

UNIVERSITY OF MINNESOTA



CENTER FOR TRANSPORTATION STUDIES

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

**St. Paul Central Corridor Study:  
Pierce Butler Industrial Redevelopment Parkway**

**Prepared by:**

Lance Neckar • James Pettinari • Mary Vogel

Maureen Casey • Michael Jischke

DEPARTMENT OF LANDSCAPE ARCHITECTURE

**CTS 03-08**

# St. Paul Central Corridor Study: Pierce Butler Industrial Redevelopment Plan

**Written by:**

*Lance M. Neckar*

*James Pettinari*

*Mary Vogel*

**With research assistants:**

*Maureen Casey*

*Michael Jischke*

Department of Landscape Architecture  
College of Architecture and Landscape Architecture  
University of Minnesota

**July 2003**

Published by:

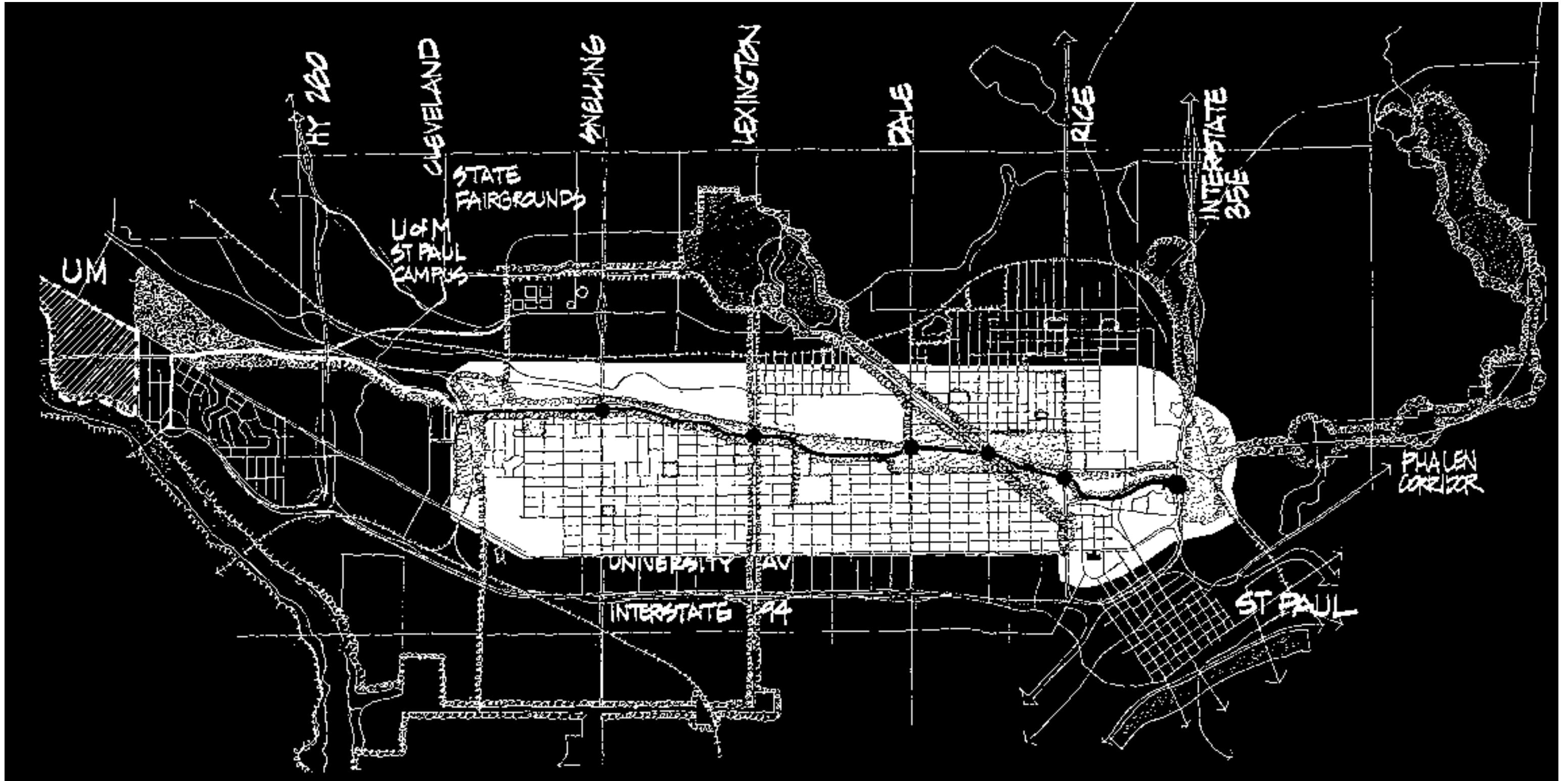
Center for Transportation Studies  
200 Transportation and Safety Building  
511 Washington Avenue SE  
Minneapolis, MN 55455

CTS 03-08

### Technical Report Documentation Page

1. Report No. CTS 03-08	2.	3. Recipient's Accession No.	
4. Title and Subtitle Pierce Butler Industrial Redevelopment Parkway		5. Report Date July 2003 6. Report URL, if available	
7. Author(s) Lance Neckar, James Pettinari, Mary Vogel		8. Performing Organization Report No.	
9. Performing Organization Name and Address Department of Landscape Architecture College of Architecture and Landscape Architecture University of Minnesota 144 Architecture Building; 89 Church St. SE Minneapolis, Minnesota 55455		10. Project/Task/Work Unit No. 1997040	
12. Sponsoring Organization Name and Address Center for Transportation Studies University of Minnesota 200 Transportation & Safety Building 511 Washington Ave SE Minneapolis, Minnesota 55455		11. Contract (C) or Grant (G) No. (C) (G)	
15. Supplementary Notes		13. Type of Report and Period Covered Final Report	
16. Abstract (Limit: 200 words)  At present, development in the St. Paul Central Corridor is occurring piecemeal and lacks an integrative vision. This study's aim was to devise design approaches that create a district which integrates light industrial job creation and retention with the incorporation of a permanent, value-added public open space armature that performs multiple functions with the ability to adapt to changes in employment. The development of an industrial parkway district along the Pierce Butler route in the corridor would create a linear redevelopment district in the heart of St. Paul. The research team will work in conjunction with public policymakers and planners to establish general goals for the corridor to guide future development of infrastructure, neighborhoods, and specific sites.		14. Sponsoring Agency Code	
17. Document Analysis/Descriptors Industrial areas Redevelopment Brownfields		18. Availability Statement No restrictions. Document available from: National Technical Information Services, Springfield, Virginia 22161	
19. Security Class (this report)  Unclassified	20. Security Class (this page)  Unclassified	21. No. of Pages  18	22. Price

# PIERCE BUTLER INDUSTRIAL REDEVELOPMENT PARKWAY



# ACKNOWLEDGEMENTS



*The Great Northern Railroad Corridor*

## **Written by:**

Lance Neckar  
James Pettinari  
Mary Vogel

## **With research assistants:**

Maureen Casey  
Michael Jischke

*The research team would like to acknowledge the counsel and help of the following people:*

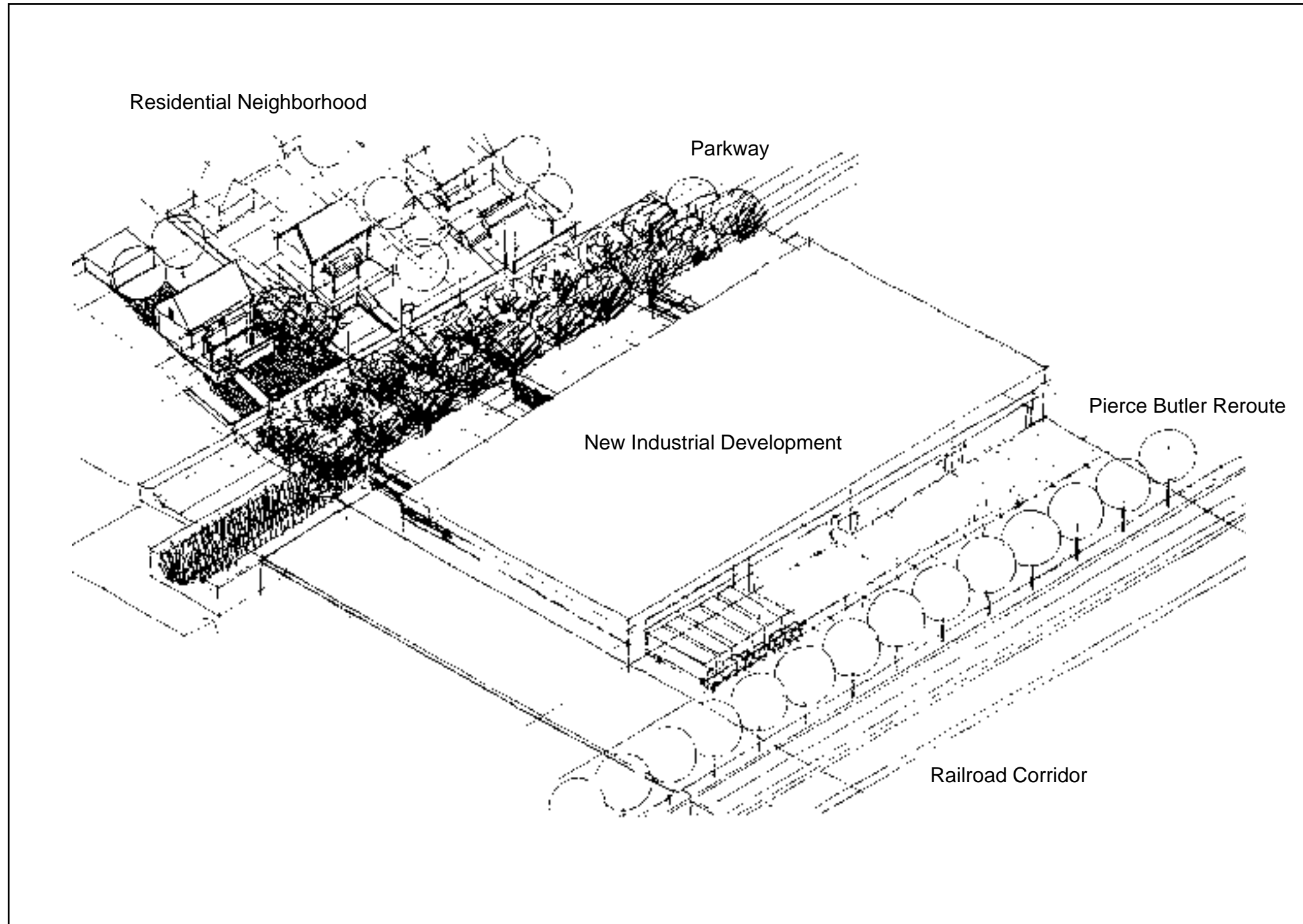
## **The CTS Advisory Group**

John Carmody  
Kathy DeSpieglaere  
Aaron Isaacs  
Karen Lyons  
Steve Mahowald  
Perry Plank  
Barb Quade  
Donald Ross  
Robert Sykes  
Al Tortenson  
Karl Weissenborn  
Charleen Zimmer

## **CTS Staff**

Laurie McGinnis, Project Coordinator

# CONTENTS



*The Green Scrubber Parkway - where adjacent neighborhoods meet proposed industrial redevelopment*

## **Executive Summary 1**

## **Introduction to the Area 2**

- Historical Background
- Current Development Patterns
- Contamination—Ground and Surface Water Interactions

## **Green Infrastructure 5**

- Public Space Redevelopment

## **Design Precedents and Potential Transformations 6**

- Suburban Models Transformed in the Urban Setting
- Building Siting and Street Definition
- Building Character - Breaking Down the "Big Box"

