

# LEED for Neighborhood Development and the Loring Park Neighborhood

Report written and assembled by Jillian DeCoursey  
for the Citizens for a Loring Park Community  
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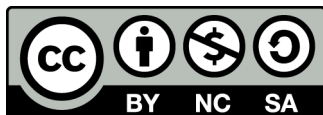
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This report summarizes research conducted this summer by the author in collaboration with John Van Heel and Sarah Curtner. Lauren Huynh served as an advisor for the project. Kelly Muellman, from CURA, provided technical support with the GIS software.

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*We advocate the restructuring of public policy and development practices to support the following principles: neighborhoods should be diverse in use and population; communities should be designed for the pedestrian and transit as well as the car; cities and towns should be shaped by physically defined and universally accessible public spaces and community institutions; urban places should be framed by architecture and landscape design that celebrate local history, climate, ecology, and building practice.*

*Charter, Congress for the New Urbanism*

## Executive Summary

This report documents the findings of a research project conducted for the Citizens for a Loring Park Community (CLPC) in the summer of 2010. The project was funded and supported by the Center for Urban and Regional Affairs (CURA) at the University of Minnesota. The goal of the project was to explore the potential for part of the Loring Park neighborhood of Minneapolis to become Leadership in Energy and Environmental Design (LEED) certified under the new rating system for Neighborhood Development (LEED-ND). In order to reach this goal, an inventory of the community's physical environmental assets was conducted.

The information collected was compiled geographically and analyzed using GIS software. Following the conclusion of this project, CLPC will begin a comprehensive master planning process for the neighborhood. It is our hope that the information gathered during the summer will be of use in the master planning process and to future developers interested in certifying new buildings and major renovations in the neighborhood.

A thorough study of LEED-ND highlighted both the challenges and opportunities of applying the rating system to Loring Park. LEED-ND is geared more towards new development and major renovations than existing communities. However, Loring Park has considerable potential for development, especially along Nicollet Avenue and its surroundings. With new development, part of Loring Park could become LEED-ND certified. Even without certification, using LEED-ND as a framework with which to analyze the neighborhood has provided useful insights into both the community's environmental assets and limitations.

## Introduction

From the busy restaurants on Nicollet Avenue, to the historic apartments on Loring Hill, to the landscaped pathways of the park that lends the neighborhood its name, Loring Park has the characteristics of a dynamic urban neighborhood. Sitting just southwest of Downtown Minneapolis, Loring Park is one of the most densely populated and diverse neighborhoods in Minneapolis. Many of characteristics that progressive planning groups like the Congress for the New Urbanism admire in urban neighborhoods can be found in Loring Park. The community has diverse businesses, diverse housing options, numerous cultural institutions, an active street life, and is tied into the rest of the city by extensive public transportation. Of course, Loring Park is not perfect. Highways sever Loring Park from its neighbors on three sides of the neighborhood, isolating Loring Park despite its geographic location at the heart of the city. Although pedestrians and bikers abound, many of the neighborhood's major roadways do little to protect and encourage them. Some buildings are vacant, and others have fallen into disrepair due to neglect. Despite its imperfections, the commitment of Loring Park residents to making their neighborhood more livable and sustainable serves as a compelling sign of the neighborhood's health and success.

This fall the Loring Park neighborhood will begin developing a comprehensive master plan for the neighborhood. One of the requirements of the master plan, as established in the RFP, are recommendations regarding future LEED-ND certification for a portion of the neighborhood. This report summarizes the preliminary research and data collection that was accomplished this summer exploring the potential for part of Loring Park to become LEED-ND certified.

### **LEED-ND in the Context of Loring Park**

Leadership in Energy and Environmental Design, LEED, is the green building rating system of the United States Green Building Council (USGBC). LEED certification is based on quantifiable indicators of sustainable design such as energy consumption, water use, and recycled materials content. Certification is determined by third-party review teams and provides green building owners with validation of their environmental efforts. It also offers an internationally recognized method to compare green buildings. Following the success of the first LEED rating system for newly constructed buildings, the USGBC created additional rating systems to address different building types such as homes, schools, and existing buildings. Following a two-year pilot program, in 2009 the USGBC introduced LEED for Neighborhood Development, a rating system designed to encourage smart and sustainable development at a community scale.

LEED-ND was created by the USGBC in collaboration with the Congress for the New Urbanism and the National Resource Defense Coalition.<sup>1</sup> The criteria for LEED-ND certification are broken into five main categories: Smart Location and Linkage, Neighborhood Pattern and Design, Green Infrastructure and Buildings, Innovation and Design Process, and Regional Priority. Each category has several prerequisites that every project must meet to receive certification. Additional points can be attained in each category contributing to the project's final point total (see **Appendix A** for a complete breakdown of the LEED-ND credits). Depending on the number of points achieved, a project can attain basic certification (40-49 points), silver certification (50-59 points), gold certification (60-79 points), or platinum certification (80-110 points).

It is important to clarify that the immediate goal of this research project is not the LEED-ND certification of Loring Park. The LEED-ND rating system is not designed for the certification of existing urban neighborhoods, but rather new developments on infill sites. As a general rule, it is recommended that 50% of the buildings in a LEED-ND project

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1. General information on LEED-ND is taken from the USGBC website ([www.usgbc.org](http://www.usgbc.org)) and the *LEED 2009 for Neighborhood Development Rating System*, available at <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=148>.

area be new or substantially renovated.<sup>2</sup> The upcoming creation of a master plan for Loring Park makes this the perfect time to begin surveying the neighborhood and envisioning the potential for future LEED-ND certifiable development. However a developer's involvement and plans will be necessary before the process of LEED-ND certification can begin.

### **Project Goals**

The goal of this project was to inventory Loring Park's sustainability assets in an accessible way and to make recommendations for future sustainable development in the neighborhood. LEED-ND served as a basic framework for the data collection process, and was supplemented with additional information when necessary or advantageous. All of the collected information was mapped using Geographical Information System (GIS) software to facilitate the easy location of neighborhood information. This inventory will serve as a tool to developers and community groups as they compare different options for the neighborhood's development. Additionally, using the LEED-ND guidelines, it is possible to evaluate some the Loring Park's overall sustainability strengths and weaknesses on a neighborhood and

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2. U.S. Green Building Council, "A Local Government Guide to LEED for Neighborhood Development," <http://www.usgbc.org/ShowFile.aspx?DocumentID=6131>, 4.

district scale. This analysis is intended to provide a useful resource in designing neighborhood initiatives and for the master planning process. A final goal of this summer project was to engage the community in the topic of sustainable urban development. There are many routes to improving the ecological footprint and livability of a community. It was our goal to facilitate the discussion of creative solutions to the challenge of making Loring Park a model of sustainability and an even better place to live.

## Preliminary Research

### Precedent Studies

Before undertaking the study of the Loring Park neighborhood, a survey of LEED-ND precedents was made. There are currently 77 completed projects from the LEED-ND Pilot Program. Reviewing these, and several projects in the intermediate stages of becoming certified it was possible to glean some useful information for the Loring Park project. None of the completed LEED-ND projects profiled on the USGBC website have included a large part of an existing community. The examples are primarily urban infill projects. Typically a single entity owns all of the certified area, and the projects are nearly entirely new construction or major renovation.

The Jackson Square Redevelopment Initiative in Massachusetts, Dockside Green in Victoria, British Columbia, and the local example of Excelsior & Grand in St. Louis Park, Minnesota serve as examples of the varying scales and ambitions of LEED-ND Pilot Program projects. These three projects all fall within the 10-20 acre range. The Jackson Square Redevelopment Initiative serves as an example of how community groups can initiate redevelopment and green building. In this case study, non-profit groups and the local government worked together to write the “Green Guidelines” for the neighborhood’s future development, making green buildings and walkable, healthy community design accessible to a low

to moderate-income neighborhood.<sup>3</sup> Dockside Green is a new waterfront development that is seeking to break LEED records. All of the buildings on its site will be LEED certified (platinum where possible), and the neighborhood is seeking platinum LEED-ND certification. To achieve these ambitious ends, the community is integrating major infrastructural systems for sewage treatment and bio-fuel heat generation onto the site, in addition to including efficient and community minded design throughout the site.<sup>4</sup> This case study serves as a reminder to think big and holistically whenever possible. Excelsior & Grand is an example of LEED-ND in the Minneapolis area. Like Excelsior & Grand, the Loring Park neighborhood’s location in Minneapolis puts public transit and bike paths easily within reach. This case study also illustrates the profitability of mixed-use development in the Minneapolis metropolitan region.<sup>5</sup>

Some larger communities like the SALT District of Syracuse and South Chicago are also using LEED-ND as a guideline

3. Information on Jackson Square from: Smart Growth / Smart Energy Toolkit – Environmental Justice Case Study, [http://www.mass.gov/envir/smart\\_growth\\_toolkit/pages/CS-ej-jackson-sq.html](http://www.mass.gov/envir/smart_growth_toolkit/pages/CS-ej-jackson-sq.html), and US Green Building Council, Project Profile, <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1721>.

4. Dockside Green, [http://docksidegreen.com/index.php?option=com\\_frontpage&Itemid=1](http://docksidegreen.com/index.php?option=com_frontpage&Itemid=1).

5. Information on Excelsior & Grand: ESG Architects – Elness Swenson Graham, <http://www.esgarch.com/>, and Excelsior & Grand Luxury Apartment Homes, <http://www.excelsiorandgrand.com/>.

for future development. The SALT (Syracuse Art Life Technology) District project, on the near Westside of Syracuse, encompasses 200 acres of existing neighborhood. In order to attain LEED-ND certification, The SALT District is working with homeowners to retrofit their homes to meet green standards, while revitalizing larger post-industrial buildings into mixed-use facilities.<sup>6</sup> The South Chicago LEED Initiative spans an even larger site of 1,140 acres. Half of the site is the empty remains of a former US Steel manufacturing site and the other half is an existing residential development. The plan for the project is to turn the lakeside industrial site into a park and a high-density mixed-use community while improving public transportation and redeveloping key city-owned lots within the existing residential neighborhood, encouraging sustainable development. Unlike the other case studies, the South Chicago LEED Initiative is a LEED-ND plan rather than a project.<sup>7</sup>

Although none of the case studies examined perfectly embodies Loring Park, they provide a useful overview of the potential approaches to LEED-ND. Both scale and ambition influence the challenge of pursuing LEED-ND. A smaller

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6. SALT District, Green Neighborhood, <http://saltdistrict.com/about/green-neighborhood/>.

7. Chicago Public Radio, Chicago Amplified – South Chicago LEED ND Initiative, <http://www.chicagopublicradio.org/Content.aspx?audioID=31917>.

project site, with fewer landowners and developers would be easier to certify than a larger existing community with many stakeholders. However, as these examples demonstrate, with creativity and ingenuity all sorts of projects are possible. For a more complete analysis of the case studies examined please see **Appendix B**.

### **Alternatives to LEED-ND**

This summer research project began with the assumption that LEED-ND was the appropriate tool for benchmarking and improving the Loring Park neighborhood's sustainability. A quick survey of alternatives to LEED-ND is useful for understanding why LEED-ND was chosen and identifies additional systems that the Loring Park neighborhood could consider for supplementary analysis.

Over the last decade many cities and neighborhoods have developed their own means for measuring the sustainability of their communities. These programs tend to be well suited to their local environments but require time and resources to develop. The Center for Sustainable Building Research at the University of Minnesota has developed a set of metrics for sustainable development.<sup>8</sup> Each of the thirteen metrics

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8. Center for Sustainable Building Research, University of Minnesota. <http://www.csbr.umn.edu/>. Building metric information courtesy of Richard Strong, Senior Research Fellow. Please note that these are different building guidelines than those developed by CSBR for the State of Minnesota Building, Benchmarks, and Beyond Program, which

addresses a different issue related to sustainable development such as energy and global warming, storm water and groundwater, and night sky radiation. Each metric provides a goal for addressing the sustainability issue, as well as a scope for the metric, a method of measurement, strategies for design, a minimum requirement, and an ultimate condition. The ultimate conditions are ambitious, for example “zero net energy and zero greenhouse gas emissions.”<sup>9</sup> Unlike LEED, which allots points for reaching different sustainable benchmarks, these metrics describe an ultimate condition for sustainable development and leave it up to the project to meet their goals in a non-prescribed way.

While local programs offer greater adaptability to local conditions, wider ranging programs provide greater potential for understanding local conditions in a larger context. Several national programs exist that address important components of sustainable community development. For example, the Green Communities building program is specifically aimed at creating green affordable housing.<sup>10</sup> Like LEED, Green Communities uses a point system with several mandatory

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provides green building guidelines for buildings receiving bond money from the state.

9. CSBR Building Metric, “Energy Use and Global Warming,” ultimate condition.

10. Enterprise Community Partners, Inc., “Green Communities Criteria 2008,” 2008, downloaded from <http://www.greencommunitiesonline.org/tools/criteria/index.asp>.

credits and additional optional credits in different categories like Integrated Design, Water Conservation, and Healthy Living Environment. Unlike LEED, rather than earning different levels of certification, achieving a set threshold of points in the Green Communities program makes the development eligible for Green Communities grants, tax credits, and loans. Another national program that addresses one component of sustainability is the Walk Score Calculator.<sup>11</sup> Through the Walk Score website it is possible to get a walk score for any address in the country. The walk score evaluates the given location’s “walkability” using an algorithm that calculates how close the given address is to a number of different services. Scores range from zero to one hundred points, with one hundred points being the most walkable. 1400 Nicollet Avenue in Loring Park returns a walk score of 91, or a “walker’s paradise.” Only 11% of Minneapolis addresses have a higher walk score and the city’s average walk score is 73. The Walk Score website has recently added a Transit Score calculation which uses a similar algorithm to rate how well served an address is by public transit. The same address in Loring Park receives an 84, or “excellent transit” score.

At the moment LEED-ND is the most comprehensive nationally recognized measure of neighborhood sustainability. However, because LEED-ND was developed for contained

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11. Walk Score, <http://www.walkscore.com/>.

new developments it is not ideal for large existing communities. While existing neighborhoods have been creative, using LEED-ND as a planning tool in addition to a certification method, this use of LEED-ND is not what the program was designed for. Currently, the USGBC is working with the ICLEI-Local Governments for Sustainability (ICLEI), and the Center for American Progress to develop the STAR Community Index.<sup>12</sup> The ICLEI will administer the program. The goal of the STAR Community Index is to provide a national, consensus-based, third party certification system for local governments. The STAR Community Index is not intended as a ranking tool but as a means for cities to compare the relative successes of their environmental investments. It is also the hope of the ICLEI, that by providing a nationally vetted rating system, municipalities will not have to spend the time and resources to develop their own measures of sustainability. Because the STAR Community Index is still under development, it is not available for use on this project. Should the STAR Community Index be released in the near future it could provide an additional useful measure of Loring Park's sustainability.

### **LEED-ND for Local Governments**

The master plan for Loring Park that will be written this fall

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12. ICLEI—Local Governments for Sustainability, STAR Community Index, <http://www.icleiusa.org/star>.

provides the community with a unique way to approach LEED-ND. The USGBC recently released a white paper, "A Local Government Guide to LEED for Neighborhood Development," which addresses how LEED-ND can be used at a citywide scale.<sup>13</sup> As addressed above, the USGBC does not recommend that entire cities seek certification. In this article, the USGBC suggests that LEED-ND be used as a planning and goal setting tool for cities. The article also gives examples of how city governments can encourage LEED-ND development through incentives or by making it easier for developers to pursue LEED-ND by making the information needed for certification easily accessible. The development of the Loring Park neighborhood's master plan provides an opportunity to address some of the strategies addressed in the white paper.

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13. U.S. Green Building Council, "A Local Government Guide to LEED for Neighborhood Development," <http://www.usgbc.org/ShowFile.aspx?DocumentID=6131>.

## Methodology

In order to attain a comprehensive assessment of a neighborhood the LEED for Neighborhood Development credit requirements cover a wide range of issues. Because the Loring Park neighborhood is not a new development with a project team and architectural drawings, the data collection process sometimes became complicated. Some of the needed information is accessible through municipal websites, maps, and databases while other information can only be gathered in the field or by talking with building owners and users. For the purposes of this study, some information was deemed too time intensive to collect for the entire neighborhood. If part of Loring Park seeks LEED-ND certification, a more thorough investigation will need to be conducted within the smaller project boundary. Because of the diverse nature of information required for LEED certification, our data collection methodology was necessarily flexible and adapted to the different types of information needed. Gathering and compiling the information in a logical and accessible way required additional exploration and refinement. Following is an overview of our data collection and organization methods.

### Study Areas

In order to simplify the data collection process, Loring Park was divided into four study areas: Nicollet, Loring Hill, Harmon, and Downtown **[Map 1]**. The Nicollet area was the

first area examined. By starting with a smaller part of the neighborhood, it was possible to identify challenges in collecting data sooner than if all the Loring Park neighborhood had been surveyed at once. Using the Nicollet area as a practice data collection zone allowed the data collection for the Loring Hill and Harmon areas to proceed smoother and quicker. Due to time limitations, the Downtown area, which includes the Minneapolis Convention Center and several neighboring hotels, was excluded from much of the data collection process. This was deemed the area least likely to be included in a LEED-ND project due to its current level of development and the scale of the buildings in the area at this time.

Map 1: Study Areas



### **GIS Data Mapping**

An important goal of this project was to make the collected information as accessible as possible for future planners and developers in the Loring Park neighborhood. After evaluating the type of information being collected, it was decided that mapping the information using Geographical Information System (GIS) software would be the simplest and clearest way to transfer the information. Having the LEED-ND data geographically mapped is also useful for evaluating the neighborhood's compliance with many of the LEED-ND credits that require one to track the distance between two points (i.e., between dwelling units and public transportation). On a larger scale, having the LEED-ND data in GIS will make it possible to compare different potential LEED-ND project boundaries. In addition to helping with LEED-ND analysis, the organization of community data into a GIS program will make it easier for CLPC to track and update useful community information in the future.

