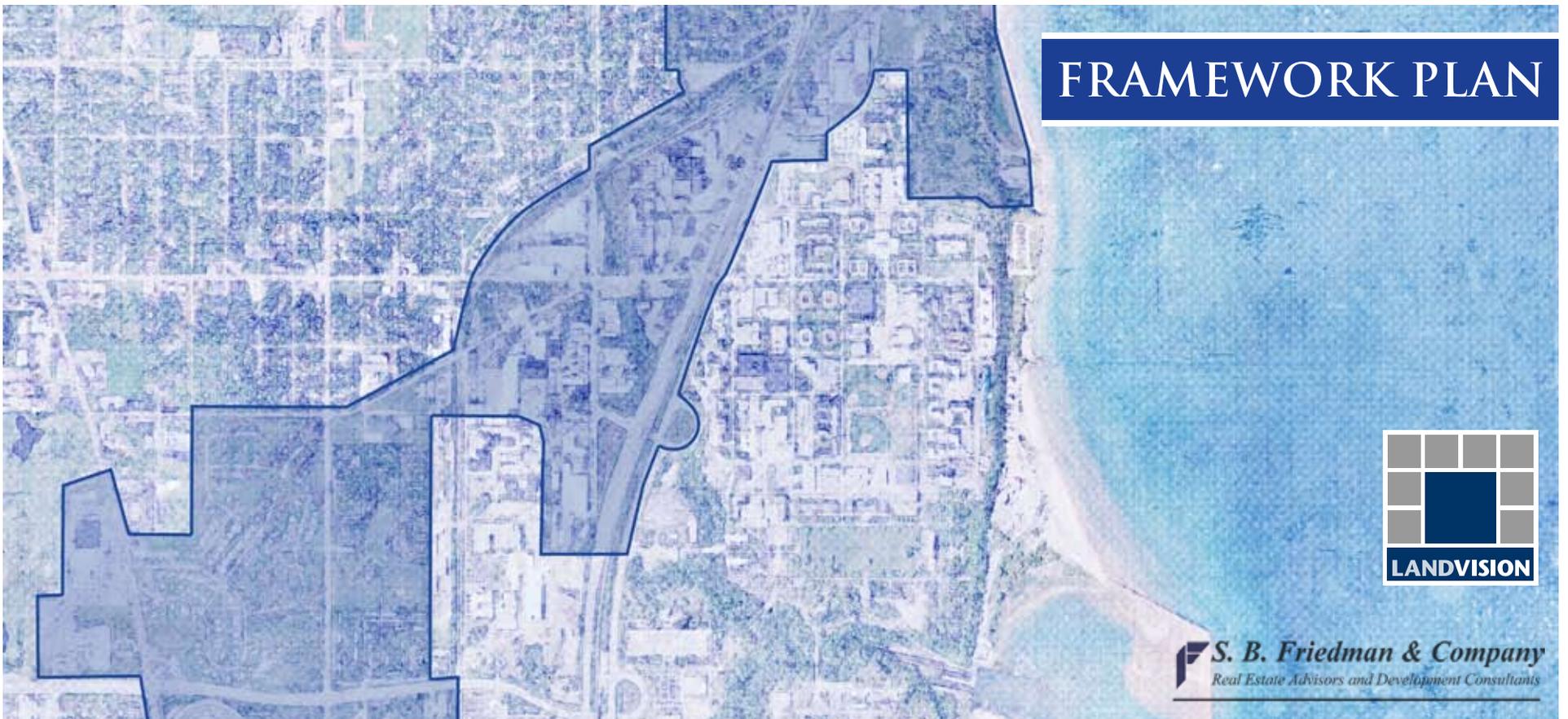
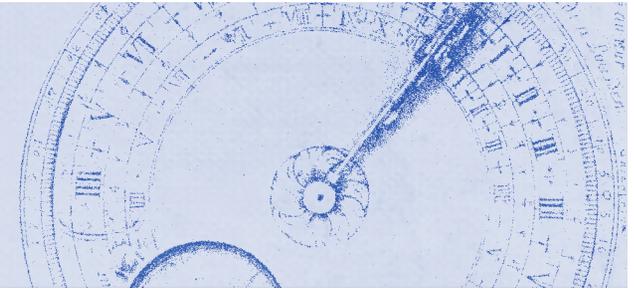


