a dual role in cities:

- They provide the spatial armature that defines and gives form to the public realm.
- They are the primary circulatory system of cities accommodating a variety of modes of transportation.

Historically, streets and the transportation systems that structure their use have had a large role in ordering cities. They have provided the spatial hierarchies within the city because the nature of the place within that city has often been defined by its location in relationship to the city's transportation systems.

Major corridor streets in a city have historically connected important locations and defined districts around critical intersections. These corridor streets have traditionally provided employment and commercial services since they are located centrally or have proximity to neighborhoods.

At the end of the nineteenth century and the beginning of the twentieth, fixed rail and bus transit had a large impact on the order and scale of cities in the western world because transit became a primary means of transportation for the public. Transit enriched the quality of the urban street by clustering activity. Identifiable, densely used streets which worked well with transit became important civic arteries that facilitated movement, generated development, and gave form and identity to the districts of the city.

This new mobility also created a new civic order. It was no longer necessary to live near one's work. One could live in one part of the city, work in another, and enjoy recreational opportunities in yet another district. The accessibility provided by the physical structure of the street and its transportation systems became a basis for civic connectivity. Many cities found that good transit promoted a sense of vitality and shared community resources.

Today the automobile has recast these relationships. In many cities fundamental civic planning and design decisions have been driven by single-purpose criteria that support the movement and storage of cars. Private transportation has eroded the quality of city streets, especially those corridors which have become arterial streets with large volumes of traffic. Use of the car has spread development to "exurban" locations because people are not tied to the conventional clustering promoted by transit-related development. Such "footloose" development is ultimately very costly. In *Alternatives to Sprawl* (Young, 1995) the author defines the economics of automobile ownership in terms of a 16 percent to 20 percent share of household expenses. At an average cost to residents of 30 cents per mile, people in communities such as Rockridge, California, served by new transit systems save over \$4,500 per year over their automobile-dependent neighbors. Hidden subsidies to automobile use include low sales tax on cars, low gas prices, low cost for roadway use and free parking. Robert Burchell's studies indicate that planned development related to transit and other clustering rationales consumes 20 percent to 45 percent less land but requires greater expenditures for roads and other infrastructure. Comparatively, housing cost and municipal services are about the same for sprawled or planned development (Young, 1995). However, until recently, locational importance has been redefined by sub- or exurban (and new) characteristics, such as short-term costs to individuals, sub-urban accessibility, safety, workforce aptitudes, and lending policies. Transit, especially in the Twin Cities, has not been an important factor in this equation.

Network-based communications systems promise more changes in the future. Improved communications combined with greater physical accessibility threaten to disperse development to the point where even the use of the automobile on urban corridors may become, ironically, less important. Many cities, such as Portland, Oregon, have noted these trends and are spending public resources on an extensive transit system to shape the form and nature of the Portland Metropolitan Region.

Can transit-oriented development build community values? Can older values that used physical connectivity to reinforce social cohesion shape the future? How would new (and old) locational values underpin a transit-oriented reinvestment in the existing city? What design and planning models might suggest how the Twin Cities could foster this kind of change?

In a previous study, *Bus Amenity Corridors: Shaping and Reshaping the Metropolitan Area by Bus Use*, we suggested that there were three overarching directives that might be applied to make a transit-oriented Twin Cities on the armature of connective bus corridors:

- Plan and design the bus corridor as an armature which contributes to the structure and functions of the communities that it serves. Residential densities of seven or more dwelling units per acre and mixed land uses (including stores, offices, production sites, institutions, etc.) in pedestrian-friendly districts are important aspects of a bus corridor.
- Design streets that are pedestrian-friendly regardless of traffic capacities or volumes.
- Design the bus route as a legible, identifiable, functional, and expressive piece of the corridor armature. Make the route signify and give new structure to the city.

Other design principles are needed at all scales to implement these directives. Among them are:

Site Scale

- Integrate bus stops into the fabric of the community and make a recognizable public gathering place where people wait for the bus.

City Scale

- Develop a design language for street furniture and planting that promotes safe pedestrian use, characterizes the route and gives it identity within the city.

Metropolitan Scale

- Design transit in the context of larger-order objectives or plans for land uses, economic development, and other transportation systems.

TRANSIT: A METROPOLITAN AND CITY DEVELOPMENT TOOL

With the creation of the Metropolitan Council Transit Organization (MCTO), the Metropolitan Council has the opportunity to operate as a transit authority and to coordinate planning and design with transit service provisions. As one of the principal public components of transportation, transit can be a powerful element in the structure of a metropolitan area. Transit service crosses the physical and social fabric of the metropolitan area. Envisioned as a physical urban design-based strategy, this project could complement and enhance the Transit Re-Design Project. The performance evaluation of routes should include an evaluation of the physical environment. We might ask:

- How can transit routes be adjusted, reconfigured, or rerouted to better serve the area's existing or potential use patterns?
- How can we see transit operation as non-corridor service, but also supportive of community reinvestment (or potential for non-corridor routes with amenity redevelopment)?

- Should some corridors be “redefined” by different levels of service (i.e., express service from the suburban edge to downtown; local service close to the center of the city where densities are higher and choices are reduced)?

We know that not all (or even a majority of) transit trips are residence-to-workplace trips. In order for the conventional residence-to-workplace routing to “work,” what are the significant performance standards for successful service? We need to ask some basic questions of each route:

- What is the maximum amount of time that a commuter from residence to workplace will ride a bus? (Is 45 minutes on the bus acceptable, especially on top of a drive to a park and ride lot?)
- How is employment served by transit? How would it better be served?
- How are recreation and ecological quality served by transit?
- How is shopping served by transit?
- How is entertainment served by transit?
- Does the mix of types of transit service make an amenity corridor in the sense that it becomes a definable or legible urban corridor of reinvestment?

Therefore, one of the challenges of the study was to understand successful transit connections across land uses and to adjust transit design to better serve these and to reinforce desired emerging patterns.

METROPOLITAN CORRIDORS

We began this project with an intense field investigation of, and discussions with Met Council and MCTO staff about, the possibilities for study of a metropolitan corridor that could improve ridership, and at the same time, enhance the livability of the districts that were served.

We considered 10 corridors and narrowed our selection to three: University Avenue, in Minneapolis and St. Paul; West Broadway, in Minneapolis and Robbinsdale; and Snelling Avenue, in St. Paul, Falcon Heights, and Roseville.

University Avenue, Downtown St. Paul to Downtown Minneapolis – Route 16

The No. 16 bus route uses University Avenue as the connector between the two major downtowns. In the Twin Cities, this is the route which expresses the quintessential advantages and disadvantages of linking many important centers, but arguably also illustrates some of the problems of duplication of important centers. It crosses I-35W west of the University of Minnesota campus and runs roughly parallel and close to I-94 to the east of the campus. University Avenue is already a recognizable corridor, but it is also segmented because of its changing geometry, municipal jurisdiction, and different patterns of land use.

Issues: This line presents the problem of recycling older urban infrastructure. University Avenue is at the center of an expanded corridor that includes railroads to its north and I-94 to its south. It is an absolutely unique line because it connects two major downtown urban centers (Minneapolis and St. Paul), the State Capitol, and the principal campus of the University of Minnesota. Therefore, while the parts may be prototypical in some ways, the whole is not.

West Broadway as Gateway Route – Route 14

This route begins at Brooklyn Boulevard near Shingle Creek Park and provides a distinct corridor route along West Broadway to downtown Minneapolis (although there is also service along a roughly

parallel, but more circuitous, route to the west). The strongest part of this corridor experience is embodied in West Broadway, which runs through the heart of Robbinsdale and forms a linear commercial core in north Minneapolis. There is a critical junction of transportation and services near North Memorial Hospital where Wirth and Victory Memorial Parkway meet Lowry Avenue.

Issues: Different spatial, social, and municipal configurations along the route tend to make the corridor very diverse. Social and economic problems are illustrated here in the suburban character of the route in Robbinsdale versus the hard urban character of West Broadway. The residents and businesses along the street need considerable reinvestment in the city, but its diagonal and curving course through the grid is also one of the most beautiful spatial opportunities.

Snelling Avenue, Mall to Mall: Jobs, Shopping, and Education in St. Paul – Route 4

This route runs north-south, largely on Snelling Avenue, and stretches from one first ring suburban edge to another. In a dominant east/west metropolitan structure, this route cuts a cross-section as it traverses across the entire fabric of the metropolitan area. It serves neighborhoods that reflect the growth tensions of the city of St. Paul, where investment is being pulled southwest and northeast, leapfrogging existing urban infrastructure. This route links some major origins and destinations, especially education, shopping, service, and job land uses. There may be opportunities for mixed use development which would incorporate high-density residential. The Snelling/University redevelopment is the heart of this route and constitutes a critical opportunity to define a nexus of transit at a principal gathering and activity node in the metro. The MCTO garage site also represents an important opportunity to deal with the I-94 crossing. Non-transit oriented environments in the regional malls anchor each end of this route.

Issues: How can this unique north-south connector constitute a new, nodal, neighborhood- and institution-oriented corridor as a transit-oriented environment without connections to downtown? What kind of urban structure ought to be in place in order for this line to become an amenity corridor?

We concluded that the Snelling Corridor and the Route 4 bus service provided a significant opportunity to accomplish some immediate goals of the MCTO and the City of St. Paul while also exposing the greatest variety of other issues that are accessible or solvable by corridor analysis and a transit-based urban design strategy.

One specific objective of our work was to understand how transit can function well as a service while defining a metropolitan corridor and serving the neighborhoods and districts that line it.

SNELLING AVENUE AS TRANSIT CORRIDOR— NEW LOCATIONAL ADVANTAGES

TRANSIT, LAND USE PLANNING, AND URBAN DESIGN

The Snelling Avenue Corridor offers an important opportunity to use transit to revitalize neighborhoods and to restructure the city and the metropolitan area. Fundamental land use and urban design decisions must be coordinated with transit planning and operation on the Snelling Corridor. The aim of this study is to suggest a pattern of transit-oriented redevelopment that will:

- enhance the nature of Snelling Avenue as an important north-south metropolitan armature and
- enhance the connectivity of the Snelling corridor with critical east-west transit corridors and their related districts.

This strategy depends on public policy that emphasizes the central role of transit in:

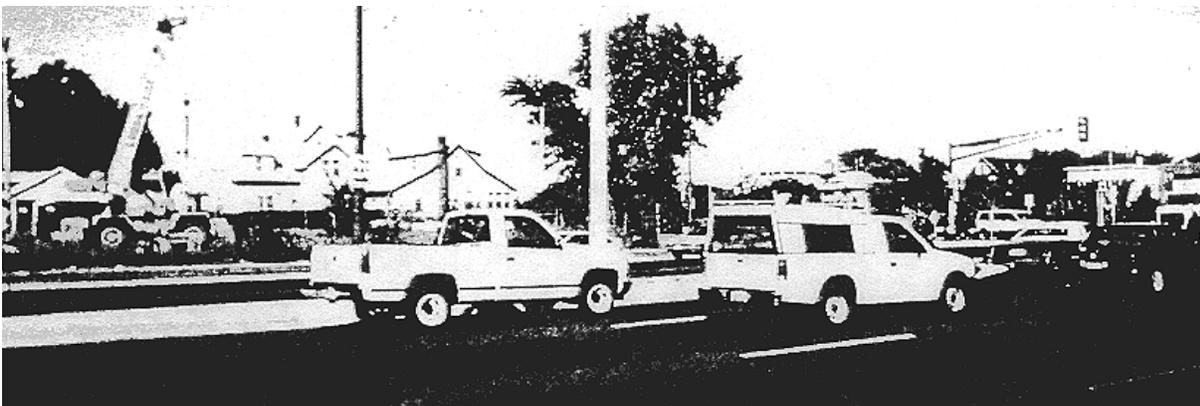
- connecting the various centers or nodes that already exist on the corridor and
- promoting the enhancement of the transit environment as a catalyst for private reinvestment.

SNELLING AVENUE: UNIQUE OR REPRESENTATIVE?

The challenges of reinvestment on this corridor are not critically different from the challenges in other older areas of the Twin Cities except in one important respect: location in the metropolitan area. Positioned midway between downtown St. Paul and the region's predominant economic hub, downtown Minneapolis, the Snelling Corridor occupies a very valuable position. Buses on its north-south reach connect Roseville and Falcon Heights to the southern edge of the city. Some of the buses on Route 4 connect two large shopping malls, Rosedale and the Mall of America.

SNELLING AVENUE: LINK BETWEEN CORE CITY AND SUBURBS

An enhanced Snelling Avenue also has the potential to restructure the relationship between the core and the first ring of suburban growth on the north side of the city. Transit can cross and unite municipal jurisdictions. The unique locational advantage of the Snelling Corridor therefore offers a redevelopment opportunity with metropolitan scope. Critical to this opportunity is a mix of land uses that creates jobs on or near the transit line.



Much of the built environment in the Snelling Corridor is typical of important historic transportation corridors in the metropolitan area. Older commercial buildings are clustered at intersections of major streets.



Newer automobile-oriented businesses compromise the pedestrian environment.



Adjacent sparsely developed land offers redevelopment opportunities.

TRANSIT, ECONOMIC DEVELOPMENT STRATEGY, AND SNELLING AVENUE

The locational advantages of Snelling Avenue, especially in the Midway, have recently attracted notable reinvestment. Today in St. Paul, only University Avenue rivals Snelling as an employment corridor outside of downtown. However much of this newer development has not been well-designed to serve transit-riders.

Seven dwelling units per acre is the minimum density required to support transit. The household densities are just below or at seven dwelling units per acre from University Avenue to Randolph. East of Snelling in Falcon Heights, similar densities exist.

EXISTING INFRASTRUCTURE: AN ADVANTAGE

The multi-centered form of the city can be the basis of a job and tax revenue generating strategy. This strategy builds on the value that St. Paul has already invested in its existing infrastructure. Sewer, water service, communications, electrical networks, and transportation systems are well developed to serve many central city sites. Outlying locations are less advantaged from this perspective. Transit lines can be the vehicle for focusing on center city reinvestment that builds on its infrastructure advantages.

ST. PAUL'S NEED TO COUNTER CURRENT AND PROJECTED TRENDS AND POLICIES

As St. Paul's tax base erodes, city officials recognize the need to create new jobs within the city, yet projections by the Legislative Auditor in the 1992 report, *Regional Transit Planning*, showed an absolutely flat trend in job creation within the central cities, holding the total at about 500,000 jobs. St. Paul's share of these jobs may, in fact, decrease as Minneapolis shows its strength as the larger city. By the year 2000 job creation in the developing ring is projected to surpass both the central cities and the inner ring.

The Metropolitan Council's February, 1994 report, *Keeping the Twin Cities Vital*, recommended an important regional strategic economic revitalization and jobs policy framework. Key general strategic policies that have importance in the central cities and in the Snelling Corridor included:

- Put polluted and vacant sites back into productive commercial and industrial use,
- Have cities and/or development agencies play a stronger role in preparing sites and creatively using existing infrastructure for commercial/industrial development, and
- Create or improve public funding tools for redevelopment and monitor effectiveness of local redevelopment efforts in creating new jobs.

A telling suburban bias (and an anti-core attitude) about the commitment to job redevelopment as a community building objective and to economic revitalization in the fully built-up area of the metro area was revealed in the strategy:

Improve transit and transportation to better link workers living in the fully developed area to growing job opportunities in developing communities (emphasis added).

ST. PAUL'S NEED TO FOCUS REDEVELOPMENT

Metropolitan policies such as these throw the responsibility for job creation to municipalities. Paradoxically this wish strategy will be somewhat dependent on the metropolitan commitment to transit in key corridors. In order to compete with the growing jobs in the developing areas, St. Paul will have to focus its job development in critical locations such as the Snelling Corridor. St. Paul will continue to provide jobs and many other kinds of economic incentives to investors, but it is also clear that the larger concentrated, conventional urban downtown job base will continue to be in the city of Minneapolis and in the suburban edges of the city and the metropolitan area. This strategy assumes that while downtown St. Paul will retain its position as an important institutional center, the long-term future of the city as a whole will be as a residential community with multi-use neighborhood centers that are defined by institutions and small scale commercial development. Within these centers and beyond will be smaller concentrations of mixed uses, designated in this study as nodes.

IMPLICATIONS FOR SNELLING AVENUE

This fundamental trend suggests that if transit on the Snelling Corridor and in St. Paul in general is to prosper, it will be built on its base pattern of peak residence-to-job trips and off-peak specialized trips between neighborhood centers and across neighborhoods, from node to node.

If one holds to this basic assumption, the goals of providing jobs, curtailing urban sprawl in concentrated growth centers, and stabilizing tax revenue in the city suggests three basic design and planning objectives for the Snelling Corridor:

- Infill the corridor and its districts with higher density housing,
- Create service-enriched centers and nodes by enhancing the character of public open space (including transit spaces) through physical design, and
- Conserve, stabilize, and adapt existing neighborhoods, institutions and commercial centers through targeted public and private investment, including transit.

ENHANCING THE IDENTITY OF THE TRANSIT CORRIDOR THROUGH DESIGN

CORRIDOR PERCEPTION IS IMPORTANT

Transit corridors must be well understood to be effective. The clarity of a transit corridor depends on its locational prominence and its legibility as a simple urban form. A mixture of uses that characterize the street and provide important destinations is necessary. A balance of transportation modes on the street is also necessary. Long, well-known, and lively connective streets, such as Hennepin Avenue in Minneapolis or Grand Avenue in St. Paul, make interesting, memorable transit corridors. These corridors are critical to the identity and structure of a city.

Snelling Avenue is well known to St. Paul residents. Although not generally perceived as a transit corridor, it could be. While the current design of the street and the bus stop areas and transfer points are not particularly conducive to transit, they could be upgraded. In so doing, its current primary function which accommodates the needs of cars and trucks would be broadened to include accommodating buses and other modes.

LINK TO EAST-WEST STREETS

As a north-south distributor of traffic to and from neighborhoods and as a link to east-west routes, Snelling is well used. The average daily traffic near these east-west routes, especially I-94, is very substantial. At 45,000 vehicles per day in this area, Snelling is a major arterial street. The legibility of Snelling as a corridor in these areas of distribution is quite strong. Except at the I-94 crossing, it manages not only to carry traffic but also to function in a limited way as an urban street with transit service. Of course, the transit function of Snelling could be significantly enhanced by design changes to these distributor zones. Much of the content of this report is devoted to these topics.

THE NORTH AND SOUTH ENDS OF THE CORRIDOR

At its northern and southern extremities, Snelling changes. The Route 4 diverges from Snelling, diminishing its importance as an identifiable transit corridor. On the north end, Snelling also becomes a State Highway. The Route 4 reflects this situation, leaving Snelling to wind through the Como neighborhood following the old route of the street trolleys. While some passengers may be using the bus near the Humphrey Job Corps Center and the higher density housing near Midway Parkway, the bus travels to HarMar Mall via single-family residential streets in this part of the route. From the State Fairgrounds northerly, in Falcon Heights and Roseville, Snelling becomes a six-lane roadway with frontage roads to serve residences and shopping centers. Sidewalks are nonexistent.

Pedestrian crossings on Snelling are difficult even within the urban fabric of the City of St. Paul, with its many cross streets and controlled intersections, because the width of the street facilitates swiftly moving traffic. Many design modifications to this part of Snelling are needed to make it a pedestrian/transit friendly environment. With these kinds of changes in place, alterations to the current routing of the 4 might occur. However, land use changes would also be desirable since there are currently few important destinations along this part of Snelling between the Job Corps Center and HarMar Shopping Center.

On the south the situation is completely different. Snelling turns into a two-lane residential road, winding over hilly terrain toward West Seventh Street. Here too the character of the service on Route 4 responds to this change. Route 4 becomes an alphabet soup of choices. While the B goes to Highland Park High School and turns around at Edgecumbe, the G and J turn off Snelling two long blocks north at Ford Parkway and terminate at Mall of America. Several other subroutes serve special trips reflecting the nearby destinations across the river in Minneapolis in this part of the metropolitan area: The D goes to the VA Hospital and the GSA building.

Since it seems unlikely that the corridor would ever be extended on Snelling to West Seventh Street, design and service modifications should clarify the necessity of the turn at Ford Parkway, which is the main street to Highland Village and a street that bridges the Mississippi River to Minneapolis. These connections need to be strengthened.

CHANGING THE ROUTE TO MAKE A LEGIBLE CORRIDOR

Currently Route 4 follows the historic patterns of city development. As such the bus moves off of the Snelling corridor to pick up riders who live in neighborhoods north of the railroad corridor and east of Snelling. This departure from the Snelling corridor reflects not only the old route of the streetcar lines but also the manner in which the northern part of Snelling from Como Avenue to Roseville has developed as an auto-oriented environment since the Second World War.

Ironically the development of HarMar and Rosedale near the end of the route, directly on Snelling Avenue should have provided a logical development of the northern corridor as a higher density/mixed use street. Instead, the automobile has dominated this largely post-1960 development.

This study proposes to change the alignment of the route between Midway Parkway, to change the design of the northern Snelling roadway segment, and to encourage new transit-friendly infill on the new alignment between the Jobs Corps Center and HarMar Shopping Center. By keeping the route on Snelling the transit corridor of a perceptible part of the region, the city and the district is reinforced.

