B I L T

Bringing Iris and Longfellow Together

Ebby Leung
Paul Mogush
Kelli Swanson
Joe Willhite
• Describe location of Merriam Park Neighborhood
• Describe land uses
• Residents north of I-94 consider themselves part of the area south of the Interstate
• Pedestrian crossing unfriendly
• Solution…. 
•….land bridge
•Must be located here due to topographical constraints (between Prior and Fairview would be better)
Land bridges have been built before, even in Minnesota. This is Leif Ericsson Park in Duluth.
LaSalle Avenue in downtown Minneapolis
• Merriam Park is not racially diverse
• However, other large differences are noticeable
• Discuss each
• As discussed earlier, the north side of 94 is dominated by industrial uses.
• 3,000 manufacturing jobs lost in the last decade
• Reduced tax base
• St. Paul is promoting Transit-Oriented Development in anticipation of LRT on University and to increase the city’s tax base.
General feel of the industrial area:

• Dominated by semi trucks…
…and billboards for predatory lenders
…much of the area lacks sidewalks…
Who uses this bus stop?
The south side is quite different...

- Community Center
- Park
- School
- Nursing Home....
• Sidewalks
• A mix of single family…
….and multi-family housing…. 
...a few businesses, but not many that fulfill daily needs...
….and even some traffic calming.
Merriam Park Community Plan

Preserve:
• Walkability
• Recreational Opportunities
• Balance of land uses
Merriam Park Community Plan

Land Use Policy:
• New development should be mixed use, with housing as the central focus
• Development should not be a regional draw
• Emphasis on affordable housing, locally-oriented commercial uses, and small to medium-sized employers.
Merriam Park Community Plan

Other Neighborhood Concerns:
• Isolation of residents north of I-94
• Storm water runoff caused by impervious surfaces
BILT Goals

1. Physically connect the residential enclave north of I-94 and east of Prior Ave to the rest of Merriam Park
2. Increase walkability
3. Make better use of existing neighborhood amenities
4. Increase neighborhood retail options
BILT Goals

5. Provide housing that fits the diverse mix of people in the neighborhood

6. Create a sense of place and pride that will enhance livability and spur additional development off the land bridge

7. Mitigate the negative social and environmental externalities of the industrial area between I-94 and University Avenue
Site Plan:
- Housing
- Neighborhood Commercial
- Green Space
Greenway

- Pedestrian/bicycle connection between Merriam Park and north of 94
- Addresses storm water runoff issues with 10 feet of soil
- Looks nice
Housing
- 75 units of multi-family housing
- Maintains surrounding density
- 30% Three-bedroom
- 30% Affordable at 50% of St. Paul Median Income
Housing

- Attached garages in rear
- Private front and back entrances
Neighborhood Commercial
- Six 4,500 sq. ft. retail spaces
- Encourage businesses that fulfill daily needs to encourage walkability
- Sidewalk cafes to promote community
Grocery

- 30,000 sq. ft.
- Draw customers from outside the immediate area who will in turn support the other six commercial spaces
- Local residents can buy groceries without a car
• Explain Bus Routes, future LRT
• Construct shelters
Bus Stops
Automobile Traffic:
- Enter and exit on Cleveland Ave only
- 234 parking spaces meets city parking requirements
- Currently 6,000 ADT on Cleveland Ave
Automobile Traffic:

<table>
<thead>
<tr>
<th></th>
<th>RESIDENTIAL</th>
<th>SPECIALTY RETAIL</th>
<th>SUPERMARKET</th>
<th>AVERAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekday</td>
<td>450</td>
<td>960</td>
<td>3360</td>
<td>4770</td>
</tr>
<tr>
<td>Saturday</td>
<td>450</td>
<td>1008</td>
<td>5340</td>
<td>6798</td>
</tr>
<tr>
<td>Sunday</td>
<td>450</td>
<td>504</td>
<td>4980</td>
<td>5934</td>
</tr>
<tr>
<td>Weighted Average</td>
<td></td>
<td></td>
<td></td>
<td>5226</td>
</tr>
</tbody>
</table>
## Benefit-Cost Analysis