### **Existing Data**

Much of the data needed for LEED-ND is available through a number of databases and maps. As a foundation, we were able to get parcel information for the neighborhood. This information included addresses and owners for each property in the neighborhood. Hennepin County makes similar information available on its website through an interactive

map interface. The City of Minneapolis has additional information available through their PropertyInfo searchable website. Searching by the parcel's address it was possible to find structural building information like total building square-footage and the number and type of units in apartment buildings. A planimetric drawing from the city provided additional useful information. For example, using AutoCAD to view the planimetric, it was easy to measure building setbacks from the public-right-of way and the percentage of sidewalk obstructed by curb cuts. In addition to saving time, this method of taking measurements was likely more consistent and accurate than attempting to collect the information in the field. By taking advantage of pre-assembled information it was possible to collect more information for a larger range of properties. There are some disadvantages to using pre-assembled data. For example, some of the information was compiled before the newest buildings in the neighborhood were built. It was necessary to make sure that the information collected was up to date and to fill in any missing pieces of information from the pre-compiled data.

### **Field Collection**

Some of the data needed for LEED-ND was not accessible through existing databases and maps, but was readily available visiting the site in person. For example, the location of primary building entrances, the ground level uses of buildings,

and the number of parking spaces in a parking lot are easier to identify in person than through other means. In order to simplify the data collection process, the different required pieces of information were divided among our research team. Each individual was responsible for their assigned data from the initial collection of information in the field to the input of the data into GIS. Printed maps of each block in the neighborhood were used to gather field notes. Again, the use of study areas made it possible to collect this information systematically.

### **Questionnaires**

Some of the information needed for LEED-ND calculations, such as the number of internal bike parking spaces or the exact number of full-time employees, was only available through building and business owners. CLPC has good relationships with many of the property owners and businesses in the neighborhood, making the process of getting in touch with these key information holders easier.

## Findings

The goal of this summer's data collection was to gather a broad understanding of how the Loring Park neighborhood fairs under the LEED-ND rating system. The process of certifying a project under LEED-ND requires substantial documentation for each credit. While some of the data we collected this summer could be used directly in a LEED-ND certification project, other pieces of information are intended for more general use, either to illustrate neighborhood trends, or to help identify a well-suited project site. Some credits required time intensive data collection and were not attempted for our neighborhood-wide survey. These credits will be much easier to evaluate at a smaller scale should a specific LEED-ND project site be identified.

In order to interpret the data collected this summer, it is useful to consider the information in the context of the LEED-ND credit(s) it pertains to. The following pages systematically review the LEED-ND credits we examined this summer. Please note that in the following analysis, credit requirements are included but in a condensed and paraphrased form. In some cases, assumptions have been made as to which of several credit options the Loring Park neighborhood would pursue. The complete LEED-ND credit requirements are available free to download online at the USGBC website (please refer to **Appendix C** resource links). Under each credit is a brief summary of the data relevant to

that credit and a concise analysis of the data's implications for the neighborhood. It is our hope that by sharing this data in a clear and concise way it will be possible to begin well-informed discussions throughout the Loring Park community about how to pursue LEED-ND in the neighborhood. The credits and prerequisites are presented in the order they occur in the *LEED 2009 for Neighborhood Development Rating System*. Please see **Appendix A** for a complete LEED-ND credit checklist.

### Smart Location and Linkage

#### *Prereq 1 Smart Location*

Locating the project on an infill site fulfills this prerequisite. Any site within Loring Park qualifies as an infill site.

#### *Credit 1 Preferred Locations (1-10 points)*

Under this credit, five points are awarded for locating the project on an infill site that is also previously developed. Any site in Loring Park would qualify for these points. Up to an additional five points are available for connectivity, which is measured in intersections per square mile **[Map 2]**. Loring Park, including the Downtown area, has 176.5 intersections per square mile. Excluding the Downtown area, Loring Park has 225 intersections per square mile. The Nicollet area calculated on its own has 297.7 intersections per square mile **[Table 1]**. Given these figures, Loring Park, excluding the

Downtown area, would qualify for one additional point and the Nicollet area by itself would qualify for two. Disruptions to the street grid like the Convention Center and the long blocks on Loring Hill lower the results of this calculation. Three additional points are available for this credit by earning two or more points under NPDC4, Mixed-Income Diverse Communities, Option Two: Affordable Housing.

**Table 1**

<b>Intersections per Square Mile by Area:</b>	
Loring Park including Downtown Area	176.5
Loring Park excluding Downtown Area	225
Nicollet Area	297.7

***Credit 3 Locations with Reduced Automobile Dependence (1-7 points)***

This credit requires that half of the dwelling units on a project site be within a quarter-mile walk of a bus stop.<sup>14</sup> It is possible to earn up to seven points depending on the number of trips per day available at the bus stops. For exam-

<sup>14</sup>. Several credits use walking distance as the measurement between dwelling units and the destination. Walking distance is the distance between two places if one was walking, that is, following sidewalks and pedestrian ways. Other credits allow one to measure distances by taking a straight line between two points. It is important to be aware of which measurement is being asked for, because the results can vary.

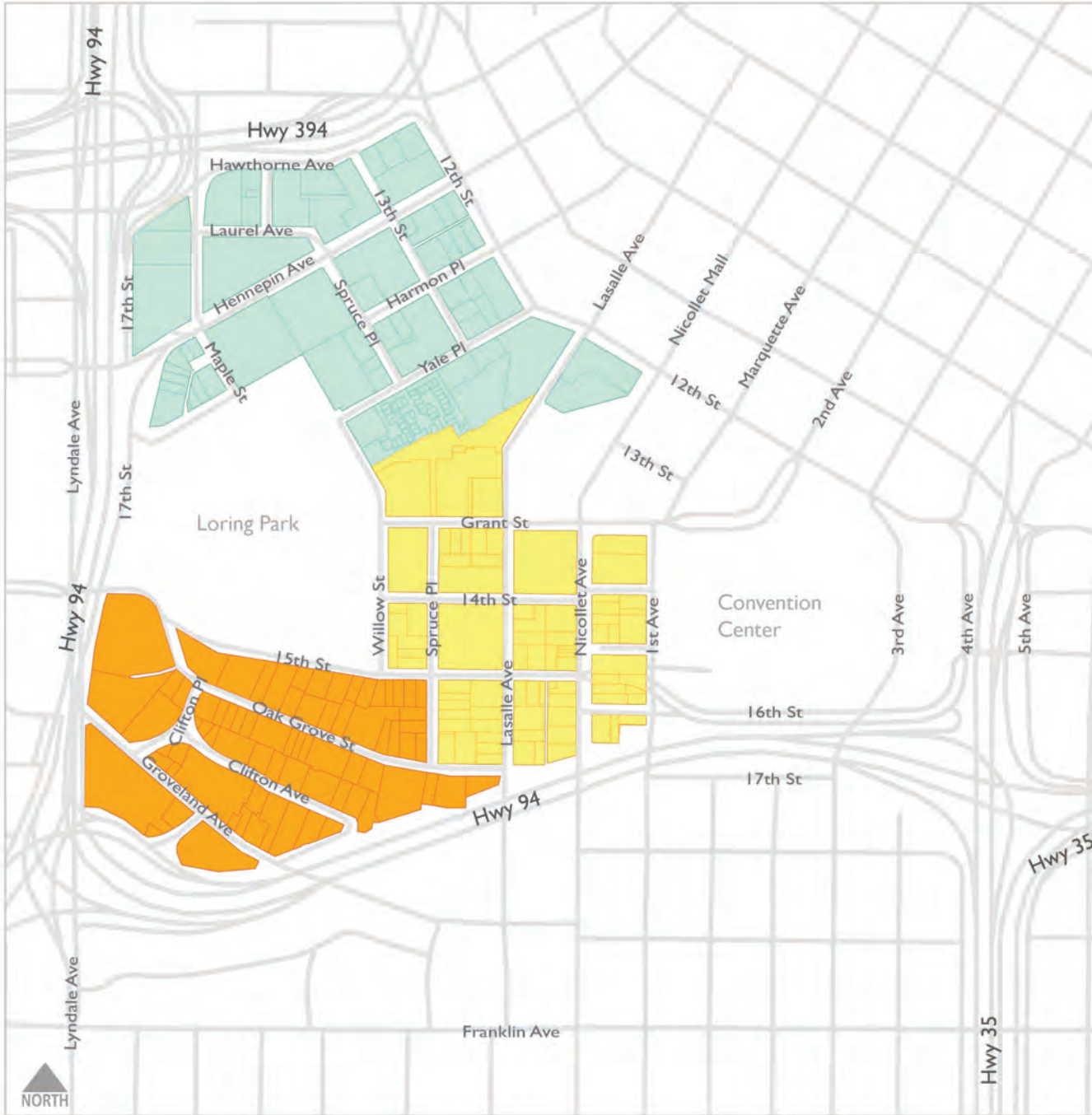
ple, for all seven points, the bus stops within a quarter-mile walk of half of the project's dwelling units would need to offer together over 320 daily weekday trips and 200 daily weekend trips. **Map 3** shows the bus routes and stops in the Loring Park neighborhood. Included on the map are "walking distances" from some of the neighborhood's more remote building entrances. None of these distances exceed a quarter-mile. Because, Hennepin Avenue, Lyndale Avenue, and Nicollet Avenue are all major transit ways, it should be possible for any project in Loring Park to receive all seven points for this credit.

***Credit 4 Bicycle Network and Storage (1 point)***

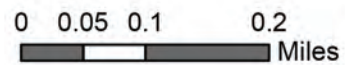
This credit has two requirements. The first can be met by locating the project within a quarter mile bike ride of an existing bicycle network that is at least 5 miles long. Minneapolis has over 80 miles of off-road bike paths, over 40 miles of streets with bike lanes and was recently identified by *Bicycling Magazine* as the best biking city in the United States.<sup>15</sup> Nearly all sites within Loring Park are within a quarter mile of the Minneapolis bike network [**Map 4**]. The second part of this credit requires a minimum number of enclosed bike parking spaces and employee showers for new buildings on the project site. Because this only involves new construction,

<sup>15</sup>. City of Minneapolis, *Bicycling in Minneapolis*, <http://www.ci.minneapolis.mn.us/bicycles/>.

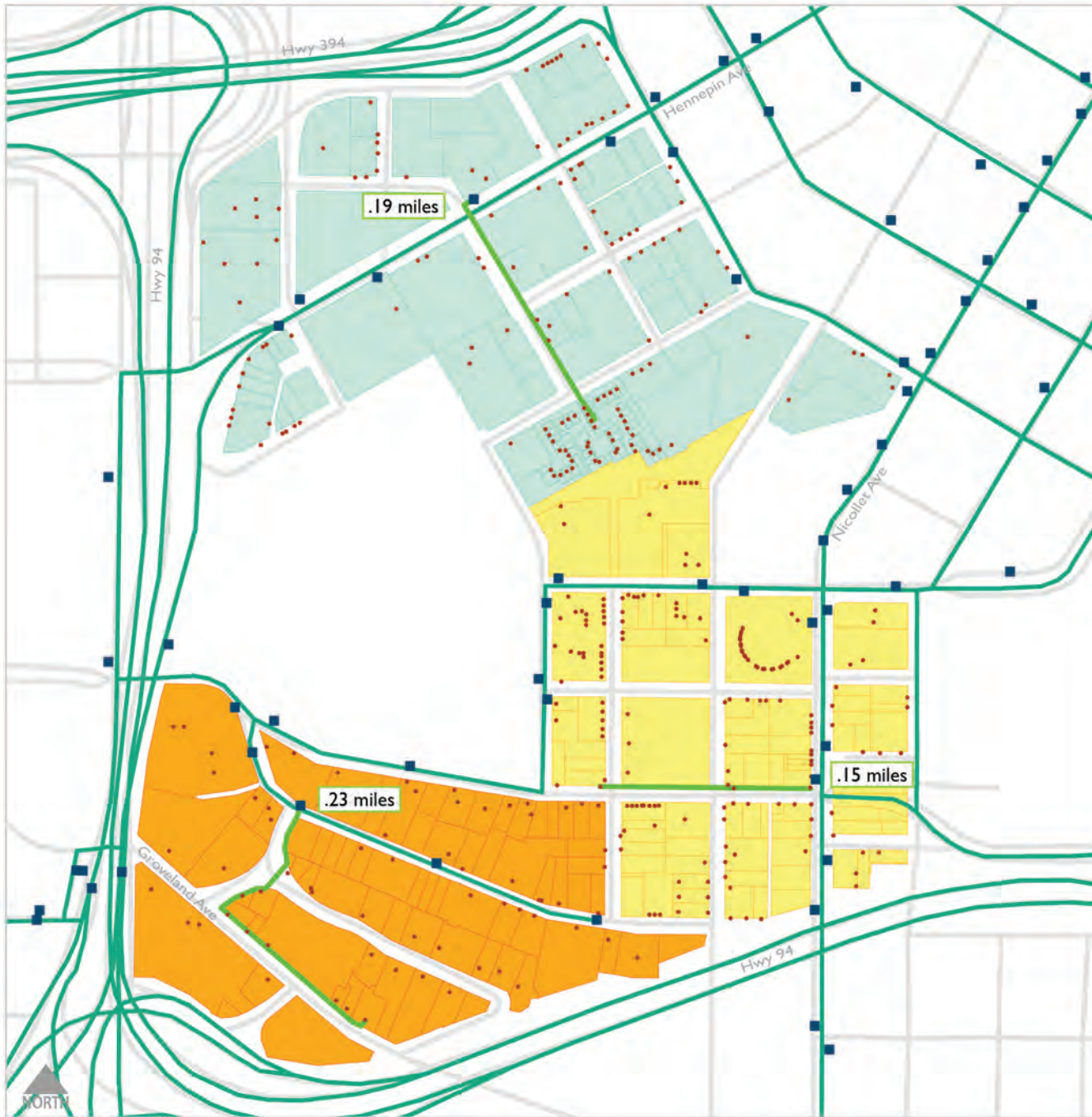
Map 2: Street Network and Primary Study Areas



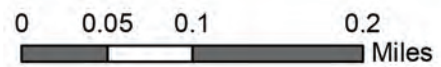
- Harmon Area
- Loring Hill Area
- Nicollet Area



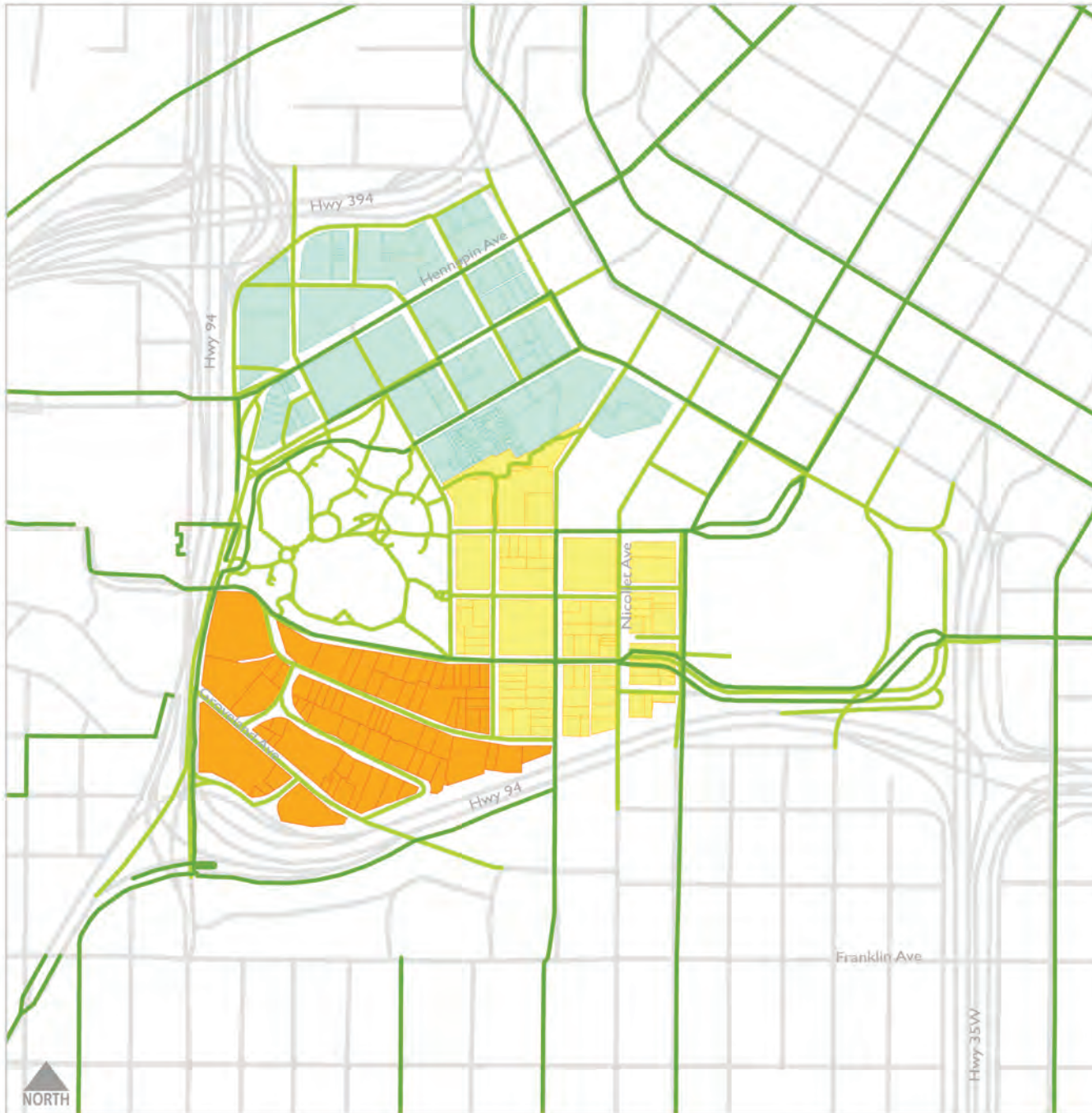
Map 3: Bus Access



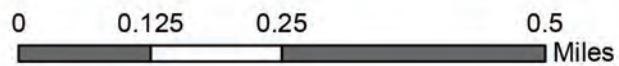
- Functional Building Entrances
- Bus Stops
- Bus Routes
- Walking Distances