RIDERSHIP SEGMENTATION AND THE FUNCTIONAL STRUCTURE OF THE CORRIDOR

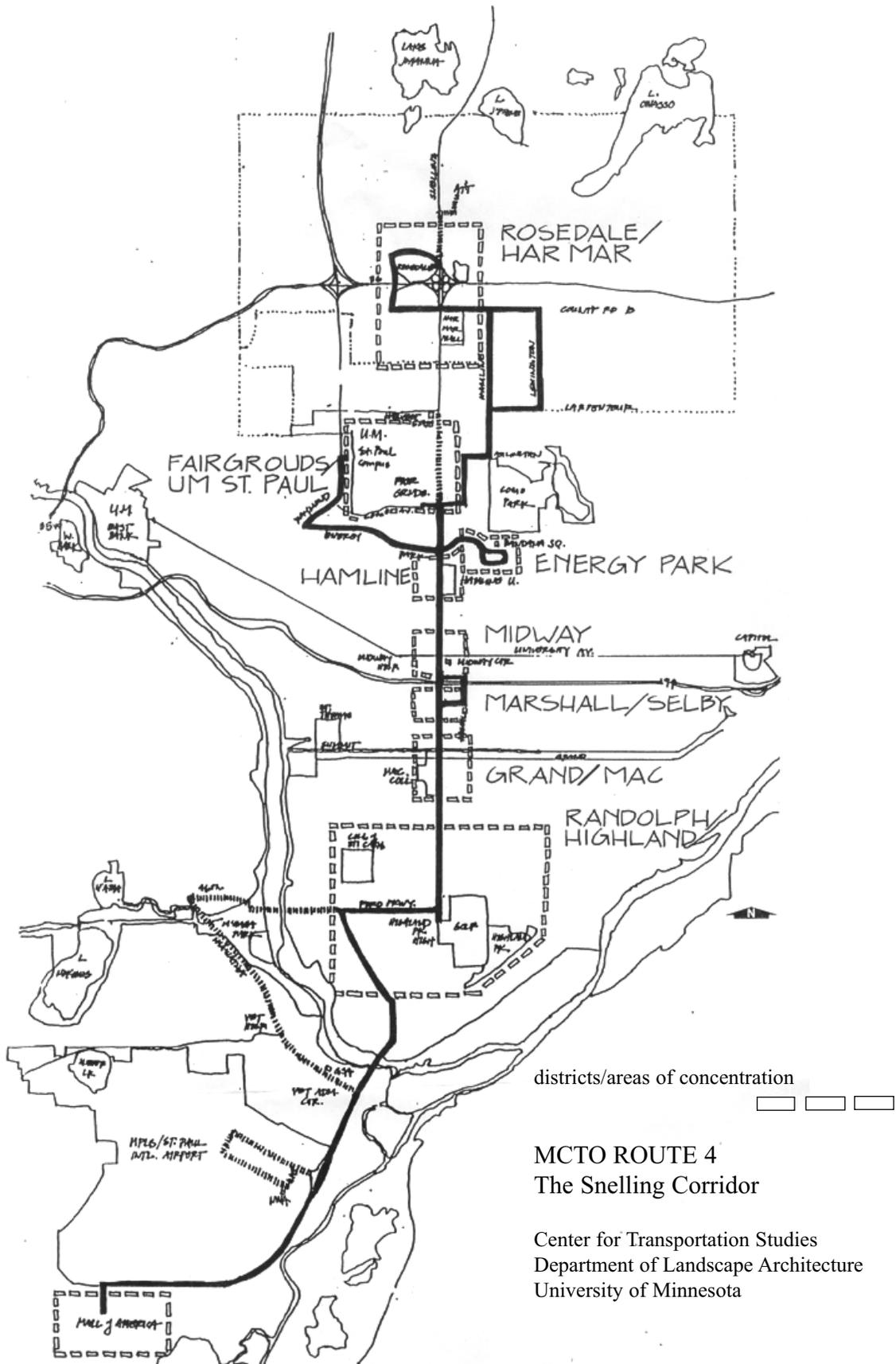
Linking Roseville, the commercial heart of which is the Rosedale Shopping Mall, with Highland Park, the southernmost reach of the City of St. Paul, Snelling Avenue defines important districts on a north-to-south axis in the metropolitan area. Ridership patterns reflect the functional structure of the corridor. The districts are destinations related to the pattern of segmentation of ridership on the Route 4.

Few riders are apparently taking long trips on the line to big metropolitan destinations such as the Mall of America or Rosedale, although these are the termini of the line. The corridor, NOT the 4 line per se, is structured on trips from school to shopping or from home to shopping as much as the typical home to workplace trip. Riders typically make short hops of maximally 20- to 25-minute duration from one district to another. Many riders in the morning and evening peaks are destined for jobs and home, respectively. However, the bulk of the ridership occurs at midday, and this pattern suggests that different purposes related to the unique connections that can be made on this line are bringing riders to it. Transfers to other lines, especially the Route 16 on University Avenue, with service to the University of Minnesota and both downtowns, are a centrally important aspect of this segmented pattern.

THE NATURE OF THE CORRIDOR: STRING OF PEARLS

Today the Snelling Corridor can be seen as a “string of pearls” defined by relatively small and generally non-transit-oriented development zones, or “nodes.” These nodes are at each intersection of a major east-west street as defined by ridership patterns and the destinations (and origins) that stimulate ridership. This string of pearls analogy suggests a multi-centered approach to reinvestment on the corridor, but it also suggests the need for an approach that places the nodes within a larger fabric of reinvestment strategies. These strategies could identify areas in need of redevelopment and ways to strengthen neighborhood centers, provide access to recreational resources, and build upon the strengths of existing educational and religious institutions.

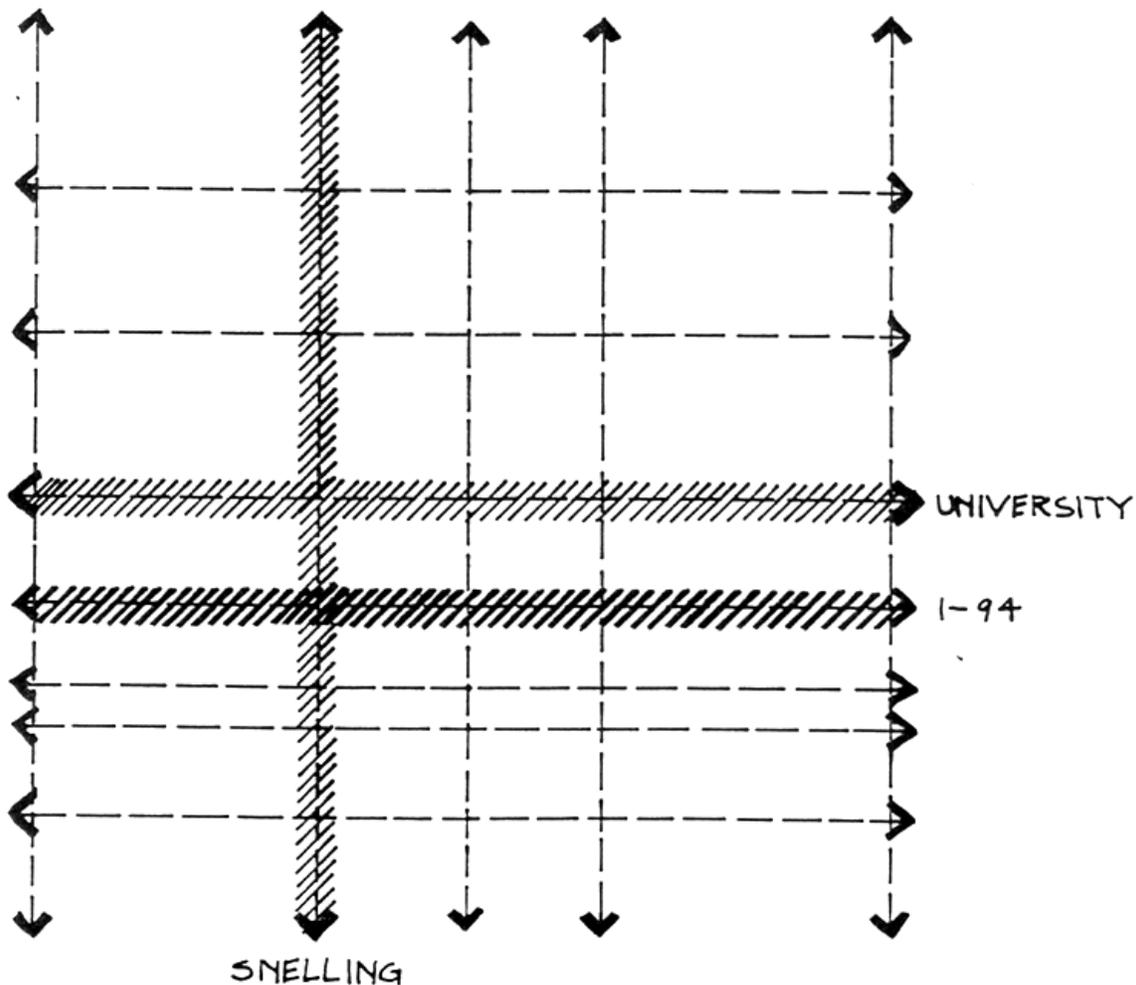




METROPOLITAN LATTICE

Enhanced reinvestment on Snelling could generate a series of expanded nodes, or districts, in which major cross street corridors such as University Avenue, Interstate 94, Selby Avenue, and Ford Parkway, define the east-west crosspieces in a “metropolitan lattice.” These major cross streets have the potential to generate multimodal traffic. As such, their intersections with Snelling suggest logical places for transit-oriented reinvestment that also accepts the dominance of the automobile in the metropolitan marketplace.

In other words, strengthening the Snelling corridor as a transit, pedestrian, and bike-friendly environment suggests design improvements that give greater value to the livable qualities not just of the corridor itself, but to adjacent residential neighborhoods, institutions and commercial areas. Good jobs that keep automobile trips down can stimulate reinvestment in nearby neighborhoods. Of particular concern will be the development of designs that provide connectivity and closer spatial relationships among a mix of desirable land uses.



STRUCTURE AND SCALE: IMPORTANT ISSUES IN CREATING A TRANSIT ARMATURE TO MAINTAIN AND INCREASE TRANSIT RIDERSHIP

A key to maintaining and increasing transit ridership is concentrating origins and destinations within reach of the corridor. The restructuring of the scale of the city is a central component of an increasing ridership strategy that will also help the many transit-dependent people that are currently served by the Snelling line.

Transit corridors and transit systems must be designed to give structure to the region at the metropolitan scale. When this does not happen, potential riders do not become riders, and transit-dependent people are denied access to destinations by the uncontrolled scattering of development. The metropolitan lattice must connect important destinations to people's dwellings and the connections must be made efficiently.

Transit must be designed to provide legible structure at the civic scale. When this does not happen, a city or a neighborhood loses its sense of unity and uniqueness that transcends all of its diversity and makes it identifiable. A street such as Snelling must provide anchoring services and jobs. Transit-friendly, mixed-use districts along corridors provide “front doors” or “gateways” to neighborhoods.

Transit must be designed to provide structure at the street scale to facilitate pedestrian uses. When this does not happen, people cannot easily access the bus stop or they are inconvenienced in waiting for it. Streets must be walkable, safe, appealing, and functionally attuned to pedestrian movement in order to be transit environments.

The three directions advocated in this study speak across these scales:

- Transit-dependent citizens need access to jobs, basic commercial products, services, and institutions, including government and education. The Snelling Corridor can provide clusters that contribute to a *metropolitan-scaled structure* of employment and commerce.
- Transit ridership could be broadened by selective land use modifications that encourage reinvestment in jobs and services in neighborhoods for non-transit dependent populations. The neighborhoods along the Snelling Corridor can be conceived with a finely-grained scale of streets, buildings, and land uses. It can be well-planned, designed, and built as a *civic scaled structure*.
- All riders and potential riders are encouraged by improvements to the infrastructure of the line and the accessibility to the service such as better bus stops, bus shelters, and signage, as well as better design of adjacent streets. Attention should be paid to the parts that give the corridor its character at the personal level, especially sidewalks, street furniture, and street trees. These improvements of configuration and amenity are made at the *street scale*.

SNELLING CORRIDOR: METROPOLITAN SCALE

A LEGIBLE AND INTEGRAL URBAN FORM

At the metropolitan scale, the Snelling corridor is an incipiently legible and integral urban form. Formal elements or patterns that give it legibility and integrity can be seen as structurally characteristic, consistent, or repetitive such as two- to three-story commercial districts at the intersections/cores of nodes, parks at the centers of neighborhoods along the spine, and educational institutions. The identification of such elements and patterns lies at the heart of urban design because it suggests a vocabulary by which the corridor may be understood and provides a shared lexicon of design for that understanding. In other words, in order to improve Snelling as a transit corridor, some characteristic elements may need emphasis, or simply need to be preserved. Other elements may need to be transformed so that they fit better with the more characteristic elements to further enhance its function as a transit corridor and its legibility as an urban armature.

Much of this approach is directly traceable to the cognitive mapping methods and pattern development employed by urban designers following the lead of such pioneers of the recent era as Kevin Lynch, Gordon Cullen, Donald Appleyard, Christopher Alexander, and many others.

MAKING THE LATTICE STRUCTURE ON SNELLING

Making a lattice from a string of pearls depends on the expansion of the corridor's reach. This strategy must consider the segmented ridership on Snelling. Snelling is the only principle corridor that transects the entire city from north to south. Its role as an important spine gives it the capacity to generate an urban lattice. The lattice is a lateral connective structure that makes neighborhoods and districts an urban fabric, not just corridor-defining centers a string of pearls. The segmental aspect of ridership to intermediate destinations on Route 4 clearly reflects its capacity to complement the traditional pattern of east-west growth, and to make functional linkages among these neighborhoods and the shopping and job districts as it carries people north and south.

MAPPING THE LANGUAGE OF ELEMENTS ON THE CORRIDOR

The following set of maps provides a language of common elements and patterns that could characterize Snelling Avenue as a bus amenity corridor:

- Structure: Nodes, Districts, Chutes, & Ladders
- Intersecting Transit Routes: Ribs on the Snelling Spine
- Transit-Friendly Lattice: Nodal Concentrations of Service/Investment
- Automobile Lattice
- Fun on Snelling
- Educational Concentrations and Reaches Map
- Snelling: The Towers Route

Each of these elements and patterns provides a *physical language* that describes the character of the corridor. They can be mapped and they are further described in the next section. The overall structure map is the most important of these maps from a transit perspective because it summarizes the dynamics of the corridor.

Structure: Nodes, Districts, Chutes, and Ladders

Structure

This mapping analysis relates directly to the cognitive mapping work done by Lynch. Here however, rather than directly taking the Lynchian formula of *landmarks, nodes, districts and edges*, we have adapted these concepts in order to give a stronger sense of Snelling as a specific place and as a transit environment.

This map displays the potential structure of the corridor and its reaches to the east and west. Cross corridors penetrate the depth of St. Paul and extend into Minneapolis. The Snelling corridor traverses the length of St. Paul from the southern edge to suburban Roseville. In plan the lattice of cross pieces makes a kite-like urban metropolitan network with Snelling as the vertical spine of the kite and University as the cross piece (see map on page 18).

As a transit route, Snelling can be understood as serving the nodes and districts that define zones of concentration and the east/west corridors that are connected to the Snelling spine. Where concentration-defining cross streets meet Snelling they make potential or actual destinations of residential, commercial, and institutional land uses.

Nodes

Smaller concentrations, such as the cluster of service and commercial uses at the intersections where an important street crosses Snelling such as at Randolph, are described here using Kevin Lynch's nomenclature of *nodes*. Nodes, for our purposes, define a recognizable group of places which attracts the public or a clientele and provides opportunities for local gathering places and services. Nodes are functionally important to keeping business local. Clustered services help define destinations for multi-purpose trips. Nodes emphasize the character of a city and provide a sense of place within a district of the city. Often nodes on Snelling have older commercial buildings clustered near the corners of the intersection and extending along Snelling. At these nodes, old streetcar lines often intersected as well.

Districts

Districts are discrete, recognizable areas that are defined by building types, land forms, densities, land uses, and street patterns. Larger concentrations, usually around or punctuated by nodes can be understood as districts. The area around the intersection of Grand and Snelling is called Macalester Groveland. The district is much larger than the node that exists at Grand. Its name signifies the prominence of Macalester College as an important character-defining element within the area of residences, schools, businesses, and other land uses. Relatively cohesive and concentrated, Macalester Groveland is, in spite of its lower than seven dwelling units per acre residential density, a transit-oriented district of the city. Transit service to this multi-use district must be more finely grained—that is, have more stops than a less attractive or well-defined district.

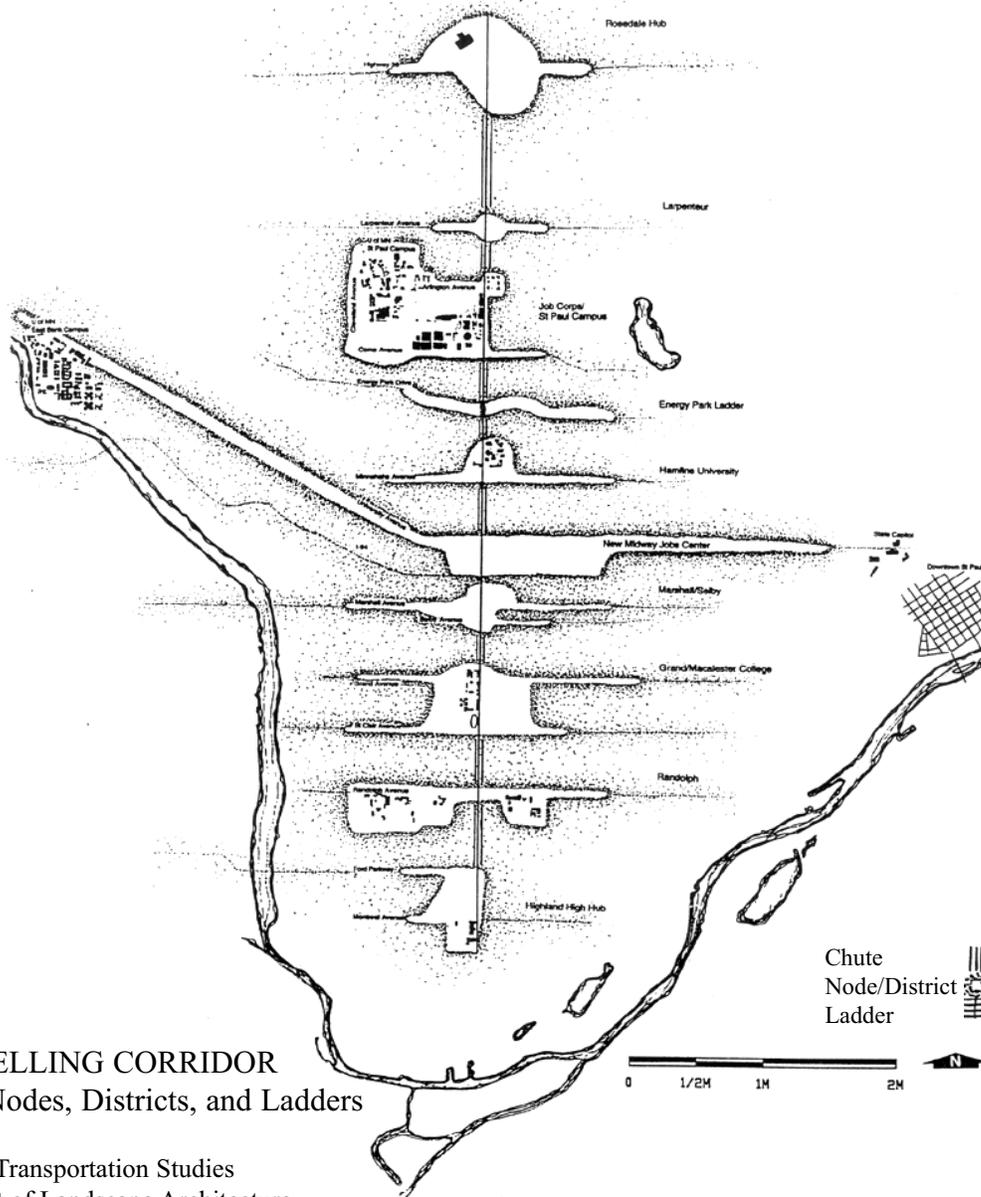
Chutes

Chutes are identifiable parts of the transit route where there is little or no need for a bus stop because the land uses in that part of the corridor do not warrant it. The bus can pass quickly by the chute in the route, gaining time and efficiency. On Snelling, there are sections of the route designated here as chutes that operate through relatively less dense residential fabric and among other land uses where, because of zoning or highway development, there are few opportunities for developing transit-oriented destinations. Since fast service is an important criterion of success, the assumption here is that transit should operate with a reduced number of stops in these auto-oriented areas, where there are speeds above 30 miles per hour and a reduced number of connected sidewalks. The section

of Snelling between Humphrey Job Corps Center and HarMar Mall is a long chute of this type. In the future, of course, some chutes might be transformed, but the fundamental approach is to pay attention first to the enhancement of nodes and districts.

Ladders

Ladders are needed in the transit route where the route is elevated or depressed in relation to the areas that it passes through. The ladder makes a connection possible. Because Snelling is much higher in elevation than some key concentrations along the route, ladders are needed to make connections between Snelling and the areas below. The intersection of Energy Park Drive is a critical opportunity to build a ladder between Snelling and the existing jobs, retail, and housing on the drive. Currently the transit service to this area is not provided by all the standard 4 routes but by the 4U, a separate route. 4U connects the St. Paul Campus of the University and the Energy Park area. The suggestion here is to make a literal physical intervention, such as an elevator, that would allow bus riders to make connections between the grades. The service on the Snelling corridor would not be interrupted while taking advantage of the ridership that could be generated by Energy Park.



THE SNELLING CORRIDOR
Chutes, Nodes, Districts, and Ladders

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Intersecting Transit Routes: Ribs on the Snelling Spine

The East-West Grid

The strength of Snelling as a transit environment in part comes from its position in relationship to many of the other transit routes in Saint Paul. The city is laid out on an east-west grid, there is a hierarchy of streets that facilitate movement, and most routes are located on the major east-west streets of the city. Therefore, traveling east and west by transit and by automobile in Saint Paul is relatively easy. Old streetcar lines were once located on these streets, and these lines did much to shape the city's neighborhoods and their local commercial areas. Snelling could be an important transfer line.

Snelling: an Important North-South Transfer Environment

Moving north-south in Saint Paul is more difficult than going east-west because there are fewer north-south streets and north-south bus lines. This arrangement adds importance to the places on the Snelling Corridor where the east-west routes cross it. Each of these intersections is a transfer point. Selection and development of important transfer locations could guide redevelopment strategies. Special facilities that provide amenities to transit users could serve as catalysts for redevelopment and help define the transfer point as a special place.