# NORTHERN LIGHTS BIOTECHNOLOGY/MEDICAL DISTRICT AT NORTH CHICAGO

## FRAMEWORK PLAN

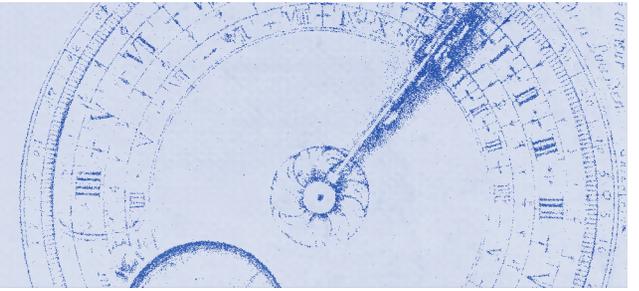


**S. B. Friedman & Company**  
Real Estate Advisors and Development Consultants



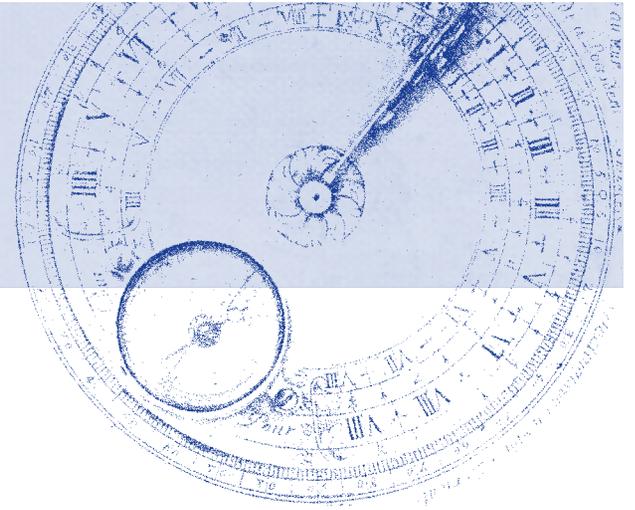
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# FOREWORD

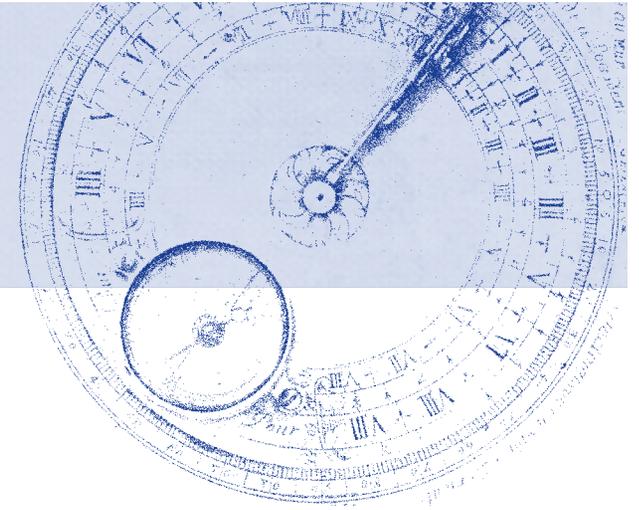
# Foreword

**The concept of a Biotechnology/ Medical District in Lake County** was first introduced in 2005 by State Representative Eddie Washington, 60th District. This endeavor has been officially named the “Northern Lights Biotechnology/Medical District” project.

Representative Washington reached out to his colleague and friend Mr. William (Bill) Wallace of WTW Architects & Planners and out of this meeting of the minds was born the Northern Lights Consultant Group, consisting of WTW, Bovis Lend Lease, and E.C. Purdy & Associates.

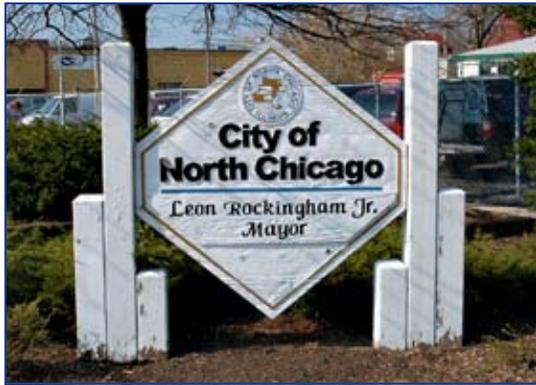
Mayor Leon Rockingham of North Chicago immediately saw the potential of Representative Washington’s idea and came on board to assist in further laying the ground work by retaining the services of Land Vision, Inc. and S. B. Friedman & Company to create a Framework Plan. Prior to the Framework Plan, two local greenhouses were constructed; one being in District 187, North Chicago, named in memory of the late George Miller and the other in District 60, Waukegan, named in memory of agriculture instructor, the late Mr. Leroy P. Jones. These greenhouses were an idea by Representative Washington and his associates to create additional educational career choices with an emphasis on chemistry, biology, life sciences, horticulture, and agriculture. In addition, a series of meetings were initiated by Representative Washington which led to Mayor Richard (Dick) Hyde of Waukegan supporting the concept. The Representative has found support among the Lake County Pharmaceutical giants, Rosalind Franklin University and others to bring this historic opportunity to fruition. The Department of Commerce & Economic Opportunity stands ready to assist.