Map 4: Pedestrian and Bike Networks



- Regional Bike Network
- Loring Park Pedestrian Access



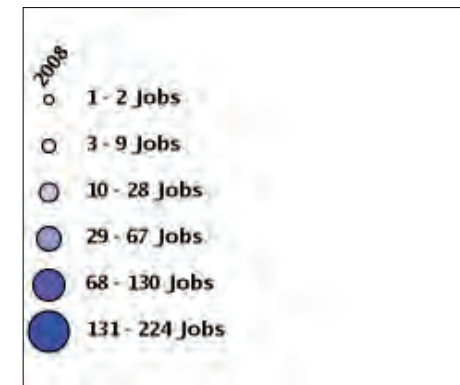
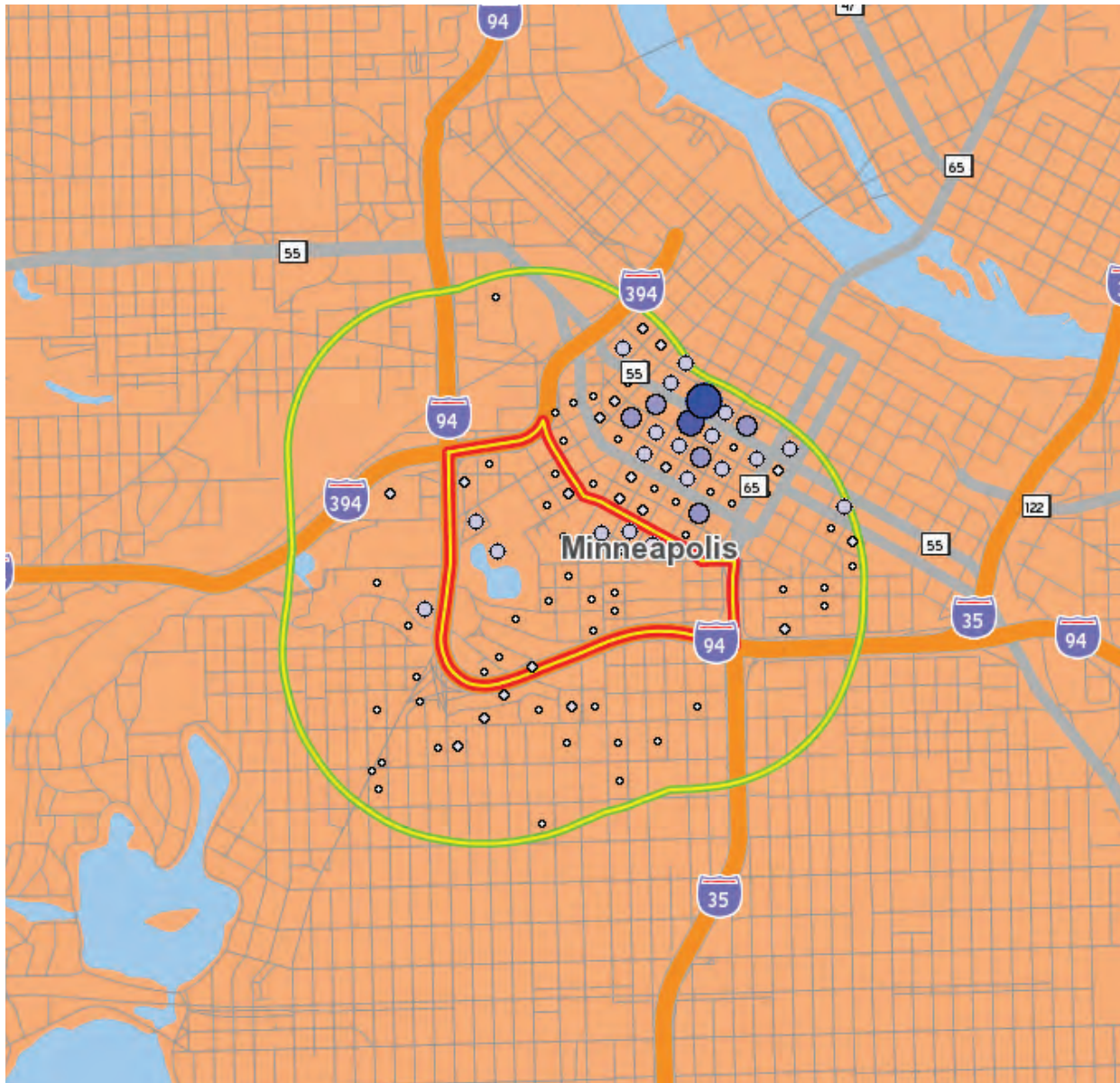
### ***Credit 5 Housing and Jobs Proximity (1-3 points)***

To earn this credit there must be as many, or more, full-time jobs as dwelling units within a half-mile of the project's geographic center. For the purposes of this study, it was not attempted to identify all full-time jobs within Loring Park. However, using the US Census Bureau's online "On The Map" database it was possible to identify the number of primary jobs within the neighborhood.<sup>16</sup> According to the most recent census information, in 2008, 4,050 workers lived in Loring Park and 5,826 primary jobs were located in the same area. There are approximately 6,166 dwelling units in the Loring Park neighborhood, excluding the Downtown area, according to data collected this summer. Using OnTheMap it was also possible to map the number of Loring Park residents who work within a half-mile, mile, and two-mile radius of Loring Park [Maps 5-7]. Although, in 2008, only 3% of Loring Park residents worked within Loring Park itself, 27.5% worked within a half-mile radius of the neighborhood and 44% worked within a one-mile radius. Most of these jobs were located in Minneapolis's downtown business district, which sits adjacent to Loring Park to the neighborhood's northeast. Although this data does not directly address the requirements of this credit, it provides evidence

<sup>16</sup> A primary job is not necessarily a full-time job. If an individual has more than one job, only the job that they identify as their "primary" job is counted in the work shed data analysis. U.S. Census Bureau, LED OnTheMap, <http://lehdmap4.did.census.gov/themap4/>.

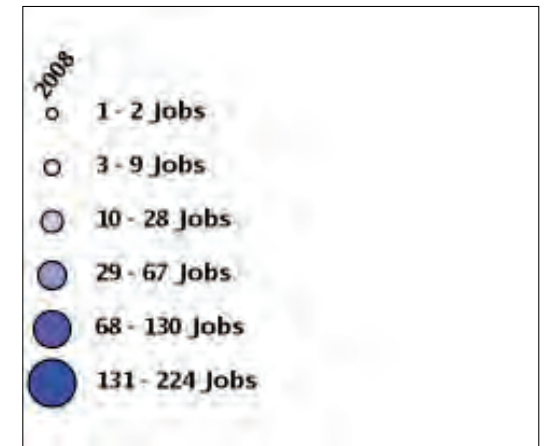
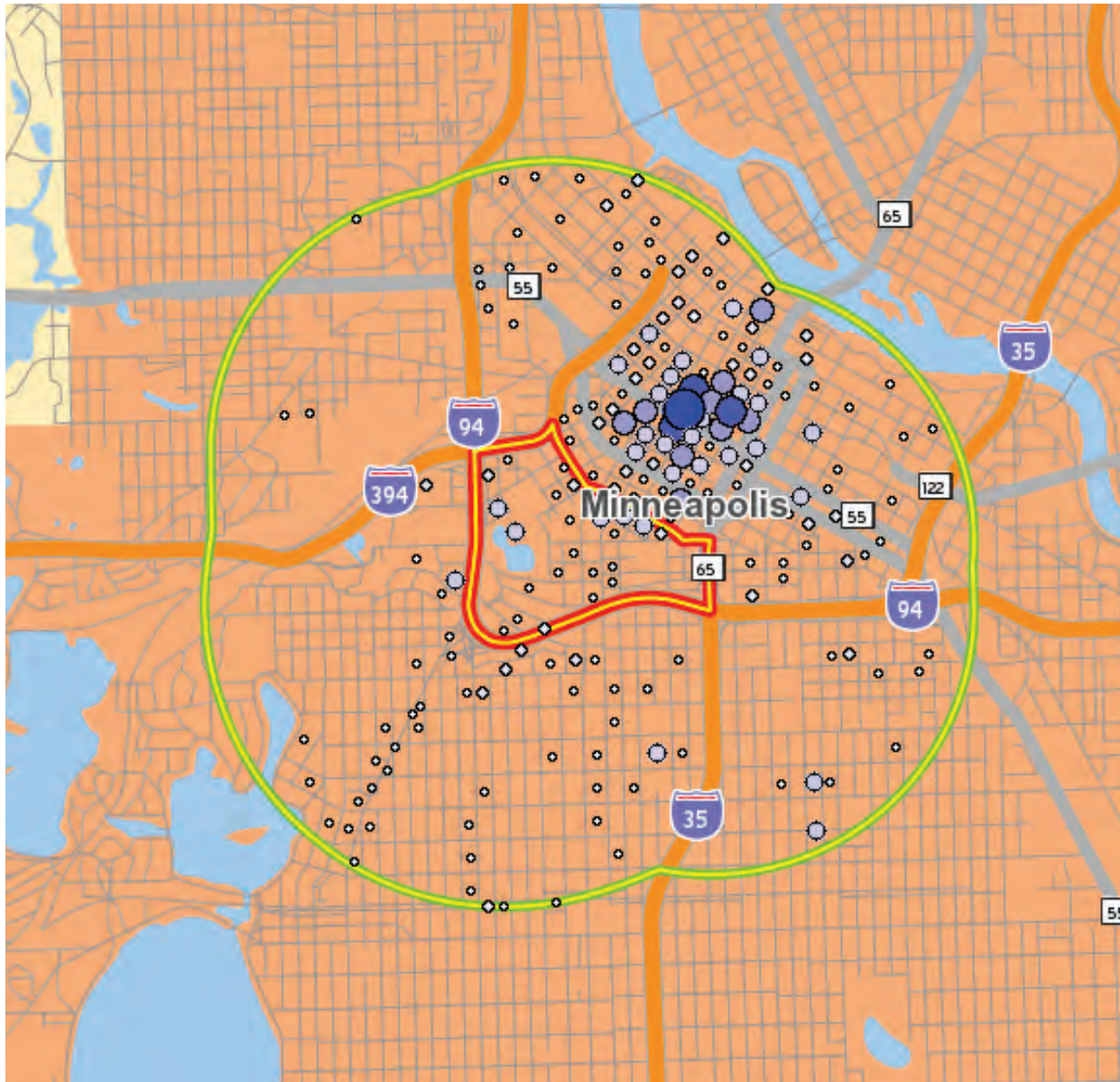
that there are many jobs in Loring Park and its surrounding areas. Meeting this requirement earns two points, or three if the project earns at least one point under NPDc4, Mixed-Income Diverse Communities, Option Two: Affordable Housing.

## Map 5: Loring Park Workers with a Half-Mile Commute



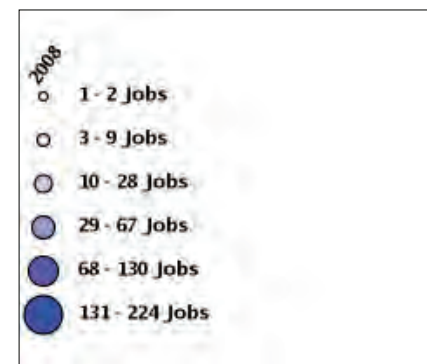
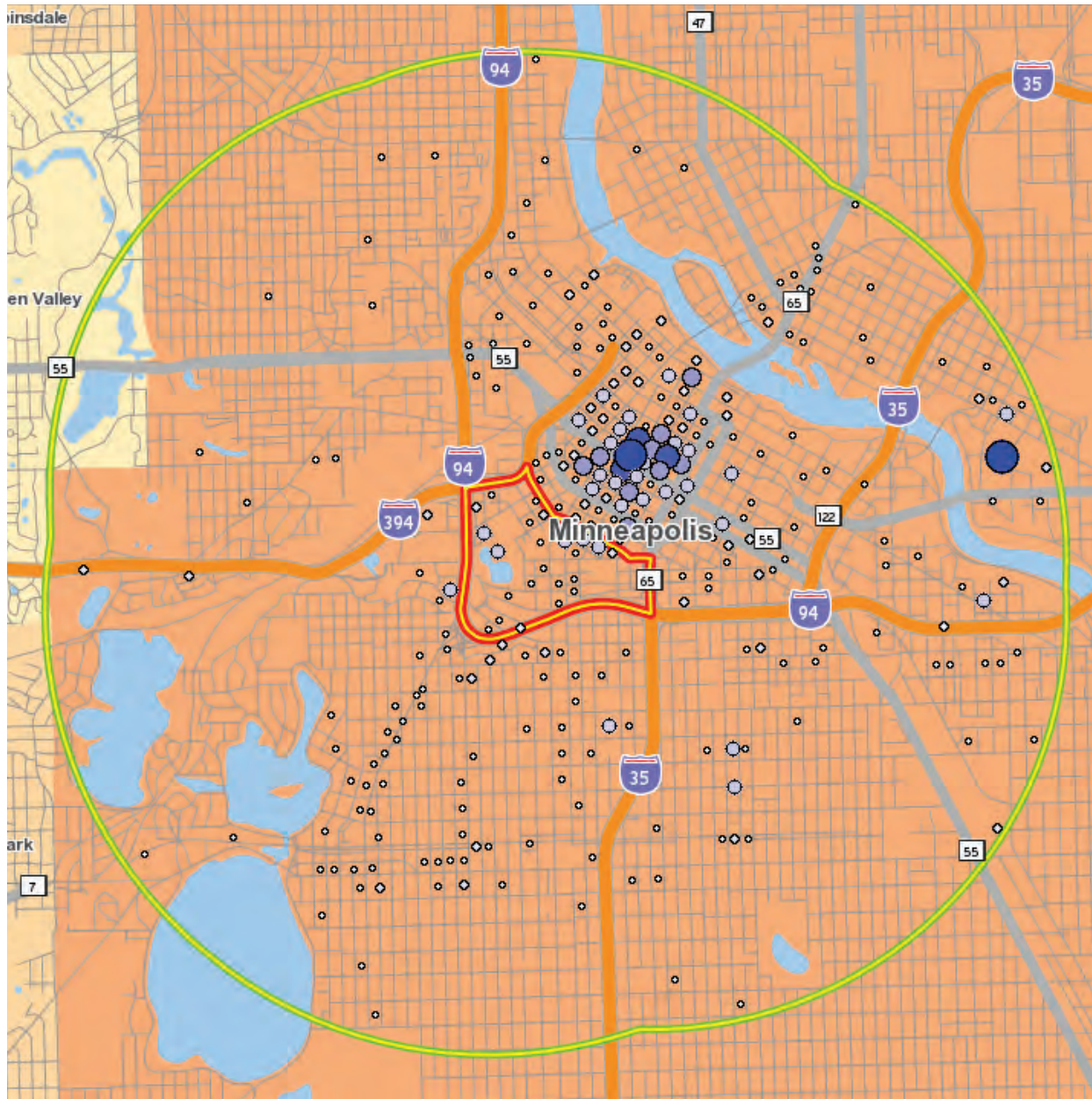
Map generated by the US Census Bureau OnTheMap webpage, <http://lehdmap4.did.census.gov/themap4/>

## Map 6: Loring Park Workers with a Mile Commute



Map generated by the US Census Bureau OnTheMap webpage, <http://lehdmap4.did.census.gov/themap4/>

# Map 7: Loring Park Workers with a Two-Mile Commute



Map generated by the US Census Bureau OnTheMap webpage, <http://lehdmap4.did.census.gov/themap4/>

## Neighborhood Pattern and Design

### *Prereq 1 Walkable Streets (see also NPD credit 1)*

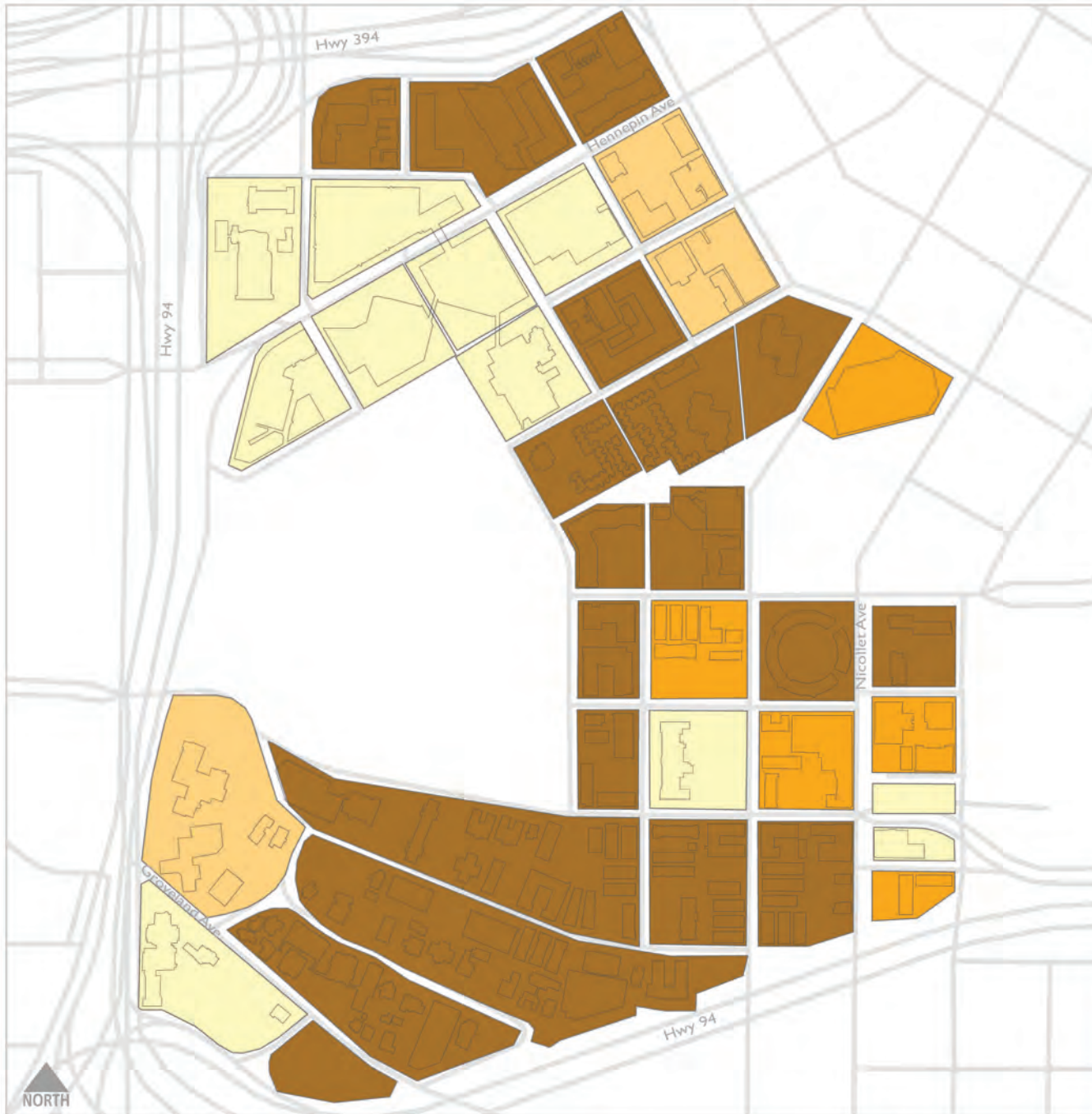
This prerequisite has four requirements. The first requirement is that 90% of new building frontage has a principal functional entrance on the front, street-facing façade. Because this requirement only applies to new buildings it was not included in our survey. The second requirement is that 15% of building frontage has a minimum building-height-to-street ratio of 1:3. The third requirement is that 90% of streets have continuous sidewalks on both sides of the street that exceed four feet for residential sidewalks and eight feet for commercial sidewalks. Building entrance spacing, building height ratios, and sidewalk widths will be addressed in NPDc1, Walkable Streets. The final requirement is that garages and service bays cover less than 20% of street frontages. Calculating the ratio of service bays and garages to street frontage it was discovered that only one side of one block in Loring Park (excluding the Downtown Area) has more than 20% service bay and garage coverage. This block was in the Harmon area and part of the Minneapolis Community and Technical College campus.