## **Subdivision, Zoning, and the Private Realm 9**

- Impact on the Built Environment

## **Industrial Redevelopment Zoning 10**

- Urban-scaled Rezoning
- Zoning Requirements

## **Bridgehead Development Potential 11**

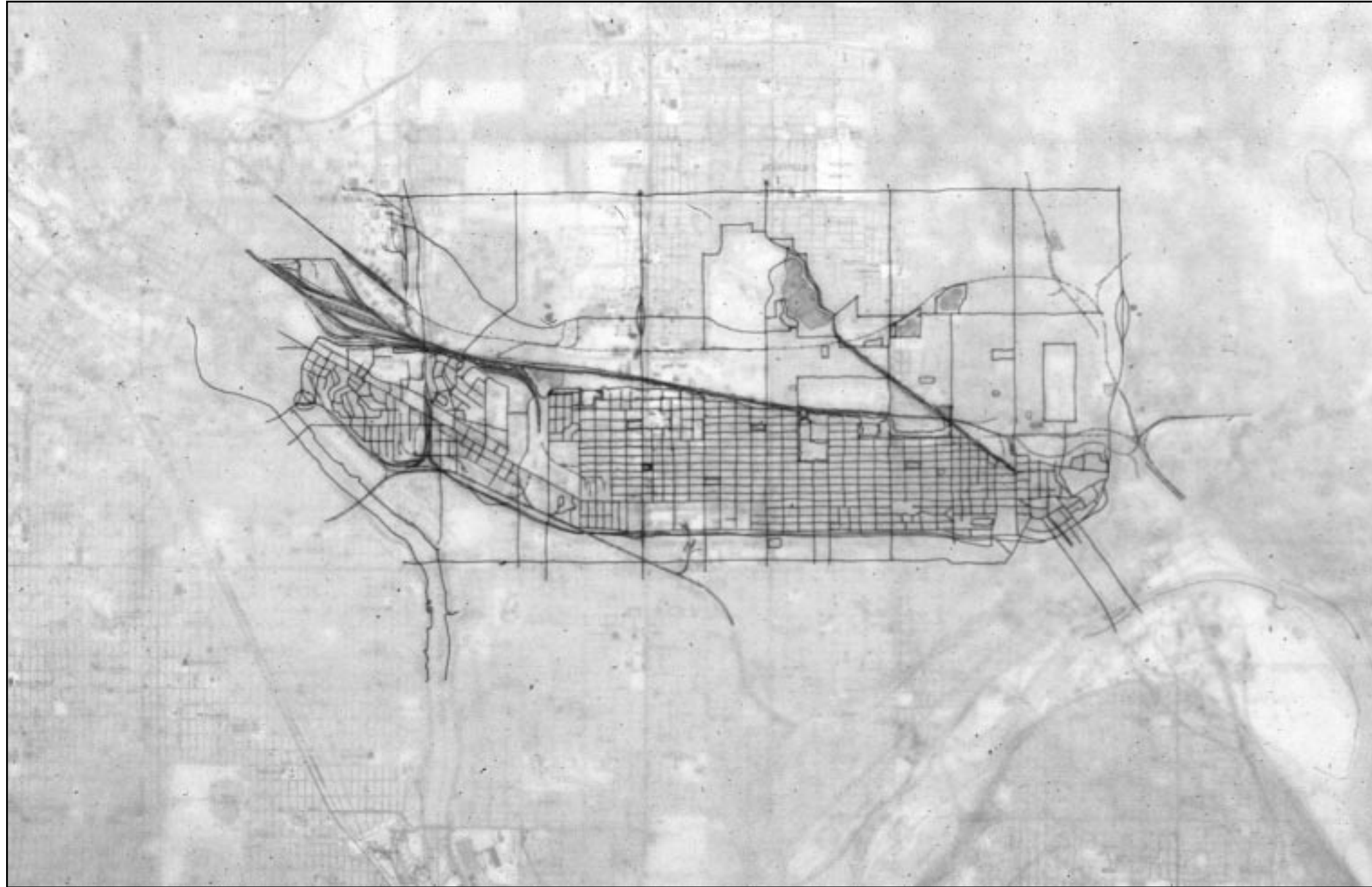
- Bridgehead Building Concept Introduction
- Snelling Avenue Crossing
- Lexington Avenue Crossing
- Dale Street Crossing
- Como/Western Avenue Crossing
- Rice Street Crossing

## **Pierce Butler Route Alternatives 17**

- Reducing Truck Traffic, Improving Neighborhood Livability

## **Future Directions for Research 18**

- Forward-Looking Planning and Design Strategies
- Study Across Different Landscape Scales



*Central Corridor street grid overlaid on USGS map reveals that there are few public open spaces between the Burlington Northern tracks and I-94, and also that Como Park is largely cut off from this sector of town.*

THE ST. PAUL CENTRAL CORRIDOR  
PIERCE BUTLER INDUSTRIAL REDEVELOPMENT PARKWAY

## Executive Summary

The development of an industrial parkway district along the Pierce Butler route in the Central Corridor would create a linear redevelopment district in the heart of St. Paul. The main objective of the planning and design approaches outlined here would be to create a district that integrates light industrial job creation and retention with the making of a permanent, value-added public open space armature.

This open space armature is designed to perform multiple functions and be adaptable to changes in employment strategies across the corridor and over time. The approach outlined coordinates brownfield redevelopment with the establishment of a permanent public linear recreational greenway. This greenway also acts as stormwater infrastructure. Stormwater runoff will be “scrubbed” in the open swales along its length. Value will be added to existing properties and new investments.

The design of the buildings afforded by the zoning changes recommended here would create a durable and flexible stock of buildings that could be similarly adaptable. New industrial building types would make better use of available land at the major north-south crossings of the corridor. They would also relate more integrally to surrounding neighborhoods and enhance the public realm.

### **Proposed Development Goals**

The Central Corridor redevelopment district could achieve eight significant goals in an integrative plan:

- **Neighborhood stabilization**
- **Job creation and diversification**
- **Reduced truck traffic in neighborhoods**
- **Recreational corridor development and connections**
- **Pedestrian environment enhancement**
- **Transit-oriented infill along critical bus routes and the rail corridor**
- **Integrated truck and rail connections**
- **Improved stormwater treatment**



Central Corridor - aerial photo (circa 1940)

Snelling Ave.

Lexington Ave.

## Historical Background

### ***Transportation's Impact***

Transportation systems have had a major impact on development patterns in this area of the city. The Great Northern Railroad tracks have defined the St. Paul Central Corridor for over 100 years. Rail transportation systems have sliced neighborhoods into thin sectors in a roughly radial pattern north of downtown St. Paul and the Mississippi River. The construction of highways and the interstate system have hardened the edges of these thinned sectors, often adding non-compatible land uses. These interventions exacerbated the fragmentation of what was once a reasonably cohesive district.

### ***The Railroad Grant and Platting***

The Great Northern Railroad was granted its right of way prior to 1859, the year in which it appears on a map drawn by W. F. Duffy, the surveyor for the County of Ramsey. Platting of the area south of the rail corridor was complete by the turn of the century, although some buildout occurred later. The platting provided a virtually uninterrupted grid in this part of the city from the rail corridor south to what would be the northern edge of the Highland Park district, then in Reserve Township. This relentless gridiron insured a uniformity of development that also precluded the development of parks or parkways. This pattern is well illustrated in the USGS mapping done of the city at the turn of the nineteenth and twentieth centuries.

### ***Early Industrial Uses***

Gravel operations dotted the lands granted to the Great Northern and the Northern Pacific Railroads. Large areas of the area that is now the Energy Park Corridor were similarly mined.

### ***The Pierce Butler Route***

In the 1950s the Pierce Butler Route was built between the rail corridor and the neighborhoods to serve truck traffic between Fairview Avenue and Minnehaha Avenue at Dale Street. The route was named in honor of Pierce Butler, a Minnesotan who served on the U.S. Supreme Court.

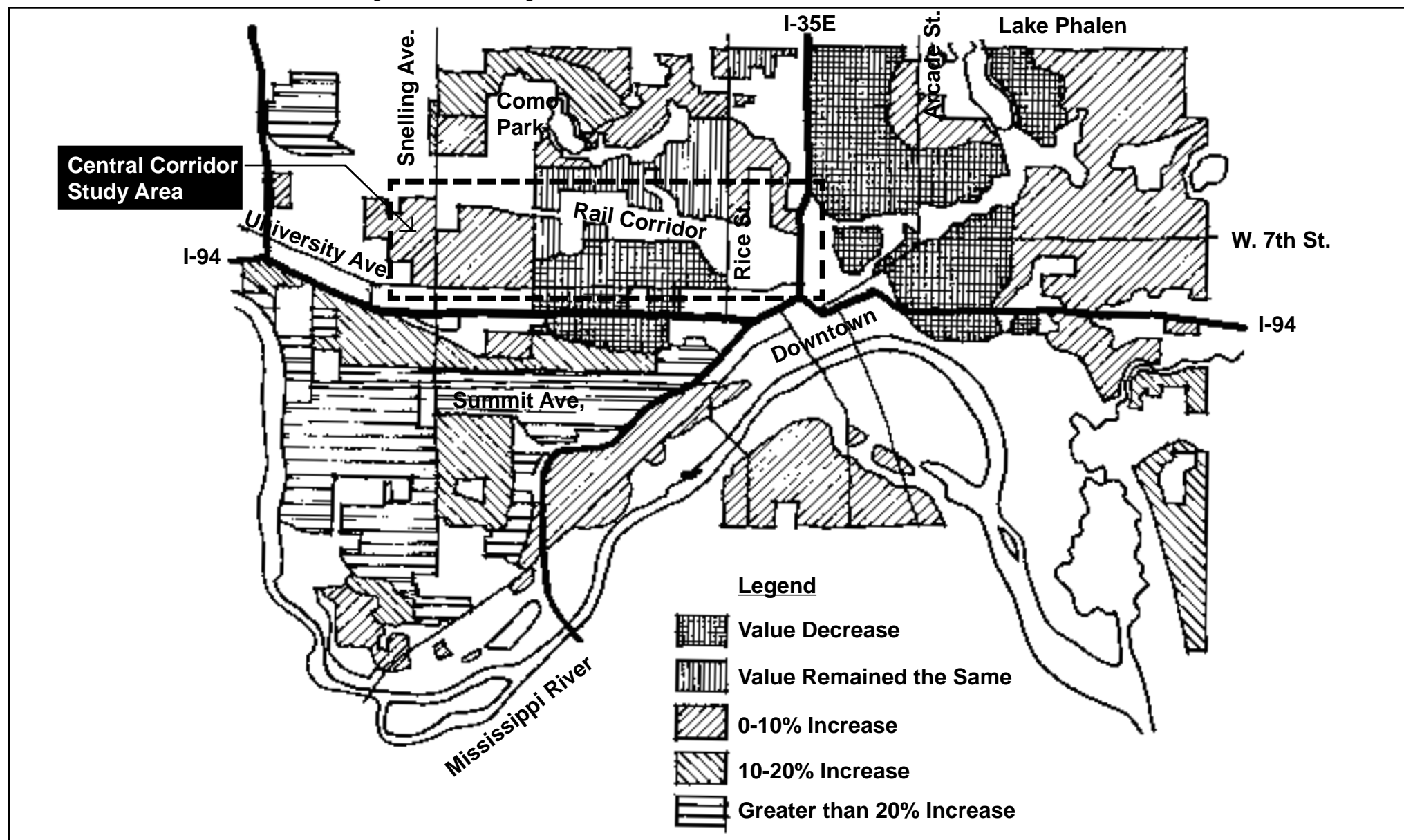
### ***University Avenue and the Intervention of I-94***

On its southern edge, the early twentieth century development of University Avenue had created a seam of job and commercial opportunities. In the 1960s the I-94 Corridor was completed. This new transportation corridor interrupted the grid that had been a continuous fabric to University Avenue from the north and south.





Pierce Butler Route, seen from the Lexington Avenue bridge



St. Paul Housing Values Map (1992-1996)

## Current Development Patterns

### *The Impact of Current Development Policies*

The current condition manifests the many periods of development along the corridor, overlaid by the most recent impacts of the widening of streets and suburban style subdivision and zoning standards. The effect has been to make a district with a hodge-podge of buildings and fast-moving vehicles of all scales and types.

### *The Changing Nature of Industry*

Current land use in the corridor reflects the changing nature of industry, namely its increasing reliance on trucks and the highway system. Running east-west through the center of the district, the Burlington Northern rail line still carries freight regionally but has few linkages with businesses located within the district. Instead, a band of industrial land uses has developed along the limited-access Pierce Butler Route. These land uses rely on the truck transport the band made possible. The current industrial use is fragmented and has imposed generally incompatible relationships on adjacent neighborhoods.

### *Disconnection from Recreational Places*

In general, few neighborhood parks serve this area. Neighborhoods north of the corridor are within relative close proximity to Como Park, a large regional park. Unfortunately, access to Como Park from the neighborhoods south of the rail corridor is hindered by the design of the major north-south roadways and the limited number of bridges over the tracks. The five bridges—Snelling, Lexington, Rice, Dale, and Western—are arterial or heavily traveled collectors. For the most part, these major roads are auto-oriented and intimidating to pedestrians and bicyclists.

### *Devalued Housing Stock*

In general, housing stock is a mix of late-nineteenth century and early-twentieth century buildings. Much of this stock is of frame construction. As seen in the map at left, it is maintaining value in its best-maintained sectors.



*Brownfield site, seen from Dale Street bridge*

## Contamination—Ground and Surface Water Interactions

### ***A Historically Low-lying and Wet Area***

The corridor is located on an outwash plain, dotted with small ponds and underlaid with gravel deposits. These are areas that are critical for aquifer recharge. Early twentieth century USGS maps show a pattern of marshes and small ponds in the area that is now developed largely for industrial, commercial, and residential uses. For example, the area where the Minnehaha Mall is located, at the intersection of Pierce Butler Route and Chatsworth Street, is shown on some earlier maps as a pond. Also, the large pond currently at the western terminus of Pierce Butler is shown on most maps as a pond or marsh complex.

### ***Issues of Concern***

There are three major issues of concern related to soils, water quality, and contamination in the corridor as follows.