Transit-Friendly Lattice: Nodal Concentrations of Service and Investment

The Node and Its Reach

This map takes the idea of the node within a district and suggests two kinds of patterns:

- The transit “reach” of the node, and
- The overlap of nodal reaches in constellations or aggregations to suggest a metropolitan scale lattice of transit-friendly districts where concentrations of service may exist, but need enlargement or reinvestment.

Developing transit-oriented places along Snelling depends on understanding the transit district generating power of the corridor based on:

- Key nodal stops, and
- The depth of a district in relationship to pedestrian behaviors.

Since a five-minute walk is usually deemed to be the usual length of time that most transit users would add to waiting and travel time, it becomes a standard for development of a district served by transit. Obviously, some transit-dependent people have to walk farther. This map shows concentric circles drawn from the centers of districts or stops at nodes within neighborhood zones to describe a five-minute walk. We are using 1,200 feet as a ideal standard, somewhat less than used by Duany/Plater-Zyberk, because of Minnesota’s weather extremes. A second concentric circle, 10-minute or 2,400-foot walk, is seen as an absolute assumed maximum walk for transit riders who will require minimally another 15 to 25 minutes more to complete a trip.

Clustering Stops: A Faster Ride

Surprisingly this map demonstrates that along Snelling, instead of accepting the old regime of a stop on every block, it may be possible to cluster stops within the node or district. Clustering creates a more efficient schedule and allows the chutes to be chutes, thereby making a faster ride. However, the overlapping of the circles along the spine suggests that pedestrian friendly streets at the edges of districts and nodes are critical to the success of the clustered stops.

Investments Needed

This map also identifies areas of transit-friendly public and private investment. Many areas need sidewalks and street amenities. Private investment could take advantage of transit by providing greater residential densities and more mixed uses to enhance the drawing power of the concentrations as destinations.

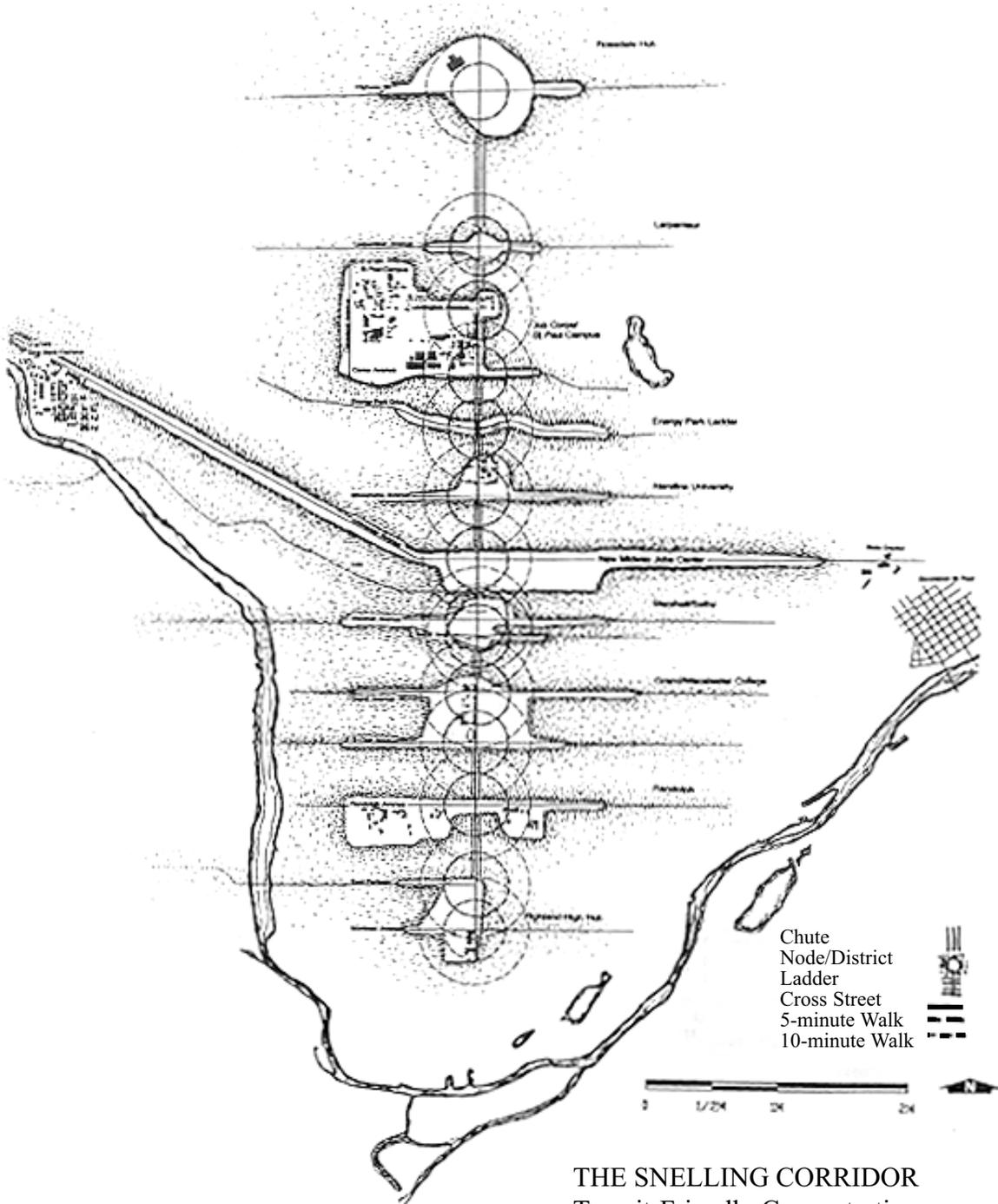
The chutes from the Job Corps to Larpenteur and from Larpenteur to HarMar depend on development of more urban scaled nodes at Larpenteur and HarMar Mall. Currently suburban development models have extended this chute from the Job Corps to Rosedale.



Frontage road in Falcon Heights along Snelling terminates at HarMar, eliminating opportunities for separate bus way with nodal stops and chutes.



Expensive turf area in right-of-way at HarMar closes opportunity for bus corridors and nodal station.



THE SNELLING CORRIDOR
 Transit-Friendly Concentrations
 Areas within a 5- to 10-minute walk from a major stop

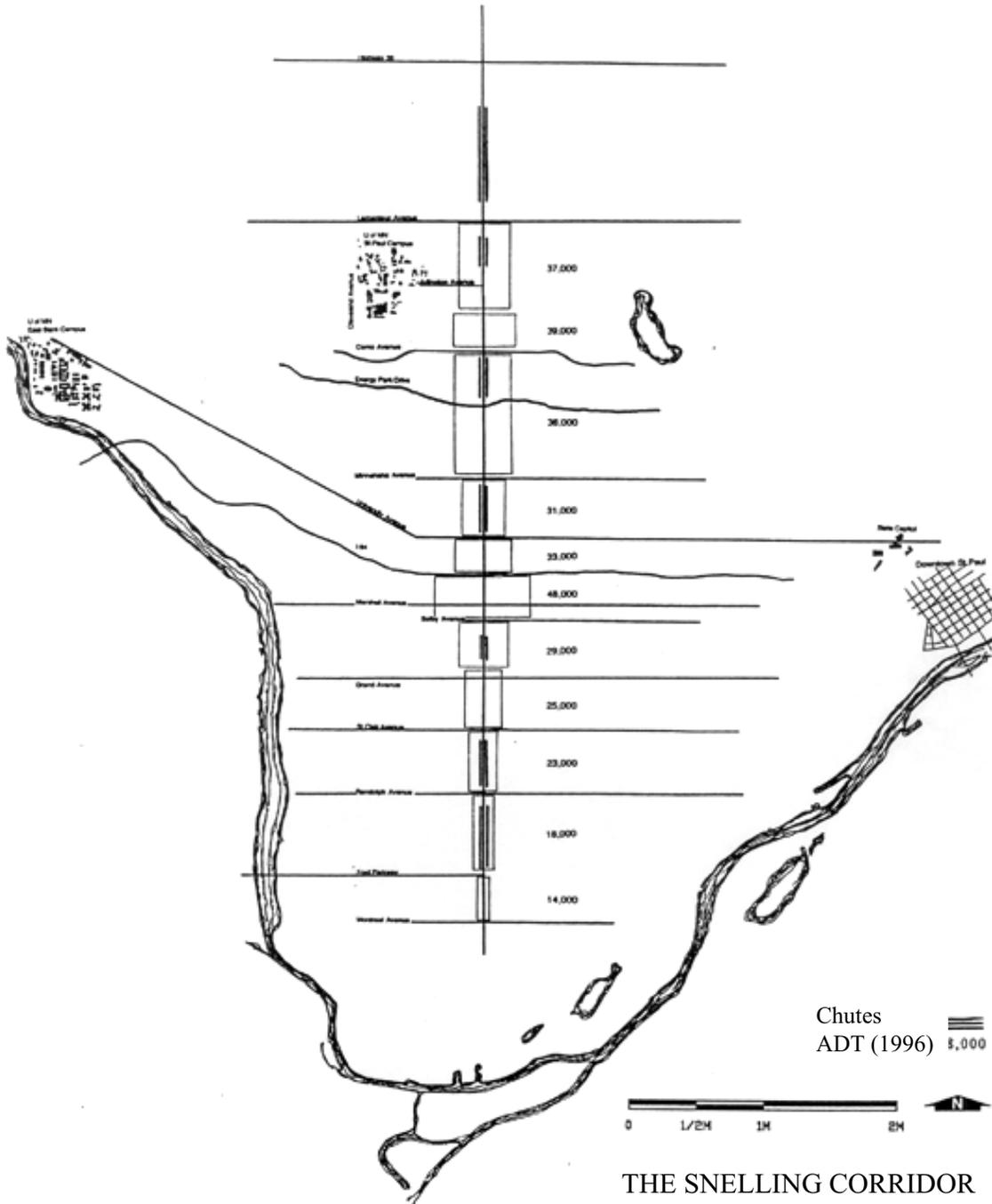
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Automobile Lattice

High volumes of automobile traffic on cross streets also characterize key intersections along the corridor. Because Snelling is a long corridor, the need to have rapid service through the chutes may suggest preservation of elements of the automobile lattice which may help organize the type and intensity of transit-oriented development. The east-west automobile lattice may be seen as a park-and-ride feeder system to the north-south corridor. The design of Snelling Avenue as an important transit corridor must balance automobile and transit-pedestrian uses. Accommodating the automobile is not always a conflict with transit, it may support the creation of concentrated development and add to the effectiveness of the chutes.

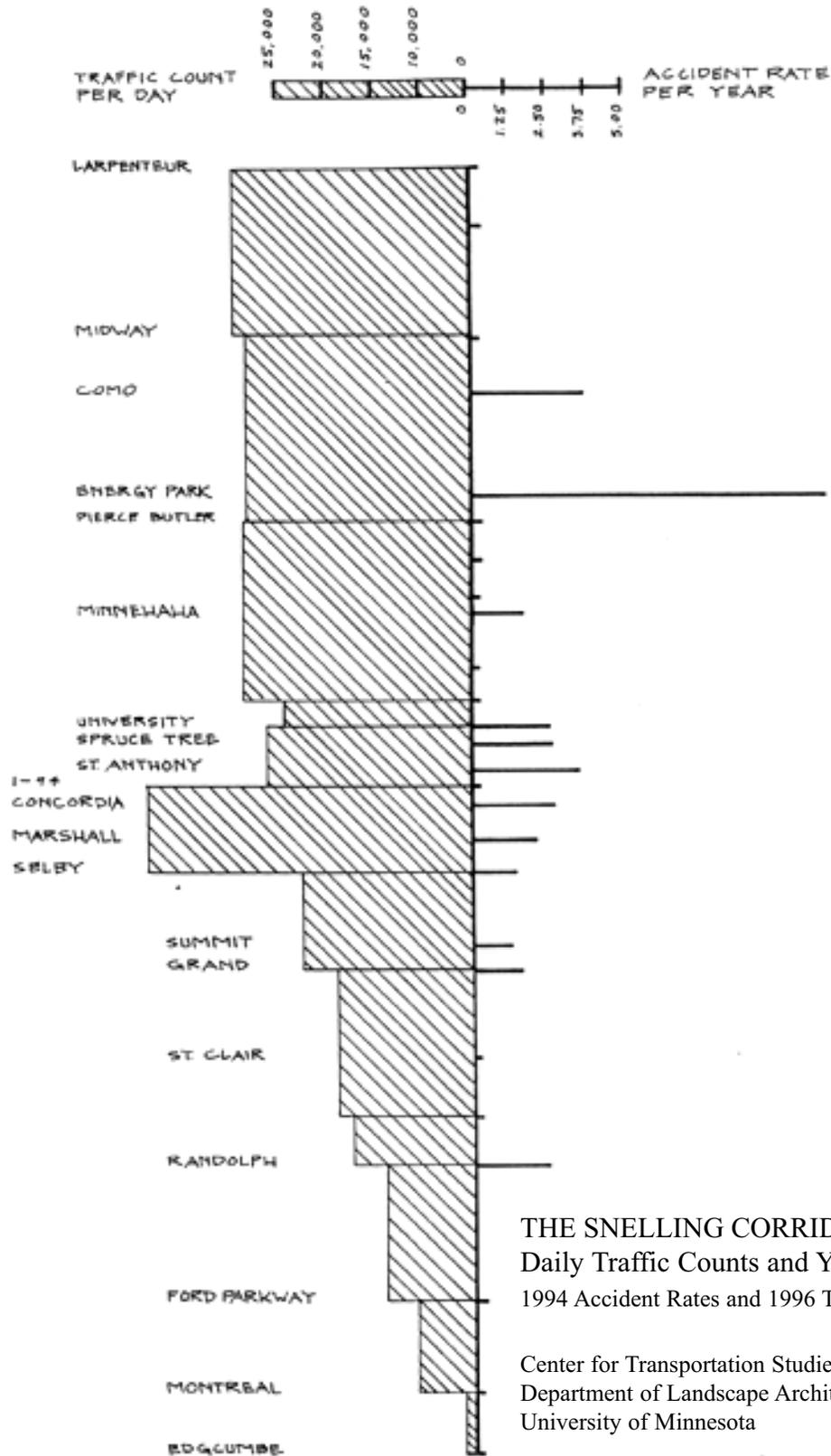


Snelling Avenue at I-94 looking north toward the University Avenue intersection. The average daily traffic (ADT) on Snelling Avenue between I-94 and University Avenue is 48,000 vehicles.



THE SNELLING CORRIDOR
Automobile Lattice and Traffic Volumes

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THE SNELLING CORRIDOR
 Daily Traffic Counts and Yearly Accidents
 1994 Accident Rates and 1996 Traffic Counts

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Educational Concentrations and Reaches

An Educational Corridor

The Snelling Corridor is an educational corridor. Within St. Paul, Macalester College, Hamline University, Highland Park Junior High, and Highland Park High School lie directly on the corridor, and Ramsey Junior High is one block away. Bethel College is on Snelling north of Rosedale just beyond the reach of the 4 bus route. Near the State Fairgrounds, the old Bethel College campus now serves as the Hubert Humphrey Job Corps facility. The University of Minnesota is not directly on Snelling, but its St. Paul campus is currently served by the 4U subroute.

Transfer Connections to Campuses

Cross streets such as Randolph, Grand, and Selby provide access to other public and private schools and college campuses such as Cretin-Derham Hall, Saint Paul Academy, Concordia College, Central High School, College of Saint Catherine, Saint Thomas University, and William Mitchell College of Law.

Snelling as a Potential Campus Connector

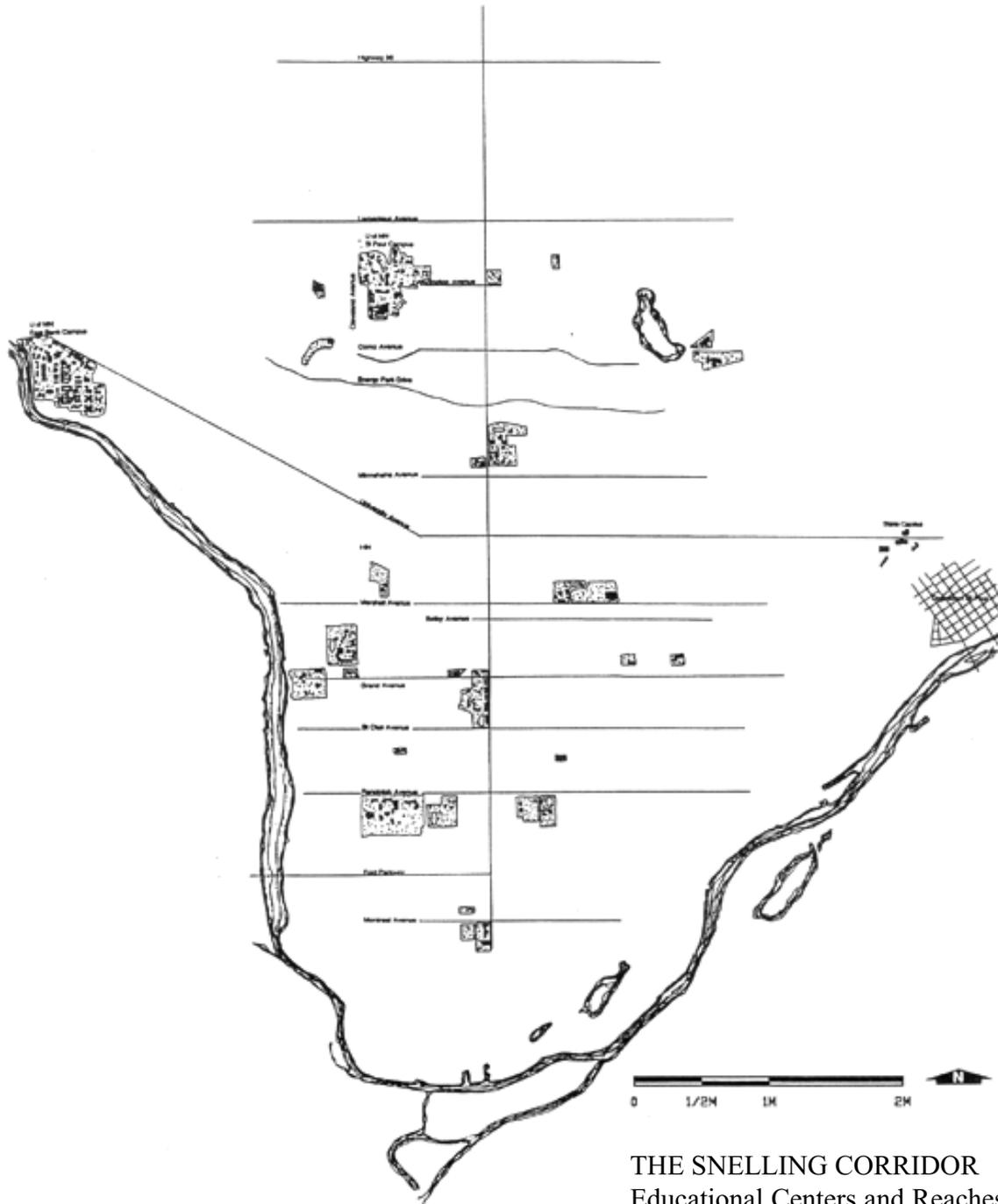
Although most students reach school via separate transit systems, some older students take the MCTO service. This raises many questions. How could the spine serve education? The peak service demands of students provide special conditions—how do they mesh or not mesh with regular and peak service? How could Snelling serve as a possible connector to circulator buses on reaches?

Providing MCTO transit service for riders destined for school is an issue outside the scope of this study, but the creation of a transit-oriented spine could enhance the transit-riding experience for students and the general public regardless of which buses use the corridor. Making Snelling a transit-friendly corridor could also be the first step in sharing service.

Neighborhoods, Educational Institutions, and Densities

Schools often define the density and character of residential neighborhoods in the city. Residential uses adjacent to schools should relate to their type: higher density for colleges, lower densities for city schools. Highland Park should largely remain a low-density neighborhood with some higher densities on principal corridors such as Ford Parkway and Cleveland Avenue.