### *Prereq 2 Compact Development (see also NPD credit 2)*

To achieve this prerequisite the project site must meet the minimum residential density of twelve dwelling units per acre

and the minimum commercial density of a floor area ratio of .8. By exceeding these minimums it is possible to earn additional points in NPDC2, Compact Development. **Maps 8 and 9** show residential and commercial density by block. Although Loring Park substantially exceeds residential density requirements, many blocks do not meet the commercial density requirement. In some cases this is due to incomplete data for mixed-use buildings in the neighborhood. Mixed-use buildings require supplemental calculations that weight residential and commercial densities by the square-footage allocated to each use. A complete calculation for the Nicollet area, including the weighted values for mixed-use buildings, resulted in 153 dwelling units per acre and an FAR of .835 [**Maps 10 and 11**]. These numbers seem fairly representative of the entire Loring Park neighborhood, although the FAR would likely be somewhat higher in the Harmon area.

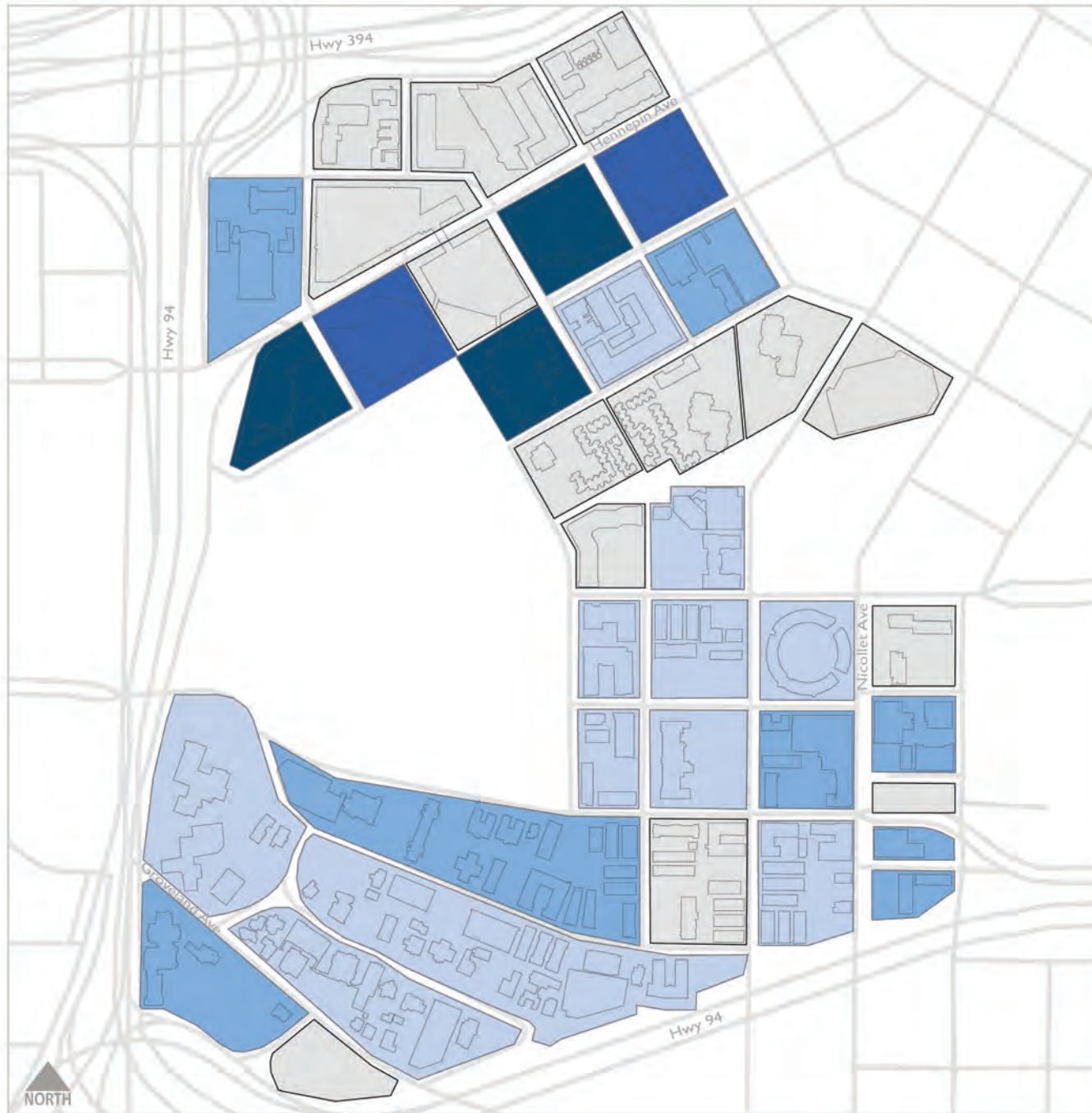
Map 8: Residential Density - Dwelling Units per Acre by Block



- Non-Residential Block (0 DU Per Acre)
- Less Than 38 DU Per Acre
- Between 38 and 63 DU Per Acre
- Greater Than 63 DU Per Acre

0 0.05 0.1 0.2  
Miles

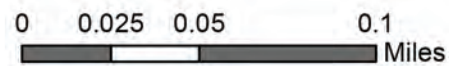
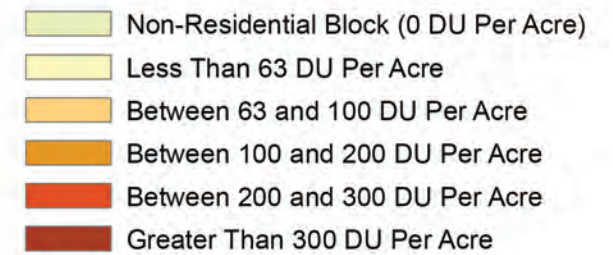
Map 9: Commercial Density - Floor Area Ratio by Block



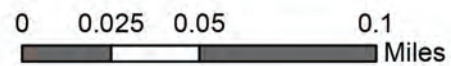
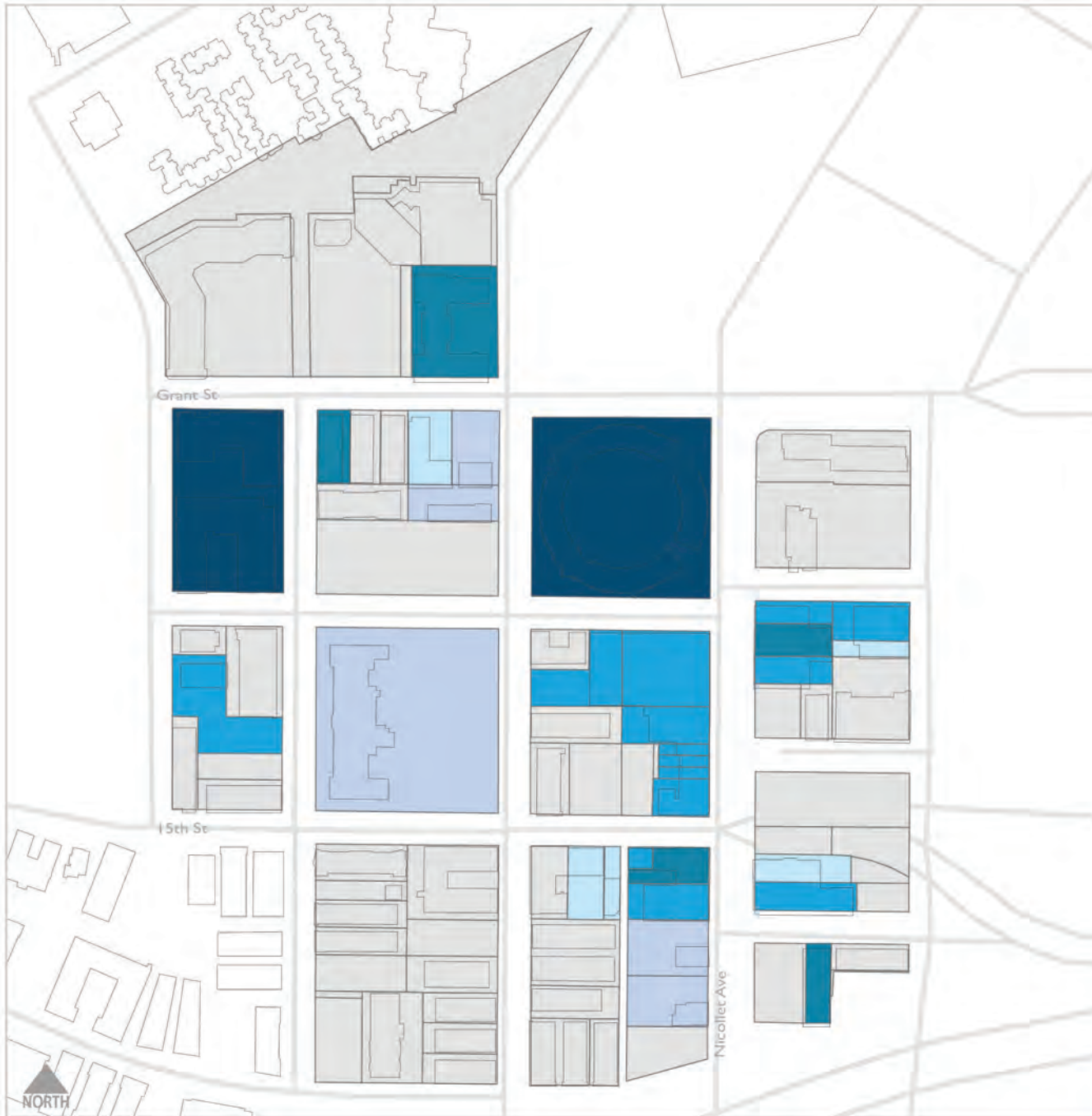
- Non-Commercial Block (FAR of 0)
- FAR Less Than .5
- FAR Between .5 and .8
- FAR Between .8 and 1.5
- FAR Greater Than 1.5

0 0.05 0.1 0.2 Miles

Map 10: Dwelling Units per Acre by Parcel in Nicollet Area



Map 11: Non-Residential Floor Area Ratio by Parcel in Nicollet Area



**Prereq 3 Connected and Open Community (see also NPD credit 6)**

This prerequisite requires that the project site have a minimum of 140 intersections per square mile. As discussed above in SSLc1, Preferred Locations, Loring Park meets this requirement with 176.5 intersections per square mile [Table I]. An additional component of this prerequisite is that there be a through street crossing or ending at the project boundary at least every 800 feet. Boundaries defined by highways, parks, and existing development can be excluded from this calculation. The Convention Center is the only part of Loring Park that might not meet this requirement. Additional points can be earned in NPDc6, Street Network, for exceeding these requirements.

**Credit 1 Walkable Streets (1-12 points)**

NPDc1, Walkable Streets, is the most complicated of the LEED-ND credits. It also addresses one of the most important issues in sustainable community design, the street. The credit has sixteen different optional requirements. The more requirements met, the greater number of points earned (although not on a one-to-one ratio). The sixteen possible requirements are listed below.

a. 80% of building facades are setback less than 25 feet from the property line.

b. 50% of building facades are setback less than 18 feet from the property line.

c. 50% of non-residential building facades are setback less than one foot from the sidewalk.

d. Functional entries occur on average every 75 feet on non-residential blocks.

e. Functional entries occur on average every 30 feet on non-residential blocks.

f. All ground-level retail has at least 60% glazing facing the street or sidewalk.

g. No sidewalk-level building façade is more than 40% blank or has more than 50 feet of blank wall (whichever is less).

h. All ground-level retail remains un-shuttered at night.

i. There is on-street parking on 70% of both sides of all streets.

j. There are continuous sidewalks on all streets that are 10 feet wide or more for commercial blocks and 5 feet wide or more for residential blocks.

k. 50% of ground-level dwelling unit's principal floors are located at least 24 inches above sidewalk grade.

l. 50% of non-residential and mixed-use buildings have at least 60% ground level retail, and all mixed-use buildings have 60% ground level sidewalk-accessible building uses.

m. 40% of all street frontages have a building-height-to-street-width ratio of 1:3.

n. 75% of new residential only streets have a designed speed of 20 miles per hour or less.

o. 70% of new non-residential streets have a designed speed of 25 miles per hour or less.

p. Curb cuts and other sidewalk interruptions take up less than 10% of sidewalk length.

#### *Setbacks (a-c)*

**Map 12** color-codes building facades that meet, or fail to meet, the various given setback requirements. Both the Nicollet and Harmon areas do well in this credit with substantial retail facing directly off the sidewalk. Some areas would be able to achieve all three credit requirements. The Loring Hill Area has the highest proportion of buildings with setbacks over 25 feet. This makes sense because the neighborhood is historically residential, and has a number of converted mansions with large yards. The Minneapolis Community and Technical College campus also has a number of buildings with setbacks over 25 feet.

#### *Functional Entrances (d-e)*

**Map 13** shows the functional entries for buildings in the Loring Park neighborhood and a 37.5 foot buffer area around each. The buffer makes it possible to identify which blocks have building entries at least every 75 feet. This credit is only concerned with non-residential building entrances, but the map shows entries for all buildings in the neighborhood. Looking specifically at the business corridors along Hennepin Avenue and Nicollet Avenue it is possible to see doors within 75 feet of one another. It does not appear that much of the neighborhood would meet the 30-foot door spacing option.

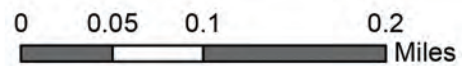
#### *On-Street Parking (i)*

**Map 14** shows blocks that meet the 70% parking requirement and those that do not. Also marked are blocks that have 50-70% parking. On-street parking varies across the neighborhood, but areas with the most limited parking seem to be somewhat clustered. The blocks with 50-70% parking offer the greatest potential, because adding one additional parking space could bring the block above the 70% compliance level. For the purposes of this study, parking estimates were conservative and based on a standard parking stall dimension.