#### ***1. Industrial Brownfields***

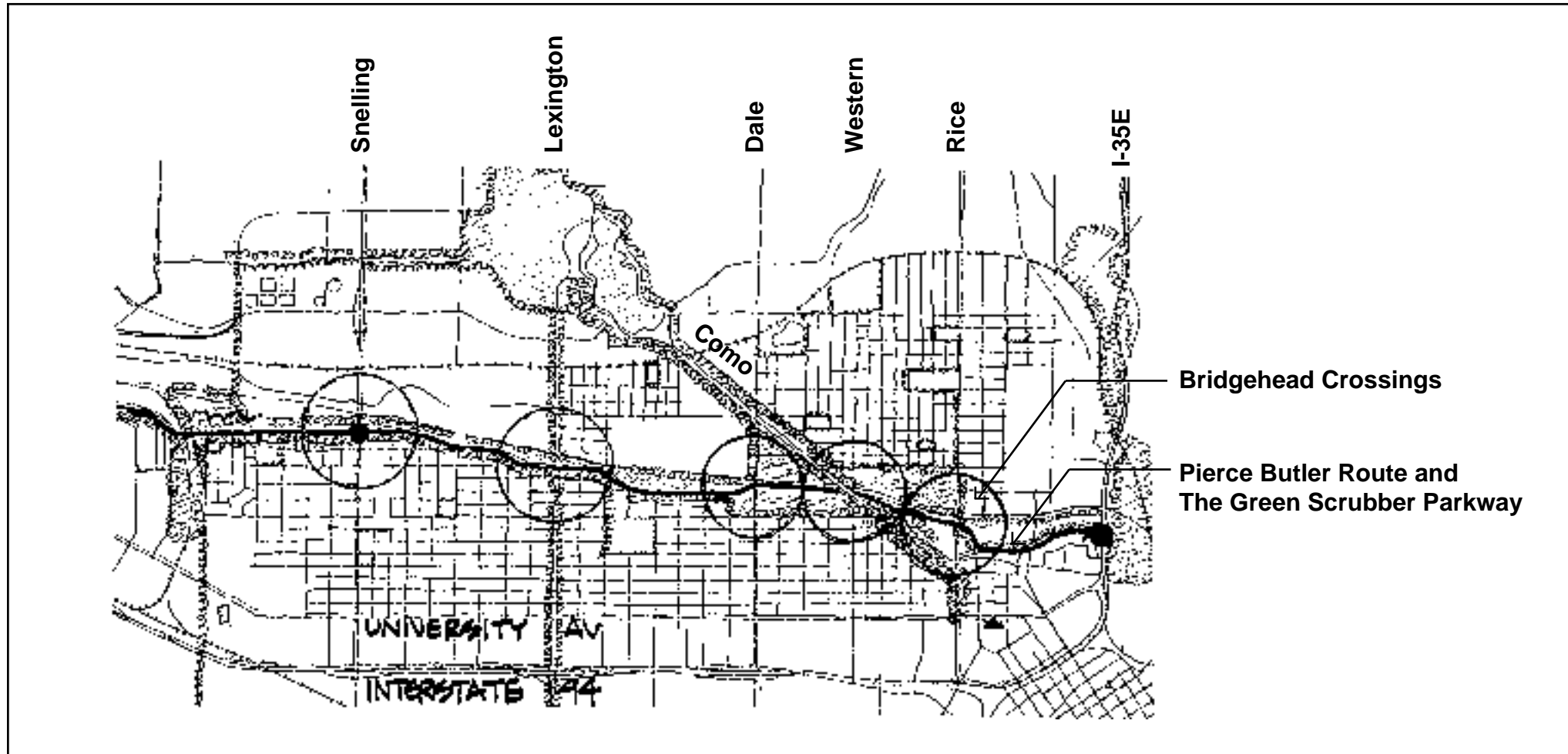
Many of the sites owned by the Great Northern Railroad (now BNSF) had been used for large-scale gravel operations in the early twentieth century. These sites have been re-filled, and used for yards. Hence they have become, by definition, brownfields. These brownfields are unusual in that they contain contaminated soils of various origins that overlay groundwater resources.

#### ***2. Impervious Surfaces and Run-off***

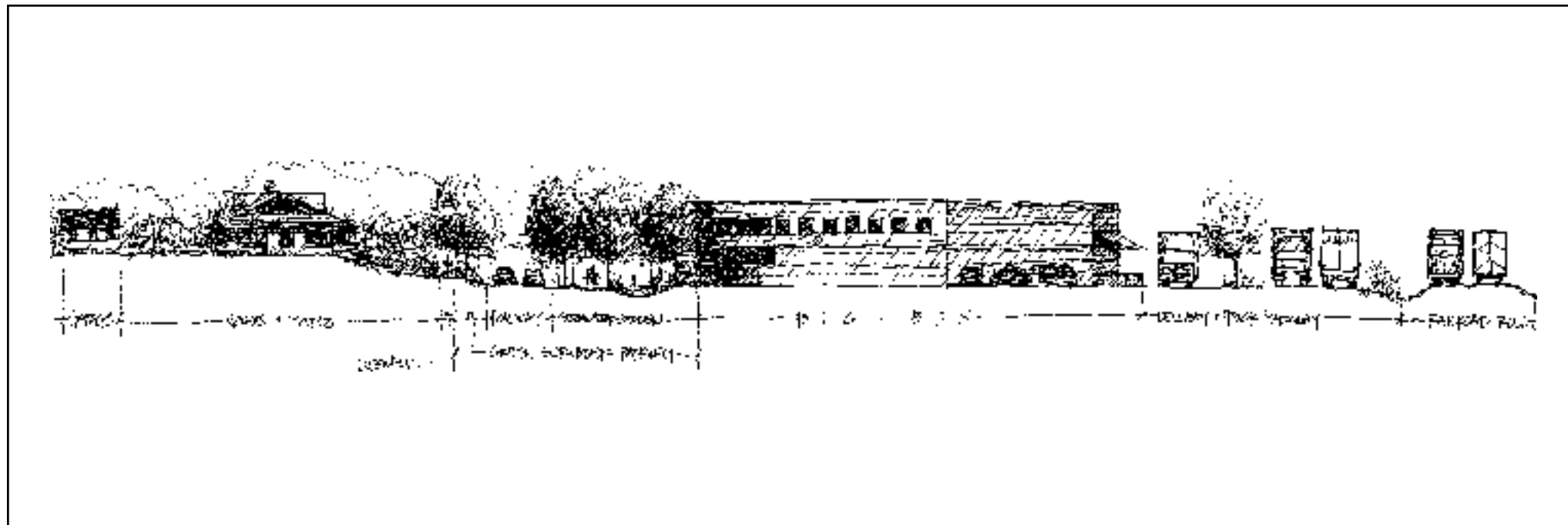
While the soils are exceptionally stable in many areas for construction purposes, current development has created large areas of impervious surface in parking and service areas. Polluted run-off from such areas negatively impacts local groundwater quality. This problem suggests that limited development occur in some areas where groundwater recharge potential is high.

#### ***3. Daylighted Groundwater***

In some cases the groundwater is daylighted, i.e., at the surface. This condition increases the groundwater supply's susceptibility to contamination.



Green Scrubber Parkway



The Green Scrubber Parkway becomes the interface between residential neighborhoods and new industrial development

**Public Space Redevelopment**

**The Twin Cities' Parkway Systems**

The concept of connective parkways is mythically tied to the quality of life and the civic identity of Twin Cities residents. St. Paul's parkways, though less legibly tied to natural systems than those in Minneapolis, have nevertheless established an armature of stable residential neighborhoods characterized by sustained reinvestment by middle-income people.

**Available Right-of-Way**

When the Pierce Butler Route was created, the acquisition of right-of-way created largely unused green spaces. Some of these green areas are mounded as "berms" intended to "buffer" the neighborhood from the truck traffic that dominates the Pierce Butler Route. Reorganization of the space of the right-of-way could provide the opportunity for a parkway that is integrally linked to both existing neighborhoods and new industrial development.

**The Green Scrubber Parkway**

**Added Value to Neighborhoods**

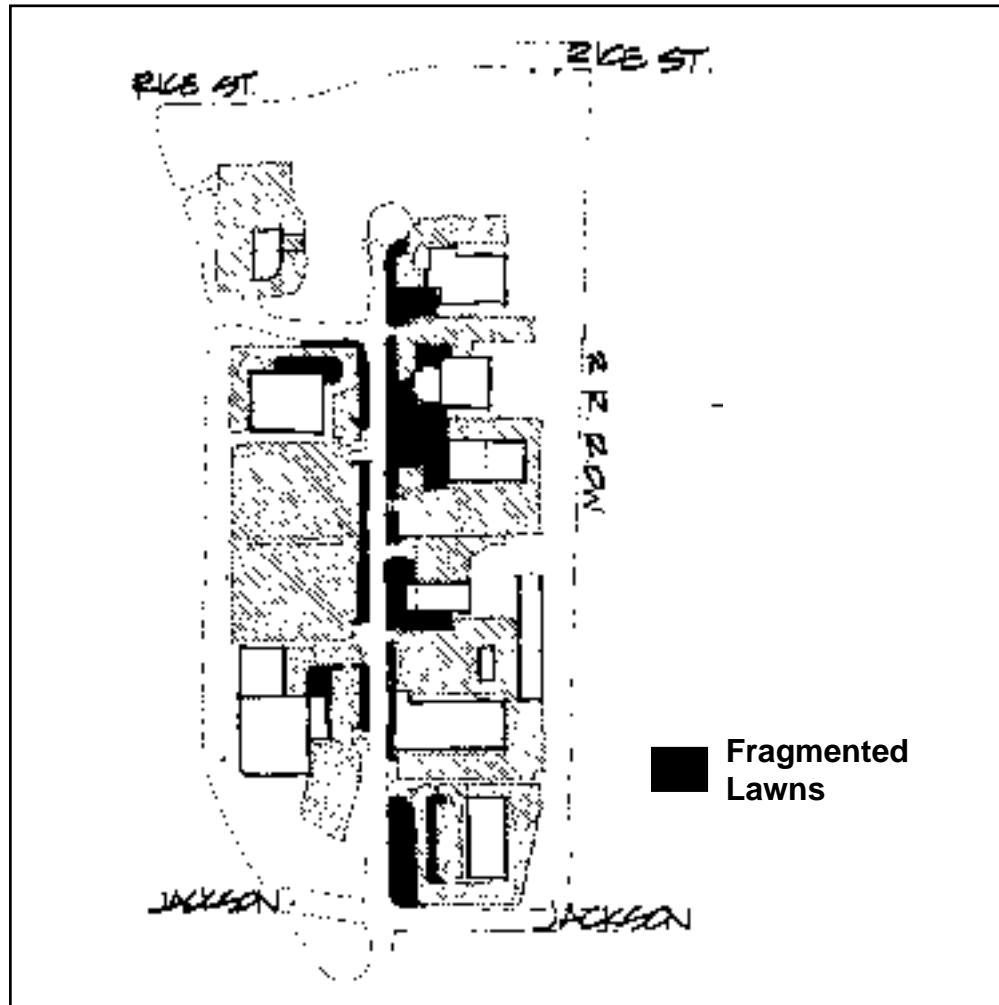
This new parkway and adjacent industrial lands could become the focus of new industrial and mixed use redevelopment that could stabilize or improve housing values in adjacent neighborhoods.

**Multimodal Recreation and Commuting Corridor**

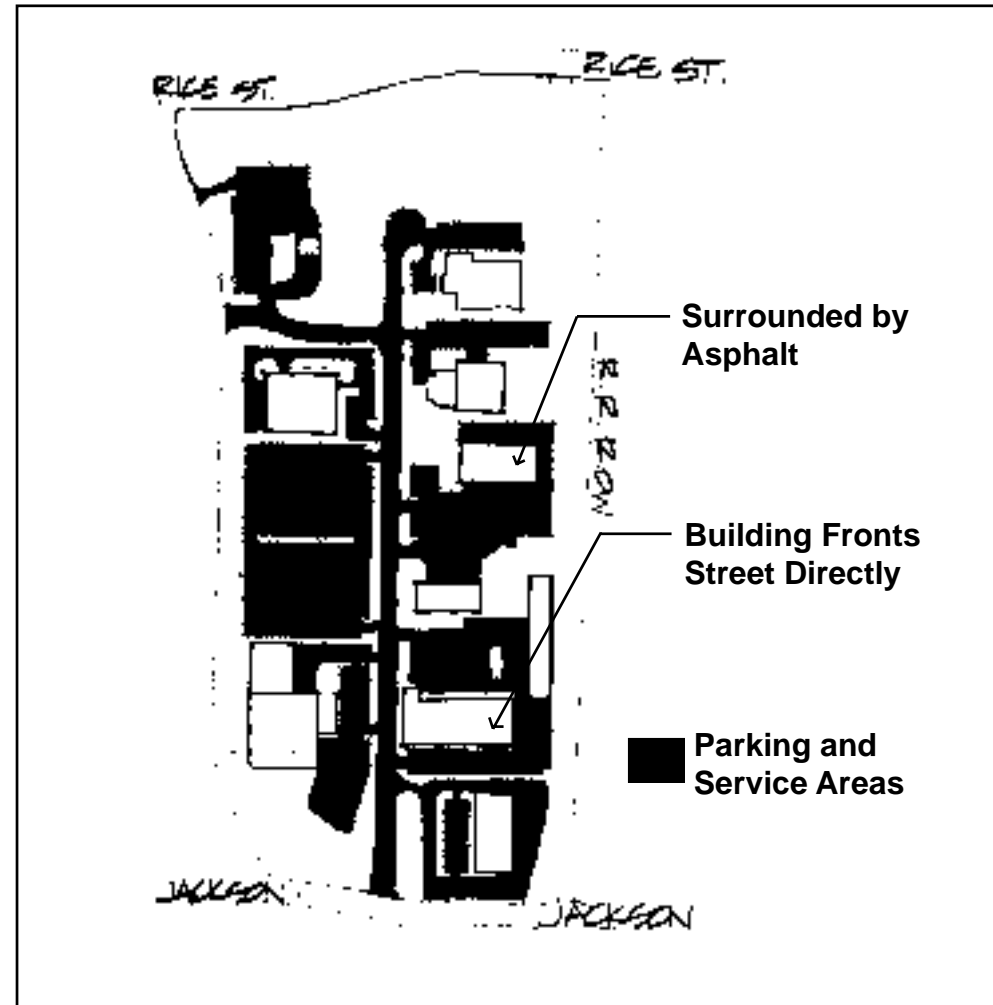
The parkway and the boulevard provides an east-west greenway edge to the neighborhoods of the Central Corridor. It functions as a multimodal corridor with a new emphasis on non-auto and non-truck traffic. Walking, biking, and other alternative recreational and commuting modes are encouraged. From the parkway, additional pedestrian and bicycle connections to Como Park, Energy Park, the State Fair Grounds, and the St. Paul campus of the University of Minnesota will be needed to extend the connective power of the parkway to city and regional amenities.