<table>
<thead>
<tr>
<th>Property Type</th>
<th>Preliminary Benefit Estimates</th>
<th>Preliminary Cost Estimates</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unit Value</td>
<td>Total Value</td>
</tr>
<tr>
<td>Open Space</td>
<td>$120,393,71</td>
<td>$231,066,13</td>
</tr>
<tr>
<td>Residential</td>
<td>$300,000,00</td>
<td>$96,000,000</td>
</tr>
<tr>
<td>Commercial</td>
<td>$400,000,00</td>
<td>$138,000,000</td>
</tr>
<tr>
<td>Other benefits</td>
<td></td>
<td>$2,000,000,00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$2,000,000,00</td>
</tr>
<tr>
<td>Total Construction Benefits</td>
<td>$20,649,000,00</td>
<td>$20,649,000,00</td>
</tr>
</tbody>
</table>
Bringing Iris and Longfellow Together

A Realistic Land Bridge Plan

Ebby Leung
Paul Mogush
Kelli Swanson
Joe Willhite

PA 8202

May 5, 2004
Table of Contents

Introduction ......................................................................................................................... 2
Overview .............................................................................................................................. 2
Existing Conditions ............................................................................................................. 3
  Demographics ................................................................................................................. 3
  Amenities and Needs ..................................................................................................... 3
Neighborhood Plan .......................................................................................................... 5
Goals ................................................................................................................................... 6
BILT Plan ........................................................................................................................…. 7
  Greenway ....................................................................................................................... 8
  Residential ..................................................................................................................... 8
  Commercial .................................................................................................................... 9
Transportation .................................................................................................................. 10
Zoning ............................................................................................................................... 11
  Benefit-Cost Analysis ................................................................................................ 11
Conclusion ....................................................................................................................... 12
Sources .............................................................................................................................. 13
Appendix A: Benefit-Cost Analysis .................................................................................. 14
Introduction

Interstate 94 bifurcates the Merriam Park neighborhood of St. Paul, leaving a small residential portion north of the Interstate physically separated from the rest of the area. The residents of this section consider themselves a part of the broader neighborhood south of I-94 because their small enclave is otherwise surrounded by industrial uses (Butterbrodt). Currently residents can walk south on Prior Avenue, across the Interstate and into the main part of Merriam Park; however, the combination of the Interstate and railroad tracks creates a psychological barrier from doing so. A pedestrian crossing the freeway first encounters the vast tract of land occupied by a community center, which does not provide a natural entry point into the rest of the neighborhood.

Our proposal creates a land bridge over I-94 connecting the isolated northern portion of Merriam Park to the rest of the neighborhood. This allows for increased neighborhood cohesiveness without disrupting the region’s irreversible dependence on Interstate highway travel.

The topography of the area allows for a land bridge over I-94 between Cleveland Avenue on the west and Prior Avenue to the east. While residential areas further down the Interstate in both directions merit connection to this proposal, physical constraints prevent a larger construction project.

Land bridges, while expensive, are not an unrealistic dream of returning to a time before Interstate highways fragmented our cities. A park over I-35 in Duluth connects downtown to the lakefront, allowing for quick travel to lakeshore destinations and promoting walk ability within the city. A land bridge in downtown Minneapolis over LaSalle Avenue, part of a greenway between Loring Park and Nicollet Mall, provides a small-scale example.

Overview

This report provides a realistic vision for a master-planned development that addresses neighborhood goals as expressed by the Merriam Park Community Council. The concept, entitled Bringing Iris and Longfellow Together (BILT), seeks to provide a physical and psychological connection between Iris Park near University Avenue and Longfellow Magnet School south of I-94.
Existing Conditions

Demographics
A one-mile radius around the site encompasses an ethnically homogenous yet otherwise diverse group of residents. According to the 2000 U.S. Census, 80 percent of Merriam Park residents classify themselves as white, 10 percent black, and 3 percent each for Asian and Hispanic. 1999 median household incomes in the 14 surrounding census block groups ranged from a low of $15,346 to a high of $65,536 (Figure 1). St. Paul median household income was $38,774.

The share of commuters driving alone to work ranged from 63 percent (Figure 1 shows a low of 37 percent, which is probably an error in the census data) to 80 percent, with the city at 69 percent. The area also had wide disparities in rates of owner-occupied housing, ranging from 13 percent in one block group to 79 percent elsewhere.

Amenities and Needs
The general appearance of the neighborhood lacks a sense of character and place. There also exists a lack of energy within the neighborhood as noticed by the lack of pedestrian activity on the streets. The amount of rail traffic in the region provides another concern, as the tracks tend to intimidate pedestrians within the area. In parts of the area sidewalks are scarce, possible contributing to the lagging sense of community in the region. The
existing neighborhood park and school potentially provide the impetus necessary to foster future parks and community open spaces.