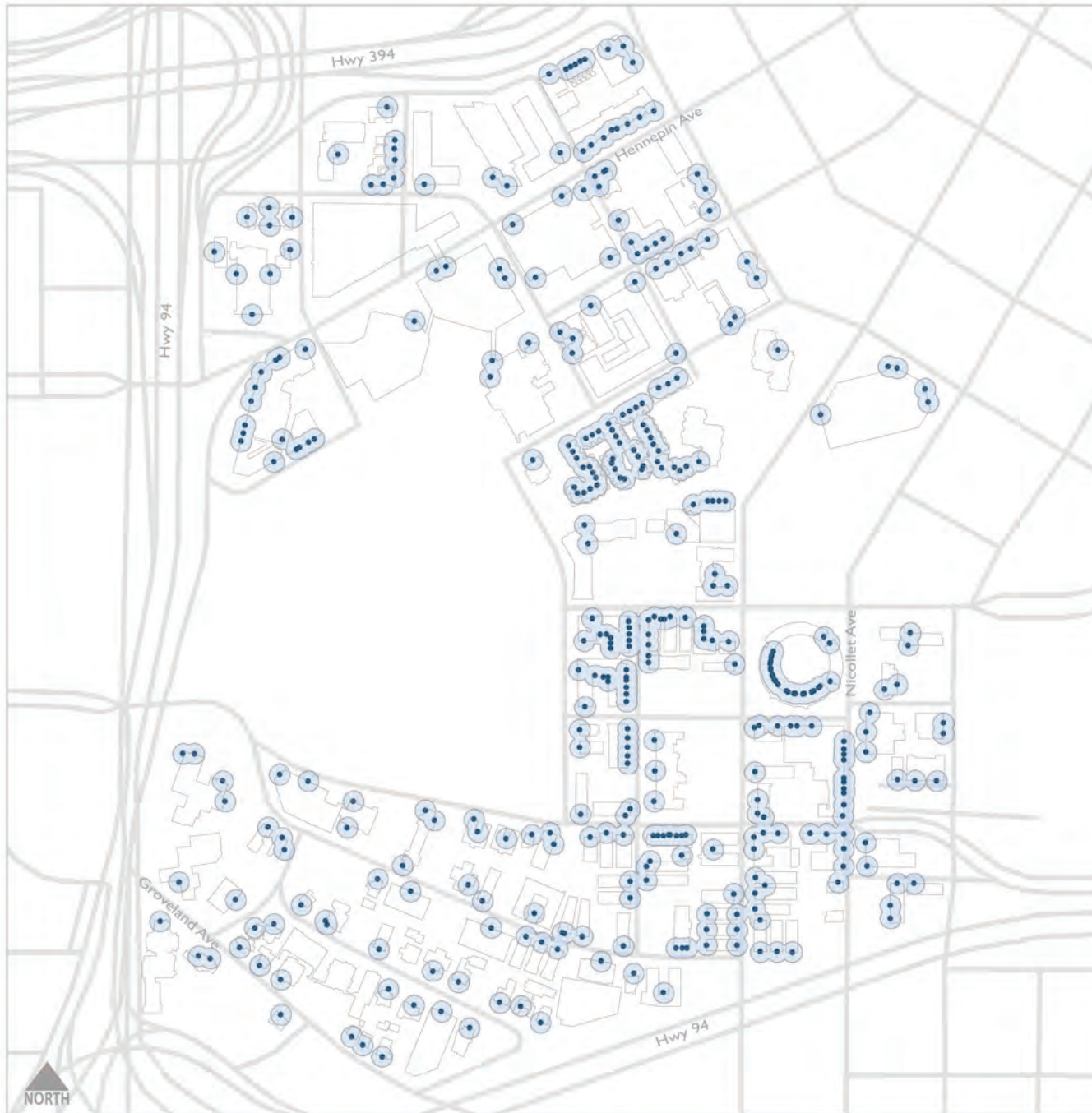
Map 12: Building Setback



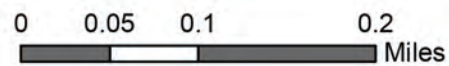
- Setback Less Than 1'
- Setback 1' to 18'
- Setback 18' to 25'
- Setback Greater Than 25'



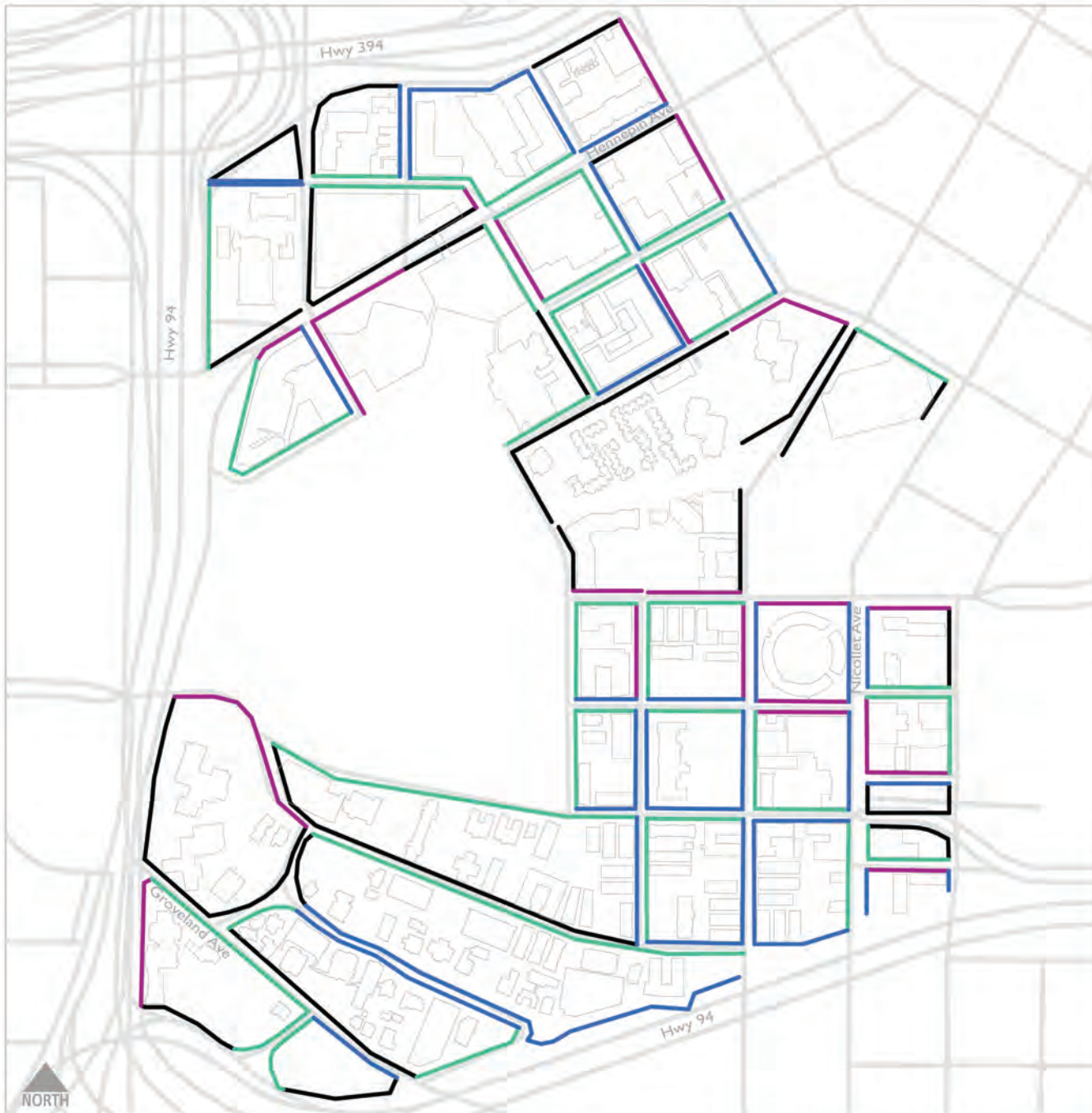
Map 13: Building Entrances



- Functional Building Entrances
- 37.5' Buffer Area



Map 14: On-Street Parking



- Street Parking More Than 70% of Block
- Street Parking 50% - 70% Of Block
- Street Parking Less Than 50% Of Block
- No Street Parking

0 0.05 0.1 0.2  
Miles

#### *Continuous Sidewalks (j)*

**Map 15** shows that most sidewalks meet the required widths of five feet for residential blocks and ten feet for commercial blocks for this credit. There are a handful of sidewalks that do not meet NPDp I, which requires residential sidewalks be at least four feet wide and commercial sidewalks be at least eight feet wide, and a few that meet the prerequisite widths but fall short of the NPDc I required widths. A number of blocks have both residential and non-residential buildings. In a few cases one section of the sidewalk complies with the prerequisite or credit and the other does not. On this map, the entire sidewalk was scored by the narrowest section of sidewalk.

#### *Elevated Ground Level (k)*

Data for this credit option was not compiled. It is useful to note that apartments with basement or garden level units are excluded from this calculation. This excludes most apartments in the neighborhood. In most of the Loring Hill area, buildings sit uphill from the sidewalk, so nearly all residences' ground levels are 24 inches above the sidewalk grade. This credit also excludes apartments where the ground floor has a non-residential use. With all of the exceptions, it seems likely that the qualifying residences in the Loring Hill area and all of the town houses throughout the rest of the neighborhood would satisfy this requirement for the

neighborhood overall.

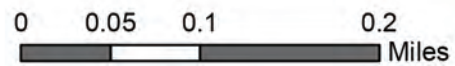
#### *Building-Height-To-Street-Width Ratio (m)*

The greatest challenge of applying this credit option to an existing neighborhood is identifying all of the buildings' heights. To approximate building height, the number of stories of each building was collected and was multiplied by a conservative 10 feet per floor. This height was compared to the minimum building height required to meet the 1:3 ratio based on the distance from the building façade to the street centerline. This calculation was only performed for the Nicollet area, and can be seen in **Map 16**. The neighborhood appears to meet the 40% requirement. Unsurprisingly, the one-story businesses on the wider Nicollet Avenue do not meet the ratio, while the three to four-story apartment buildings on the narrower side streets do. As long a mix of residential and commercial blocks is maintained, it should be possible to meet this credit. A similar breakdown could be expected for the Harmon area. The Loring Hill neighborhood would likely have fewer compliant buildings due to the larger building setbacks.

Map 15: Sidewalk Width



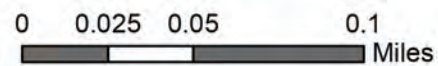
- Does Not Meet NPDp1 Widths
- Meets NPDp1, Does Not Meet NPDc1
- Exceeds NPDc1 Required Widths



Map 16: Minimum 1:3 Building-Height-To-Street-Width Ratio in Nicollet Area



- Facade Meets 1:3 Ratio
- Facade Does Not Meet 1:3 Ratio



### *Street Speed (n-o)*

The established street speed for Minneapolis is 30 mph, which is above the target speed for either of these requirements. However, this credit only applies to new streets for the project. If a new street was developed, the project team could design it to meet the credit criteria.

### *Curb Cuts and Sidewalk Interruptions (p)*

**Map 17** shows blocks that have interruptions for less than 10% of the sidewalk length and those with interruptions for more than 10%. The neighborhood appears to have about an equal number of each. Compliant and non-compliant sidewalks are interspersed so it may be challenging to pursue this credit for a multi-block project.

### *Credit Options Not Surveyed (f-h, l)*

These credit options were not included in this survey.

### ***Credit 2 Compact Development***

Under this credit it is possible to earn up to six points for high residential and commercial density. The credit provides a range of commercial and residential densities and the number of points awarded is determined by where the project falls within each range. If a project scores higher in either residential or commercial density, it is possible to get a weighted score based on the percentage of the project taken by each

use. Almost all of Loring Park exceeds the highest required residential density of 63 dwelling units per acre. Commercial density is far more variable across the neighborhood. As addressed in NPDp2, Compact Development, in order to properly calculate the non-residential floor area ratio it is necessary to weight mixed-use building densities in relation to their proportional building uses. **Map 11** shows the accurate commercial densities for parcels in the Nicollet Area. It is interesting to note that the two properties that would earn the full 6 points under this credit (FAR greater than 3) are both mixed-use buildings. The two other mixed-use buildings in the area fall into the next densest category that would earn 3-4 points in this credit (3 points for an FAR of 1.25-1.75, 4 points for an FAR of 1.75-2.25). Lower density properties typically have sizable surface parking and are only one story tall. Overall, the Nicollet Area has a FAR of .837 worth one point under this credit.

### ***Credit 3 Mixed-Use Neighborhood Centers (1-4 points)***

In this credit it is possible to earn up to four points for having 50% the project's dwelling units within a quarter mile walk of multiple diverse uses. The number of diverse uses within the quarter mile and the percent of the total project square footage that they occupy determines how many points a project can receive. Additionally, only two establishments from the same use category can be included the

calculation. In our survey we identified diverse uses in the neighborhood and labeled them according to the LEED-ND guidelines. **Map 18** shows the distribution of diverse uses color-coded by LEED-ND category. Businesses that do not fit into the LEED-ND diverse use categories are labeled as “Non-LEED Uses.” These include a substantial number of professional services including lawyers, marketing agencies, architects, and community organizations. Based on this data it seems that the number of points a project could earn for this credit would vary widely by project location. Almost all project sites could earn one point for being within a quarter mile of four to six diverse uses, but only projects near Nicollet or sections of Hennepin could earn the maximum four points for nineteen or more diverse uses.

#### ***Credit 4 Mixed-Income Diverse Communities (1-7 points)***

This credit has two options for earning points. The first is to include a diversity of housing types on the project site. The second is to include affordable housing as part of the project. Because this credit deals mostly with new buildings, it was not included in the scope of our survey. It is interesting to note that a number of apartments in Loring Park offer affordable housing options. **Map 19** shows properties with at least three units of low-income housing.

#### ***Credit 5 Reduced Parking Footprint (1 point)***

This credit has three requirements. The first is that no more than 20% of the development footprint for a project be used for surface parking and that no surface parking is built in front of new buildings. Because the City of Minneapolis has banned the construction of new surface parking lots in its Downtown zone (including Loring Park), this requirement will be met. **Map 20** shows the surface parking lots currently present in Loring Park. Not only does this map give a general sense of the amount of land currently taken up by parking lots, but calls out the undeveloped parts of the neighborhood that would be easiest to develop in the future. In addition to limiting surface parking lots, this credit requires a minimum number of bike parking spaces and showering facilities are provided in new buildings depending on building use. The final requirement is that 10% of new parking spaces for non-residential buildings be reserved for shared cars or carpool vehicles. These last requirements only apply to new buildings and parking. Although not directly related to this credit, it is interesting to note the number of car-sharing and bike-sharing facilities already in existence in Loring Park. **Map 21** shows locations of Hour Car vehicles and Nice Ride bike stations.<sup>17</sup> Hour Car is the car-sharing program for the Twin Cities. Nice Ride is a new bike-sharing program in Minneapolis that began in June and has been well used so far.

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17. Information available at Hour Car, <http://www.hourcar.org/>, and Nice Ride Minnesota, <http://www.niceridemn.org/>.

Map 17: Sidewalk Interruptions



- Sidewalk Less Than 10% Interruptions
- Sidewalk More Than 10% Interruptions



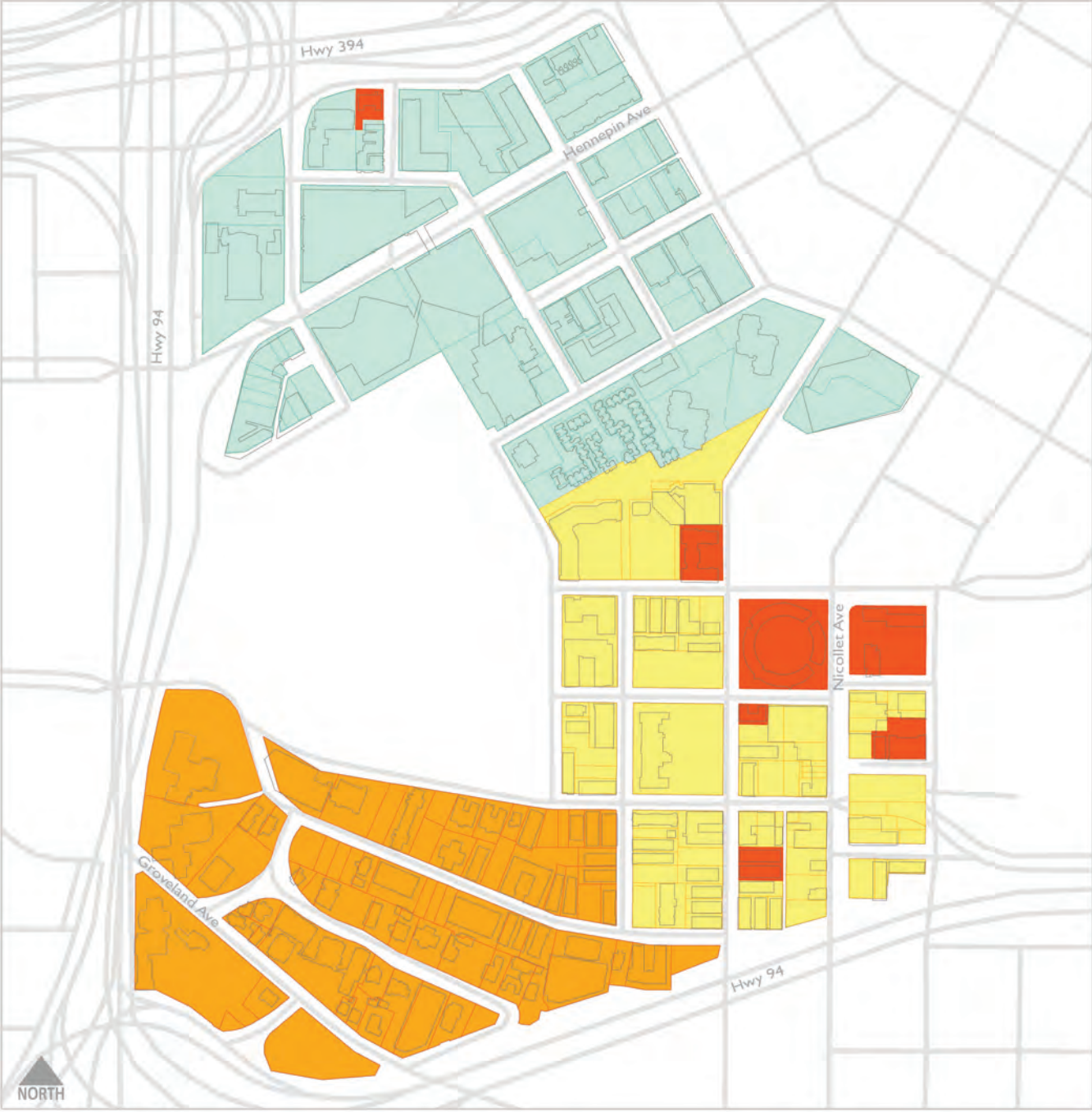
Map 18: Diverse Uses



- Non-LEED Use
- Adult or Senior Care
- Child Care
- Community Center
- Cultural Arts Facility
- Educational Facility
- Entertainment Venue
- Medical Clinic or Office
- Place of Worship
- Park
- Social Services Center
- ▲ Restaurant
- ▲ Laundry
- ▲ Hair Care
- ▲ Health and Exercise Facility
- ▲ Bank
- Convenience Store
- Other Retail
- Clothing Store
- Pharmacy
- ◆ Grocery