# EXECUTIVE SUMMARY

# Executive Summary



**The Northern Lights Biotechnology/Medical District at North Chicago Framework Plan** identifies the City of North Chicago’s potential given its location, accessibility, physical environment, and existing market demand, to support a diversity of medical and biotechnology related industries within a defined district.

A “Biotechnology/Medical District” is one of a number of Special Districts created by Illinois State law. Special Districts are typically single purpose or highly focused entities given many municipal and other powers to achieve their stated missions. The Illinois General Assembly can pass legislation which, when signed into law by the Governor, establishes a Biotechnology/Medical District within Chapter 70 of the Illinois Compiled Statutes (70 ILCS). The Northern Lights Biotechnology/Medical District Framework Plan is the evaluation phase for the establishment of a Biotechnology Medical District in North Chicago.

The District as currently delineated encompasses approximately 1,100 acre of the northeast portion of the City of North Chicago. It is irregularly shaped and generally bounded by 10th Street on the north, Kohl Avenue on the south, Amstutz Expressway

and the Lakefront on the east, and Sheridan Road, Green Bay Road, and EJ&E Railroad on the west.

In evaluating the potential of the City of North Chicago to support a Biotechnology/Medical District four primary findings were identified:

- **Location of Existing Medical & Biotechnology Institutions:** The City of North Chicago is currently home to four significant medical and biotechnology related industries. These include Abbott Laboratories Corporation, Rosalind Franklin University of Medicine and Science, Naval Health Clinic Great Lakes, and the North Chicago Veterans Affairs Medical Center (VAMC). These established institutions, the services they provide, and potential for attracting support industries represent a strong base upon which to create a vibrant Biotechnology/Medical District within North Chicago.
- **Market Demand for Medical & Biotechnology Growth:** There is demand for new facilities from existing institutions. The North Chicago Veterans Affairs Medical Center is in the process of expanding as part of its merger with the Department of Defense, and Rosalind Franklin University has plans to expand its academic and research programs. A review of the biotechnology industry within the Chicago region shows long term potential for the development of a biotechnology research park in North Chicago.
- **Available Land for Development & Redevelopment:** Available land for future growth and development is located throughout the proposed District. Vacant building space,





and undeveloped and under-developed land adjacent to and within the Abbott Laboratories campus is available to meet future growth and expansion needs. Industrial uses such as the FBI Firing Range, Smurfit Stone Container Corporation, and Hines Lumber represent opportunities to reclaim public access to the lakefront and provide land uses complementary to Foss Park and Downtown. Under-developed parcels and deteriorated structures within the Coleman/Commonwealth Industrial Park may be consolidated to provide space for new flex-tech and industrial incubator facilities. Relocation of the Navy's Forrestal and Nimitz neighborhoods may provide opportunities for expansion of the VAMC and Naval Health Clinic campuses south of Buckley Road as well as ancillary commercial/office space and residential housing. Finally, vacant land within the Rosalind Franklin University campus may be used for proposed facility expansion and attraction of complementary uses and industries.

- **Circulation System Accessibility & Convenience:** Access to and circulation within the area for employees, visitors, and patrons is convenient via the existing arterial and collector road network. These include Buckley Road, Green Bay Road, Sheridan Road, Amstutz Expressway, 10th Street, 14th Street, Argonne Drive, King Drive, and Lewis Avenue. Opportunities to expand the road network and re-establish the grid exist within the area. New east-west links between Sheridan Road and the lakefront as well as north-south connections between 10th Street and 16th Street should be provided as part of future site development.

Transit opportunities within the area are provided via Metra commuter rail and Pace bus service. The North Chicago and Great Lakes stations are located within a ½ mile of a majority of the proposed District. Pace fixed-route bus service also circulates through the District via the 563, 564, 568, and 569 routes. These transit opportunities provide circulation alternatives for area employees and patrons who may not have access to an automobile.