**Functioning Biological Infrastructure**

A stormwater collection swale along the length of the parkway would serve two purposes. First, it would collect and filter stormwater run-off from adjacent roads and parking and service areas. Second, it would provide a continuous vegetated edge to enhance the recreational experience of the parkway.



Decorative and monotonous lawn frontages



Parking and service areas - an overabundance of impervious surfaces

**Suburban Models Transformed in the Urban Setting**

**The Suburban Industrial "Park" Model**

Industrial development in suburban greenfields has been the principal precedent and formgiver to industrial redevelopment models in the heart of the Twin Cities. The concept of suburban park-like environments has created the settings for industrial parks, business parks, and research parks. The park is archetypally a landscape of enclosure which has been translated into forms that create self containment.

Each parcel within the new parks is designed to have a building with a major facade on a front yard, usually a private lawn, sometimes with tree plantings to decorate the space. These parks are usually required by law to provide at least .75 parking place for every employee. The parks are often located far from transit lines and with few sidewalks that connect to the public streets. Often, streets have no sidewalks.

These models have created local examples of transitional suburban and self-contained urban developments such as Energy Park (1970s), Crosby Lake (1996), and Empire Builder (1990s).

**Analysis of a Local Industrial "Park"**

The diagrams shown here illustrate the nature of the Empire Builder development. The diagram at far left shows the pattern of fragmented lawn pieces along the street that create no sense of connected public amenity. In fact, there is no continuous sidewalk.

The diagram at near left shows the amount of land dedicated to parking and service. In some cases, parking areas completely surround buildings, isolating each from its neighbor. In other better examples, parking and service are limited to one particular building edge, allowing buildings the chance to develop a "pedestrian front" along the street.

A better model would bring the buildings closer to the street and sidewalks and site parking and service would be located at the rear and/or sides of the buildings.

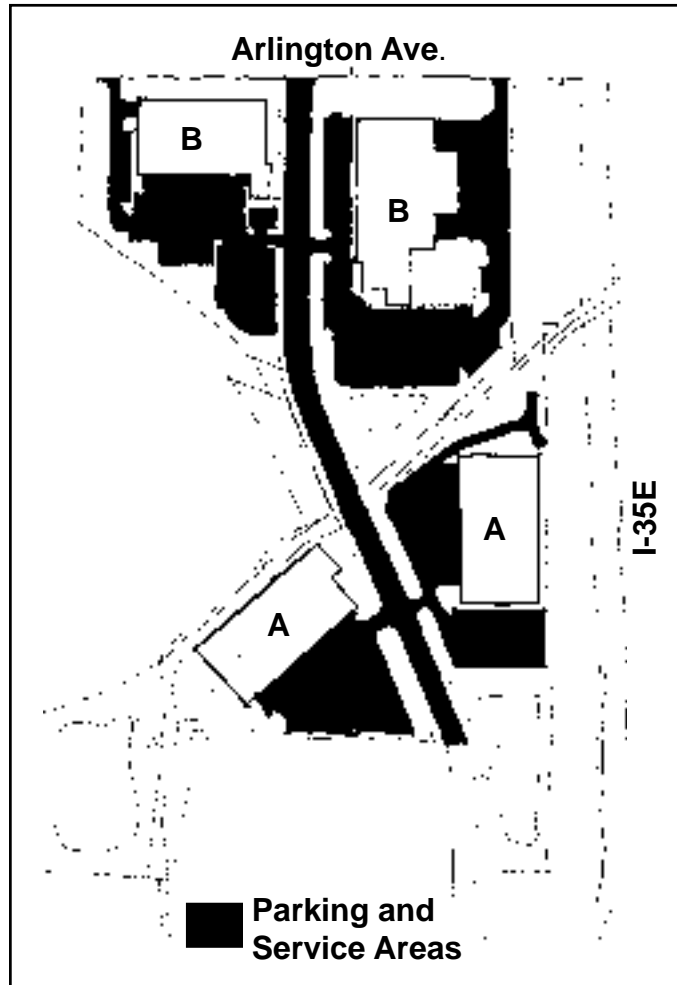
**The Potential of Urban Precedents**

Older models of industrial development were often more urban in nature and more formally integrated into the fabric of neighborhoods. For example, the Terminal Facility in Northeast Minneapolis was a vertically structured environment set in a parkway neighborhood.

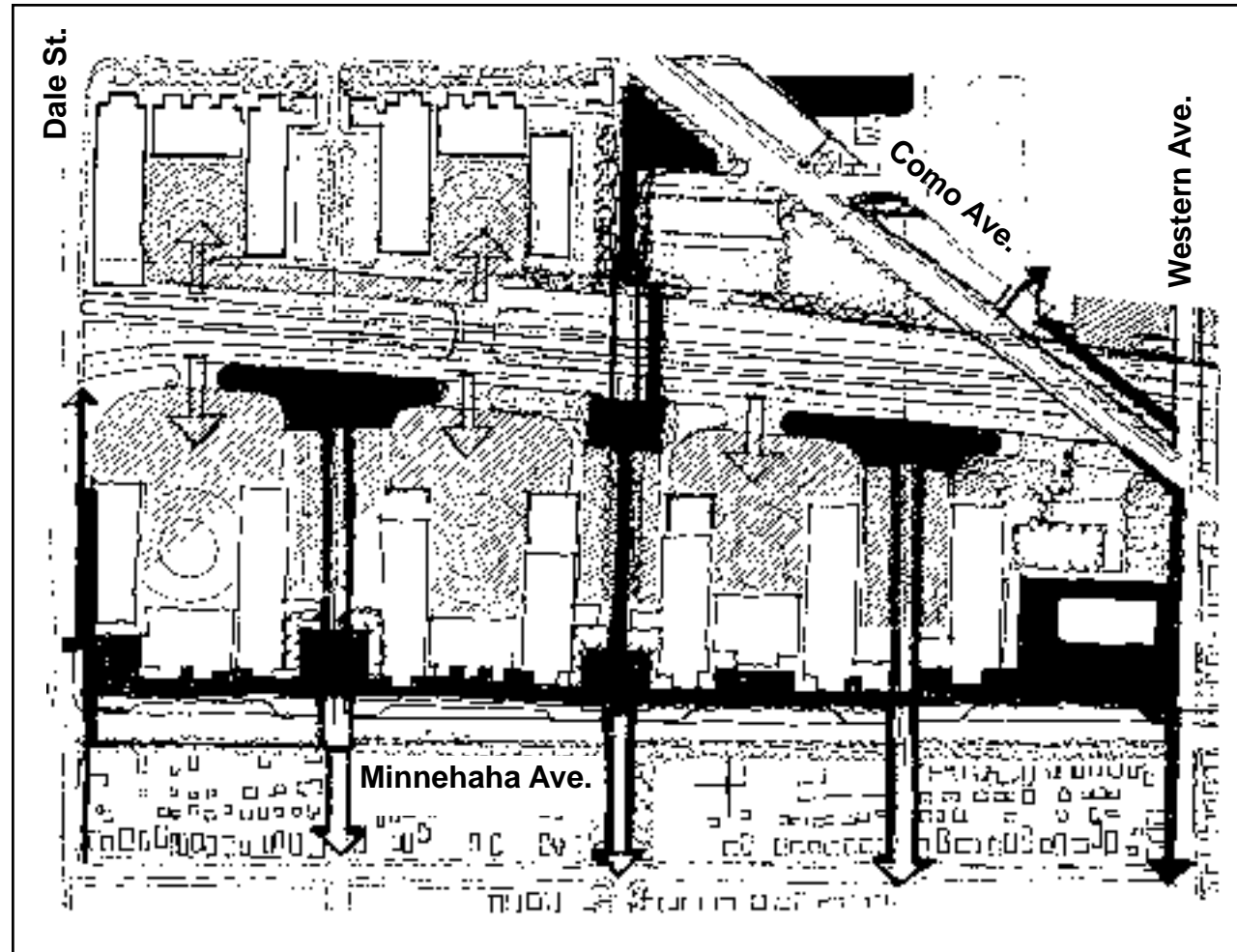
In some promising examples around the country, New Urban and transit-oriented redevelopment principles have begun to change the physical nature of our cities working landscapes. For one, Portland, Oregon has adopted New Urbanist guidelines in the design of its new light industrial projects. All buildings must have windows or vegetation on street facades. Additionally, the vertical scale of buildings is enlarged. Few boxes are only one story, and even those are designed with floor-to-ceiling heights and structural systems that could be adapted in the future to add another floor.



Empire industrial park



Two different ways to site buildings



Defining the street with building frontages - parking and services are located in rear

**Building Siting and Street Definition**

**Analysis of a Local Example**

As shown in the diagram at far left, development near Arlington Avenue exhibits both desirable and undesirable ways in which buildings can be sited. First, the lower two buildings (also pictured in the photo at lower left) are sited at angles to the street and separated from it by large service and parking areas. Such a building pattern creates an undefined and unfriendly public pedestrian environment along the street (A-A).

In contrast, the two buildings along Arlington Avenue at the north are better-sited. They are set relatively close to the street and aligned parallel to it. As such, they help define a public street space that is more pedestrian in scale (B-B). Nevertheless, the large parking areas that front the street in the side yards in this arrangement still leave something to be desired.

**Desirable Building Siting**

An ideal arrangement would be one that places buildings with windows and people activity along street edges, while as much service and parking as possible is placed in "back" or "at the side" of the buildings. Also, the sharing of some parking and service space could be arranged if there are opportunities to stimulate transit use or to time-share.

The diagram at near left shows such a schematic arrangement along Minnehaha Avenue between the Dale Street and Como Avenue/Western Avenue bridges. Building edges are used to make streets that create a continuous public amenity along which bike trails and small parks could create a transition to neighborhoods. The parking and service areas work off a separate truck route, located on the backside of sites and following the rail corridor. The side yards could combine some public access with additional parking and service as dictated by particular development needs.



Arlington Avenue development - poor street definition



*The industrial "big box"*

## Building Character - Breaking Down the "Big Box"

### *The Changing Nature of Industry*

The unprecedented size of new building development has been generated by new economic scales of operation and the exclusive dependence on trucks, rather than rail as in the past. Most new development requires a large flexible working space on one floor ("flat floor production") that is served by smaller offices and public reception areas.

### *The "big box" Building Type*

The new industrial building can be expressed in different ways. The photograph at left exhibits the "Big Box" model. In this example, all building functions are combined in one building massing. Offices and public reception are distinguished superficially by a change of material on the building's facade. To its credit, this building has two stories that achieve greater utility of the site's land area, and it also has windows along the whole facade.

### *Articulated Building Types*

Another desirable change in the building type is shown in the two lower photographs. In this example, different building functions are articulated separately. The necessary large warehouse space is maintained, but office and reception areas are broken down into smaller-scaled building massings. They are also articulated with different materials and fenestration. These ancillary functions and forms are designed with people in mind and create more habitable environments. Sited correctly, industrial building types that are better articulated could create better transitions between industrial developments and adjacent neighborhoods, enhancing the public realm.