0 0.05 0.1 0.2  
Miles

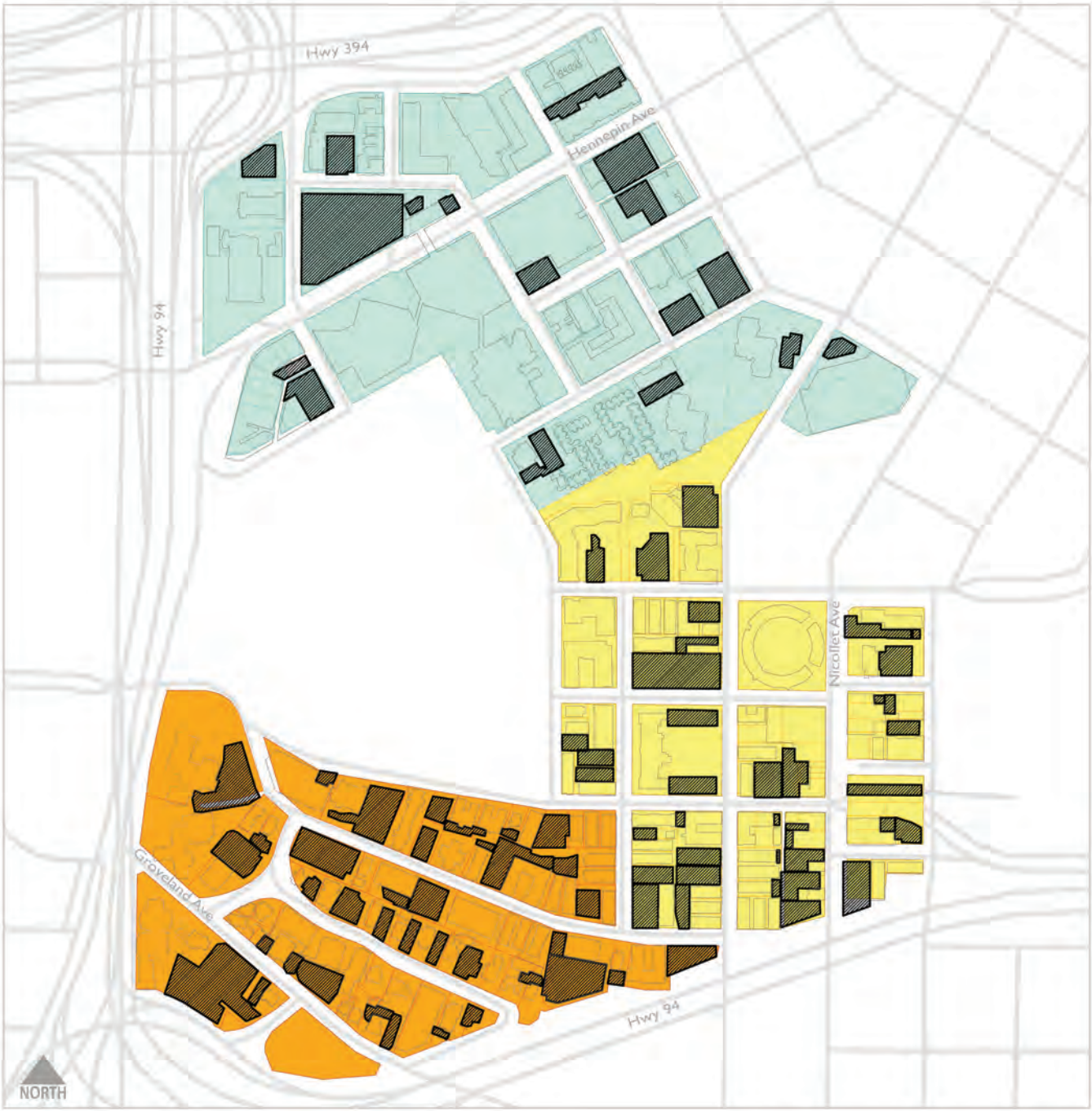
Map 19: Affordable Housing



3 or more Low-Income Units

0 0.05 0.1 0.2 Miles

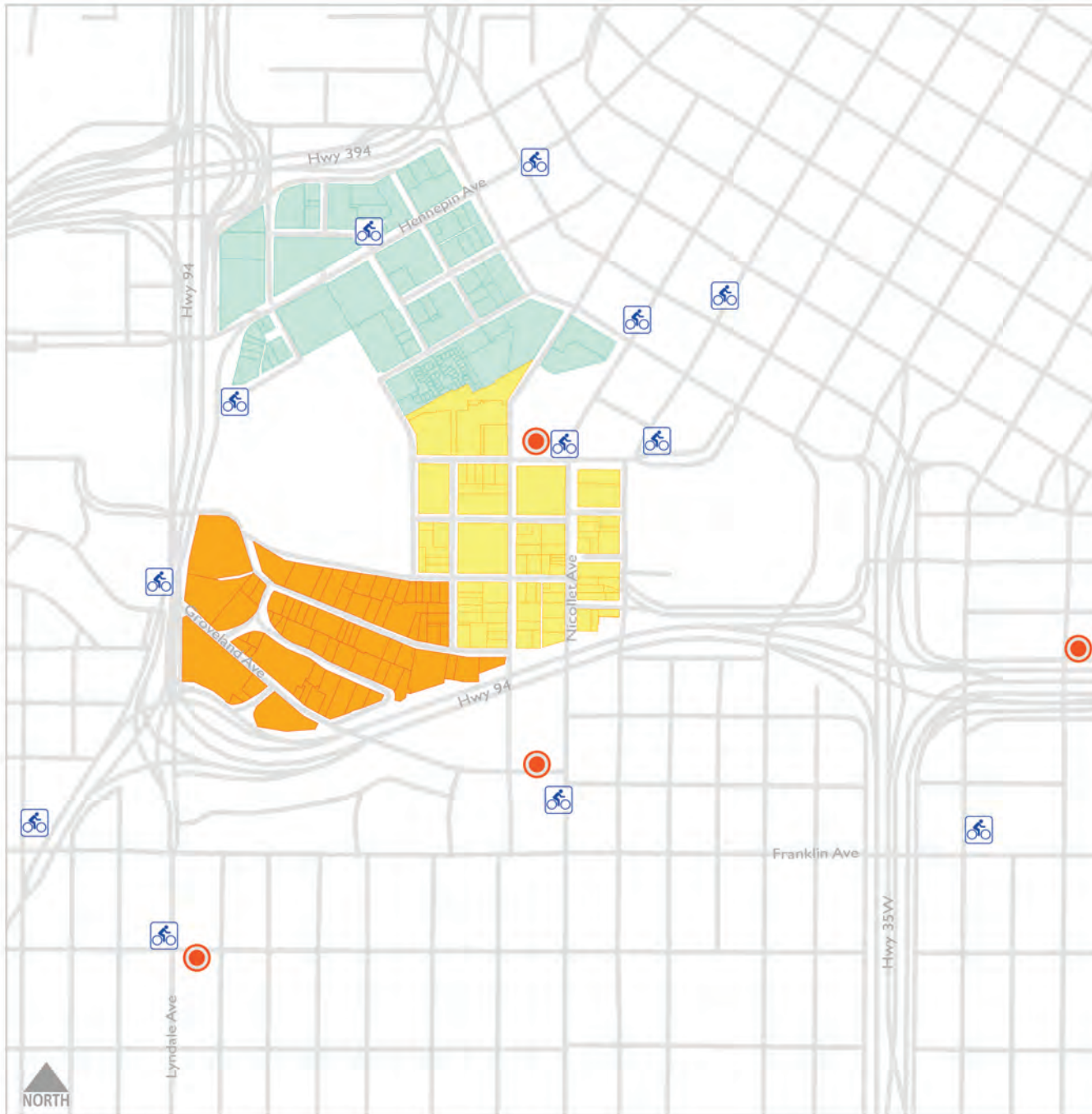
Map 20: Off-Street Parking





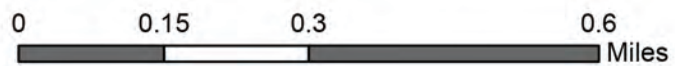
Surface Parking Lot



Map 21: Bike and Care Share Locations



-  Hour Car Location
-  Nice Ride Bike Station



***Credit 6 Street Network (1-2 points)***

This credit has two requirements. The first requirement is that a project has a through street at least every 400 feet along the project boundary. This requirement could easily be met in the Nicollet and Harmon areas where most blocks are less than 400 feet long. It would be difficult to meet this requirement in the Loring Hill area where most blocks exceed 400 feet in length. The second requirement addresses intersection density. For one point the project must have over 300 intersections per square mile and for two points it must have over 400 intersections per square mile. Although none of Loring Park currently meets this intersection density, the Nicollet area comes close with 297.7 intersections per square mile. Adding additional pedestrian pathways through blocks could earn the Nicollet area at least one point for this credit.

***Credit 9 Access to Civic and Public Spaces (1 point)***

This credit requires that 90% of dwellings be within a quarter-mile walk of a civic or public space that is at least one sixth of an acre in size. Loring Park is the largest of the civic and public spaces in the neighborhood. **Map 22** highlights the park and additional applicable spaces. Although the entire Loring Park neighborhood falls within a quarter-mile radius of one of these spaces, it should be noted that this credit requires that the dwelling units be within a quarter mile walk

of the public or civic space. Some of the dwelling units in the northern part of the Harmon area and the southern part of the Loring Hill area are more than a quarter-mile walk from the noted civic and public spaces.

***Credit 10 Access to Recreation Facilities (1 point)***

It is possible to earn one point under this credit by locating 90% of all dwellings within a half mile walk of a recreational facility. This can include outdoor recreational spaces as long as they are equipped with recreational improvements like tot lots or baseball diamonds. Loring Park itself serves as a primary recreational facility of the neighborhood, providing basketball courts, tennis courts, a playground, and extensive pathways for running and walking. The YWCA, located just across the street from the project provides additional facilities. **Map 23** highlights these recreational facilities and a half mile buffer area around them. Like NPDc9, Access to Civic and Public Spaces, it is important to note that this credit specifies a half-mile walking distance to the recreational facilities. However, for this credit, all dwelling units are within a half-mile walk of the noted recreational facilities.

***Credit 12 Community Outreach and Involvement (1-2 points)***

It is possible to earn up to two points for community outreach and involvement. To earn one point, project designers and developers must work with local community groups

or local governments to publicize and host an open community meeting. The project's conceptual design should be modified based on community input, or justified if input is given but not included in the design. The developer should maintain communication with the community throughout the project development and construction. An additional point can be earned if, in addition to the above, the developers and designers hold a community design charrette or workshop during the conceptual design phase that is at least two days long and involves representative stakeholders from the community. In place of the charrette, an extra point can be earned by receiving the approval of a nongovernmental group that systematically evaluates sustainable development projects. CLPC's active involvement in researching and pursuing LEED-ND should make it possible to earn this credit once a LEED-ND project begins in the neighborhood.

***Credit 13 Local Food Production (1 point)***

This credit awards one point for locating the project's geographic center within half-mile walk of a farmers market. **Map 24** shows three nearby farmers markets. Although not all properties fall within a half-mile walk of the markets, this credit can still be achieved if the project's geographic center falls within a half-mile of the farmer's markets.

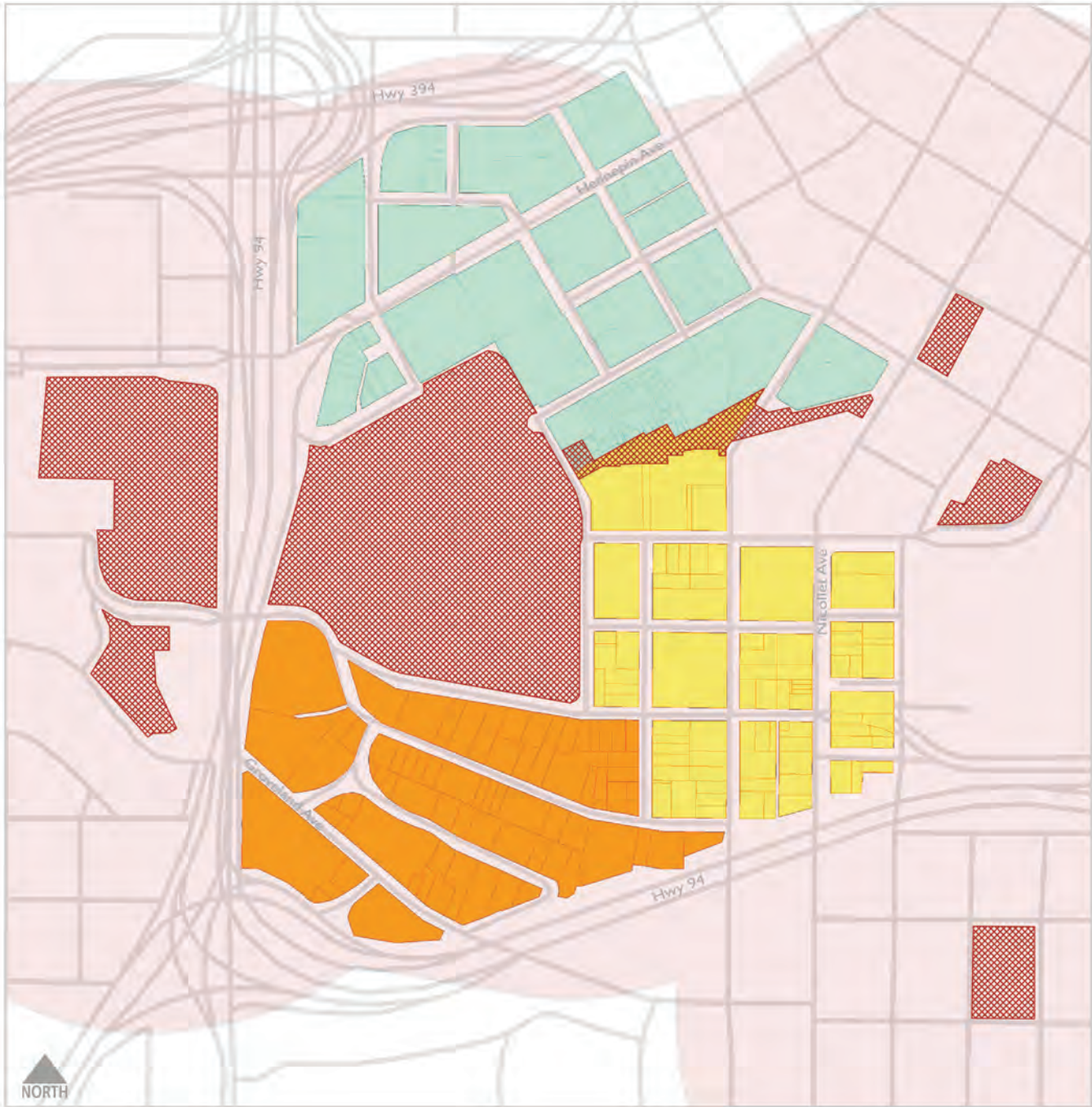
***Credit 14 Tree-Lined and Shaded Streets (1-2 points)***



Under this credit a project can earn one point for having street trees on both sides of 60% of streets at an interval of less than 40 feet. Alternatively, or additionally, one point can be earned by providing trees or structures that shade at least 40% of sidewalks in the project. **Map 25** shows the location of trees in the Loring Park neighborhood. The map makes it clear that the number and spacing of street trees varies significantly across the neighborhood. **Map 26** shows a more detailed analysis of tree spacing in the Nicollet Area. The 20-foot buffer around the trees makes it possible to see which streets comply with the 40-foot tree spacing interval. If new development targeted blocks without many street trees and landscaped them to meet the LEED-compliant tree spacing, it would be possible to earn this credit.

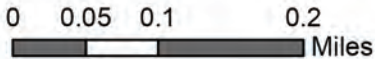
***Credit 15 Neighborhood Schools (1 point)***

To earn this point it is necessary to locate 50% of the project's dwelling units within a half-mile walk to an elementary school and within a mile walk to a high school. **Map 27** identifies local schools and includes a half-mile buffer area around the elementary schools. Some dwelling units in the northern part of the Harmon area are not within a half-mile walk to an elementary school. All of the dwelling units are within a mile walk of a high school.