Figure 2: Existing Land Use

The south side of 94 demonstrates a more residential feel, with a mix of single- and multi-family housing (Figure 2). A community center, park, nursing home, and the oldest elementary school in St. Paul also lie immediately south of the Interstate. A few businesses are located in the area, and while they are within a five-minute walk of the land bridge site they lack fulfillment of any daily needs except for a Laundromat and two small restaurants. Longfellow Humanities Magnet School is the oldest building in the St. Paul school district and serves as a source of pride for the neighborhood.

With the exception of the small residential enclave, the north side of I-94 in the area of interest is dominated by industrial uses (Figure 2). The large amount of pavement required by these uses has prompted
neighborhood concerns about run-off problems caused by impervious surfaces. Residents would like any new development in the area to incorporate open space to help mitigate this problem (Butterbrodt).

The industrial area is home to several employers that rely upon access to the Interstate and railroad for shipping. Examples include a large liquor distribution company and a Metro Transit bus garage, both of which generate a large amount of traffic in the neighborhood. Other neighborhood employment opportunities include American Engineering and Testing and multiple low-rise office parks with smaller businesses. The neighborhood witnessed a loss of 3,000 manufacturing jobs in the last ten years (University United). This exodus of manufacturers, an issue nationwide, led to a depressed tax base in the Midway Industrial Area. The City of St. Paul is responding with a push for residential and mixed-use development. Private entities are also considering Transit-Oriented Development in anticipation of light-rail service along University Avenue.

**Neighborhood Plan**

On February 4, 2004, the St. Paul City Council adopted the Merriam Park Community Plan as an addendum to the city’s comprehensive plan (Merriam Park Community Council). The plan makes policy recommendations for five major areas:

1. Land Use
2. Economic Development
3. Infrastructure
4. Environment
5. Transportation

Land use concerns emphasize maintaining and enhancing a walkable community, constructing affordable housing, and encouraging mixed-use development. The neighborhood prefers housing rehabilitation over new projects, but indicates that any new housing construction should be located along transit routes. Regarding economic development, the plan calls for small- to medium-sized commercial operations and discourages big-box development. Neighbors do not want to add significant amounts of automobile traffic to the streets, but make a specific exception for mixed-use developments.

The remainder of the plan promotes green space, traffic calming, responsible improvements in infrastructure, and increased bus service. Merriam Park residents support light rail transit on the University Avenue corridor as long as it does not bypass
the neighborhood in an effort to move outsiders between downtown Minneapolis and downtown St. Paul.

**Goals**

Taking into consideration the neighborhood plan and our own observations, BILT has the following goals:

1. Physically connect the residential enclave north of I-94 and east of Prior Ave to the rest of Merriam Park
2. Increase walk-ability
3. Make better use of existing neighborhood amenities
4. Increase neighborhood retail options
5. Provide housing that fits the diverse mix of people in the neighborhood
6. Create a sense of place and pride that will enhance livability and spur additional development off the land bridge
7. Mitigate the negative social and environmental externalities of the industrial area between I-94 and University Avenue
BILT Plan

BILT will span the Interstate 94 right-of-way between Cleveland and Prior Avenues, an area of approximately 12 acres (Figures 3 and 4). Development will be confined to the bridge only, with the exception of a small parcel north of Gilbert Avenue currently occupied by industrial uses and a single-family home.

Figure 3: Existing Land Use with Site Plan
**Greenway**

BILT addresses several of the project’s stated goals with the construction of a greenway running east and west through the middle of the development, as well as a green space on the east end flowing out from the current Merriam Park. Eight-foot shared pedestrian/bike paths run through both green spaces, promoting alternate forms of transportation within the development and serving as a human-scale connection between the two sides of the freeway. Residents on the north side of I-94 will feel more comfortable walking or biking to amenities on the south side, as well as to new development on the land bridge. The winding nature of the paths will serve as a deterrent to criminals because they won’t be able to see a clear getaway path. The green space, which will include trees planted in 10 feet of soil on top of the bridge structure, will also address neighborhood concerns over storm water runoff created by impervious surfaces.

**Residential**

The Merriam Park neighborhood plan states that any future development should retain the current residential look and feel of the area. The City of St. Paul has also made housing a priority. The mayor’s Housing 5000 program began in 2002 with the goal of building 5,000 housing units in four years. To help reach this milestone, the BUILT development plan includes 75 units of multi-family housing (blue shaded areas in Figure 4), with an average of three persons per unit. This concept maintains the surrounding population density of approximately 8,000 persons per square mile while providing a substantial amount of open space.