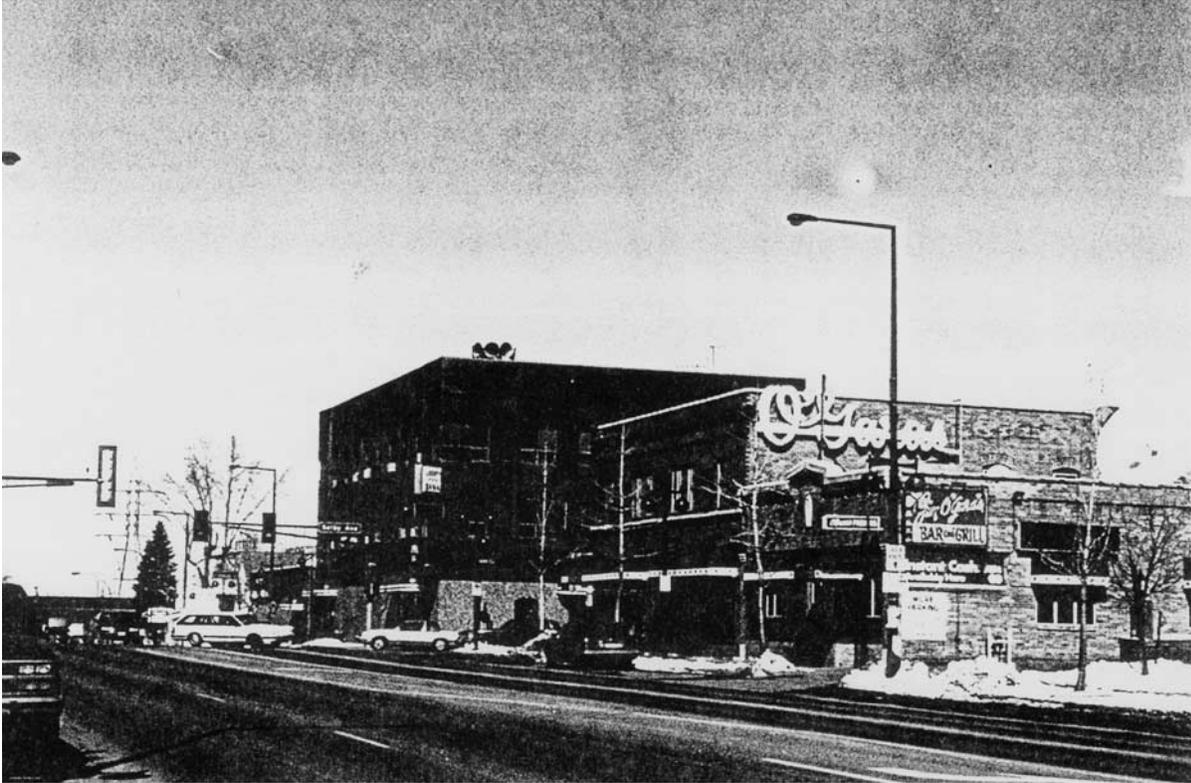
In some neighborhoods a balance must be struck between institution and housing. Macalester Groveland has the problem of preserving a very attractive, low-density neighborhood while accommodating two colleges, where additional dormitories and other housing may be needed in the future. Transit planners must know what strategies the colleges may have for future enrollment and housing. Similar problems exist in the northern part of the corridor by Hamline University, where affordable housing exists in a low density neighborhood. Any infill strategies in such neighborhoods need to preserve their existing character by locating higher densities on the corridor or on the cross-corridors within a 5- to 10-minute walking distance from Snelling. East-west educational corridors that cross Snelling present opportunities for transit-oriented development because the corridors such as Grand and Randolph lead to several high school and college campuses.

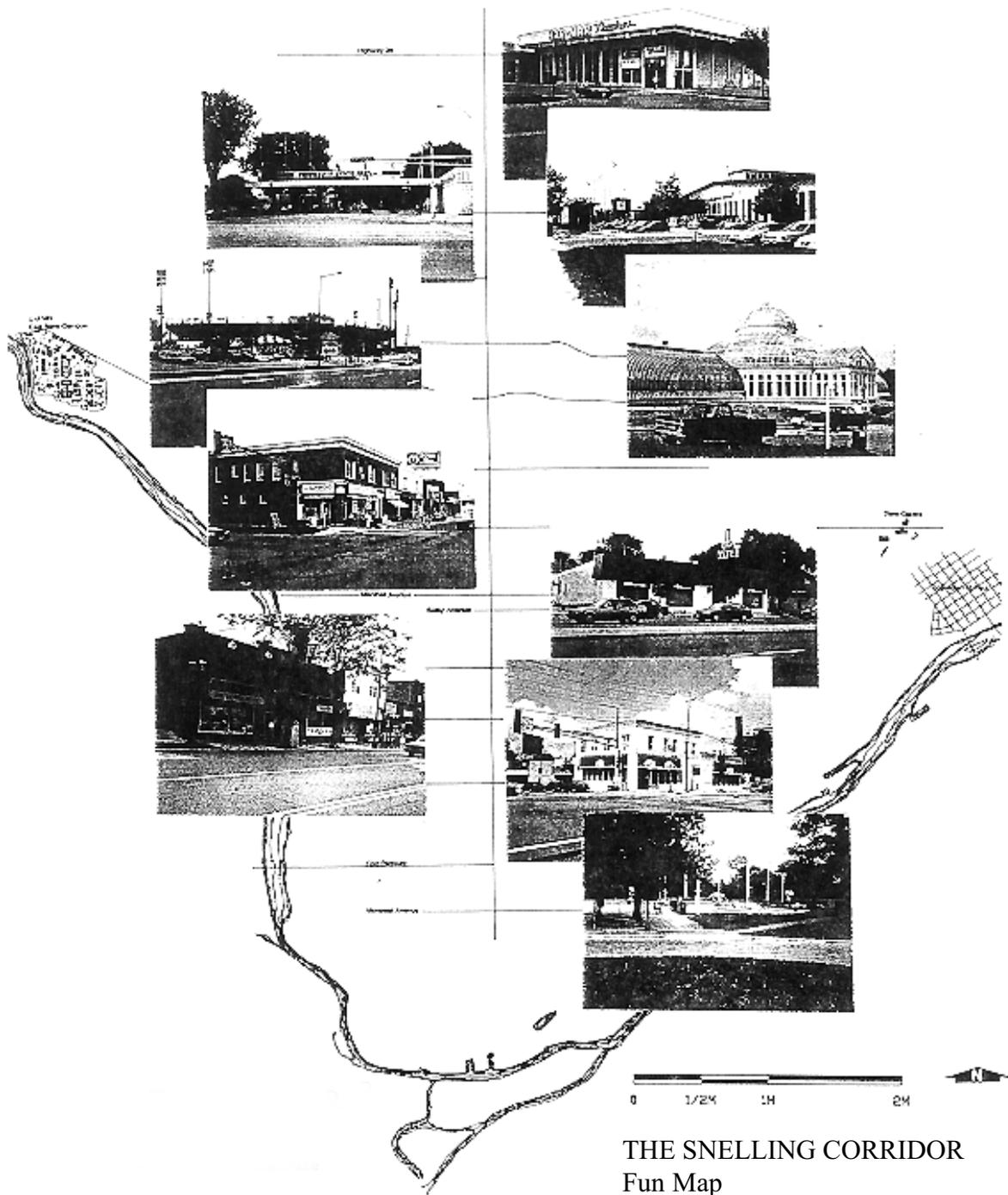


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Fun on Snelling

Currently the route is used intensively by transit-dependent populations. Many of these trips are related to necessity, not to discretionary activity or recreation. The fun map locates recreation and youth-oriented destinations such as parks, shopping, film, entertainment, and food. Problematically, the corridor does not relate well to the small lakes that dot the districts on the northern edges of the route.





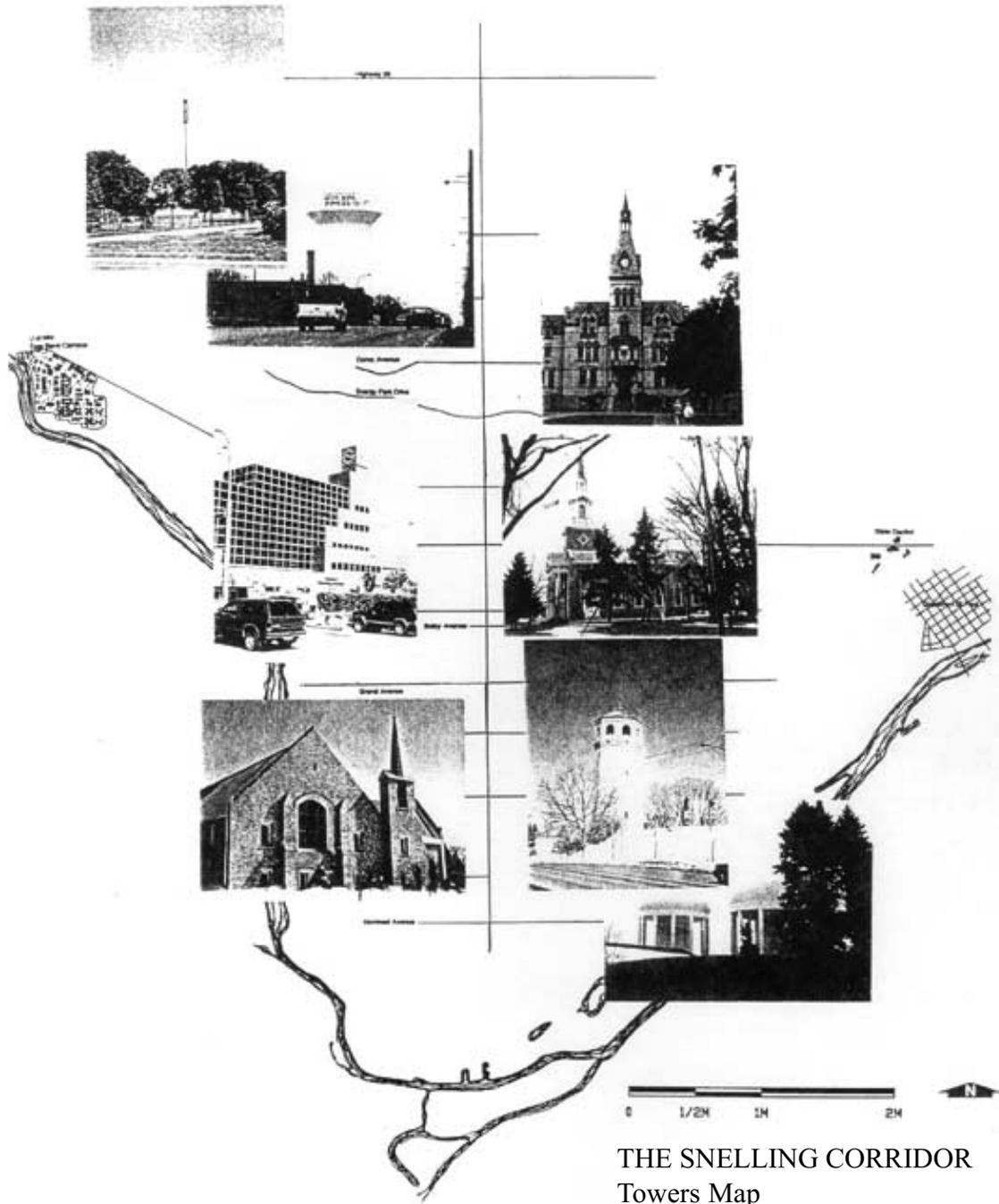
THE SNELLING CORRIDOR
Fun Map

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Snelling: The Towers Route

In order for a transit corridor to be a recognizable part of the city and the region, it must have a recognizable signature or characteristic that defines it and makes its presence legible. Taking a specific variation on Lynch's idea of landmarks as signifiers of place and location, the Towers map shows the strong presence of tower-like buildings and other vertical elements that mark the corridor. From the Spruce Tree Center to the Space Needle, the church spires, and the Highland Park water towers, the Snelling Corridor is a tower-studded bus route.





THE SNELLING CORRIDOR
Towers Map

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ENHANCING THE METROPOLITAN CORRIDOR: REVISING THE ROUTE CHUTES, LADDERS, NODES, AND DISTRICTS

The marked variation among the types of urban landscapes that compose the corridor suggests varied approaches to design analysis. In the following section design ideas are presented to demonstrate the physical changes that would improve the viability of public and private reinvestment to build Snelling Avenue as a transit corridor that is the central structure of an urban lattice.

DISTRICTS/AREAS OF CONCENTRATION

The map on page 12 identifies the 12 detailed areas of concentration defined by the crossings and their immediate reaches. Many are designed in further detail in the second section of this report.

1. Rosedale Hub
2. HarMar
3. Job Corps, State Fair, and the University District
4. Energy Park
5. Hamline University Neighborhood
6. Midway
7. Marshall Avenue
8. Selby Node
9. Summit
10. Grand: Macalester Corner
11. Randolph Avenue
12. Ford Parkway and Highland Park

1. Rosedale Hub District: Building A Pedestrian-Friendly Mixed Use Center

An Automobile-Dominated Suburb

Roseville is the quintessential 1960s-style suburb. Developed amid a grid of county roads and state highways that had served farms and market gardens, Roseville has a distinctly automobile-oriented scale. Pedestrian and bicycle systems are lacking. Somewhat less than twenty-two miles of sidewalks and bike trails have been constructed in a city that is five miles long and more than two miles wide. In addition to few sidewalks, most residential streets do not have other significant pedestrian-oriented amenities such as street trees or pedestrian-scale lighting. Like most streets in Roseville, Snelling Avenue is not very conducive to pedestrians or bicyclists. It has approximately 1,000 feet of sidewalk and no bike trails throughout its 8,000-foot length in the city.

No Main Street

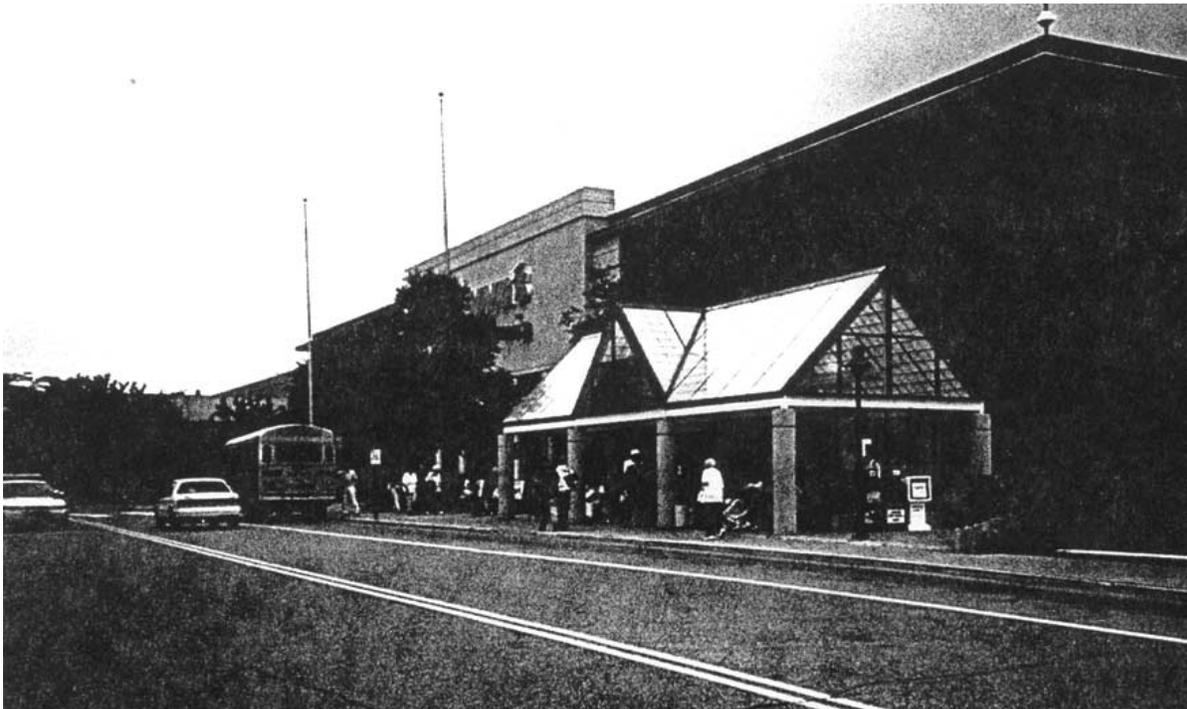
This auto-oriented character and scale was further emphasized by the development of the Rosedale Shopping Center. Although there is a well-developed public landscape in the civic center in Roseville, there is not a conventional service/retail main street in the city. Roseville's retail center is Rosedale and the smaller malls that surround it.

Low Density Residential

Residential areas account for 40 percent of Roseville's land area, of which more than 80 percent is low density development. Most of the subdivisions are dominated by non-through street systems lined with single family houses.

Current Transit Service

Transit service is provided by the MCTO Routes 4 and 6. The Roseville Circulator offers service to and from Rosedale on several routes within the city. Currently the Route 4 enters Rosedale from the Fairview side of the shopping center and turns around at the MCTO hub at Rosedale.



Bus access to Rosedale has been greatly improved by the creation of the Rosedale Transit Hub.

Challenges to Transit Enhancement

Both the large scale of the roads and their configurations, and the form of the retail development spawned by the presence of Rosedale, create challenges to transit enhancement. For example, on a potential route to Rosedale, Snelling Avenue emerges from the city of Falcon Heights at Roselawn Avenue. Problematically, Snelling has become a very large highway at this point—four lanes wide with frontage roads on each side and average daily traffic of approximately 35,000 vehicles. Almost immediately, it intersects with County Road B, crossing State Highway 36 less than a half mile away, at which point it has a 4-lane, limited access right-of-way. There are no sidewalks on Snelling north of Highway 36. The cluster of retail development that is anchored by Rosedale is not configured to make pedestrian movement from one group of stores to another anything more than a very arduous undertaking. Creating a transit-oriented district here will require careful planning and a large-order makeover.

The Transit Opportunity

However, some key components of successful transit operation exist. Densities exceeding eight dwelling units per acre are located within 1,500 feet of the right-of-way between County B and Highway 36. Greater Rosedale has Ramsey County's second greatest employment density. These factors suggest an opportunity to add more service-oriented infill and multi-unit housing. Importantly, elderly housing and managed care retirement centers have found a niche in Roseville, but a pedestrian environment has not yet followed these developments. Part of the solution will be to build conventional urban streets with sidewalks with significant pedestrian amenities. One possible strategy to reach more distant riders would be to connect Snelling and the pedestrian network to the growing system of bikeways in the city.



Stores and theaters in the mall north of Rosedale are hard to reach by foot.

2. HarMar Mini-Node: Chutes To Larpenteur Mini-Node and Rosedale

The HarMar Mall is an agglomeration of mall ideas from every decade between the 1960s and the present. Sited back from Snelling, its huge parking lot is its “front yard.” An island that occupies the entire southeast corner of the intersection of Snelling and Roselawn, HarMar is surrounded by frontage roads on every side.

Current Transit Access

Currently Route 4 accesses the mall from the east side so that passengers can wait for a bus or alight from one near a building and do not have to cross the expanse of the parking lot. Unfortunately, the bus must slow down considerably to navigate the mall parking lot.

Potential for Improved Transit Access

The main problems with the HarMar node are related to access to the mall and to bus-waiting areas near important destinations. A possible solution would be the creation of a new boulevard-separated entrance to HarMar, allowing transit vehicles to enter the mall slightly north of the present entrance between the theaters and the bookstore/coffee shop, then turn around and exit onto Snelling. The width of Snelling and the space between the main traffic lanes and the frontage roads could be used to develop transit stops at key intersections.

The growth in popularity of the Barnes and Noble/Starbucks Coffee combination suggests that urban uses are desirable. If parking could be maintained at current levels, some infill might be possible; however, the rental structure of HarMar probably would not support the structured parking that would be necessary to allow infill into the current lot.



Two views at the corner of Larpenteur. Opportunity for mini-node at Larpenteur takes advantage of frontage road as a bus way. Views show existing bus stops with no amenities (i.e. shelters or street trees) and complete exposure to the elements.

3. The Job Corps, State Fair, and University District Loop

Current Transit Situation

This part of the corridor presents problems for transit service. Currently the Route 4 service leaves Snelling Avenue and slowly winds through a residential neighborhood east of Snelling, following the old streetcar route. The Hubert Humphrey Job Corps complex represents a significant destination, but the opportunity to enhance this area of the corridor as a destination is complicated by the State Fair's seasonal use, which does not contribute to year-round transit demand.

A Transit Destination Opportunity

Part of the corridor's success as a new transit destination depends on radically redeveloping and reprogramming of the State Fairgrounds and making a gateway to the St. Paul campus of the University of Minnesota where transit has an important presence. This plan would necessitate a stop on Snelling at Arlington and a new or revised circulator route to the University via Arlington/Buford. This service would allow the 4U and the current St. Paul campus circulator routes to be combined and reconfigured to allow access to campus. It would connect the neighborhoods east of Snelling to existing and new employment/service destinations, student housing, and the inter-campus bus line, which uses the fairgrounds lot as a major stop. It could help facilitate new development at the Como Avenue intersection, on the State Fairgrounds, and in Energy Park.



Potential gateway to the St. Paul campus of the University of Minnesota through the State Fairgrounds.

A Pair of Educational Portals on Snelling: The University of Minnesota and the Jobs Corps

A New Community Front Door for the University

Moving the bus route to Snelling by the state fairgrounds provides an opportunity to more fully use this large tract of land on the corridor. Used heavily for twelve days in late August and early September for the State Fair, and irregularly for special sales like bike/ski sales, the State Fairgrounds at Snelling are under-utilized most of the year. The grounds and the buildings offer an opportunity to create a continuing and adult education precinct on the corridor that could make a new front door to the University that welcomes the community. The street alignment already exists. The gateway with an integrated bus shelter could be established at the Arlington intersection on the west side of Snelling. A connection could extend along Arlington to the Earl Brown Center, the University's main building for short courses, conferences, and other campus-based outreach activities. This community face of the University could offer expanded life-long learning opportunities available to those who wish to keep up with the changes in our rapidly changing world. New development at the State Fairgrounds could also be related to the University, serving as an incubator for enterprises spun off of University research.

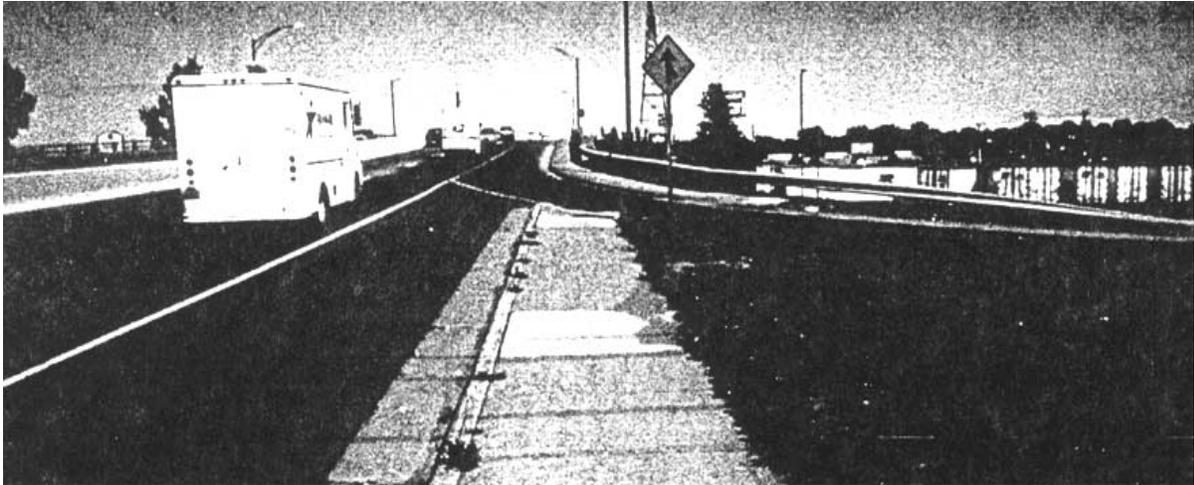
The Jobs Corps Portal

A transit station could be created on the east side of Snelling as part of the portal to the Jobs Corps campus that would compliment the one on the west.