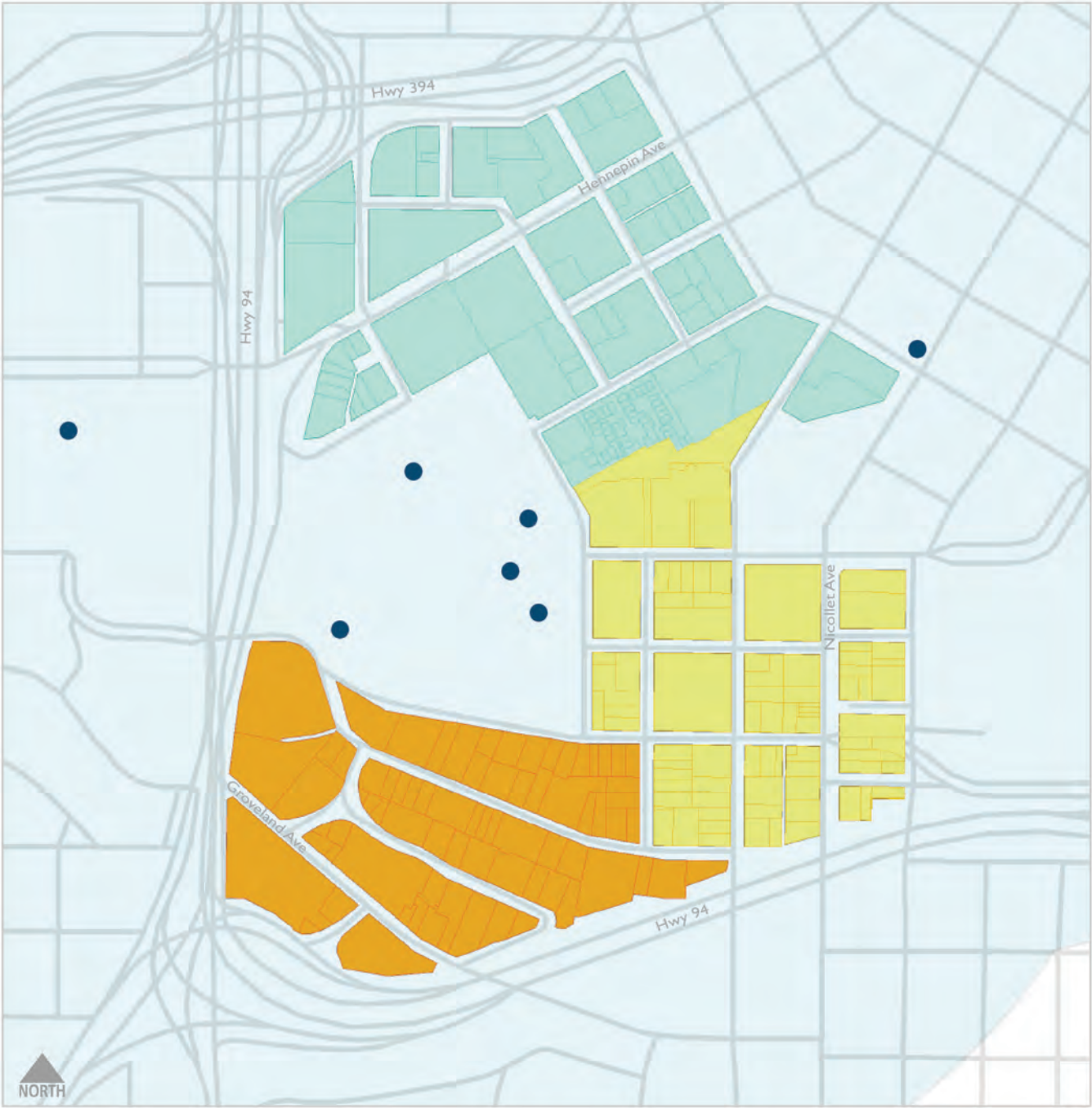
Map 22: Civic and Public Space



 Civic and Public Space  
 1/4 Mile Buffer Area



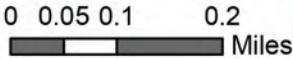
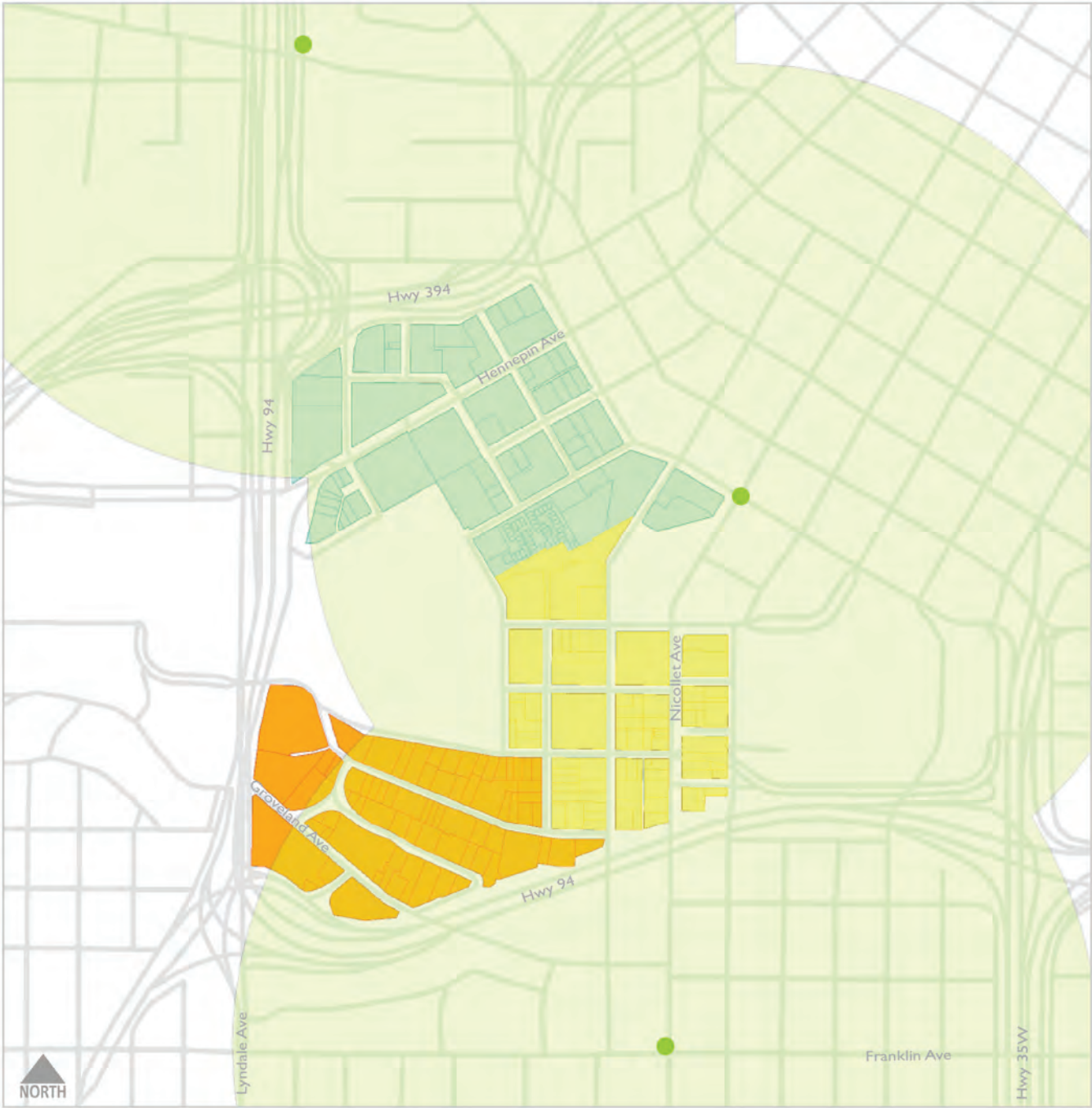
Map 23: Recreational Facilities





● Recreational Facility  
1/2 Mile Buffer Area

0 0.05 0.1 0.2  
Miles

Map 24: Farmer's Markets

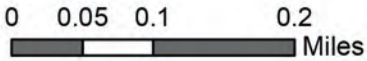


-  Farmer's Market
-  1/2 Mile Buffer Area

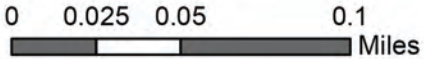
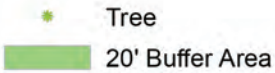
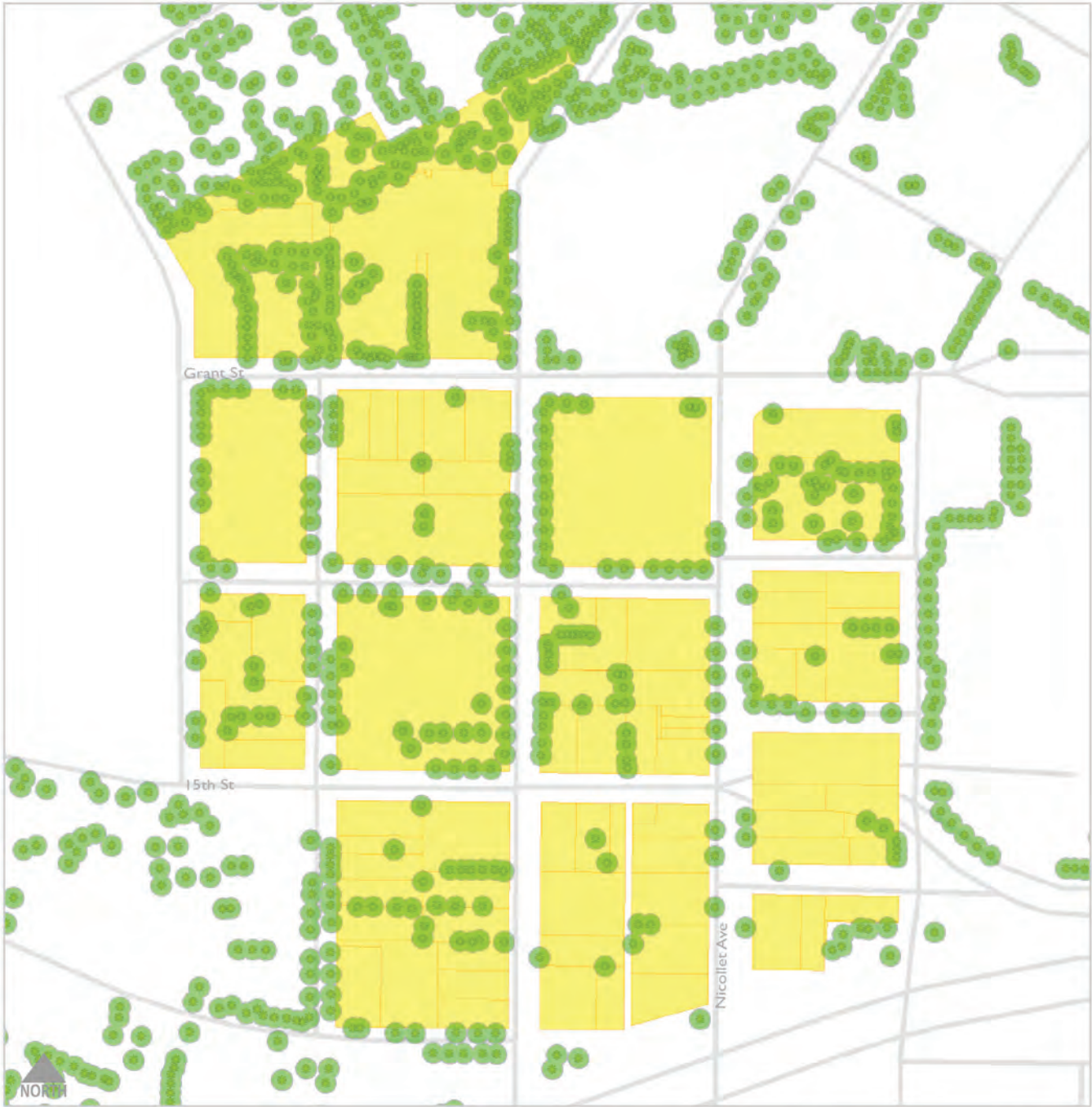
Map 25: Loring Park Trees



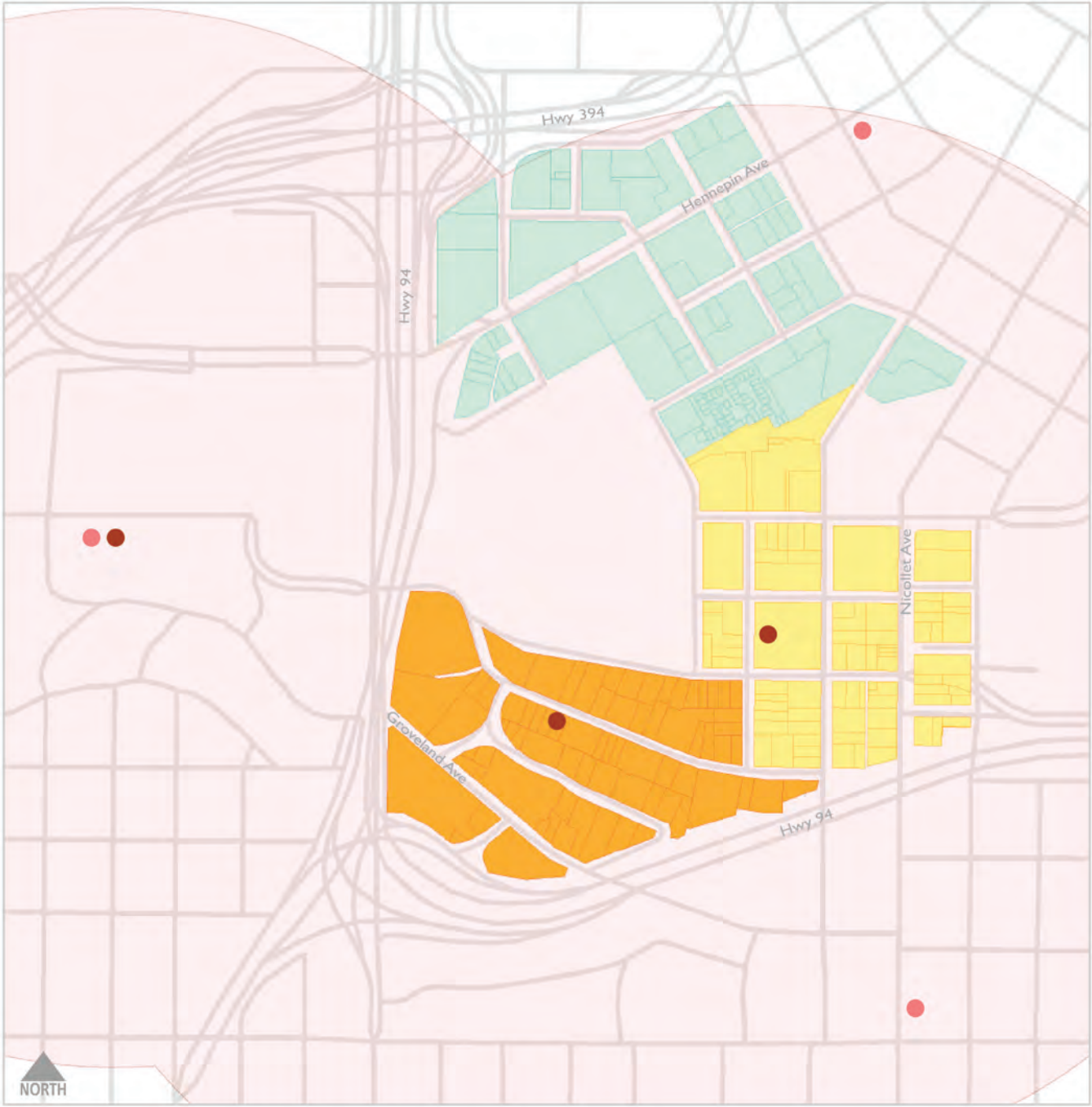
Tree



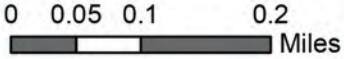
Map 26: Nicollet Area Trees



Map 27: Neighborhood Schools



- High School
- Elementary School
- 1/2 Mile Elementary School Buffer Area



## Green Infrastructure and Buildings

### *Credit 5 Existing Building Use (1 point)*

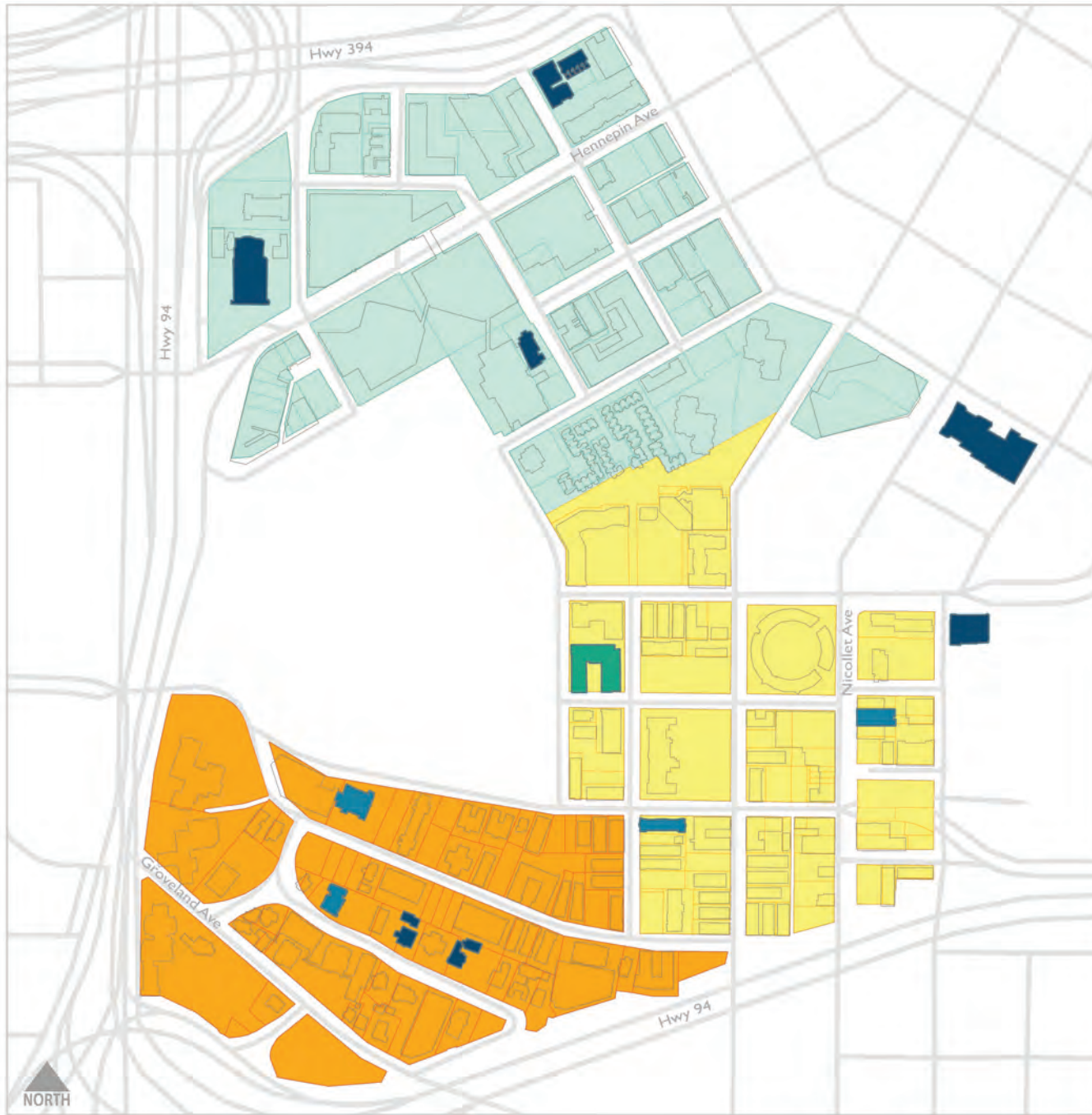
This credit can be earned by not demolishing any historic buildings on the project site and by reusing existing buildings in one of two ways. The first option is to reuse 50% of one existing building's envelope and structure. The second option is to reuse 20% of all of the existing buildings on the project site. Loring Park has countless example of adaptive reuse projects in the neighborhood. This credit serves as an incentive to work with the building stock available on site, or to choose a project site with a potentially adaptable building on site.