*Breaking down the "big box"*



*Articulated building massing*

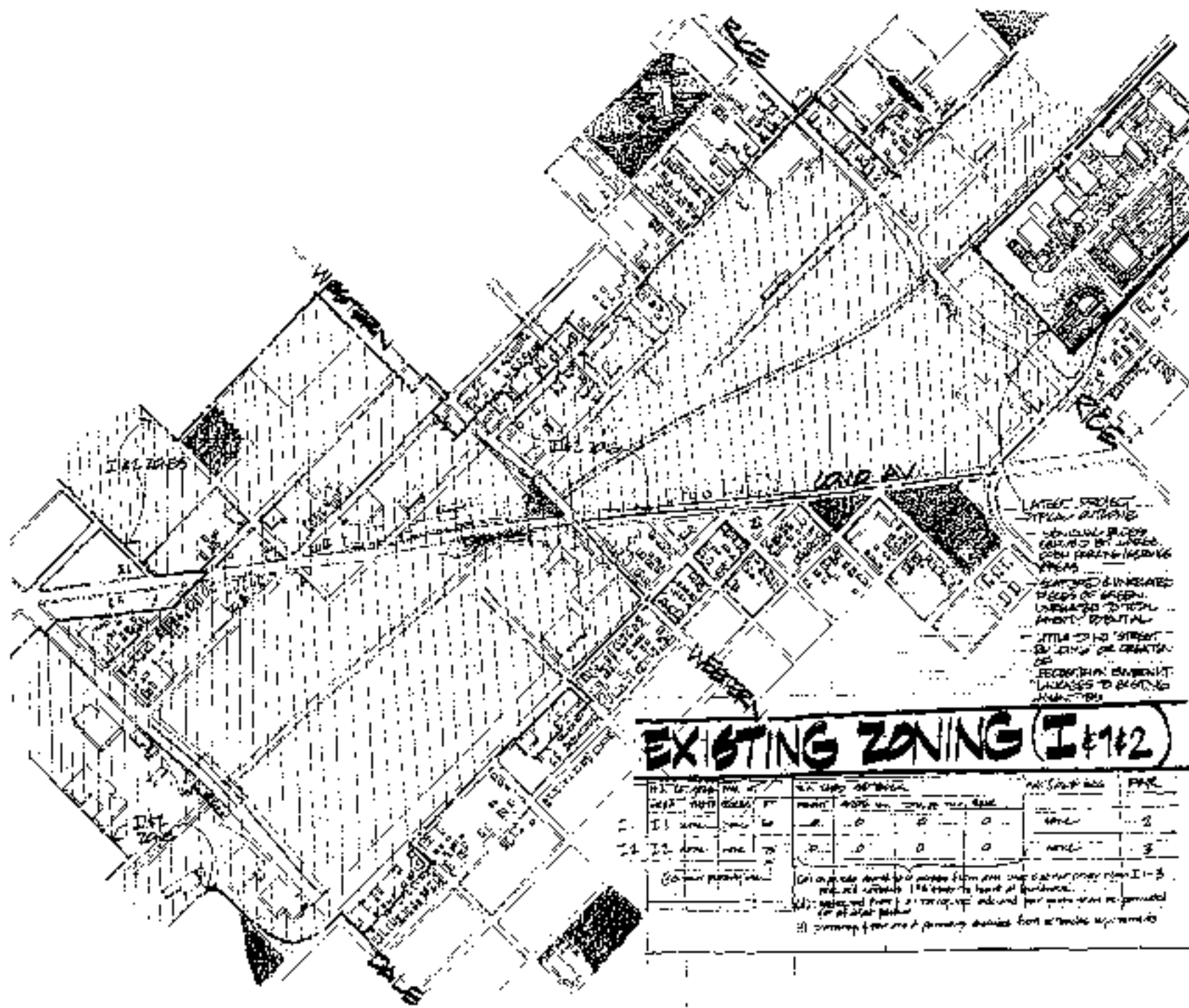
Impact on the Built Environment

**Subdivision**

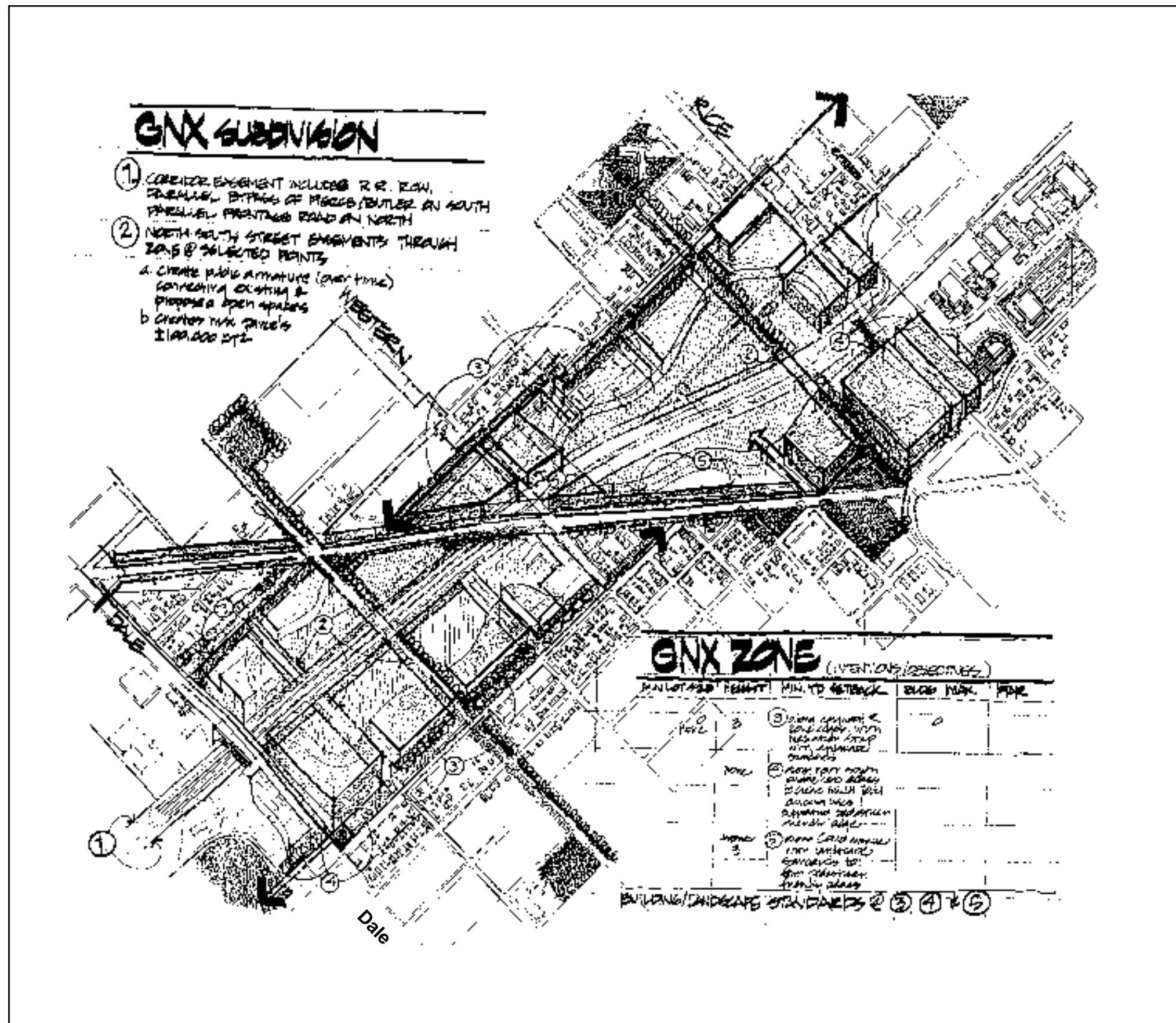
While much of the Pierce Butler Corridor has already been subdivided, the lands that are currently used for railroad operation are either not subdivided at all, or could be re-subdivided to accommodate new patterns of use. Subdivision standards for the Pierce Butler Corridor are significant because they will define the relative scale and ordering of this private realm in relation to the street system. Subdivision defines block and lot configurations. Current subdivision standards for industrial lands create isolated industrial parks (as discussed previously).

**Zoning**

Zoning governs land use, the specific nature of development, and the resulting envelope of activity. It regulates attributes such as building height, massing, setbacks, parking, loading, and driveways. Current I1 and I2 zoning provides a virtually unlimited window of opportunity for development. Only residential uses are restricted.



Existing land use zoning



### Urban-scaled Rezoning

The purpose of this zone is to encourage urban-scale development that reinforces the parkway edge and provides a high degree of compatibility with residential and commercial service uses while also providing jobs for neighborhood residents. The new zoning for this area is designed to change the pattern of industrial development to make it more compatible with the existing neighborhood edge and the new green scrubber parkway.

The new zoning is created for industrial development blocks that front residential neighborhoods along the Central Corridor. Optimally, such development would occur on both the north and south sides of the rail corridor, integrating future development with adjacent neighborhoods. It would create a friendlier pedestrian environment and increase transportation connectivity. In addition, new mixed-use, multi-story development would be possible at the major north-south crossings of the corridor.

### Zoning Requirements

#### A. Setbacks

##### Front Yard - 20-foot maximum setback

The 20-foot maximum setback allows a drop-off drive for those industries and businesses that require it; all other structures are encouraged to be located on a zero lot line to the green scrubber parkway edge.

##### Street Wall Setbacks

Along street frontages facing residences, an unrelieved street wall may not exceed 60 feet. Setbacks of the street wall of the building must be made to a minimum depth of 8 feet.

##### Rear Yard

No requirement

##### Side yards - 70-foot maximum setback

The 70-foot setback is designed to allow employee and visitor/customer parking to be located to the sides of buildings.

#### B. Lot Size

Minimum - 10,000 SF

Maximum - @180,000 - 200,000 SF

The maximum lot size is based on the idea of the block-long deepened lot for maximum flat floor production space.

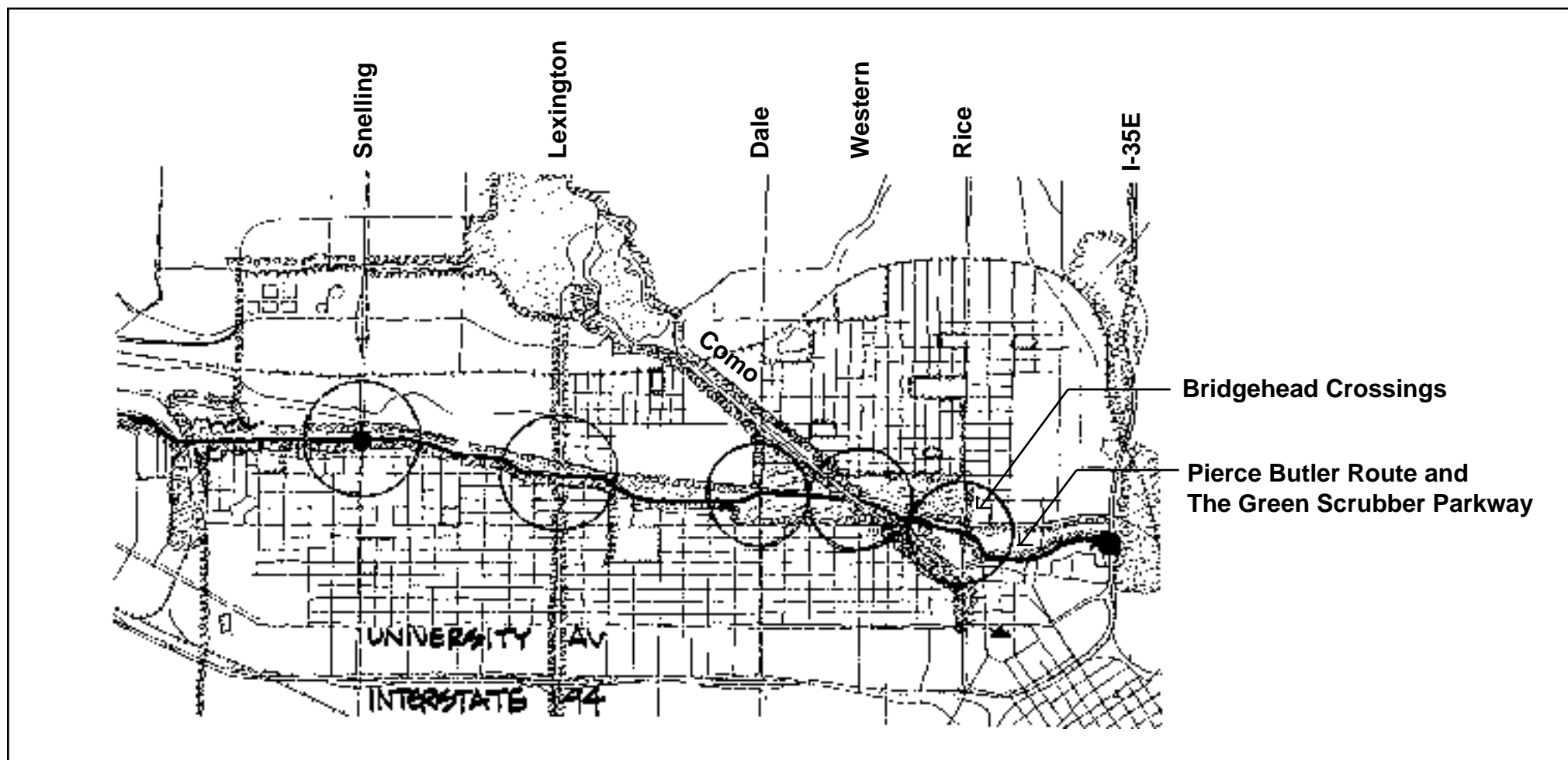
#### C. Height

Maximum height is three-stories or 50 feet.

#### D. F.A.R.

The floor area ratio (F.A.R.) is 2.0. The F.A.R. in this zone is intended to encourage two- and, if feasible, three-story, mixed-use buildings, especially near critical grade-separated crossings of the Great Northern Corridor, with incentives for connections of second and/or third stories to bridges or approaches.