4. Energy Park Ladder

Current Conditions: An Opportunity Not Realized

Approximately 4,000 jobs already exist in Energy Park. There are 770 dwelling units in the immediate area of the Snelling Corridor. This concentration of employment and residences represents an opportunity to increase transit ridership; however, access is currently limited. There is a 17-foot grade separation between Snelling and Energy Park Drive below because Snelling is elevated over the railroad lines. At this point Snelling is a 45 mile-per-hour roadway. Although there are sidewalks, it is a formidable and bleak pedestrian environment. There are controlled accesses to three separate intersecting grade-separated streets, Como Avenue on the north, Energy Park Drive in the middle, and the Pierce Butler Road hugging the tracks on the south. Transit riders can reach the Energy Park corridor on the infrequent 4U service. Other regular services pick up and drop off riders either to the north or south of Energy Park, but active rail tracks with uncontrolled grade crossings separate the area near Snelling.



Car-dominated, grade-separated conditions existing on Snelling Avenue looking north at Energy Park Drive.

Vertical Connections Through a Ladder

With the construction of a “ladder,” transit riders on Snelling can connect to the jobs and the residences along Energy Park Drive, a redeveloped portion of the old Burlington Northern rail corridor. The fundamental idea of the ladder improvements for this node is to create a stop that allows transit riders to get from Snelling Avenue to Energy Park easily.

Vertical Connections and Signature Towers

Snelling Avenue and Energy Park are horizontally organized elements in the city that intersect but are not connected because of the difference in the grade between the two of them. The introduction of vertical elements is an important strategy to make an effective connection between Snelling and Energy Park. In addition to a building that connects both levels, simple but critical design elements in the making of this ladder are proposed. Sidewalks hug the current auto exit ramps between Snelling and Energy Park and the stairs directly connect transit stops on Snelling to the existing sidewalks on the north side of Energy Park Drive. Wetlands or drainage detention ponds are shown as formal elements in the new arrangement. Pedestrian safety will necessitate new crosswalk markings on Energy Park Drive and may require signal-controlled intersections.

On Snelling the transit stops are marked by buildings with bus shelters on each side of the street topped by tower structures. These towers, flanking the street just north of Energy Park Drive, are large to create a visual stopping place in an otherwise unimpeded stretch of highway overpass.

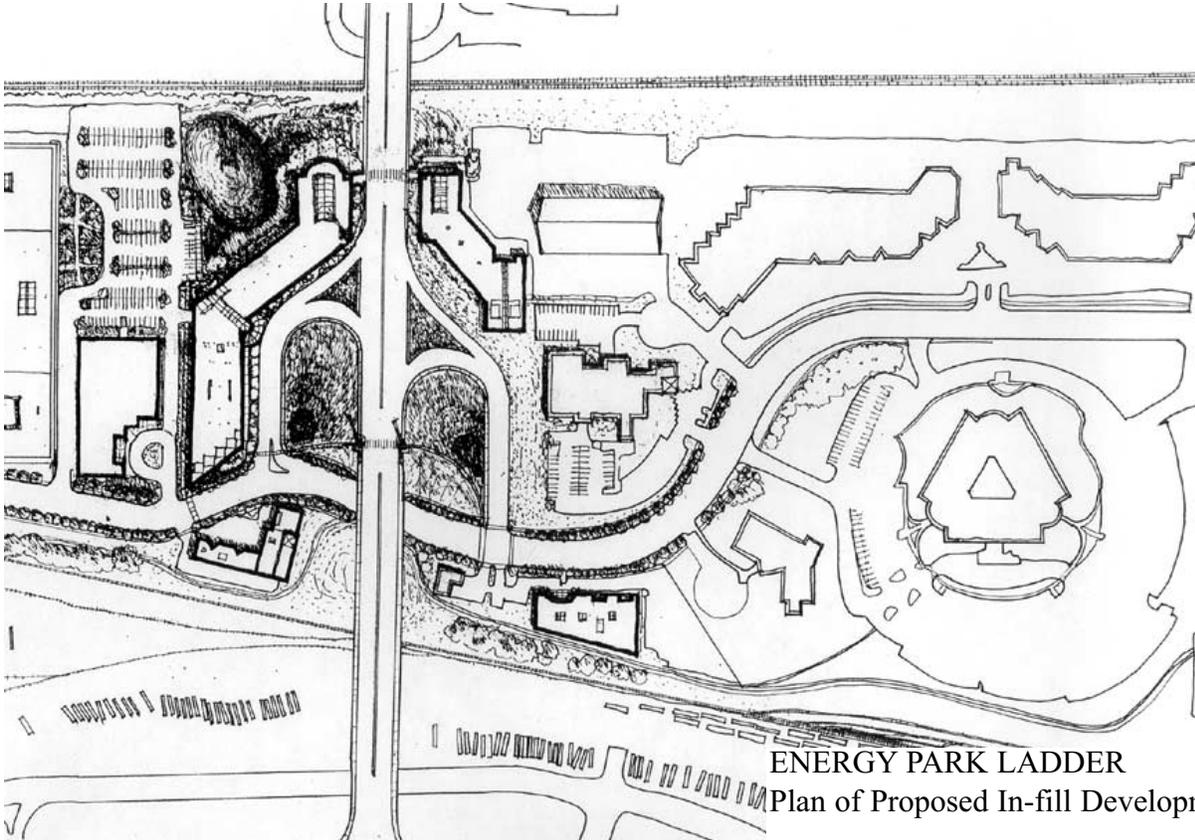
Traffic Calming

Speed limits should be lowered to 35 miles per hour on this part of Snelling to conform with speed limits in adjacent areas. A pedestrian-demand crossing signal may be needed to allow riders to cross from one side of Snelling to the other. This type of traffic calming plus the addition of sidewalks and pedestrian-scaled lighting will help to promote motorist speed reduction.

Changing the Spatial Template: Urban Transit-Oriented Infill and Rehabilitation

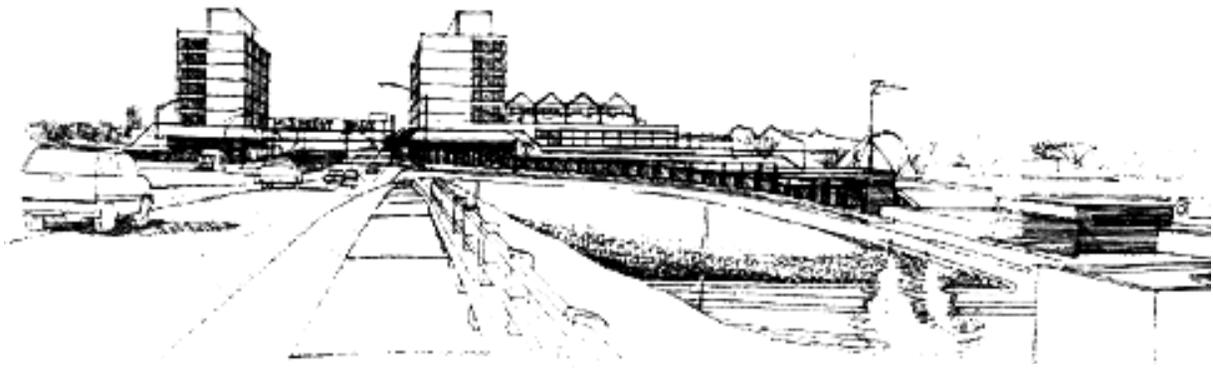
Currently Energy Park is developed using suburban spatial models. Buildings are well set back from the street, and sidewalks that make up the pedestrian environment in Energy Park are extremely limited in extent and amenity. Bikers must share an extremely narrow roadway with cars and trucks. There are virtually no continuous sidewalks on the south side of the drive. West of Snelling, pedestrians using the old Builders Square parking lot for Saints games at Midway Stadium have no sidewalks. The design shows new sidewalks and bikeways and expanded facilities for bikes.

Much space has been wasted in the development of Snelling. Large parking lots sprawl around ungainly buildings. Better organization of parcels and expanded transit access will allow new infill and rehabilitation of existing Energy Park properties such as the currently vacant Builders Square building. Some infill is shown here, including two signature buildings that could be constructed into the flanking steep side slopes of Snelling and provide direct access from the top floors of buildings to the avenue.





ENERGY PARK
Existing Conditions



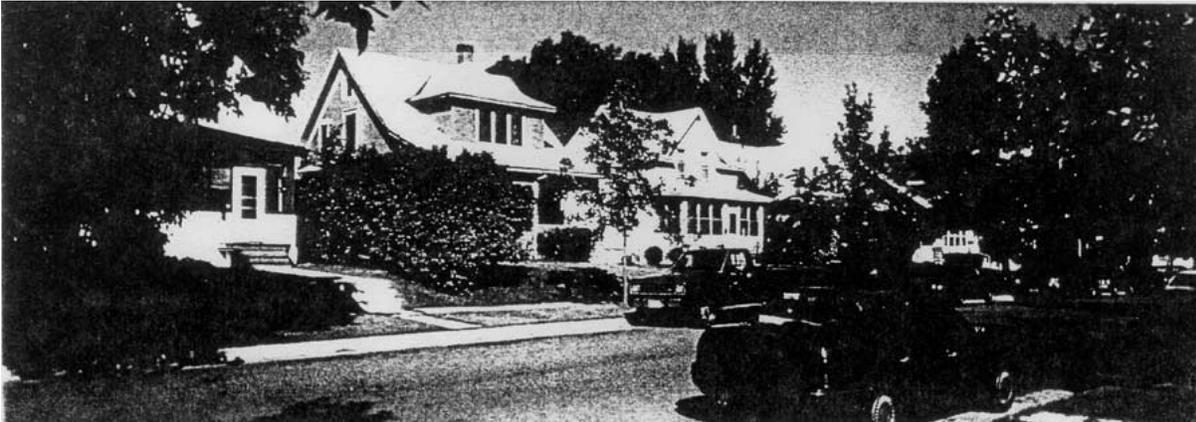
ENERGY PARK LADDER
Proposed Improvements

Center for Transportation Studies
Department of Landscape Architects
University of Minnesota

5. The Lattice As Neighborhood: Conserving The Balance In The Hamline University Neighborhood District

Current Conditions

The Hamline neighborhood is bounded by University Avenue, the rail lines that serve the Amtrak Depot, the Pierce Butler Route and the Burlington Northern corridor, and Lexington Avenue. To the west lies the large industrial zone of St. Paul. Like many neighborhoods bounded by rail lines and major commercial streets, Hamline is well defined but does not have the necessary size or breadth to allow for easy transitions from commercial and industrial corridors to the core residential street grids of the neighborhood. This balance also requires re-zoning to protect neighborhood housing and commercial services from the kinds of metropolitan uses that occupy Snelling. Generally, zoning reflects this balance well although minor re-zonings may be recommended to maintain industrial and commercial compatibility with residential uses. Statistically the Hamline neighborhood is the most average district in the city: Owner occupied versus non-owner occupied housing is split 50-50. Houses sell for between 70,000 dollars and 80,000 dollars. The neighborhood has a playground, a beautiful park, and a local elementary school. Residential densities are in the range of five to eight dwelling units per acre. Many of the approximately 3,000 students at Hamline University live in the student dormitories and the residential district immediately adjacent to campus that is bounded by the rail corridor and Energy Park. The Hamline District engages tightly in a lattice to the University Avenue corridor to the south. The chief aim of planning and designing for transit here would be to augment current efforts to tune the balance.



Typical residential neighborhoods near Hamline University.



Hamline Park is on the corridor near high density housing and important services at intersections.

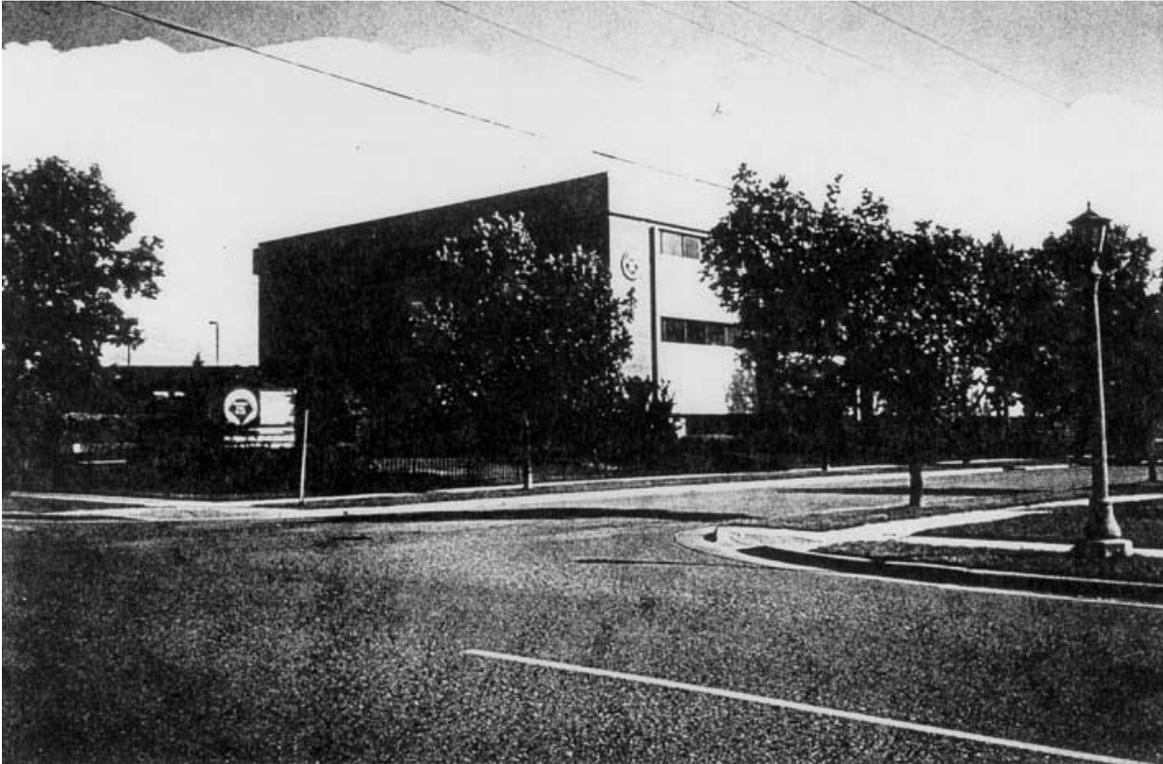
Neighborhood Issues and Improvements

The problems in this neighborhood district relate to standard neighborhood stabilization issues. Many of these issues were raised in the 1978-79 planning and urban design efforts embodied in the District 11 plan. Some of the physical improvements recommended in that plan have been executed and the residential character of the neighborhood has improved. In the wake of dramatic land usage changes such as the closing and demolition of the Samaritan Hospital, there has been new residential townhouse infill on the site. The newer medical office building nearby now houses a community center for the Hamline/Midway Coalition and neighborhood offices. Other activities include enhancing the Hancock Elementary school on Snelling and related community playground spaces; conserving and upgrading the housing stock, preserving mixed densities, encouraging mixed uses that serve the neighborhood on both Snelling and University Avenues, clustering commercial uses near Hamline and near the University Avenue intersection, and continuing the development of greater residential densities between the two nodes.

Some specific projects have included visually upgrading the streetscape on Snelling with new street trees, red grilles, and sign-like/fixed banners identifying the Hamline neighborhood. The Hamline Hotel has been reused by the Wilder Foundation for a single room occupancy residence for recovering alcoholics.

Some subtle but important changes to improve neighborhood spaces have not occurred. Burlington Pond park could still be acquired and connected over the tracks to Newell Park. Burlington Pond lies north of active tracks about six blocks from Snelling.

Reuses of buildings for community services in the Hamline neighborhood created important destinations for transit riders.



Hamline Park Place is a multi-tenant office building which houses the Hamline/Midway Coalition.



Wilder Foundation apartment building at Snelling Avenue and Charles Street was once the Hamline Hotel.

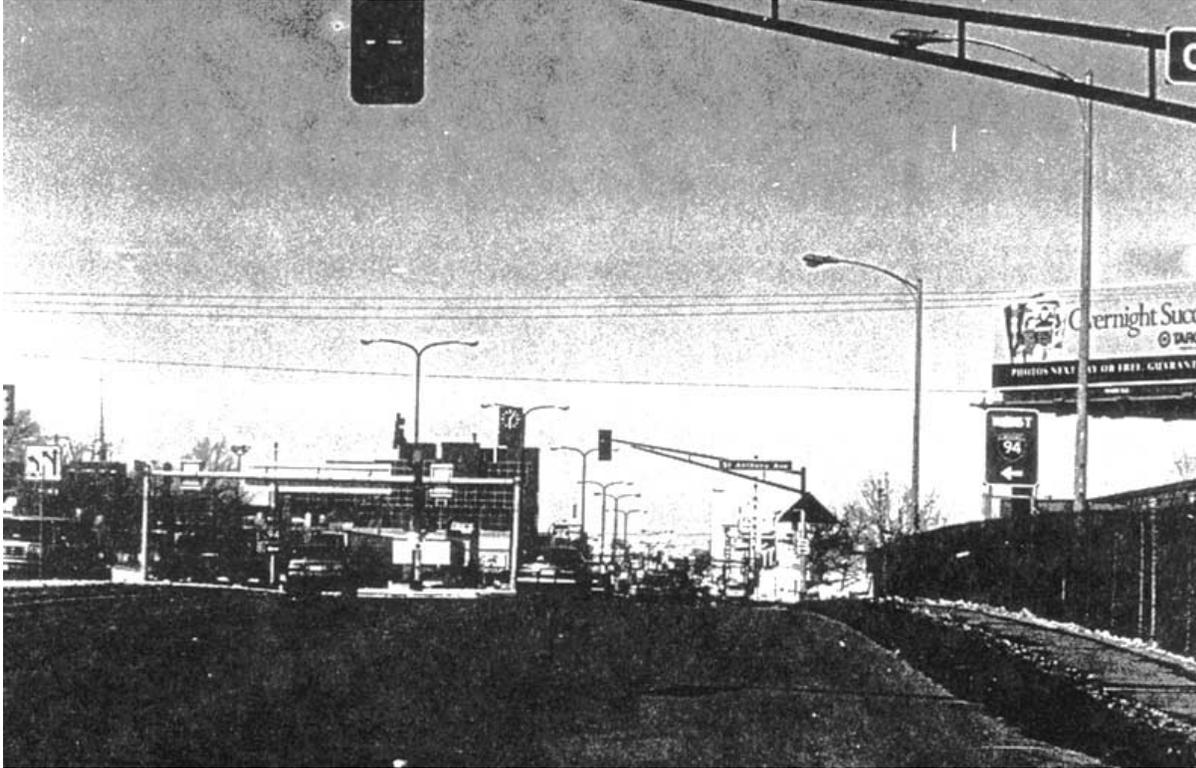
Transit-Friendly Streetscape Strategies

Since much of the streetscape work advocated in the late 1970s has already occurred on Snelling, the key provision here is the creation of better quality and well-located bus waiting areas. Better bus shelters are needed for Hamline students, staff, and faculty. The Englewood and Hewitt Avenue corners are the best candidates.

The commercial node at Minnehaha presents an opportunity to develop a community-scaled shopping and service destination on a major corridor to the St. Paul East Side.



Potential transit stop on Snelling Avenue at Hamline campus and Hancock school.



Highly exposed, unprotected transit stop on Snelling Avenue at Interstate 94.



Underdeveloped and underutilized parcels and buildings lie north of the I-94 corridor.

6. New Midway Regional Jobs and Retail Center: Transfer Point and Destination

Regional Position

The name “Midway” signifies this district’s historic position halfway between the Twin Cities that have generated the east-west pattern of growth in the metropolitan area. This central position was realized as a major transit hub and a center for warehousing operations. Today, however, Midway also occupies a middle position between the growth that occurs to the south and the north.

Diagrammatically or abstractly, the Snelling transit line represents this newer pattern; one of its routes travels from mall to mall—Rosedale to Mall of America.

Changing Land Uses

The decline of the historic land uses in the Midway has created a uniquely large parcel that has spurred its recent redevelopment as a shopping center. Recognition of this central position has led to the construction of a new 12 million dollar Midway Marketplace addition to the Midway Shopping Center on the old Montgomery Ward warehouse site. Much of this development was assisted through public funding, especially through tax incremental financing, assistance for cleanup of contamination, and subsidy of structured parking. Over 650 construction jobs were created and a half million square feet of leasehold space was built. An estimated 2,000 jobs will be created at the completion of the project.

Suburban Form in the City

Like many such projects of the 1970s and 1980s, this one attempts to bring successful car-oriented suburban models into the heart of the city. One important, negative result has been the creation of an area of the city that is very unfriendly to pedestrians and transit operation, in spite of the desirability of destinations within the center.

Potential Transit Destination

Currently Midway is served by the 16A route on University Avenue, the strongest route in the MCTO's transit system, and the 4, the major north-south route in the eastern part of the metro region. The construction of a proposed light rail transit line will make the Midway a regional east-west transit connection and possibly a regional destination. It will be the logical complement to the metropolitan transfer point at University and Snelling. The opportunity latent in making a major regional transfer point is to develop the Midway as a regional destination served by two types of transit: bus service on Snelling and University and LRT on the I-94 right-of-way.