The findings of the Framework Plan demonstrate that the City of North Chicago is an appropriate location for establishment of an Illinois Biotechnology/Medical District. Given the identified market demand, land use, physical, and circulation conditions, we recommend the City take the following steps to establish the Northern Lights Biotechnology/Medical District at North Chicago:

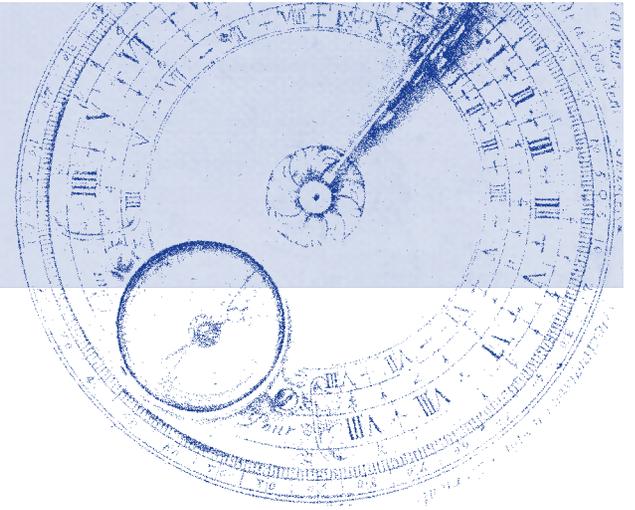
- **Approve the Framework Plan:** The City of North Chicago should conduct a series of public meetings to present and discuss the goals, objectives, and benefits of establishing a Biotechnology/Medical District within the City. Following a comprehensive vetting of the goals and benefits, the City Council should adopt a resolution in support of the Framework Plan. The Framework Plan should then be used as the baseline document for drafting legislation through the City's State representatives to establish an Illinois Biotechnology/Medical District at North Chicago.

- **Establish the Biotechnology/Medical District Commission:**

The City should begin working with Lake County and the Illinois Governor's office to determine the proportionate mix of representatives to be appointed to the Biotechnology/Medical District Commission. The Commission members may meet to begin implementation of the District goals and objectives after passage of the enabling legislation.

- **Prepare the Biotechnology/Medical District Master Plan:** The Biotechnology/Medical District Commission should begin preparation of the Biotechnology/Medical District Master Plan following approval of the District enabling legislation.





# INTRODUCTION

# Introduction

## Purpose & Scope

The City of North Chicago is located in Lake County, Illinois, and hosts several large employers including the North Chicago Veterans Affairs Medical Center (VAMC), the Rosalind Franklin University of Medicine and Science (RFU), and Abbott Laboratories. These employers, which form the core economic base of North Chicago, are located in close proximity to one another and are related to the biomedical field. The City is studying whether these existing assets can be leveraged to expand its economic base by creating a larger cluster of biomedically-oriented institutions.

The City has retained the services of Land Vision, Inc. and S. B. Friedman & Company, to create a framework plan that identifies the potential to establish a vibrant Biotechnology/Medical District within the City of North Chicago. The Framework Plan is intended to provide the City with an overall assessment of existing land use conditions, the market potential for an expanded biomedical cluster, and a plan to guide its implementation. As part of the study, Land Vision, Inc. and S. B. Friedman & Company have evaluated the existing land use patterns and transportation systems within the district and assessed the feasibility of establishing a biomedical cluster in North Chicago. A biomedical cluster could potentially include facilities engaged in academic instruction, medical research, manufacturing, and healthcare services, as well as supporting retail and residential uses.

The implementation of such a biomedical cluster will require significant master planning, land assembly, marketing and overall management. One of the key implementation tools available that can facilitate the development of such a biomedical cluster would be the creation of an Illinois Biotechnology/Medical District. An Illinois Biotechnology/Medical District is an entity established by the Illinois General Assembly and vested with special powers to facilitate the establishment of a biomedical district. A detailed description of the benefits of an Illinois Biotechnology/Medical District is provided later in this report. The information from this study is intended to provide the City with a rationale for pursuing the establishment of an Illinois Biotechnology/Medical District.

The Northern Lights Biotechnology/Medical District at North Chicago Framework Plan has been funded in part by a Base Realignment and Closure (BRAC) grant from the United States Department of Labor and City of North Chicago.



Veterans Affairs Medical Center

## Study Overview

The report is organized into six (6) sections.

**Section 1** provides an executive summary of the report. It outlines the four major findings from evaluation of the City's potential to create a Biotechnology/Medical District and concludes with a brief description of the recommended steps to be taken by the City to establish this District.

**Section 2** outlines the purpose and scope of the proposed Biotechnology/Medical District along with a description of its use as an economic development tool, and the process used for creating the framework plan report. It concludes with a discussion of economic, programmatic, and physical goals and objectives that the City intends to achieve.