*Bridgehead crossings and development opportunities*

## Bridgehead Building Concept Introduction

### Potential Locations

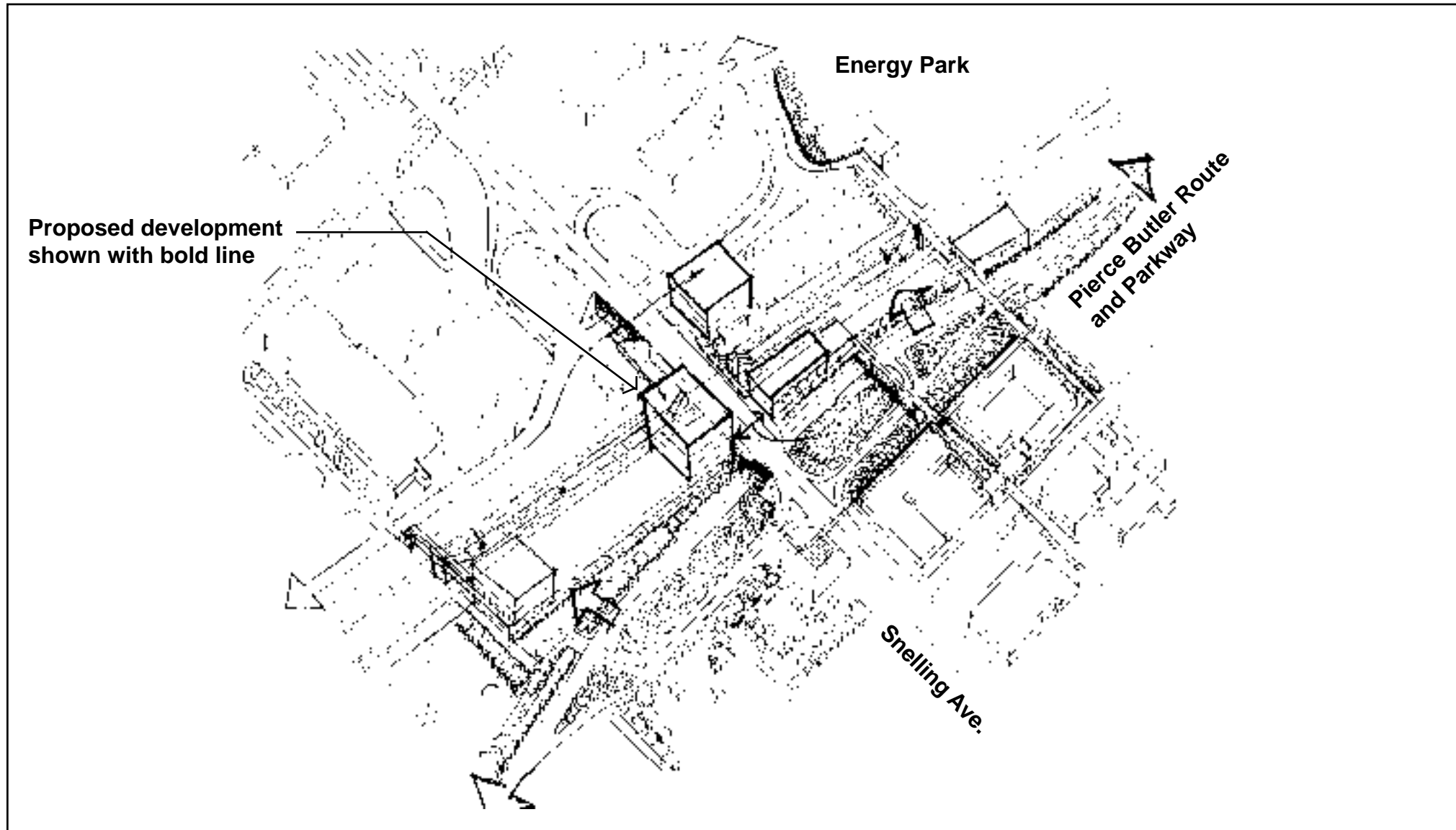
The north-south bridge crossings in the study corridor offer the potential for stronger pedestrian connections and a more transit-friendly environment. A critical focus of this work will examine the potential for new types of development at strategic bridgeheads at five crossings of the Pierce Butler Route and Great Northern railroad: Snelling Avenue, Lexington Parkway, Dale Street, Como Avenue/Western Avenue, and Rice Street.

### Characteristics

The proposals explore the potential to adapt “big box” development & flat-floor production into new building types that better address the vertical grade separation typical at these crossings. Two-story development at the bridgeheads would accommodate industrial uses on the first level, and would enhance the pedestrian, bike, and transit environment by creating mixed retail and office uses at the second level.



*Example of a multi-story, mixed-use building*



## Snelling Avenue Crossing

Several existing site conditions at the Snelling Avenue crossing hinder potential development. The crossing itself, along which there is vertical separation from development below, is long. Road access to the lower grade is possible only via highway-like loops and ramps. This infrastructure creates a pattern of fragmented lands that would be difficult to develop.

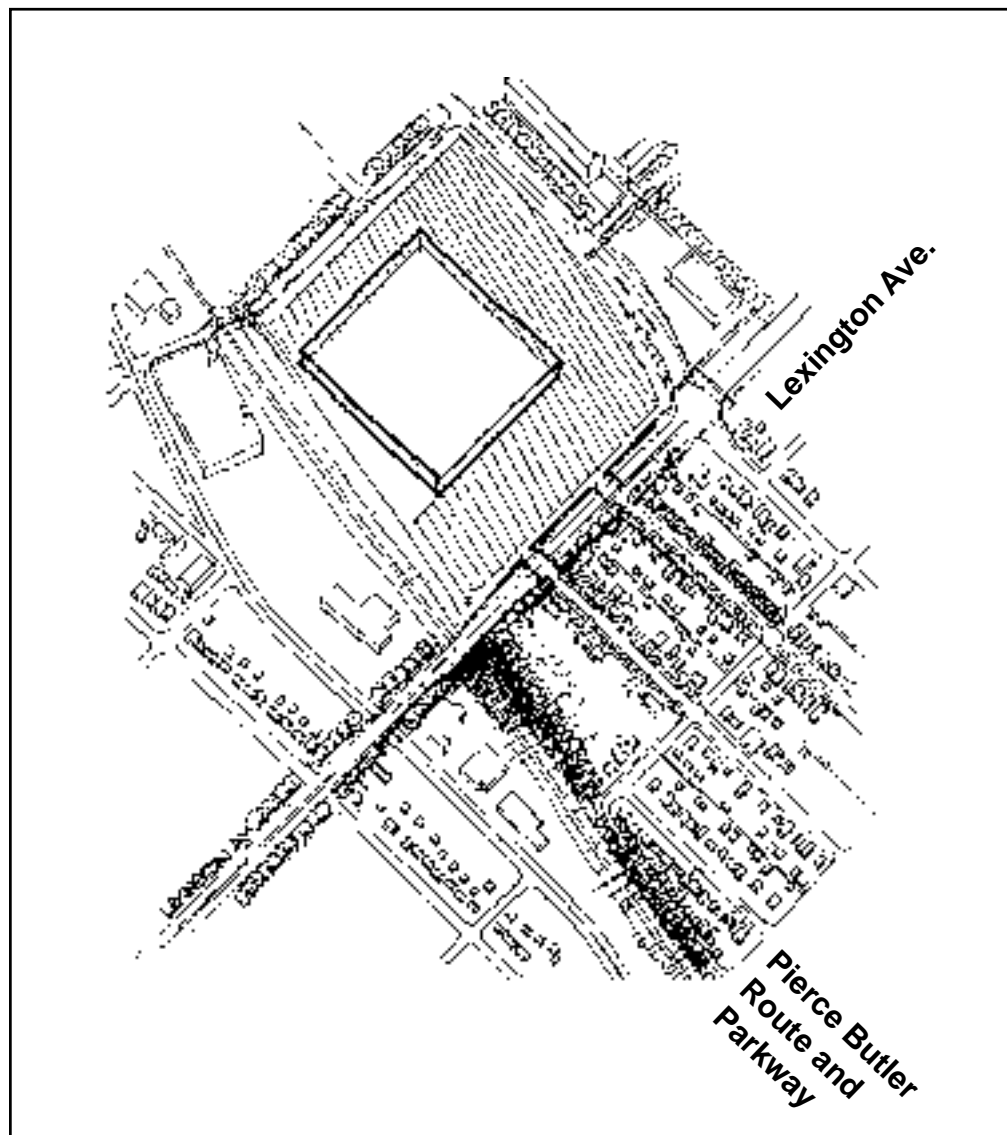
Additionally, the railroad's intermodal yard, where trailers are stored awaiting transport, takes up significant acreage. If the intermodal yard were to eventually move it would open up significant developable land, but it is not an option at the present time.

Considering the fragmented available land, new development would necessarily need to take the form of strategic infill. Ideally, new buildings would house a mix of uses and would provide vertical circulation for pedestrians and goods.

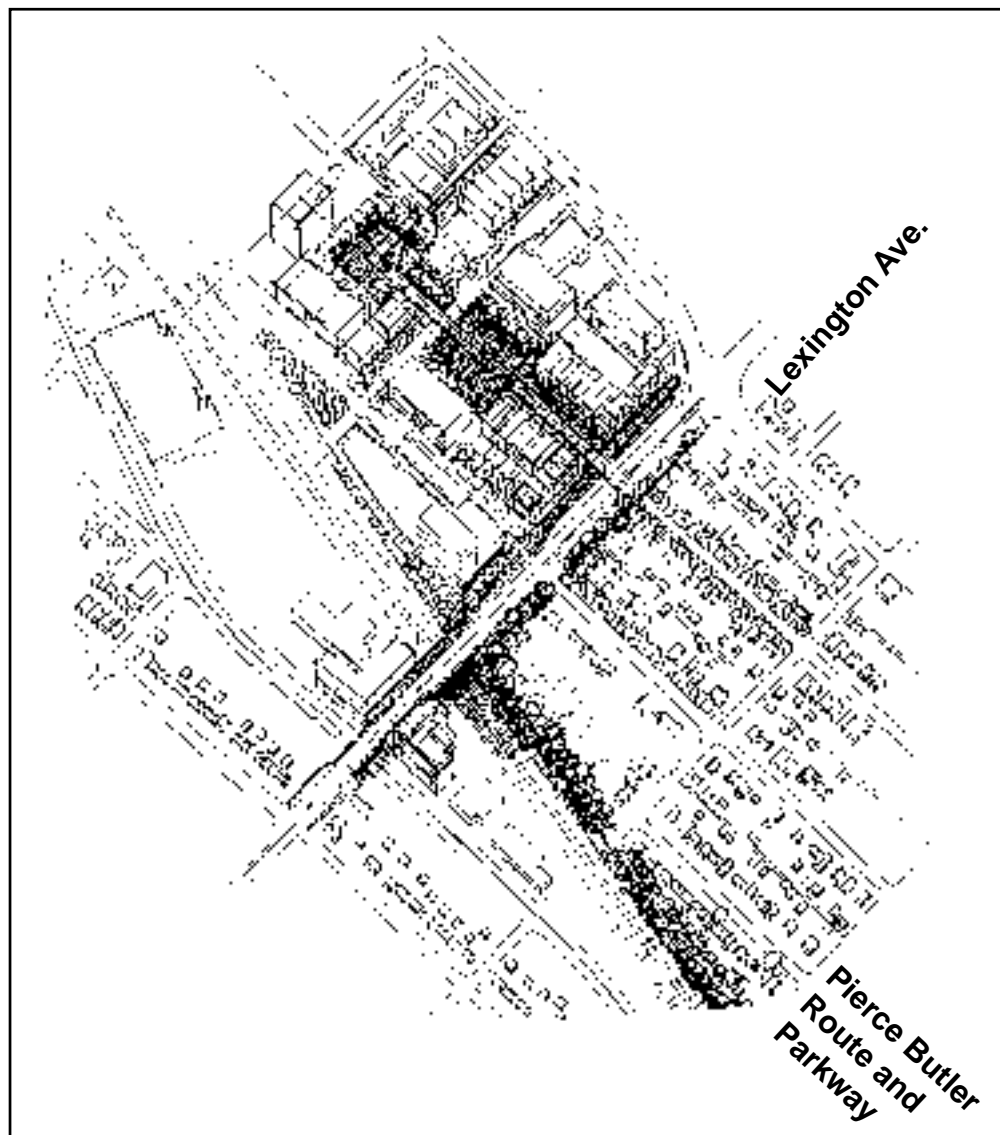
*Snelling Avenue bridgehead proposal with stairs and elevator towers*