Regional Lattice: the I-94 Interchange, LRT Transfer and the New Midway Air Rights Office Building

The proposed new air rights office structure on the Snelling Bridge incorporates the transit transfer from bus to LRT. It links metropolitan routes and destinations for LRT with bus routes 4, 16, and potentially the 21. The bridge becomes a core of a new regional job center. The auto-oriented functions of the cross roads are maintained but de-emphasized in favor of transit. This job center could also serve nearby districts along revitalized University Avenue with provision of a pedestrian- and transit-oriented space while accommodating through auto traffic.

In this model, the LRT serves the big connections from St. Paul to University Avenue and perhaps replaces the automobile for some trips. The 16 will serve the short hop, segmented ridership.

The design needs legible glass portals that serve the multiple functions of bus stops at the entrance, passage through the structure, access to retail and service, and to other office-oriented jobs. The scale of the building should meet the existing fabric and then step down to allow the walkways to go above traffic. The walkways are daylit and have views to the outside. This design would also reuse the old car barn with a new additive structure and possibly create a park and ride.

The Opportunity

The planning opportunity is to provide a centrally located retail and service district in proximity to a new job center. The history of the district's land uses includes warehousing, manufacturing, retail, and service. Connections to medium- and high-density residential districts will be critical to the success of realizing this opportunity.

Design Objectives

Design that builds this connective tissue is critical to the plan's effectiveness. The design opportunity is to make a pedestrian friendly district with a pedestrian friendly edge that accepts the car-dominated zones but clarifies the hierarchies and makes recognizable gateways and crossings on the cross streets and other places of access between destinations, including transit stops. The principles below define the planning and design directions for sections of the district. Principal objectives include the establishment of a major regional transit hub, a job center, and an interchange at the LRT/I 94 crossing, a major metropolitan crossroads and gateway at University Avenue, and more localized opportunities on the other cross streets. These will strengthen the district as a destination.

University Avenue: Metropolitan Lattice

University Avenue is a major piece of the lattice structure. At Snelling it is both a crossroads and a destination. University Avenue can be transformed from a highway into a multi-modal boulevard or "parkway" that helps define the district as a dynamic mixed use area of the city. Street trees, amenities, and pedestrian-scaled lighting could change the spatial character of the street within an urban vocabulary. The redefinition of the street character is critical to rejuvenating the districts. It serves to redefine and re-energize the lattice structure served by Snelling. University needs to become a new kind of service and residential street so that it does not duplicate the through traffic carrying capacity function of I-94.

Mini-Node at University and Snelling

The establishment of a mini-node at University and Snelling can be a transfer station connecting St. Paul to the University of Minnesota. Spruce Tree Center can be used as a model that needs to be improved. It is successful in the marketplace, but it does not contribute as effectively as it might to a pedestrian-friendly/transit-friendly environment at this significant corner. The design of the mini node needs to accommodate the issues of bus waiting, turning movements, sightlines, and pedestrian crossings. Here is an opportunity to provide a bus transfer station that responds to Minnesota's challenging climate while providing opportunities for food, drink, newspapers, and services.

HealthEast/Midway Hospital Sub-District/Gateway

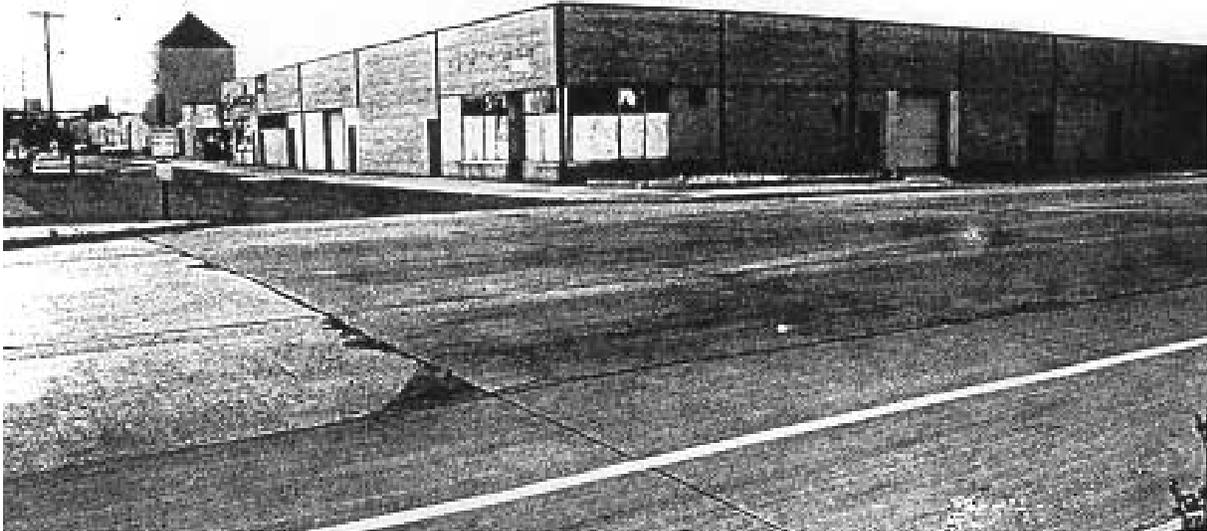
Currently the former Midway Hospital has a different character and is separate from the Power Center. The objective is to strengthen the sub district and its connections to the larger district. The chief problem is to energize the connections between the former hospital, the corner of University, the Snelling spine, and the retail centers east of Snelling.

Possible design strategies include improving access to the avenues by developing connective tissue and a gateway at Snelling. Strengthening the district is possible through redevelopment that adds housing density by renovation and new construction. This infill should be executed carefully and should be in scale with existing structures.

Midway Shopping Center and Midway Marketplace: The Old Center and the New Power Center

The superblock, suburban style, auto-oriented plan of Midway Shopping Center and Midway Marketplace are in need of better access for pedestrian and bus riding customers and employees. There are many problems with these environments as they currently exist. The Center and the Marketplace are separate islands in the city that do not relate well to each other—the Center turns its back on the Marketplace, and the Marketplace ignores the Center. There is no clear system in either area that is apparent to both pedestrians and drivers. Streets with sidewalks are missing from the design. Entrance roads barely line up with the rest of the street grid. Parking lots dominate; sidewalks are rare to non-existent.

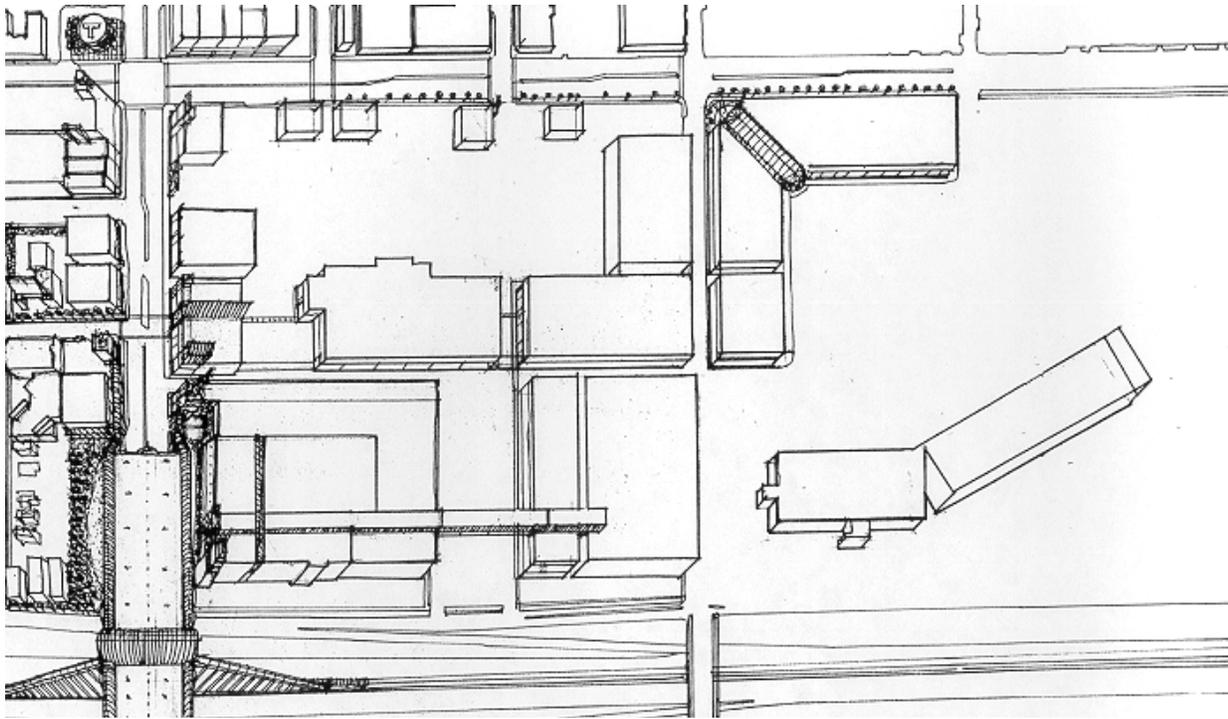
- The pedestrian environment needs to be improved at the edges and within the area. Fine-grained pedestrian gateways and edges need to be easily identifiable so that the crossings for pedestrian and transit riders are at the scale of and connected to neighboring lots and blocks. These crossings need to be brought to the same level of importance as auto crossings and gates. Gateways need to be made on Snelling that connect it to the shopping area. The internal structure of outdoor spaces of the Center need to connect with the Marketplace and to Snelling.
- The Midway could become an interesting destination in the city with additional development opportunities instead of a suburban island dominated by parking lots if a new street was created in the area. Making a pedestrian-oriented street running parallel to University Avenue from Pascal to Snelling that could extend to Hamline Avenue offers many advantages. In addition to accommodating cars and people with a clearly understood system and linking the Marketplace with the Center, the character of the area would change. City scale would be returned to the area. This new spine could provide a lively “main street” environment that vitalizes and orders the heart of the retail district.
- Transit access to the area could be improved by bringing Route 21 through the middle of the area parallel to University on the new main street. This new loop on an existing route could be a catalyst for making a new pedestrian-oriented street that ties the Midway Center and the Midway Marketplace together and defines a new place for people at the heart of the Midway retail area. Route 4 on Snelling and route 16 on University should be preserved and enhanced by making a transit/hub/stop on University and Snelling in the old savings and loan building.



View of existing conditions of rear facade of old Midway Center.

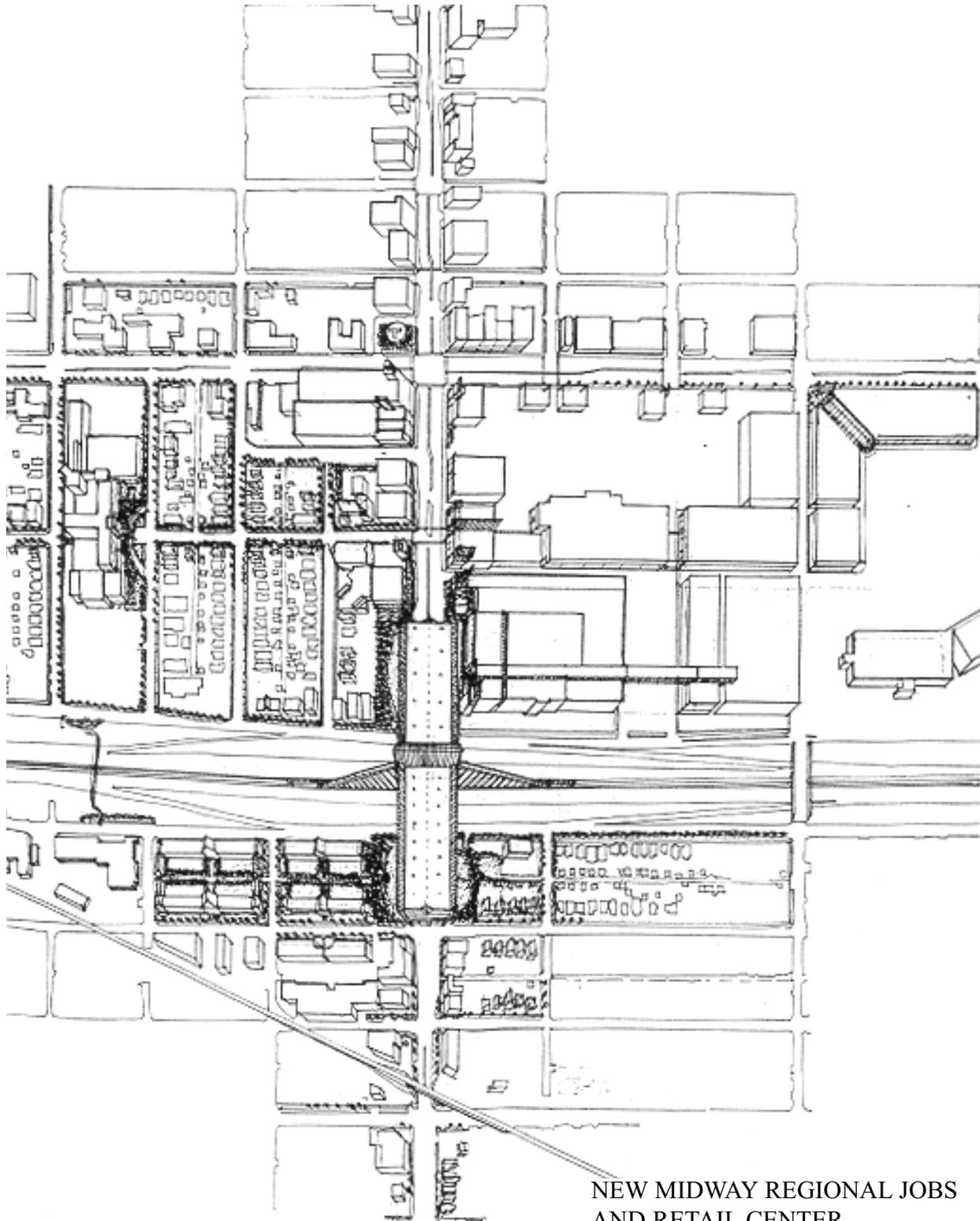


View to new Wards site and Power Center.



THE TRANSIT-FRIENDLY CENTER
The Snelling Corridor

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NEW MIDWAY REGIONAL JOBS
AND RETAIL CENTER
Transfer Point and Destination

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EXISTING CONDITIONS AT SNELLING AND I-94
View from Selby Node.

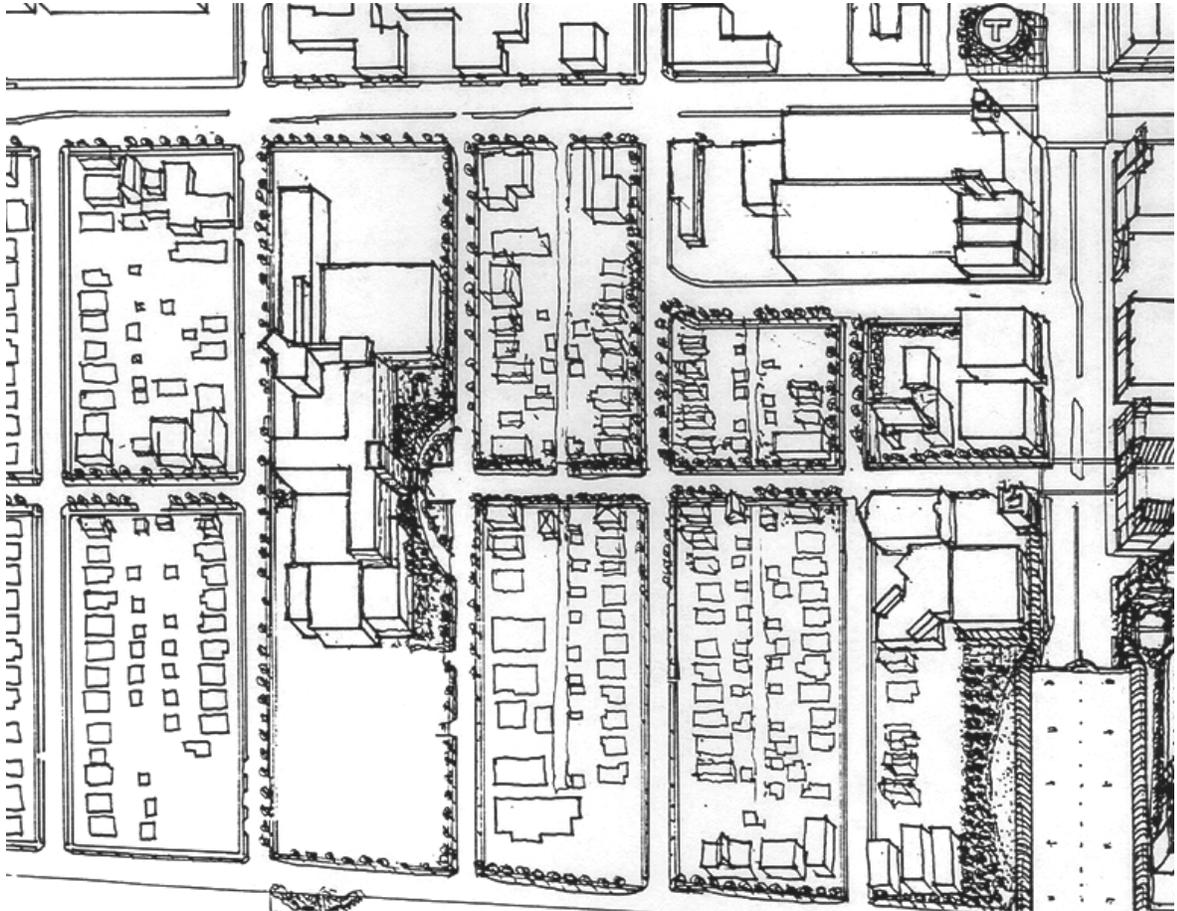


MIDWAY REGIONAL JOBS AND RETAIL CENTER
Proposed improvement at Snelling and I-94, view from Selby Node.

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Current conditions of the former Midway Hospital, now HealthEast medical office building.



Enhanced HealthEast Medical Office Building (former Midway Hospital) sub district.

7. Marshall Avenue Intersection

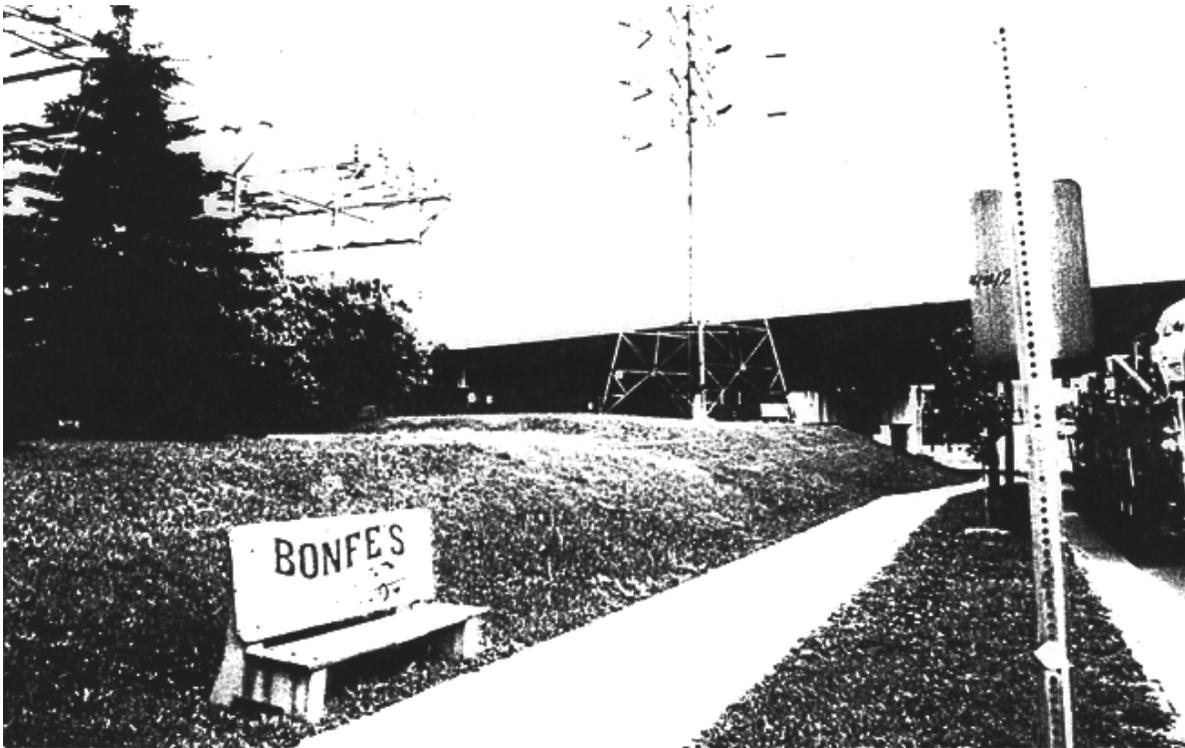
New Viaduct, New Space

Replacing the old railroad viaduct with the new one has changed both the nature of this intersection and of Marshall Avenue. The old railroad viaduct dominated the intersection with its dark, looming, constrictive presence for many years. Its narrow sidewalks and passages for cars were discontinuous with Snelling. The viaduct functioned as a gateway that separated the north and south areas.

Today things are much improved because the new viaduct has a wide span that no longer constricts the pedestrian environment. The new openness makes the area under the railroad tracks less formidable to the pedestrian, and there is a visual connection between the areas north and south of the viaduct. The pedestrian environment could be further improved, however. There are sightline problems under the viaduct related to grades and the speed of the cars going downhill. The pedestrian friendliness could be improved by enhancing the texture of the streetscape to the north and to the south of the viaduct. This could be accomplished by the addition of new retail and mixed use infill, street trees to create green walls, pedestrian scale street lights at transformer and other sites, and pedestrian amenities such as benches and trash receptacles.



Businesses and services such as Garden of Eva are potential models for infill development between Marshall and I-94.



Transit stop north of Selby near transformers. No pedestrian scale amenities, shade trees, or commercial services in this zone.



View looking north on Snelling at Marshall Avenue viaduct. Transit rider walking south to reach Selby shelter.