**Section 3** describes the past planning efforts undertaken by the City with respect to their applicability to the current project. This section identifies major stakeholders with a discussion on their history, major function, and role in making the proposed Biotechnology/Medical District successful. An evaluation of major land uses, vehicular and transit circulation and open spaces within the District is provided to identify the available strengths, weaknesses and opportunities.





**Section 4** is a feasibility analysis prepared to assess the demand from existing area institutions, such as Rosalind Franklin University, the North Chicago Veterans Affairs Medical Center, and Abbott Laboratories. In addition, the long-term potential of the district as a location for biotechnology companies is examined. Several case studies of similar districts within the Midwest are provided to identify key factors for the success of a biomedical based economic development strategy.

**Section 5** highlights improvement recommendations by sub-area to address land use, circulation, and open space opportunities within the proposed district.

**Section 6** provides an outline of the potential next steps in the establishment of the Northern Lights Biotechnology/Medical District at North Chicago.

## Definition and Benefits of Illinois Biotechnology/Medical Districts

A “Biotechnology/Medical District” is one of a number of Special Districts that are created by state law. Special Districts are typically single-purpose or highly focused entities that are given many municipal and other powers in order to achieve their missions. The Illinois General Assembly can pass legislation which, when signed into law by the Governor, establishes within Chapter 70 of the Illinois Compiled Statutes (70 ILCS) a Biotechnology/Medical District. Such a district has been established three times since 1941; to form the Illinois Medical District on the near west side of Chicago, the Illinois Medical District at Springfield and the Mid-America Medical District in East St. Louis. Other Special Districts include those focused on conservation, airports, parks, planning and regional development, ports, transit and water.

In order for a “North Chicago Biotechnology/Medical District” to be established, legislation delineating the boundaries of the proposed district and defining its powers, limitations and governance structure would need to be submitted by either North Chicago’s Illinois House Representative, Senator or both during a session of the General Assembly. The bill would go through the normal course of committee hearings and debate on the floor of both chambers. Upon passage by the General Assembly and signature by the Governor the bill would become law and the District would be created per the terms and conditions of the bill as approved and signed into law. As a creature

of state government, therefore, the City of North Chicago would need to garner the support of its General Assembly delegation and, ultimately, of a majority of its members and the Governor.

Biotechnology/Medical Districts can receive many of the powers conferred by the state on municipalities, including the ability to condemn and assemble land, establish zoning and land use master plans and establish and enforcing building codes. The District is governed by and its staff is held accountable to a commission whose members are appointed, per the enabling legislation, by the city in which it is located, the county board and the governor. The proportion appointed by each entity has varied between districts.

However, the District must fully comply with and not be in violation of any ordinances of the municipality in which it is located. This, then, would enable the City of North Chicago to establish strategic parameters and benchmarks for the proposed District, while allowing the District to operate with a degree of autonomy as it carries out its highly specialized mission. Additionally the City could maintain some control over the District’s governance by virtue of the appointments it can make to its commission.





## Process and Participants

Representatives of the City of North Chicago, local institutions, and community stakeholders were invited to participate in the development of the Biotechnology/Medical District Framework Plan. Through a series of one-on-one interviews and stakeholder meetings the planning team worked to ensure that all issues, concerns, and desires were clearly defined and priorities understood by all participants.

### **The framework planning process has involved:**

- a detailed identification and assessment of the District's land uses, real estate and business environment, vehicular, transit, and pedestrian circulation patterns;
- planning workshop meetings with City staff and officials to gain input on the District's issues, constraints, and opportunities;
- meetings with key stakeholders to assess their future expansion plans and need for support services;
- meetings with City staff and officials to review the plan's findings, recommendations, and implementation strategies; and
- a presentation of the Framework Plan for public review and comment.

The following agencies and organizations provided valuable insights, input, and future visioning throughout the planning process in regards to the development potential of the Northern Lights Biotechnology/Medical District at North Chicago:

- City of North Chicago, Mayor Leon Rockingham, Jr.
- City of North Chicago, City Council
- City of North Chicago, Department of Community & Economic Development
- Rosalind Franklin University of Medicine and Science
- North Chicago Veterans Affairs Medical Center
- Abbott Laboratories Corporation

## Framework Plan Goals & Objectives

The primary goal of the Framework Plan is to demonstrate the potential within the City of North Chicago, given its location, accessibility, physical environment, and the available market demand, to support a diversity of medical and biotechnology related industries within a defined Biotechnology/Medical District. Under this goal, the plan seeks to achieve a series of specific and guiding objectives which include:

- to enable and encourage existing institutions such as Rosalind Franklin University of Medicine and Science, North Chicago VAMC, Naval Health Clinic Great Lakes, and Abbott Laboratories to continue to grow and be competitive within the local, national, and international market place;
- to attract complementary medical and biotechnology related businesses and industry;
- to provide for a diversity of educational, research, office, commercial, residential, and open space uses to meet the needs of current and future businesses, employees, patrons, residents, and visitors;
- to complement the land uses and activities located within the adjacent neighborhoods and communities;
- to utilize a comprehensive rather than piecemeal approach toward land use, transportation, infrastructure and employment improvement initiatives;

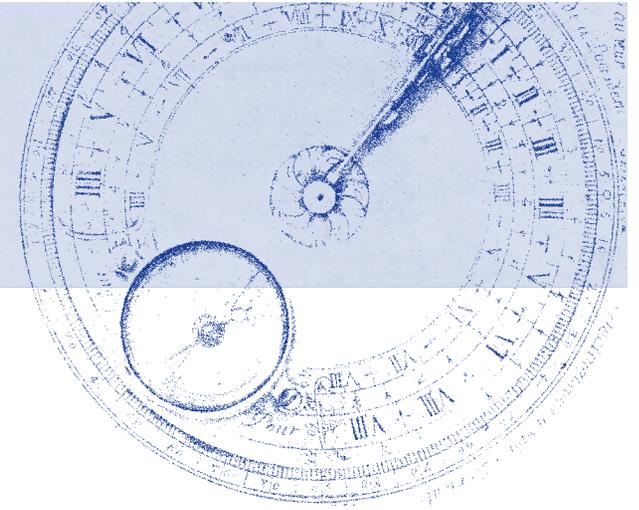




- to improve the efficiency, safety, and accessibility of vehicular and pedestrian traffic throughout the District;
- to safeguard the District's future as North Chicago's center for academic, medical, biotechnology, commercial, and industrial excellence; and
- to enhance recreational access to Lake Michigan while simultaneously protecting the lakeshore as one of the greatest assets of the City of North Chicago and State of Illinois.

These goals and objectives serve as the guiding principles under which the Northern Lights Biotechnology/Medical District shall be established and continually evaluated to ensure its successful implementation.





# SITE HISTORY & EXISTING CONDITIONS

# Site History & Existing Conditions

## Study Area Boundaries

The Biotechnology/Medical District study area is located along the City of North Chicago's northeastern boundary. The District encompasses approximately 1,100 acres and is currently home to Abbott Laboratories, Rosalind Franklin University of Medicine and Science, Naval Health Clinic Great Lakes, and North Chicago Veterans Affairs Medical Center. In addition to the above institutions, the District also includes various pharmaceutical, research, retail, and industrial uses, Foss Park, and access to the Lake Michigan lakeshore. The Naval Center Great Lakes is located immediately southeast of the proposed Biotechnology/Medical District boundary.

The District is generally bordered by 10th Street on the north, Kohl Avenue on the south, Commonwealth Avenue, Amstutz Expressway and Lake Michigan on the east, and Sheridan Road, EJ&E Railroad and Green Bay Road on the west.



*Northern Gateway to the Biotechnology/Medical District*



The District is currently comprised of several distinct sub-areas which are well defined by a combination of the business and land use mix, and physical, transportation, and perceptual barriers. These conditions create well defined transitions at several locations between the medical/educational, industrial, mixed-use commercial, office/research, residential, and open space uses.

These sub-areas include:

- **Sub-Area A: Pharmaceutical/Research**  
(generally bounded by 10th Street on the north, 16th Street on the south, Lake Michigan on the east, and Lincoln Street on the west)
- **Sub-Area B: Downtown**  
(generally bounded by 16<sup>th</sup> Street on the north, Broadway Avenue on the south, Union Pacific Railroad on the east, and Glen Drive on the west)
- **Sub-Area C: Lakefront**  
(generally bounded by 16th Street (extended) on the north, 21st Street (extended) on the south, Lake Michigan on the east, and Foss Park Avenue on the west)
- **Sub-Area D: Commercial/Industrial**  
(generally bounded by Broadway Avenue on the north, Cable Place Road on the south, Main Street on the east, and EJ&E Railroad on the west)
- **Sub-Area E: Naval Housing**  
(generally bounded by 24th Street on the north, Buckley Road on the south, EJ&E Railroad on the east, and Green Bay Road on the west)

- **Sub-Area F: Medical/Educational**  
(generally bounded by Buckley Road on the north, Bay Shore Drive on the south, EJ&E Railroad on the east, and Green Bay Road on the west)



*Foss Park leading to Lakefront*



*Main Entrance to VA Medical Center*



*Representative Single Family Residential*



*Foss Park Playground*



*Coleman / Commonwealth Industrial Park*





## Past Planning in the District

The City has conducted several planning initiatives in areas which either lie within or overlap with the proposed Biotechnology/Medical District. As part of the existing conditions analysis, Land Vision, Inc. and S. B. Friedman & Company reviewed these studies to understand their influence on the Framework Plan.