Housing will be in the row house style with 12 buildings, each with four to 12 units. Each unit will be three stories, 25 feet wide by 20 feet deep, and will allow for various floor plans with differing numbers of bedrooms to meet the diverse needs of the surrounding community. We recommend that at least 30 percent of the units contain three bedrooms to encourage families with children to live in this development, which provides convenient pedestrian access to Longfellow Magnet Humanities School.
Another 30 percent should remain affordable to families at 50 percent or less of St. Paul’s median income. This goal will help Housing 5000 meet its “20% policy” for affordable housing.

Garages will be attached to the back of the units, opening up into a shared alley with space for additional parking and garbage pickup. Each unit will have a private front and rear entrance. Ten-foot front lawns will be divided by short, attractive fences to separate public space from private space, encouraging a feeling of ownership.

**Commercial**

In addition to enjoying the residential feel of Merriam Park, residents also say they like being able to walk to neighborhood businesses (Merriam Park Community Council). The area immediately surrounding the land bridge site, however, lacks any retail establishments. We propose six 4,500 square-foot commercial spaces interspersed throughout the residential buildings (red shaded areas in Figure 4). These stores will be at the ends of the buildings and will be located across shared patios to encourage cafes with sidewalk seating. Other possible uses include a hardware store, post office, or salon.

We also propose a 30,000-square-foot retail building (300 feet by 100 feet) on the west end of the land bridge along Cleveland Avenue. The space would fit a mid-sized grocery store such as Kowalski’s (a St. Paul-owned chain) with enough room for a pharmacy serving the nursing home across the street. Combined with the neighborhood commercial spaces, a grocery store allows residents to meet their daily shopping needs without driving. Many families could own only one car, making BILT a more affordable place to live. A grocery store would also draw customers from outside the neighborhood, who will in turn patronize the smaller retail establishments on the bridge.
Transportation

Three Metro Transit bus routes currently serve the area immediately surrounding the land bridge (Figure 5). Route 67 runs on Cleveland and Gilbert Avenues, along the western and northern border of the bridge. Route 191 provides express service to and from downtown St. Paul on Interstate 94, entering and exiting the freeway at Cretin Avenue. Route 16 runs at a high frequency on University Avenue, just north of the land bridge. This route may be complemented by light rail transit in the future. Route 67, which provides low-frequency service, should operate at a higher frequency to connect land bridge residents to current and future University Avenue transit options. Current bus stops provide convenient access to land bridge residents, but will be physically upgraded to encourage transit use.

Figure 5: Bus Routes

Automobile traffic will enter and exit the development on Cleveland Avenue only. A 25-foot one-way street with 150 diagonal parking spaces will surround the east-west greenway, providing visitor access and parking to homes and businesses. A 74-space lot will be located north of the grocery store on land currently occupied by industrial uses. A short section of Gilbert Avenue will be rerouted around this lot. The total of 234 spaces, in addition to two garage spaces under each housing unit, meets St. Paul parking requirements for all development on the land bridge.
Our development definitely impacts the existing road conditions of the neighborhood. The new development adds, on average, more than 5,000 vehicle trips per day (Table 1) to a region that already sees more than 6,000 average daily trips (Meyer). This fact provides some concern; however, the design and flow of traffic through the development and the addition of another bus stop on the north side of the development hopefully provides some mitigating factors. We expect BILT to nearly double the amount of traffic in the area.

Table 1: Trip Generation

<table>
<thead>
<tr>
<th></th>
<th>RESIDENTIAL</th>
<th>SPECIALTY</th>
<th>SUPERMARKET</th>
<th>AVERAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekday</td>
<td>450</td>
<td>960</td>
<td>3360</td>
<td>4770</td>
</tr>
<tr>
<td>Saturday</td>
<td>450</td>
<td>1008</td>
<td>5340</td>
<td>6798</td>
</tr>
<tr>
<td>Sunday</td>
<td>450</td>
<td>504</td>
<td>4980</td>
<td>5934</td>
</tr>
</tbody>
</table>

Source: Institute of Transportation Engineers

Zoning

Zoning for this parcel, given the unique form and character, lends itself to a High-Density Mixed Use classification. The development contained within the parcel facilitates this zoning classification and allows for leniency for future redevelopment potentials. This classification falls within the options possible within the City of St. Paul definitions; however, in an attempt to avoid any confusion the project will proceed as a Planned Unit Development.