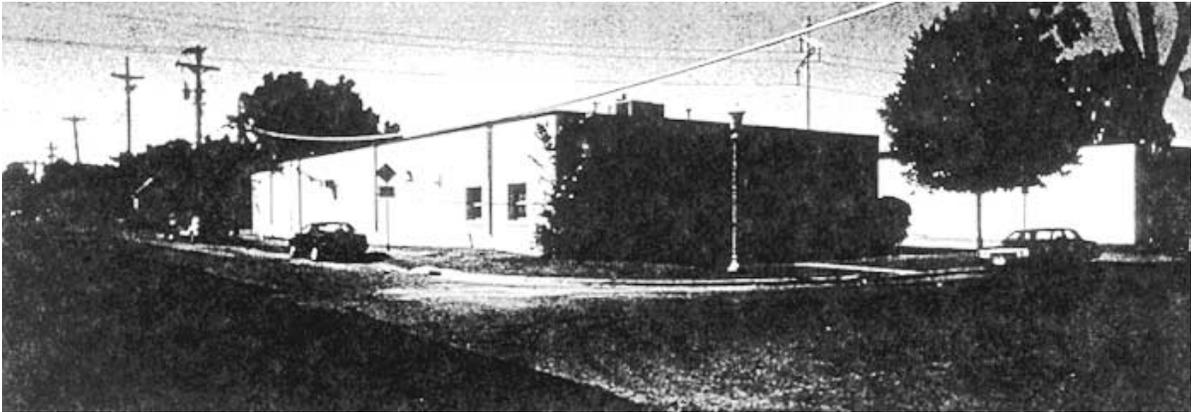
Transit stop along Snelling Avenue at Merriam Park Neighborhood with railroad viaduct at Marshall Street in distance.



A social service agency, "The Family Tree," reuses the Richard Gordon School building.

Making a Connection to Merriam Park

Merriam Park, the solid residential neighborhood to the west of Snelling, is oddly separate from Snelling. The railroad viaduct that diagonally crosses Snelling at Marshall is a real barrier. Merriam Park needs a front door on Snelling at Marshall to reconnect the neighborhood to the city. A gateway could be made by improving the lighting for pedestrians, creating better pedestrian crossings, and carefully infilling the under-utilized triangular space at the intersection.



Several small industrial and commercial businesses located at Carroll Street, including the Minnesota Genealogical Library and the Computing Company. At the intersection of Snelling Avenue is Cooperative Planting.



Total Tool located on Pierce Street.

8. Selby/Snelling Node: Enhancing the Small District

A Neighborhood Node

The Snelling/Selby area is surrounded by strong residential neighborhoods. This intersection is marked by a well-developed, compact node of commercial buildings that include a bank, a bar and restaurant, coffee shops, neighborhood commercial services, and a popular local workout center. Following the directives of a study conducted in 1978 by Saint Paul's Department of Planning and Economic Development, much attention has been paid to the streetscape of this area. Recently the corners have been bumped out to shorten street crossings. Street trees, pedestrian-scale lighting, and pavers give the sidewalks a pleasant appearance. Most of the older (1910s to 1930s) buildings were sensitively refurbished and are currently well maintained.



The city, neighborhoods, and business owners have worked together to refurbish the public realm at the Selby/Snelling Node.



Redevelopment of existing commercial and mixed-use structures stimulates transit use at the Selby corner.



The Selby corner is the transfer point for the Route 21 bus line.

Planning and Economic Development’s Recommendations

The 1993 Selby/Snelling Small Area Plan updated the recommendations of the 1978 plan. This plan recognizes the value of a mix of residential and commercial land uses along Snelling and Selby. It recognizes that the zoning in the area generally reflects the existing situation and that minor re-zonings may be needed to keep the mix in balance. This mix helps to support transit, including buses and future light rail. Area businesses are encouraged to promote carpooling and transit to reduce traffic volumes and the need for more parking spaces. Careful attention has also been paid to pedestrian amenities, especially street trees, awnings on buildings, traffic “bumpouts,” and reductions of curb cuts at strip malls. Historic street furniture and lights have been recommended to replace existing modern globes.



Existing standard transit shelter on Snelling Avenue at Dayton Avenue.

Opportunity for Infill

This rather small commercial district is contained on the east by the old route of the short line railroad along the Ayd Mill Road right of way. For much of its length Ayd Mill travels below the grade of the rest of the city street grid, but at Selby and at Hamline it meets the existing grade.

Consequently, Selby Avenue crosses Ayd Mill and the railroad on a recently rebuilt high bridge. Ayd Mill may eventually provide a parkway edge on the east, but regardless of its future, the grade separation of Selby and Ayd Mill limits growth of the pedestrian-oriented node in this direction.

However, if Ayd Mill were to become a parkway, it would be an opportunity to develop a new neighborhood of medium- and high-density residential units with pedestrian and bike connections to the major street system and to the Selby corner.



Existing standard transit shelter on Snelling Avenue near Selby Avenue.

Improving Transit Visibility and Ridership

Although the Selby/Lake Line is a strong intercity line that intersects Snelling at Marshall and goes north to the Midway Center, it is not anticipated that Marshall and Snelling could become a major transfer point because of the neighborhood nature of this intersection.

The bar and restaurant is a popular destination for area college students, which contributes significantly to the parking problems and neighborhood conflicts. These problems could be reduced if more students took the bus in the evening. Transit visibility could be improved by making the bus shelters on Snelling more inviting, more a part of the character of the node, perhaps integrating them into one of the coffee shops.



Multiple unit apartment buildings dot the neighborhood near Selby.



Neighborhood bar and restaurant is a popular destination for resident college students, but parking is a problem.

9. Snelling At Summit: A Small Chute on an Important Greenway

Summit Avenue is a parkway that connects the Cathedral of Saint Paul to the Mississippi River. The most important and most historically significant residential street in Saint Paul, there should be no bus stops at this intersection. Bus stops should be on Grand Avenue.



View of Summit Avenue looking south from the intersection with Snelling Avenue showing the tree-lined parkway.

10. Snelling At Grand: Macalester Corner

A Strong Connection

The Grand Avenue line is one of the strongest bus lines in the city because it connects many residential neighborhoods to downtown. Grand Avenue merchants hope that more residents will use the bus to reach destinations along Grand Avenue itself, thereby relieving the parking problems caused by the spectacular success of the shops on Grand. In addition to the Grand Avenue line and Grand Avenue itself, the intersection of Snelling and Grand Avenues provides an opportunity to link a college, a small commercial area, and strong residential neighborhoods to the Snelling Corridor.



Enhance pedestrian space at corner to relate pedestrian uses east of the campus on Grand Avenue.

Bus Shelters for Minnesota’s Climate

The shelters are glass-roofed structures that are visually permeable while providing shelter from the dramatic extremes that characterize Minnesota weather. Easily maintained and developed at the scale of large entrance canopies, the shelter structures are intended to complement Macalester's red-brick collegiate architectural image.



Existing transit shelter on Grand Avenue at Macalester College.



Transit stop on Snelling Avenue, north of Grand Avenue.



Transit stop on Snelling Avenue, south of Grand Avenue.

Making a Community Gateway on Grand

This design for the western corners of the Snelling and Grand intersections provides courts that function both as entrances to the Macalester College campus and as transit-waiting areas. These outdoor courts anchor the intersection and make a gateway to the college's precinct along Grand. This design also makes a community gateway connecting Macalester to the city.

By providing this most basic level of physical connection between the surrounding community and the college, the improved bus waiting courts and shelters humanize the space of the street. The courts also provide an important civic meeting space for faculty, students, administrators, and the public. Positioned near the student center and local coffee shops and restaurants, they have the potential as gathering places of chance or planned meetings with coffee and friends. This design extends the campus community into the larger community which provides common grounds in a campus precinct that demonstrate the outreach and commitment to multiple voices that have characterized the college's educational mission.

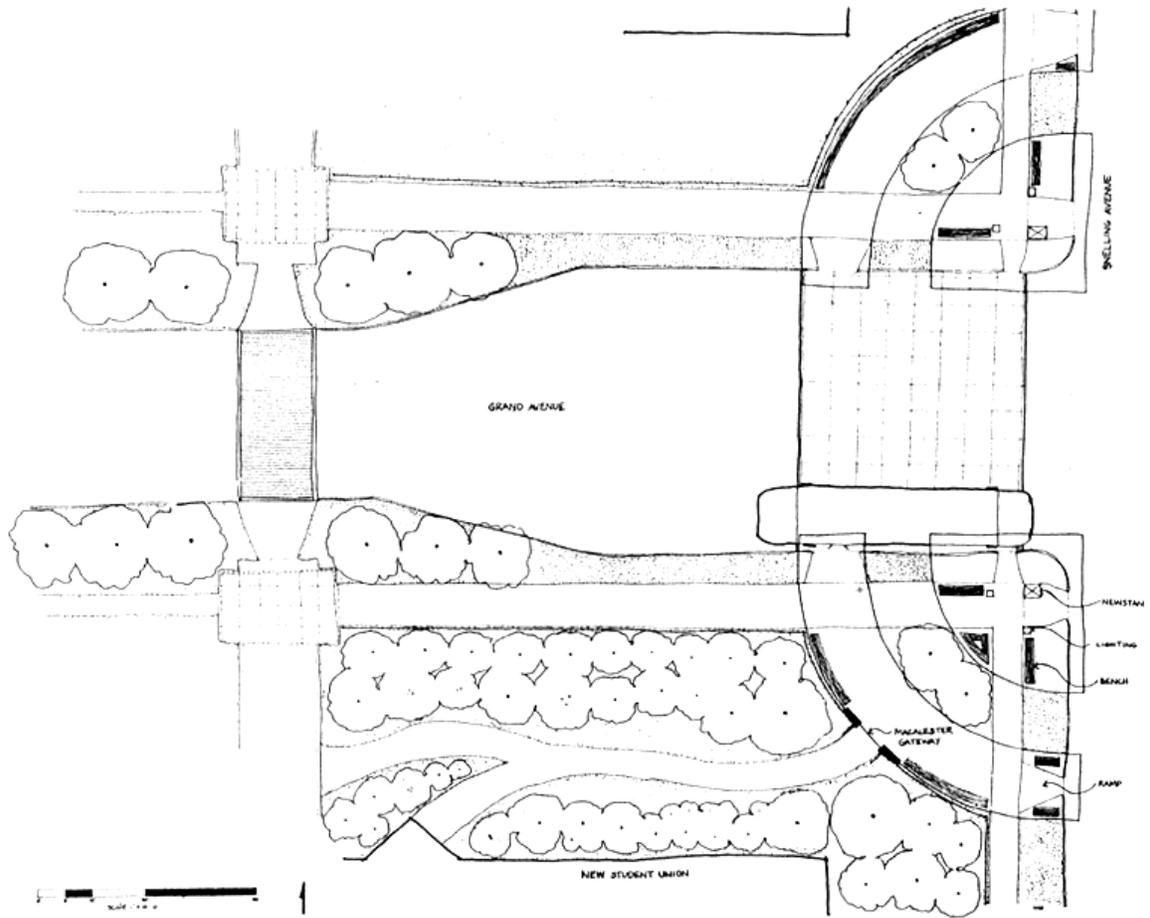
Making Walking and Waiting for Buses Pleasant

Recent critiques of Minneapolis and St. Paul have suggested that walking in our cities is a negative experience. These courts are intended to give significant space that recasts the pedestrian experience in the city and to reverse the adversarial relationship that often exists between pedestrians and cars.

The courts are intimately scaled urban spaces that are also used for bus-waiting. The courts and the pedestrian crossing areas are paved with brick and the larger area of the crossing are paved with another kind of material such as Belgian block, granite, or concrete pavers to slow traffic. This technique, called traffic calming, is intended to slow traffic, increase visual richness, and provide auditory clues, thereby informing drivers that they are entering a pedestrian-dominated zone. The design solves the perennial problem of mid-block crossings on Grand by slowing drivers through the intersection and by moving a large portion of crossing activity to the corner.

Improve Campus Access to Transit

Access to transit from Macalester could be improved by providing direct access to campus at intersections and providing secondary access between the gym, Kirk Hall, the new field house, and the new student union.



NEW MACALESTER GATEWAY
at Grand and Snelling

Center for Transportation Studies
Department of Landscape Architecture
University of Minnesota

11. Randolph Avenue Small Node

Bus Line as Connector to Schools

Route 14, the Randolph Avenue line located in Highland Park, is a principal metropolitan educational corridor. It provides bus access to the College of St. Catherine campus, St. Paul Academy Upper School Campus, and Cretin Derham Hall High School. These educational destinations create a huge peak-hour transfer situation on the corner of Snelling and Randolph.

Trends

Because Randolph is also one of the principal access streets to I-35E, it has experienced increased levels of traffic. This traffic may put pressure on the single-family owners on or close to the freeway entry. As housing stock on Randolph ages, infill may include more mixed uses and commercial development. We must take care to protect adjacent neighborhoods.

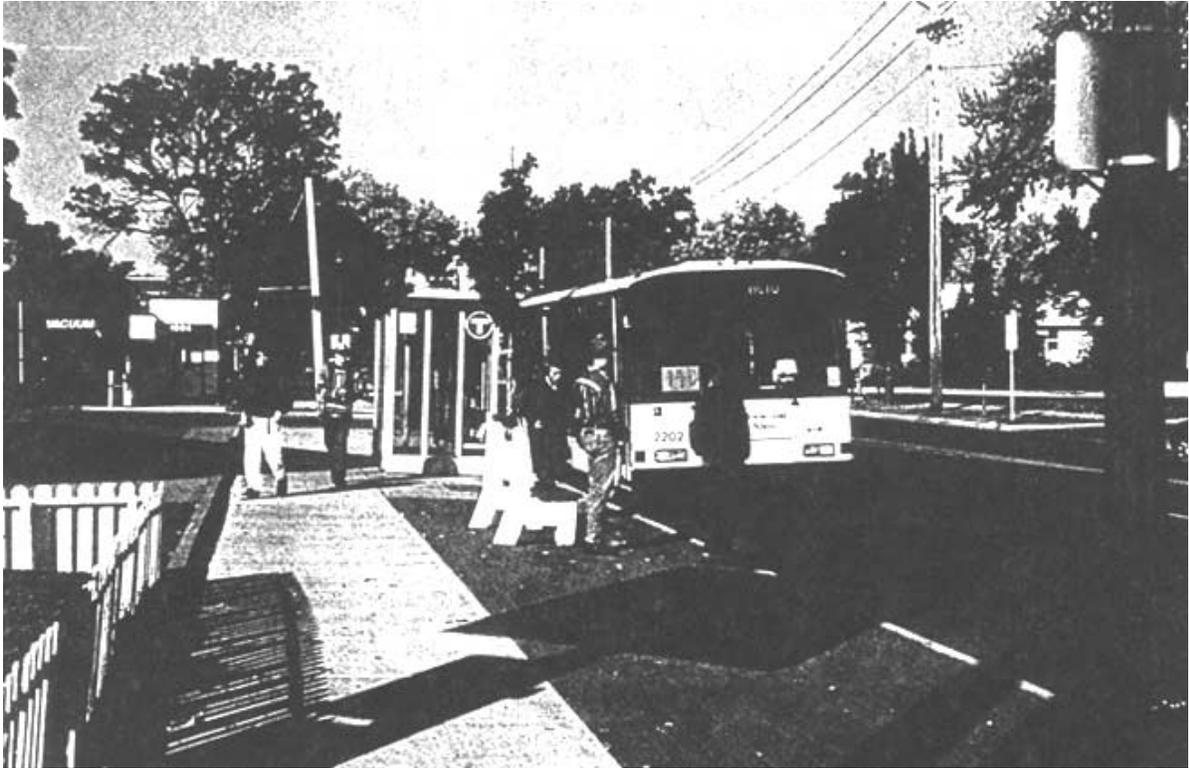
Another trend along Snelling is the southward stretch of the commercial node at Randolph toward the heart of Highland and the Ford Parkway corner. Unfortunately, not all of this conversion to commercial services has occurred with transit in mind.

Immediate Needs

While long term plans might pay attention to these large trends, the immediate need is for improved shelters on the Randolph corner.



Transit stop at the intersection of Snelling and Randolph Avenues.



Many students transfer at Randolph.



Transit stop on Randolph.

12. Highland Park High School Terminus / Ford Parkway Turn

Route 4 is Several Routes

Currently the southern terminus of Route 4 on Snelling Avenue is not a profoundly recognizable place in the city. At the southern end of the Route 4, Snelling Avenue narrows from a four-lane metropolitan boulevard into a winding neighborhood street. Buses do not navigate this steep part of the street. Instead the dispersed urban fabric of the southern part of the route has engendered three different subroutes of the 4: the 4G and the 4J turn off Snelling at Ford Parkway and terminate at Mall of America while the 4B goes to Highland Park High School. Several other subroutes serve special destinations. The 4D goes to two major employment centers, the Veterans' Administration Hospital and the Government Services Administration building across the Mississippi River in Minneapolis. The 4U, which had been operating on Energy Park Drive, goes to Mall of America, a major employment, retail, and entertainment destination.

Highland Center Bus Stops

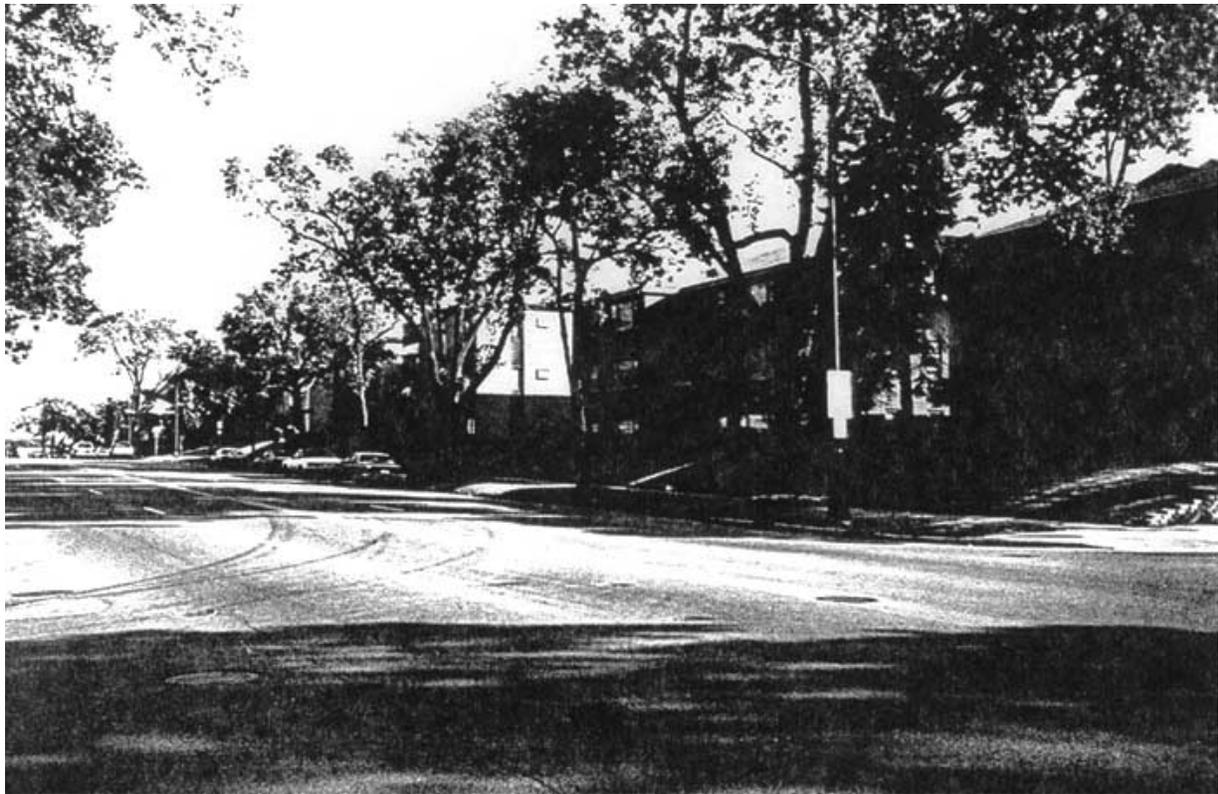
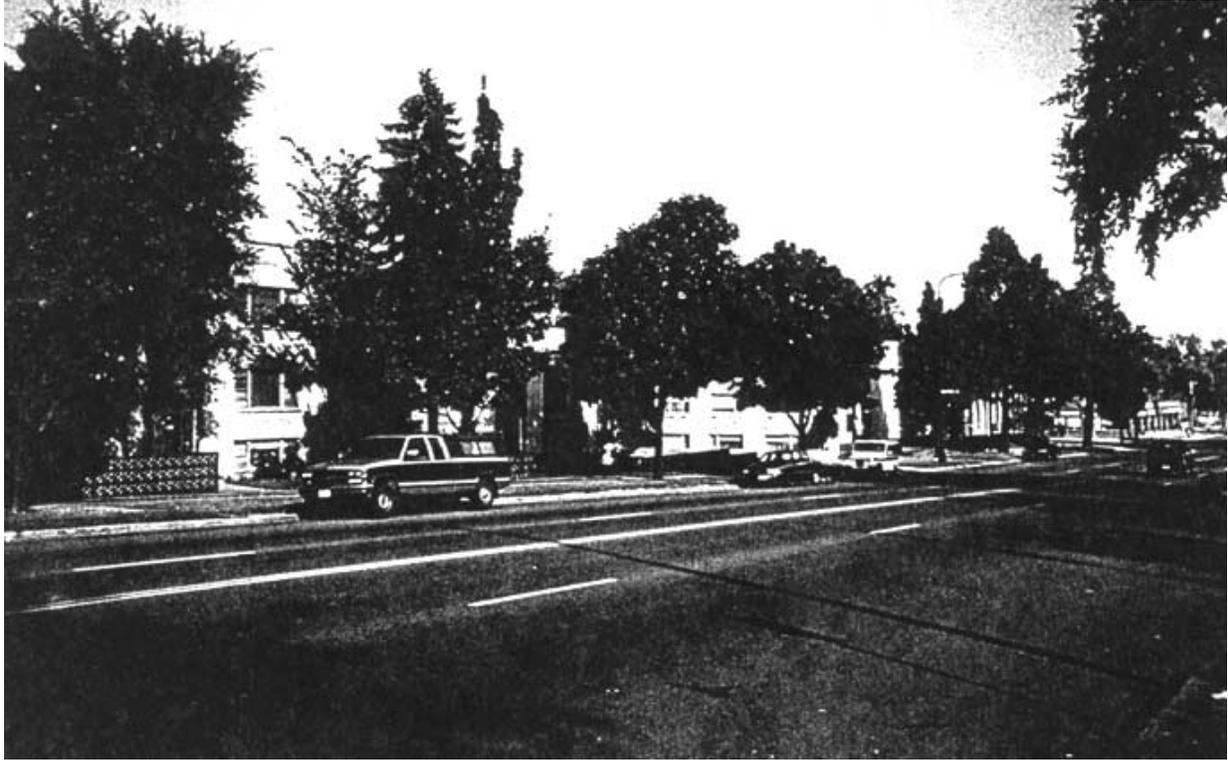
Bus service has been dramatically expanded to Highland Center at Cleveland and Ford Parkway. Essentially a hub without layover spaces, this commercial center finds the nexus of the 38th Street bus from Minneapolis; the Route 20 from the Longfellow neighborhood, the 10 from St. Clair Avenue, the 7 that runs along Cleveland, the 14 from Randolph Avenue, and the Route 9 from West 7th Street as well as the 4G and 4J. Larger shelters are also needed for the hub at Cleveland and Ford since buses do not make their layovers there and the presence of transit needs special design considerations due to unease about its presence in the retail zone.