### City of North Chicago Comprehensive Plan

The City of North Chicago Comprehensive Plan, prepared for the City by BRW, Inc. and S. B. Friedman & Company in 1996, is the City's guiding land use document. The plan establishes and clearly articulates the City's desires for future land use development and redevelopment throughout the community.

To this end the plan outlines a series of realistic and implementable goals which continue to guide the City today. Among the goals of the Comprehensive Plan are the following:

- Carefully manage and control development to achieve orderly municipal growth.
- Enhance the sense of community by strengthening the City's civic core.
- Promote and maintain quality commercial, office, and industrial development.
- Expand the employment base in North Chicago.
- Capture a larger proportionate share of local retail expenditures in the City of North Chicago.
- Improve the City's fiscal balance.

- Continue to develop the park system to serve the increasing active and passive recreational needs of the City.
- Encourage the development of supportive community facilities in locations convenient to residential and employment centers.
- Plan and provide a functional, efficient, and cost effective system of public infrastructure.
- Develop North Chicago as a visually attractive community.
- Improve vehicular circulation throughout North Chicago.
- Provide functional and affordable public transit service to City residents and employees.
- Develop and improve non-motorized circulation within North Chicago.

### North Chicago Downtown Transportation Master Plan

The North Chicago Downtown Transportation Master Plan, prepared for the City in 2003 by Land Strategies, Inc., and Joseph DiJohn, establishes a detailed, long-term (15 year) vision, and unified framework for future transportation initiatives within the downtown area. The plan outlines the goals, objectives, and specific improvement recommendations for the expansion of traditional and non-traditional transportation and transit infrastructure including area rights-of-way, commuter rail, bus and para-transit routes, bicycle paths, and on-street and off-street parking. The recommendations represent the potential of the area to effectively meet the existing and future transportation demands of the area businesses and residents while enhancing the overall quality of life throughout the community.





### **Waukegan/North Chicago Enterprise Zone**

The Waukegan/North Chicago Enterprise Zone, established in 2006 covers an area of approximately 9.4 square miles within both the cities of Waukegan and North Chicago, Illinois. The Enterprise Zone designation provides the cities the ability to enhance their economic competitiveness through the use of tax credits and sales tax exemptions thereby creating jobs and strengthening the economic tax base of each community. This is a tool that can be used to create incentives for new development in the proposed Biotechnology/Medical District.

### **Tax Increment Financing District (TIF) Sheridan Road**

TIF District Sheridan Road was established by the City of North Chicago in 1999 and serves as a primary economic development tool for development and redevelopment efforts within the area. The TIF district boundary covers approximately 350 acres and is bounded by 10th Street on the north, Cable Place on the south, Lake Michigan on the east, and Lewis Avenue on the west.

During the district's eight year history, TIF funds have been used to facilitate various development and redevelopment activities including the Grant Place Retail Center, Sheridan Crossing and the Downtown Transportation Project. Given the ambitious plans envisioned as part of the Northern Lights Biotechnology/Medical District designation, the use of TIF incentives is anticipated to remain a significant economic development tool for future growth and redevelopment activities.

### **Chicago Suburban Transit Access Route (STAR) Line Service**

The commuter rail expansion plan, prepared by the Lakota Group, Inc, and *S. B. Friedman & Company* in 2005, proposed development concepts for a downtown North Chicago commuter station and 65 acre transit oriented development to consist of 380 residential units, 220,000 square feet of commercial, industrial, and office space along with parking for 400 vehicles.



### City of North Chicago Downtown RTAP Study

In 2006, the City of North Chicago with assistance from Douglas Farr & Associates and Goodman Williams Group began formulation of a Transit Oriented Development (TOD) master plan and an implementation strategy for the redevelopment of the area surrounding the North Chicago Metra rail station. The study will assess the current and potential relationships among commuter rail station, riders, bus lines, station area businesses, residents, and other activities around the station. When complete, the study will outline recommendations for the enhancement of interaction among these stakeholders.