*Snelling Avenue crossing, seen from the south*



*Existing suburban-minded development*



*Proposed development - integrated with the urban system*

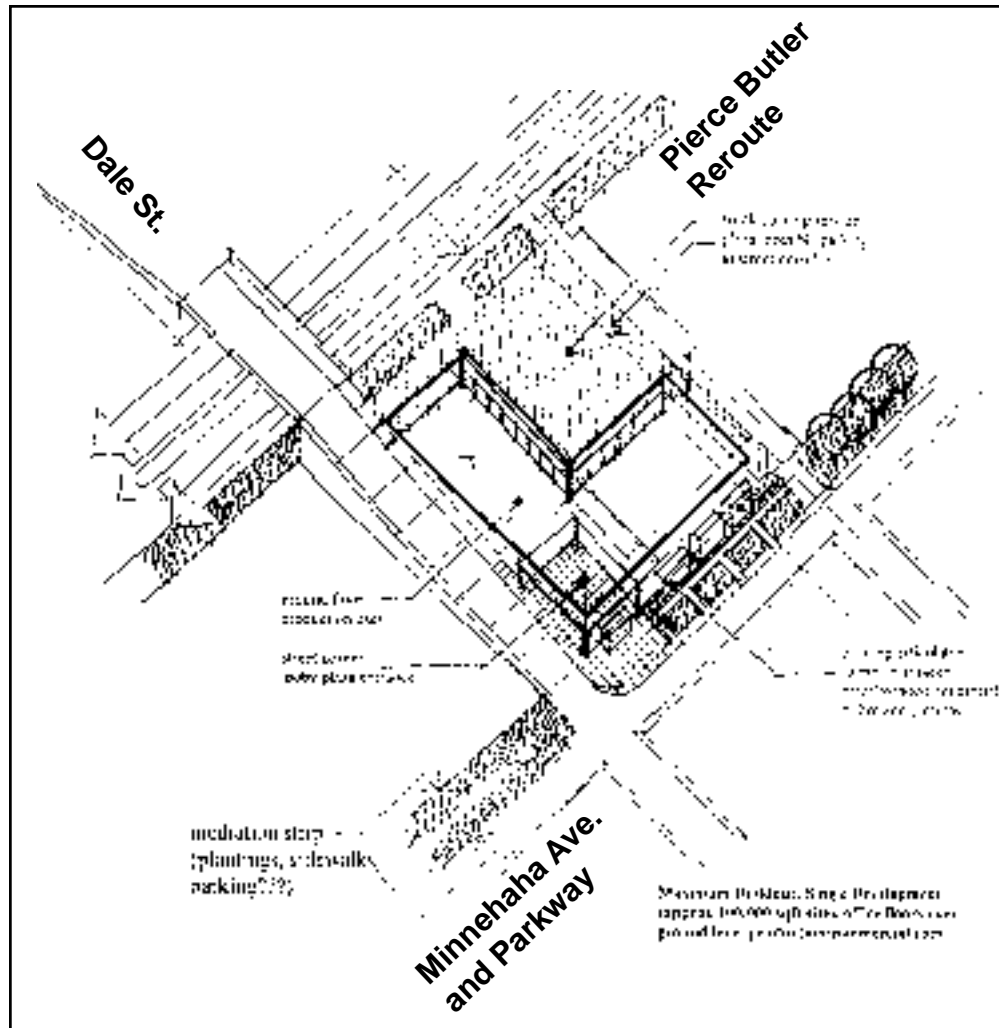
## Lexington Parkway Crossing

The drawing of the Lexington Avenue Bridge crossing, at far left, illustrates the current suburban development thinking at work in the corridor. A “big box,” single-level, single-use building is placed in the middle of the site surrounded by parking areas sized for peak parking demands.

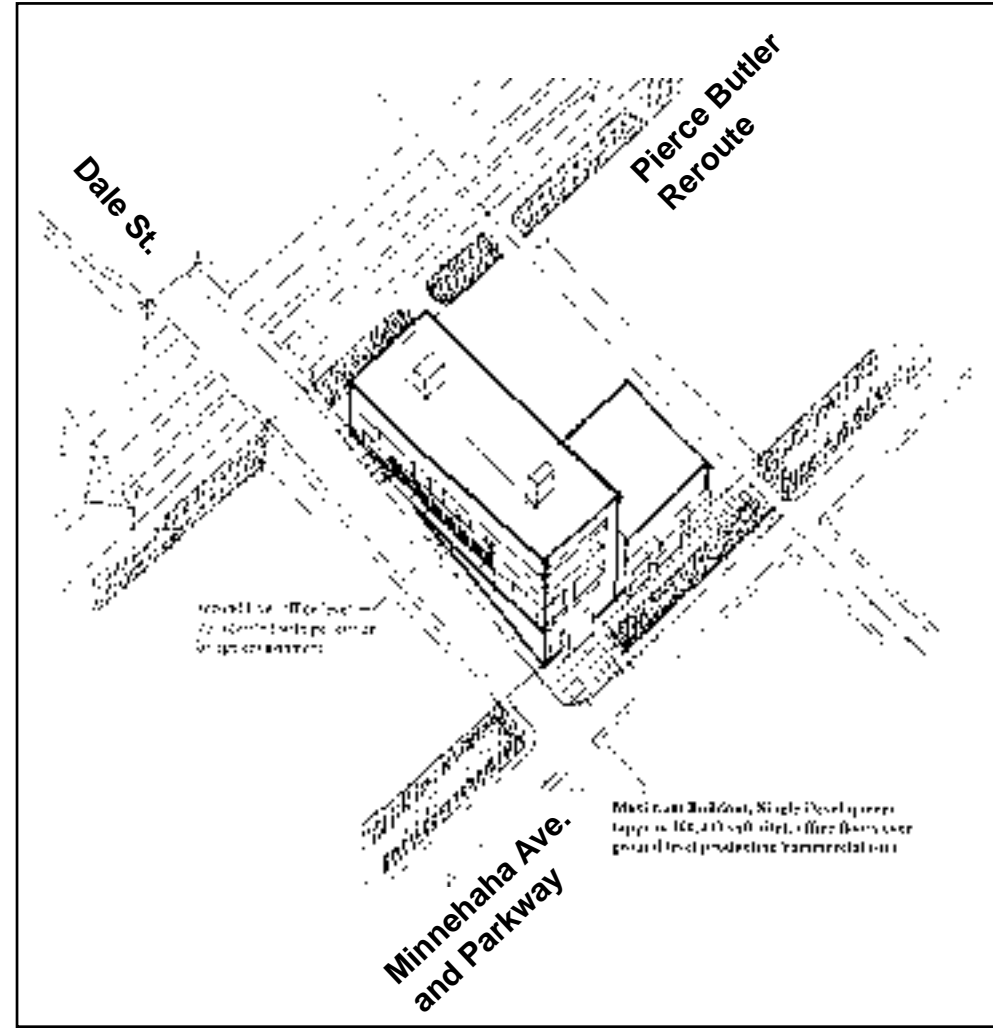
An alternative kind of development shown on the same site, at near left, illustrates another approach that would integrate new development pieces into a pedestrian-oriented street grid and connect to the city’s public circulation network. Such an approach would also take advantage of the location on Lexington Parkway, just a few blocks from Como Park. Parking would occur on streets and in smaller courts.



*Lexington Avenue crossing, seen from the north*



*Proposed bridgehead building type - first level*



*Proposed bridgehead building type - second level*

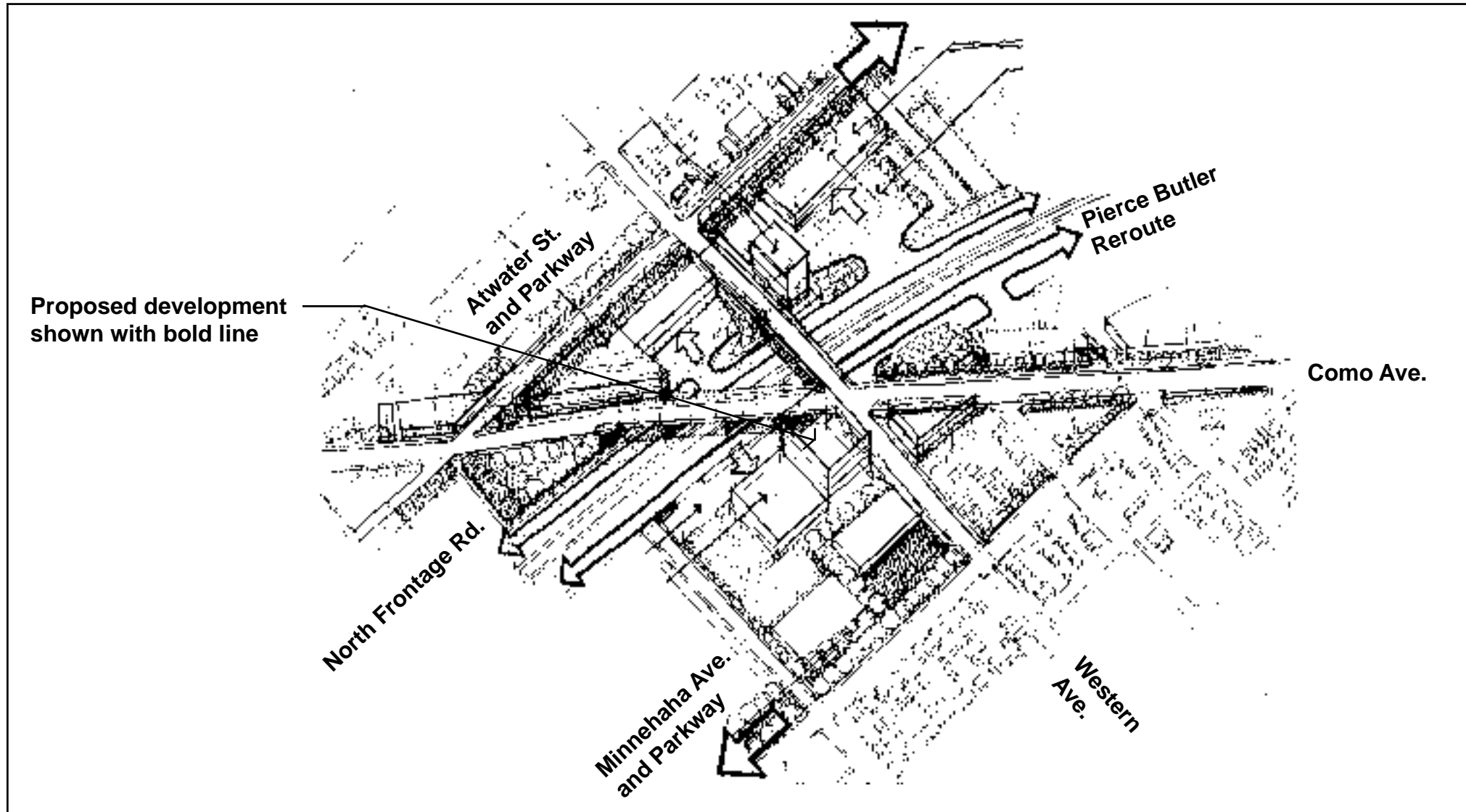
## Dale Street Crossing

This example building addresses the vertical grade separation typical at the corridor crossings. The ground level would contain both production and office uses. The second level has the potential for additional office use. The second level could open onto and support the pedestrian and transit environment of the bridge crossing.

The building would be served by the Pierce Butler Reroute that would prove a more efficient transport route for businesses. Also, it minimizes truck traffic on Minnehaha Avenue by running parallel to the rail corridor on the interior of industrial development parcels. Along the neighborhood face of new development, a green parkway would include stormwater swales, plantings, bike paths, sidewalks, and street parking.



*Dale Street crossing, seen from the south*



## Como/Western Avenue Bridge Crossing

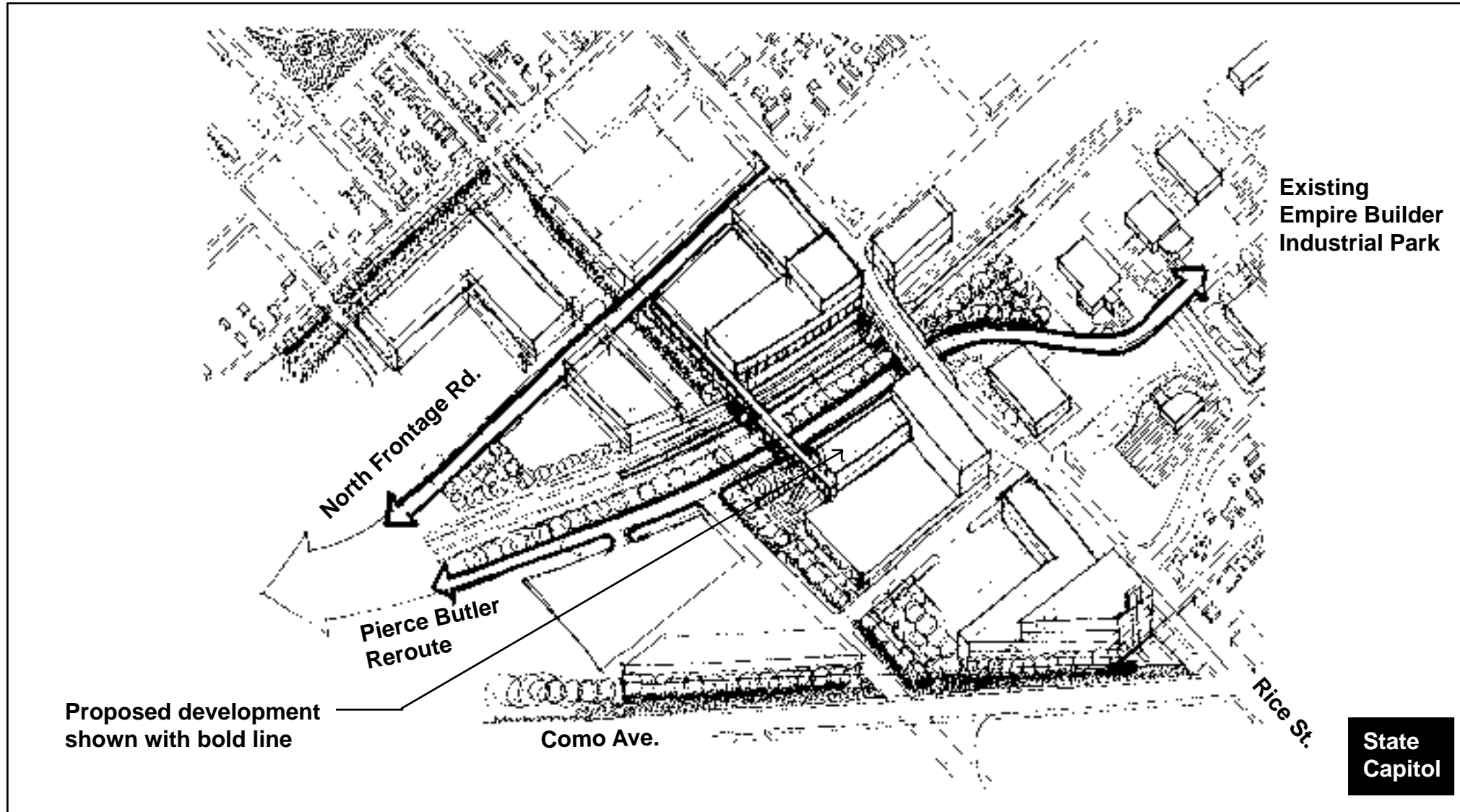
The drawing of proposed development at left illustrates similar multi-level bridgehead development as proposed at Dale Street. This development could create a more pedestrian and transit-friendly environment on the Como and Western Bridge crossing. One- to four-level buildings could offer ground-level production or warehouse space served by the Pierce Butler Reroute on their backside. An upper, second-office level would open to the bridge level and create a more pedestrian-friendly environment.