The current parcels slated for redevelopment and incorporation within the BILT project present an industrial zoning classification with uses ranging from industrial to housing. Please note that the housing use existed before the current zoning enforcement occurred. Given that the redevelopment proposal for these parcels presents a parking option, the zoning classification remains intact with no variance or rezoning required.

Benefit-Cost Analysis

The preparation of a Benefit-Cost Analysis provided several difficulties in assigning monetary values to qualitative concerns regarding air pollution, congestion, noise reduction, and aesthetic appearance (Appendix A). The costs associated with development provide some room for questioning; however, logic exists behind each figure.

Tree and fill prices stem from market prices based upon local suppliers. Paving costs are based upon market prices of installation and product costs provided by a local merchant. Traffic-related costs provide the most subjective rationale. Costs are based upon the traffic generation and congestion values presented within lab and Transportation-Disruption Costs derive from the assumption that traffic delays occur for three and one-half hours per day for an entire year. Unit costs are based upon the
assumptions provided by www.rsmeans.com by inputting the square footage of the overall units.

**Conclusion**

The BILT plan begins to address Merriam Park Neighborhood goals through the construction of a hypothetical land bridge over I-94. This plan provides land use ideas for future proposals presented by public and private entities. If implemented, these ideas could foster a greater sense of community and connectivity without actually building a costly development over the Interstate. The construction of a land bridge proves unrealistic, however thinking about the implications of land use on the urban form and its interaction with other aspects of planning helps neighborhoods create the environment they envision.
Sources


Institute of Transportation Engineers. Trip Generation and Trip Generation Handbook. 2000


Appendix A: Benefit-Cost Analysis
### Preliminary Benefit Estimates

<table>
<thead>
<tr>
<th>Property Value-New land created</th>
<th>Per Unit Value</th>
<th>Total Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open Space</td>
<td>$194,285.71</td>
<td>$831,668.20</td>
</tr>
<tr>
<td>Residential</td>
<td>$120,000.00</td>
<td>$135,683.67</td>
</tr>
<tr>
<td>Commercial</td>
<td>$230,000.00</td>
<td>$261,235.48</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit Value</th>
<th>Per Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>$200,000.00</td>
<td>$15,000,000</td>
</tr>
<tr>
<td>Commercial</td>
<td>$200.00</td>
<td>$11,400,000</td>
</tr>
</tbody>
</table>

### Other benefits

| Preserves undeveloped land       | $133,333.33     | $2,000,000    |

| Total Construction Benefits      | $29,649,067.56  |              |

### Preliminary Cost Estimates

<table>
<thead>
<tr>
<th>Construction Related</th>
<th>Per Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air rights</td>
<td>$3 / sq. ft.</td>
<td>$1,560,000.00</td>
</tr>
<tr>
<td>Bridge span</td>
<td>$90 / sq. ft.</td>
<td>$46,280,000.00</td>
</tr>
<tr>
<td>Bridge Contingency</td>
<td>10% of Span Cost</td>
<td>$4,680,000.00</td>
</tr>
<tr>
<td>Land Acquisition</td>
<td></td>
<td>$600,000.00</td>
</tr>
<tr>
<td>Apartments, Low Rise</td>
<td>$71,000.00</td>
<td>$5,325,000.00</td>
</tr>
<tr>
<td>Retail Stores, 6 stores @ 4,500 sq. ft.</td>
<td>$64.52</td>
<td>$1,742,000.00</td>
</tr>
<tr>
<td>Supermarket</td>
<td>$69.53</td>
<td>$2,086,000.00</td>
</tr>
<tr>
<td>Fill</td>
<td>$10.00</td>
<td>$1,730,000.00</td>
</tr>
<tr>
<td>Top Soil</td>
<td>$25.00</td>
<td>$489,800.00</td>
</tr>
<tr>
<td>Trees</td>
<td>$100.00</td>
<td>$50,000.00</td>
</tr>
</tbody>
</table>

| Traffic related                 |                 |              |
| Increased SOV trips             |                 | $273,750.00  |
| Increased congestion            |                 | $1,999,000.00|

| Quality of life costs           |                 |              |
| Air pollution                   |                 | $225,000.00  |
| Transportation disruption-construction |             | $24,090,000.00|

| Pavement Costs                  |                 |              |
| Streets                          | $245,000.00     |              |
| Sidewalks                        | $130,200.00     |              |
| Parking Spaces                   | $144,200.00     |              |
| Trails                           | $37,100.00      |              |
| Alleys                           | $88,200.00      |              |

| Total Construction Costs        | $92,194,250.00  |              |