### *Credit 6 Historic Resource Preservation and Adaptive Reuse (1 point)*

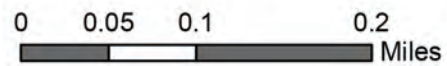
Including at least one designated historic building or landscape on project site can earn the project one point. Local, state, and national designations all count for this credit.

**Map 28** identifies currently designated buildings in the Loring Park neighborhood.

Map 28: Historic Properties



-  Local Landmark Only
-  National Register Only
-  National Register and Local Landmark



## Conclusion and Next Steps

Evaluating the data collected this summer it is evident that Loring Park has great potential for LEED-ND development. As a conservative estimate, looking only at credits independent of new construction, the entire neighborhood could earn up to 22 points just as it is. Making some assumptions about any new developments going up in Loring Park, it is possible to be much more generous with point allocation. For example, assuming that a potential LEED-ND development would include bike storage in new buildings to meet LEED-ND criteria, and would provide enough affordable housing units to earn at least two points under NPDc4 Mixed-Income Diverse Communities, Option Two: Affordable Housing, it is possible to add an additional eight points onto the project total. Assuming that the project locates itself strategically within the existing neighborhood in order to take advantage of some of the areas with higher intersection densities, greater concentrations of diverse uses and smaller building setbacks, or so that a historic property falls within the project boundary, it is possible to add an additional five to seven points. When one begins to factor in local community involvement, the participation of a LEED Accredited Professional, and the Exemplary Performance and Regional Priority Credits the neighborhood qualifies for, the point total easily surpasses the 40-point minimum for basic LEED-ND certification. Of course, in order to

become certified, the neighborhood would need to meet all of the LEED-ND prerequisites, including some under the Green Infrastructure and Buildings section, like the inclusion of a certified green building on the project site, that Loring Park currently does not meet. What analyzing the data collected this summer demonstrates is that although the Loring Park neighborhood could not earn LEED-ND certification if it applied as it is today, it has many of the neighborhood characteristics sought after for LEED-ND developments in existence or they are only slightly out of reach. Any applicant interested in pursuing LEED-ND could easily do so by locating their project in Loring Park.

### Next Steps

Having analyzed the state of the Loring Park neighborhood at this time, it is advantageous to begin thinking towards the future and potential LEED-ND projects in Loring Park. Based on the data collected, and research on the LEED-ND rating system, it is possible to make several recommendations.

*Include affordable housing in any new residential developments.* Earning two points under NPDc4 Mixed-Income Diverse Communities, Option Two: Affordable Housing, makes it possible to earn three additional points for SSLc1, Preferred Locations, and one extra point under SSLc5, Hosing and Jobs Proximity. Because Loring Park already has commendable

economic diversity, it would be appropriate for NPDC4 to become a focus of any new LEED-ND development. Additionally, projects providing substantial affordable housing options could potentially use Green Communities Minnesota as a financial resource.

*Increase the non-residential floor area ratio throughout the neighborhood.* The neighborhood's low commercial density ratio was one of the few credits examined this summer that Loring Park did not come close to meeting. Non-residential FAR varies widely across the neighborhood and it would be advisable to pay close attention to this value when considering project boundaries. A LEED-ND development could easily improve the FAR for the wider neighborhood by reducing the amount of buildable commercial land currently used for surface parking lots and by building mixed-use buildings, which tend to have higher FARs than single-use buildings.

*Work with existing buildings where possible.* GIBc5, Existing Building Use, is another potentially point loaded credit. In addition to the point earned by meeting GIBc5, any project in the Minneapolis region can earn a Regional Priority Credit simply by meeting GIBc5. It is also possible to earn a point for exemplary performance of GIBc5 by reusing at least 75% of one building or 40% of all of the buildings on the project site. Reusing existing buildings saves materials and the large

amount of energy that goes into building a new building. Additionally, preserving existing buildings helps to maintain the character of the neighborhood.

*Stay connected with the community.* As NPDC11, Community Outreach and Involvement makes clear, LEED-ND projects benefit from community involvement. The fact that this study was conducted for CLPC, a local community group, is a great start. Should a LEED-ND project begin in the neighborhood, it will be essential to have all of the local community stakeholders on board. The credits explored this summer were less invasive than some of the other LEED-ND credits and prerequisites. For example, basic water and energy efficiency for all buildings on the project site are prerequisites in the Green Infrastructure and Buildings category. If a LEED-ND project encompasses a significant part of the existing neighborhood, building owners and property managers will need to participate in the credit calculations and be willing to improve their building efficiencies if needed.

*Be strategic when choosing project sites.* If possible locate new developments in areas that do not currently meet NPD credits like street tree shading and on-street parking requirements. The redevelopment of these areas will have the greatest affect in improving Loring Park's overall walkability. Although a LEED-ND project would likely only encompass

several blocks, any new development should be made with the greater neighborhood in mind.

Although it would be possible to attain LEED-ND certification in most areas of Loring Park, there are some areas that are more conducive to LEED development than others. Of the three study areas evaluated, Loring Hill seems the most challenging for a LEED-ND project. This is partly because the area lacks a commercial center with a diversity of uses. The long blocks and the area's location between the park and the expressway increase the walking distances between dwelling units and the different LEED promoted services. The Harmon Area fairs well by the LEED-ND criteria studied in this report. The challenge with this part of the neighborhood is that the Minneapolis Community and Technical College campus separates the two commercial strips along Hennepin Avenue and would make it difficult to create a plausible multi-block project boundary (college campus's cannot seek LEED-ND certification). The best area to develop in the Harmon area would be at the east end of the neighborhood including Hennepin Avenue and Harmon Place. Of the three areas, the Nicollet Area seems the most compatible with LEED-ND. There are a number of developable sites, especially along the southern portion of Nicollet in the neighborhood.

# Appendix A

## LEED-ND Checklist

Checklist download at [www.usgbc.org](http://www.usgbc.org)



### LEED 2009 for Neighborhood Development Project Scorecard

Yes	?	No			
0	0	0	<b>Smart Location and Linkage</b>		<b>27 Points Possible</b>
Y			Prereq 1	Smart Location	Required
Y			Prereq 2	Imperiled Species and Ecological Communities	Required
Y			Prereq 3	Wetland and Water Body Conservation	Required
Y			Prereq 4	Agricultural Land Conservation	Required
Y			Prereq 5	Floodplain Avoidance	Required
			Credit 1	Preferred Locations	10
			Credit 2	Brownfield Redevelopment	2
			Credit 3	Locations with Reduced Automobile Dependence	7
			Credit 4	Bicycle Network and Storage	1
			Credit 5	Housing and Jobs Proximity	3
			Credit 6	Steep Slope Protection	1
			Credit 7	Site Design for Habitat or Wetland and Water Body Conservation	1
			Credit 8	Restoration of Habitat or Wetlands and Water Bodies	1
			Credit 9	Long-Term Conservation Management of Habitat or Wetlands and Water Bodies	1
0	0	0	<b>Neighborhood Pattern and Design</b>		<b>44 Points Possible</b>
Y			Prereq 1	Walkable Streets	Required
Y			Prereq 2	Compact Development	Required
Y			Prereq 3	Connected and Open Community	Required
			Credit 1	Walkable Streets	12
			Credit 2	Compact Development	6
			Credit 3	Mixed-Use Neighborhood Centers	4
			Credit 4	Mixed-Income Diverse Communities	7
			Credit 5	Reduced Parking Footprint	1
			Credit 6	Street Network	2
			Credit 7	Transit Facilities	1
			Credit 8	Transportation Demand Management	2
			Credit 9	Access to Civic and Public Spaces	1
			Credit 10	Access to Recreation Facilities	1
			Credit 11	Visitability and Universal Design	1
			Credit 12	Community Outreach and Involvement	2
			Credit 13	Local Food Production	1
			Credit 14	Tree-Lined and Shaded Streets	2
			Credit 15	Neighborhood Schools	1
0	0	0	<b>Green Infrastructure and Buildings</b>		<b>29 Points Possible</b>
Y			Prereq 1	Certified Green Building	Required
Y			Prereq 2	Minimum Building Energy Efficiency	Required
Y			Prereq 3	Minimum Building Water Efficiency	Required
Y			Prereq 4	Construction Activity Pollution Prevention	Required

**Green Infrastructure and Buildings, Continued**

Yes	?	No			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 1	<b>Certified Green Buildings</b>	5
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 2	<b>Building Energy Efficiency</b>	2
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 3	<b>Building Water Efficiency</b>	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 4	<b>Water-Efficient Landscaping</b>	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 5	<b>Existing Building Use</b>	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 6	<b>Historic Resource Preservation and Adaptive Reuse</b>	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 7	<b>Minimized Site Disturbance in Design and Construction</b>	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 8	<b>Stormwater Management</b>	4
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 9	<b>Heat Island Reduction</b>	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 10	<b>Solar Orientation</b>	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 11	<b>On-Site Renewable Energy Sources</b>	3
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 12	<b>District Heating and Cooling</b>	2
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 13	<b>Infrastructure Energy Efficiency</b>	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 14	<b>Wastewater Management</b>	2
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 15	<b>Recycled Content in Infrastructure</b>	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 16	<b>Solid Waste Management Infrastructure</b>	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 17	<b>Light Pollution Reduction</b>	1

0	0	0	<b>Innovation and Design Process</b>	<b>6 Points</b>
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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 1.1	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 1.2	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 1.3	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 1.4	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 1.5	<b>Innovation and Exemplary Performance: Provide Specific Title</b>	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 2	<b>LEED® Accredited Professional</b>	1

Yes	?	No			
0	0	0	<b>Regional Priority Credit</b>	<b>4 Points</b>	

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 1.1	<b>Regional Priority Credit: Region Defined</b>	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 1.2	<b>Regional Priority Credit: Region Defined</b>	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 1.3	<b>Regional Priority Credit: Region Defined</b>	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 1.4	<b>Regional Priority Credit: Region Defined</b>	1

Yes	?	No			
0	0	0	<b>Project Totals (Certification estimates)</b>	<b>110 Points</b>	

Certified: 40-49 points, Silver: 50-59 points, Gold: 60-79 points, Platinum: 80+ points

## Appendix B Case Studies

Following is a summary of five case studies of different existing LEED-ND Pilot Program projects. Although no project immediately resembles the Loring Park Project, each project provides some insight into how Loring Park could approach the LEED-ND process. Taken together, these five projects provide a fairly comprehensive view of the scale and scope that LEED-ND projects have taken in the pilot program and with the new rating system so far. Please see the referenced websites for additional information.

### **Excelsior & Grand, St Louis Park, Minnesota**

Excelsior & Grand was the first Stage Three LEED-ND project in the Mid-West to fully complete the LEED-ND pilot program, receiving LEED-ND certification in May of 2009. The project earned a total of 41 points. Excelsior & Grand is a 15.37-acre, mixed-use project located between Excelsior Boulevard and Wolfe Park in St. Louis Park. The project's master plan identifies 643 apartments and condominiums and 87,700 square feet of non-residential space. Excelsior & Grand is a private, for profit, development run by the Excelsior & Grand LLC. On its website, the development promotes the idea of the mixed-use community: "Live. Shop. Dine." title the site's homepage. LEED certification is included in a bulleted list on the "community amenities" page.

This project is of interest for several reasons. First, the proj-

ect is located just outside of Minneapolis. Just as many of Loring Park's strengths appear to be its location and neighborhood design, Excelsior & Grand achieved most of its LEED-ND points in the first two categories of LEED-ND, Smart Location and Linkage, and Neighborhood Pattern and Design. Both projects take advantage of the metropolitan area's strong public transportation network and market for mixed-use development. A second, related observation is that not only LEED-ND, but the characteristic, mixed-use development it supports, are selling points for the project. The project's website boasts its walkability and access to different nearby amenities.

### ***Information on Excelsior & Grand adapted from:***

Project website: <http://www.excelsiorandgrand.com/>

Architect's website: <http://www.esgarch.com/>

### **Jackson Square Redevelopment Initiative, Roxbury and Jamaica Plain, Massachusetts**

This 11-acre project is in the second stage of LEED-ND certification in the pilot program. It currently has a LEED-ND Silver rating with 51 points. The project is located on a former brownfield in one of the poorest neighborhoods of Boston. Jackson Square Partnership, LLC. is the developer for the project and represents three local non-profit com-

munity organizations. Funding for the project has come from the city and an anonymous foundation donation. The final project will include 438 dwelling units, 60,000 square feet of retail space, 30,000 square feet of office space, and 60,000 square feet of recreational facilities. Of the new residential units, 58% will be made affordable to low-income families, and 10% will be made affordable to moderate-income families.

What makes Jackson Square a particularly useful case study is the substantial role that the community played in the process of creating the “Green Guidelines” that will shape the future development of the area. According to the State’s website, over 800 residents were involved in the planning process. Local youth were also active participants in planning the proposed Youth and Family Center. Local involvement has facilitated the development’s ability to directly address the needs of the community. For example, the development’s extensive green roof system, increased tree plantings, access to public transportation, and more appealing sidewalks will all help cut down on pollution levels. This is especially meaningful because the neighborhood has one of the highest asthma rates in Massachusetts. Additionally, the ability of a low-income community to develop an affordable LEED-ND community contradicts the perception that only the wealthy want or can afford green buildings and

sustainable communities.

***Information on Jackson Square adapted from:***

USGBC project profile: <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1721>

Massachusetts State website: [http://www.mass.gov/envir/smart\\_growth\\_toolkit/pages/CS-ej-jackson-sq.html](http://www.mass.gov/envir/smart_growth_toolkit/pages/CS-ej-jackson-sq.html)

**Dockside Green, Victoria, British Columbia**

Dockside Green, like Excelsior & Grand, is a new for profit development in Victoria, British Columbia. What makes Dockside Green distinctive is its attitude towards LEED-ND. As Dockside Green developers Windmill Developments and Vancity explain, they are pursuing the triple bottom line, where economic success is weighted evenly with environmental and social health. This progressive and long-sighted approach to development has shaped the design of the 15-acre Dockside Green. In the second stage of the LEED-ND pilot program Dockside Green had 82 points and a platinum certification level. One finished building has achieved LEED Platinum certification.

This project serves as a model of one of the most cutting-edge, fully committed LEED-ND project currently in development. Environmental features include the treatment of all sewage and wastewater on site, an on site biomass heat

generator, and energy and water saving appliances. This case study serves as an example of an ambitious LEED-ND project, and represents a holistic approach to sustainable development.

***Information of Dockside Green adapted from:***

Project website: [http://docksidegreen.com/index.php?option=com\\_frontpage&Itemid=1](http://docksidegreen.com/index.php?option=com_frontpage&Itemid=1)

**SALT District, Syracuse, New York**

The SALT (Syracuse Art Life Technology) District project, on the near Westside of Syracuse, encompasses 200 acres. The project is currently in the first certification stage of the LEED-ND pilot program at a gold certification level. Because the neighborhood is all previously developed, LEED-ND certification will require the participation of the greater community. Currently the SALT District is coordinating with organizations like the Syracuse Center of Excellence to provide demonstrations of green building strategies. Additionally, three new green homes have been constructed to help educate the community on affordable sustainable building practices. The neighborhood has also made a series of retrofits to existing "post-industrial" buildings, turning them into artist's studios and mixed-use facilities.

The SALT District LEED-ND project provides an example

of applying LEED-ND to an existing community. In this case study, the project team has come up with a number of strategies to get local residents and landowners on board with the LEED-ND project. The SALT District project is using LEED-ND as a guideline for community action and planning. If a large section of Loring Park, with many different landowners, decided to pursue LEED-ND certification, this could be a useful project to explore further.

***Information on the SALT District adapted from:***

Project website: <http://saltdistrict.com/>

**South Chicago LEED Initiative**

The South Chicago LEED Initiative spans a large site of 1,140 acres. The empty remains of a former U.S. Steel manufacturing plant occupy half of the site and a residential community occupies the rest. The existing residential area was initially the site of the steel workers homes, and since the closing of the plant, the area has become somewhat depressed. The city owns a significant number of lots throughout the residential area. The plan for the site is to turn the lakeside industrial area into a park and a high-density mixed-use community while improving public transportation and redeveloping key city-owned lots within the rest of the site, encouraging sustainable development.

Unlike the other case studies, The South Chicago LEED Initiative is a LEED-ND plan rather than a project. The plan is intended to shape development in the neighborhood for the next 25 years. Due to the scale of the site, the City of Chicago is working with a number of different developers and designers to improve the site. The City of Chicago is working on issues like public transportation and converting the lakeside industrial wasteland into inhabitable land to develop.

***Information on South Chicago adapted from:***

Chicago Public Radio lecture by Chicago City Planner Marilyn Engwall: <http://www.chicagopublicradio.org/Content.aspx?audioID=31917>

Article on the project: <http://www.greenbeanchicago.com/south-chicago-leed-neighborhood-development-green-chicago/>

## Appendix C Resources and Links

### U.S. Green Building Council

<http://www.usgbc.org/>

### LEED 2009 Neighborhood Development Rating System

Downloadable from: <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=148>

### Congress for the New Urbanism

<http://www.cnu.org/>

### National Resource Defense Council

<http://www.nrdc.org/>

### STAR Community Index

<http://www.icleiusa.org/star>

### Center for Sustainable Building Research, University of Minnesota

<http://www.csbr.umn.edu/>

### Green Communities

<http://www.greencommunitiesonline.org/>

### Minnesota Green Communities

<http://www.mngreencommunities.org/>

### Walk Score

<http://www.walkscore.com/>

### Hennepin County Property Information Search Page

<http://www.l6.co.hennepin.mn.us/pins/>

### Minneapolis PropertyInfo (City of Minneapolis)

<http://www.ci.minneapolis.mn.us/propertyinfo/>

### US Census Bureau, OnTheMap

<http://lehdmap4.did.census.gov/themap4/>

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