New industrial development would be served by the Pierce Butler Reroute on the south side of the rail corridor and a frontage road to the north. Both truck routes would be located behind the industrial parcels and parallel the rail. Such a configuration would be beneficial to businesses by providing a more efficient transport route, and it would also be beneficial to neighborhoods by minimizing truck traffic on neighborhood streets.

*Proposed development*



*Western Avenue and Como Avenue crossing, seen from the south*



## Rice Street Crossing

By the nature of its location, the Rice Street crossing has the potential to become a gateway to the State Capitol nearby.

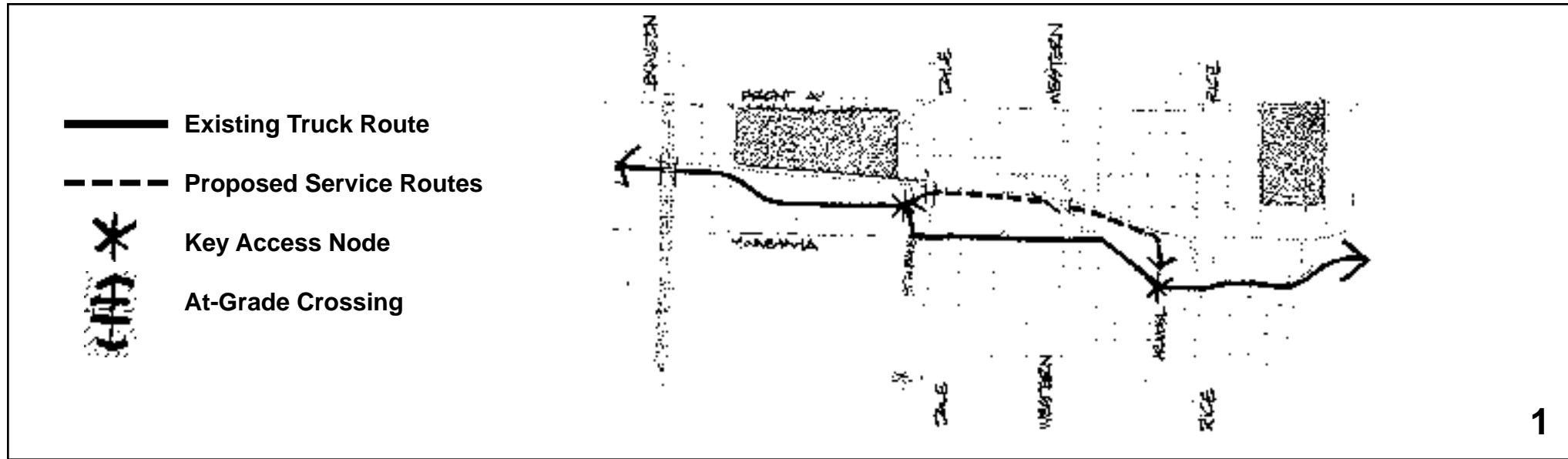
The drawing at left illustrates a new industrial development that would make use of areas around the Rice Street crossing in a more intensive and efficient way.

Like previous examples, the Pierce Butler Reroute could continue under the Rice Street bridge where it could serve new multi-level bridgehead development from the interior of the site off the rail corridor. Pierce Butler could continue east and connect with the existing Empire Builder Industrial Park. A separate frontage road could serve new development on the north side of the rail corridor.

*Proposed development*



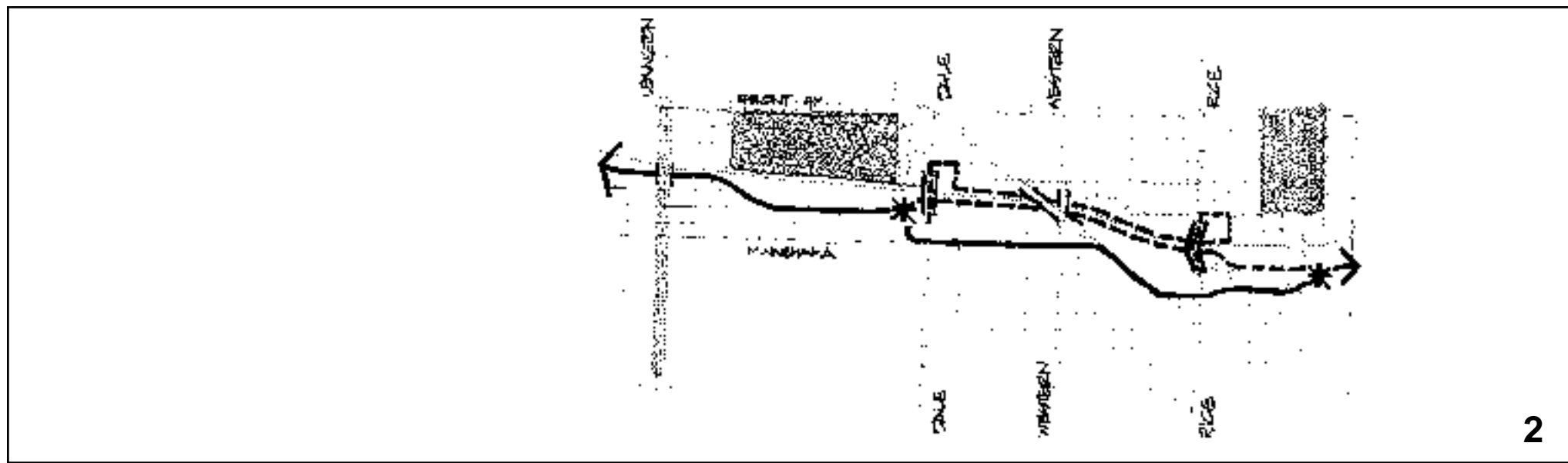
*Rice Street, seen from the south*



## Reducing Truck Traffic, Improving Neighborhood Livability

Industrial development and its related truck traffic have put stress on adjacent neighborhoods in the corridor. Safety concerns, noise, and air pollution detract from the livability of residential areas within close proximity to routes frequented by trucks. At present, the Pierce Butler Route ends awkwardly at its east end just before it reaches Dale Street. At that point, access to industry in the corridor or to I-35E requires the use of Minnehaha Avenue, Como Avenue, and Pennsylvania Avenue on the south. On the north, Atwater Street and Topping Street are heavily used by trucks. Currently, the City of St. Paul is involved in a planning study to improve the Pierce Butler Route.

Outlined below are three possible alternatives for the rerouting of truck traffic that would reduce the unwanted friction between industrial transportation needs and general neighborhood livability. The main distinctions between the different alternatives are: length, ways to access the new bypass, and the amount of industrial parcels potentially served.

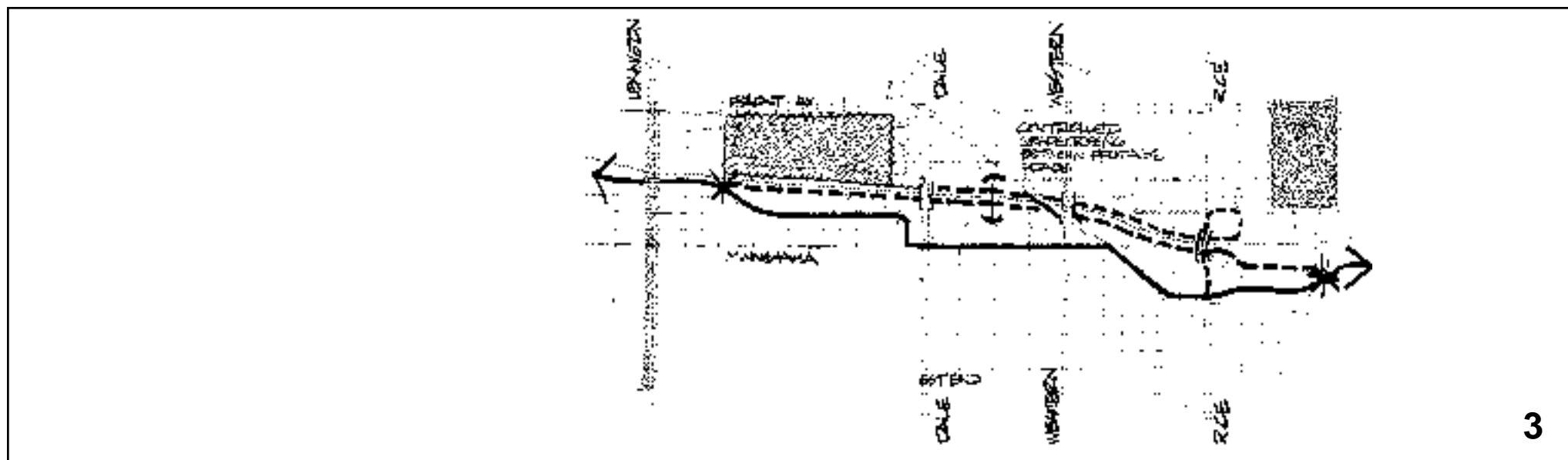


### **Alternative 1 (least extensive) - St. Albans to Arundel**

- Bypasses Minnehaha Avenue and Como Avenue.
- Crosses under the Dale Street and Como Avenue/Western Avenue bridges
- Mainly serves parcels south of the railroad corridor

### **Alternative 2 - St. Albans to Jackson**

- Bypasses Minnehaha Avenue, Como Avenue, and a portion of Pennsylvania Avenue.
- Crosses under Dale Street, Como Avenue/Western Avenue, and Rice Street bridge.
- Integrates existing Empire Builder industrial development
- Serves parcels both north and south of the railroad corridor with the additional north frontage road
- Relies on bridge crossings at Dale Street and Rice Street for trucks serving the north side to access the new Pierce Butler Route.



### **Alternative 3 (most extensive) - Chatsworth to Jackson**

- Bypasses Minnehaha Avenue, Como Avenue, and a portion of Pennsylvania Avenue.
- Crosses under Dale Street, Como Avenue/Western Avenue, and Rice Street bridges
- Serves additional industrial parcels west of Dale Street.
- Integrates existing Empire Builder industrial development
- Serves parcels both north and south of the railroad corridor with the additional north frontage road
- An at-grade railroad crossing between the new Pierce Butler Route and the north frontage road makes truck access more convenient and reduces traffic on the bridge crossings

## **Forward-Looking Planning and Design Strategies**

At present, development in the corridor is occurring piecemeal and lacks an integrative vision. In order to create a coherent urban form, projects of any scale must be critiqued according to established goals for the larger urban context. Underlying the design of the physical environment, policy and planning determine the scope of urban redevelopment projects. The research team will work in conjunction with public policy makers and planners to establish general goals for the corridor to guide future development of infrastructure, neighborhoods, and specific sites.

## **Study Across Different Landscape Scales**

### ***Urban and Natural Systems***

As the team's research in the Central Corridor continues, study will be focused across different scales. On one hand, it will expand beyond the edges of the industrial redevelopment parkway (as proposed here) to map and identify surrounding urban and natural systems. Based on the successful model of the Twin Cities' Parkway System and the developing awareness of the impact of urbanization on critical natural systems, green infrastructure could provide an armature for physical reinvestment in the Central Corridor. It has the potential to be a connective tissue between the eroding urban form of the corridor and the presence of natural systems. It could also add value to neighborhoods and provide recreational opportunities for residents. Further work will need to be done to integrate open space planning and design with surface and groundwater infrastructure.

### ***Neighborhoods***

Historically, the neighborhood has had a significant social and physical influence on life in St. Paul. Traditionally, a neighborhood is a distinct urban geographical area that is centered around common public space such as a park. In recent years, the neighborhood has been challenged by new development and transportation systems that have changed patterns of use and disrupted the connective characteristics of its form. In further study, the neighborhood will be analyzed critically to suggest ways in which a sense of community and connectedness can be reinstilled. By identifying significant cultural institutions and changing cultural demographics, the neighborhood's function within the larger urban system can be reassessed and repositioned to sustain its presence as a source for communal identity.

### ***Transit-Focused Housing and Mixed-Use Development***

The linear form of the Central Corridor suggests its potential for revitalized transit routes. In order to make transit a success, new forms of housing and mixed-use development (such as the proposal for Lexington Avenue) should be studied in greater detail.

### ***Building and Landscape Typologies***

Finally, new typologies of building and landscape types will be developed that will provide guidelines for specific site development. The guidelines will replace or modify existing zoning classifications and subdivision standards and suggest the potential experiential qualities of such places.