Increase Transit Legibility

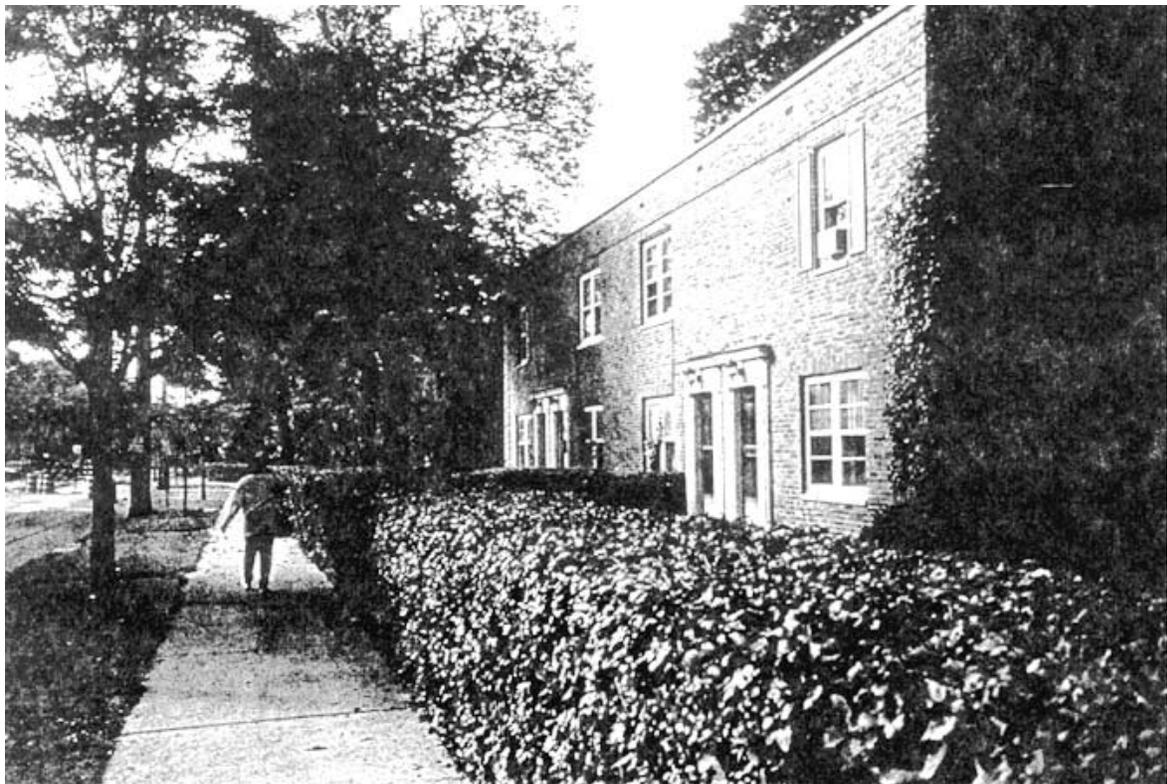
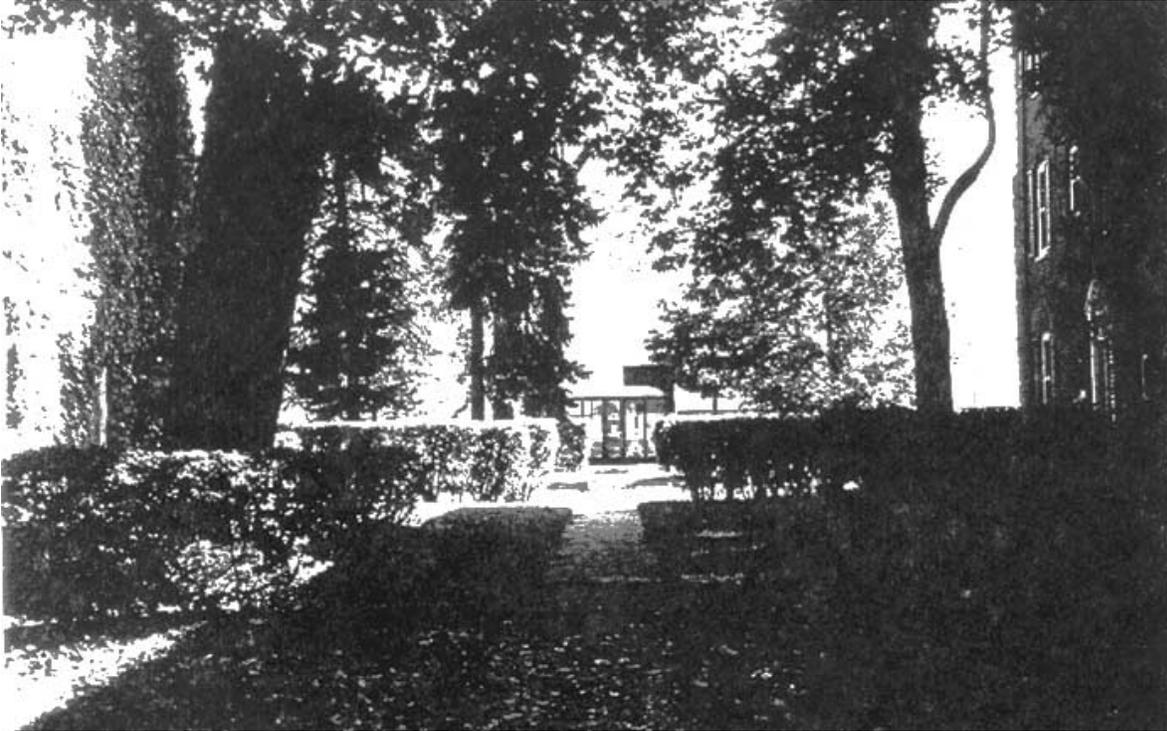
To the extent that there are pre-existing termini of the route, a more recognizable, economical, and comfortable system should be provided. The two prominent points of destination or transfer are the Ford Parkway intersection and the Highland Park High School stop.

The Ford Parkway Stop

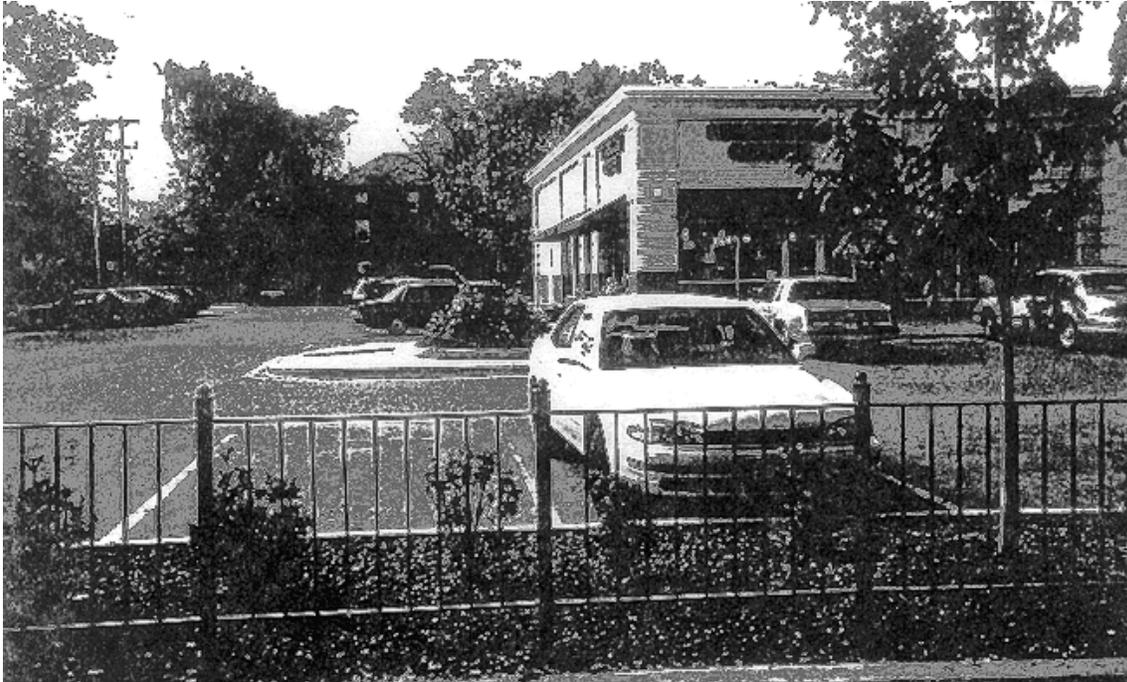
This area could be improved by making the Ford Parkway stop into a much more recognizable stop with a potential turnaround that would allow riders to immediately transfer to a shopping circulator service that serves the growing transit hub at Highland Center at Cleveland and Ford Parkway. Most buses would continue on to the Davern/Sibley Plaza area where ridership is strong. At Ford Parkway the "transfer station" would wrap around the northwest corner of the intersection (Z type shelter as at Grand Avenue).



Ford Parkway is dominated by multi-family residential dwellings.



Highland Village, just off Ford Parkway, provides models for high density residential design and pedestrian/transit connectivity.



The redevelopment of Highland Center has created not only pedestrian amenities in the street, but also parking.

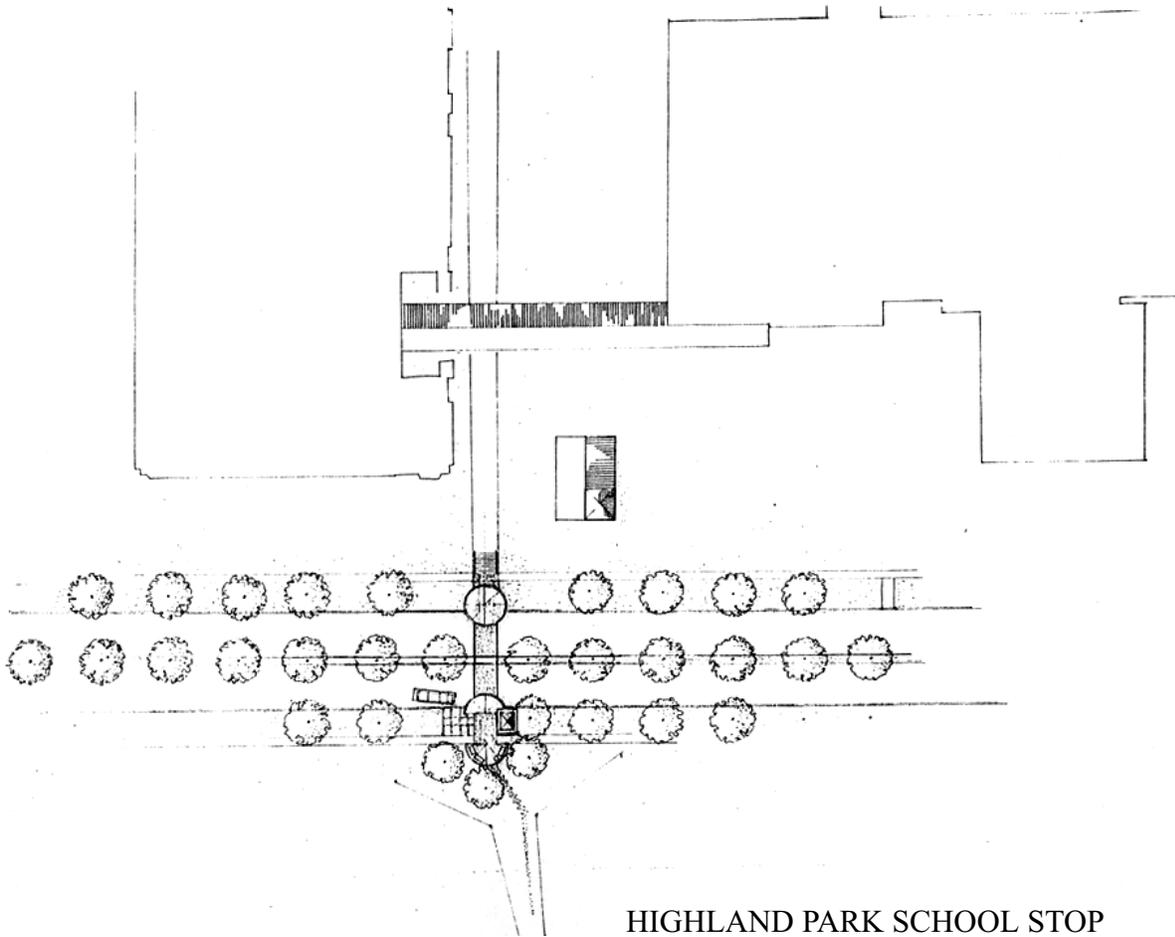


The Highland Junior High and High School Stop

School service buses that are scheduled according to demand would make the turnaround at Edgecumbe. Most students take non-MCTO school buses to Highland Park Jr. High and High School, but some students take MCTO, eventually connecting with the Route 4. The current shelter near the turnaround would be moved to create a larger sheltered waiting area on the athletic fields mid-block between Montreal and Edgecumbe.



Existing conditions near potential transit stop at Highland Park High and Junior High School.



HIGHLAND PARK SCHOOL STOP
The Snelling Corridor

Center for Transportation Studies
Department of Landscape Architecture
University of Minnesota

SUMMARY: DESIGN STRATEGIES FOR SNELLING AVENUE

CAR-DOMINATED CORRIDOR TO MULTI-MODAL TRANSIT CORRIDOR

This study recommends changing Snelling Avenue from a car-dominated environment to an identifiable armature that accommodates the needs of transit users while still serving as an important artery for cars and trucks. The transformation of the Snelling Corridor into a multi-modal street could be designed by:

- identifying compatible redevelopment opportunities,
- recommending transit-friendly adaptations of circulation,
- encouraging building patterns that support the Snelling Corridor as an identifiable civic street, and
- providing enhancement to the public armature through design.

A MULTI-SCALE APPROACH

The central design strategies must operate across the scales of the immediate site, the district, the city, and the metropolitan area.

IMPLEMENTATION STRATEGY

This study recommends changing Snelling Avenue incrementally over time when the opportunities to do so can be created.



State fairground buildings directly on Snelling Avenue and high speed limits have made that part of the corridor difficult to adapt to transit. The bus route does not follow Snelling currently in this area.



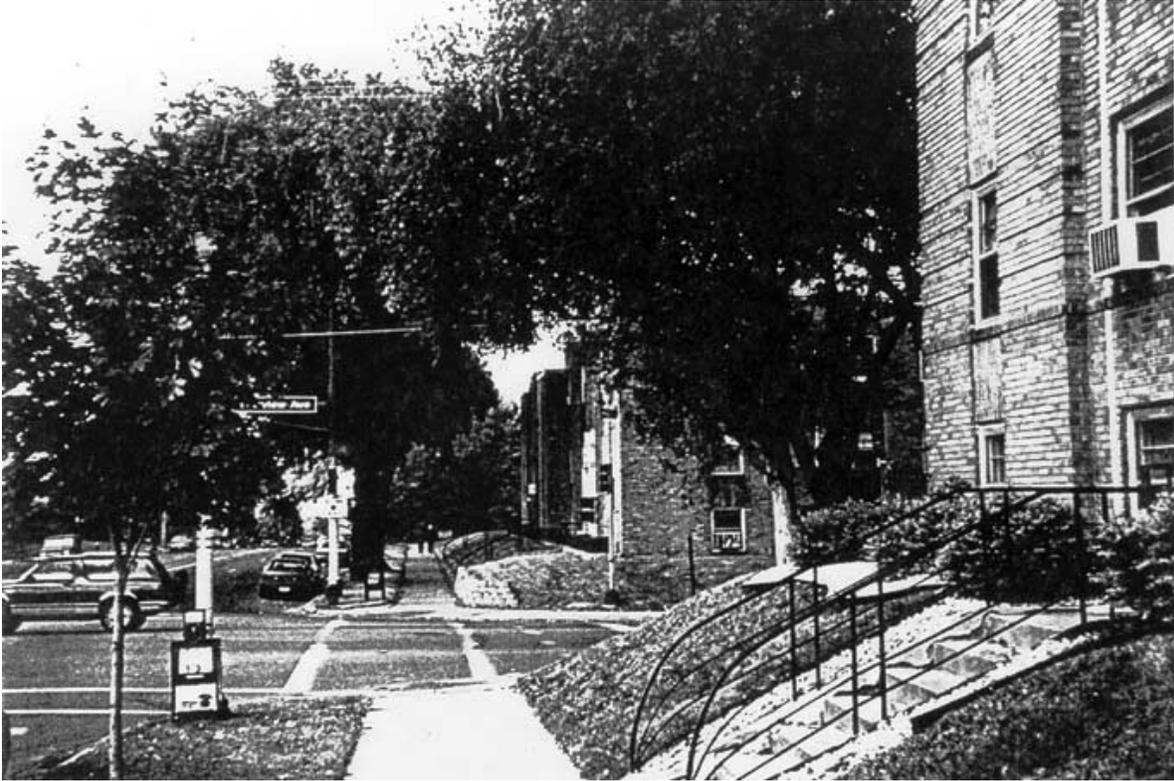
Pedestrian amenities such as seating, street trees, well-designed sidewalks, and “bump outs” at corners enhance transit vicinity.



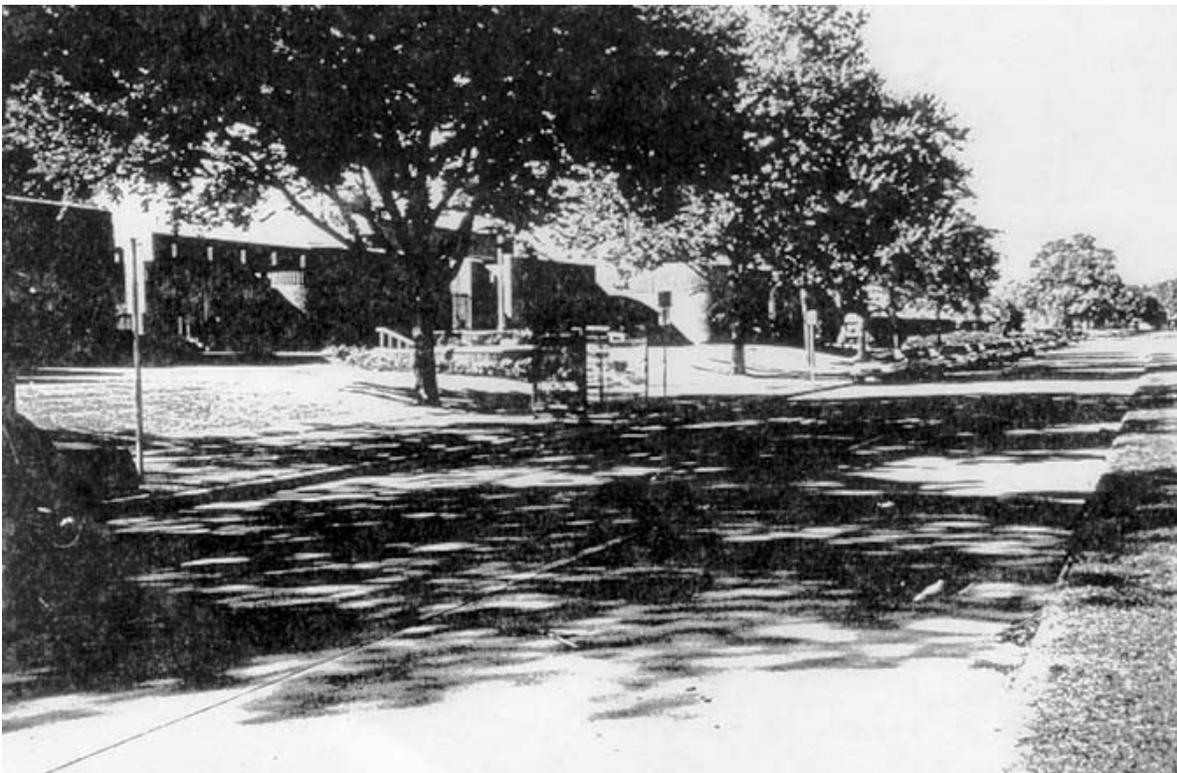
Elderly people and children need better pedestrian amenities, traffic controls, and “bump outs” at intersections.



Street trees, pedestrian scale lighting, traffic controls, street furniture, and “bump outs” complement the uses of these buildings on Snelling Avenue near Selby.



High density residential streets can be strong transit streets with basic pedestrian amenities.



The transit-lattice must extend to important community service destinations.