In addition to the studies and designations outlined above, over the past decade the City of North Chicago has undertaken numerous development, redevelopment, transportation, environmental remediation, and area enhancement initiatives throughout the proposed Biotechnology/Medical District. Among the significant accomplishments are:

- **Reopening of Naval Center Great Lakes Gate 4 at M.L. King Drive and Sheridan Road**

After a 17 year closure, this \$12 million dollar intersection and railroad crossing project will again provide convenient access for the thousands of sailors and civilians at the Naval Center Great Lakes to the City of North Chicago and the City's proposed \$300 million dollar retail development project "Sheridan Crossing".

- **Grant Place Retail Development**

A community initiated development of approximately 20,000 square feet of new

commercial and retail space at the intersection of 18th Street and Sheridan Road within downtown North Chicago.

- **North Chicago Facade Improvement Program**

This program provides grants, installment loans and deferred loans to new or existing businesses and property owners to improve and rehabilitate deteriorating building exteriors. Eight buildings within downtown North Chicago have been renovated through the Facade Improvement Program over the past five years.

- **King Drive & Sheridan Road Streetscape Improvement**

The City of North Chicago has recently secured funding for a streetscape enhancement project along Sheridan Road and M. L. King Drive to provide new lighting, landscaping, street furniture, fencing, and decorative signage. This project will be coordinated with the City's redevelopment activities proposed as part of the Sheridan Crossing commercial development project.

- **Community Laundromat/Apartments at 1623 Sheridan Road**

North Chicago recently approved construction of a mixed-use building at the northeast corner of Sheridan Road and Foss Park Road. The two-story masonry building consists of a community laundromat on the first floor and residential apartments above. This development is an example of the City's ongoing initiative to improve architectural and urban design standards within the downtown area.

- **Phillips 66 Car Wash at 1234 Sheridan Road**

A new Phillips 66 Gas Station and Car Wash was completed at 1234 Sheridan Road in July 2007.



*New Phillips 66 Car Wash at 1234 Sheridan Road*



*New Community Laundromat at 1623 Sheridan Road*



## District Institutions

### Abbott Laboratories Corporation

Abbott is a 100+ years old global health care company devoted to the discovery of new medicines, health care technology, and new ways to manage health. Founded in 1888 by Wallace C. Abbott, the company has grown into one of the world's most broad-based health care companies with over 60,000 employees and operations in 130 countries.



*Abbott Laboratories Entrance at 10th and Sheridan Road*

Being the only health care company headquartered in Illinois, Abbott is a major employer in the City and the region with approximately 3,000 employees from Illinois and Wisconsin. While the company's corporate headquarters are in Abbott Park, Illinois, North Chicago is home to many of Abbott's manufacturing facilities.

The on-going discovery of new medicines and the continuous increase in demand for health care will spur the need for increased research, development, and manufacturing. Abbott Laboratories' North Chicago facility is well positioned to meet this demand with not only its current facilities but the significant under utilized and vacant land throughout the proposed Biotechnology/Medical District. Abbott owns significant land along the lakefront which provide exciting opportunities for the development of uses that complement the existing medical research and manufacturing facilities.



*Abbott Laboratories Office / Research Facilities*

### Veterans Affairs Medical Center

The Department of Veterans Affairs (VA) was established in 1930 to serve America's veterans and their families. It serves as the principal advocate in ensuring that the Navy's veterans receive high quality medical care, benefits, social support, and memorials thereby promoting the health and welfare of all veterans who have served the United States of America.

The North Chicago Veterans Affairs Medical Center (VAMC) is located next to the Naval Center Great Lakes. It is part of the Veterans Integrated Service Network (VISN) 12, a regional health care system that provides the full spectrum of healthcare to veterans. North Chicago VAMC also serves as the long-term referral center for the area's medical and mental health patients.

The North Chicago VAMC employs approximately 1,100 physicians, nurses, counselors, and specialists and serves approximately 24,000 US Veterans annually.



The North Chicago VAMC has an affiliation with the Rosalind Franklin University of Medicine and Science, located immediately to the south. The Great Lakes Naval Hospital also has a formalized resource sharing agreement with the Medical Center that allows military beneficiaries to receive care at the VA.

The VAMC has several proposals for expansion and redevelopment in collaboration with the Navy and Rosalind Franklin. Efforts to share land and resources between the three organizations is helping provide more efficient health care services and promoting medical research. This symbiotic relationship will be beneficial to the creation of a vibrant Biotechnology/Medical District in North Chicago.



*Veterans Affairs Medical Center*

### **Rosalind Franklin University of Medicine and Science**

Founded in 1912 in the City of Chicago as the Chicago Medical School, Rosalind Franklin University (RFU) has been providing medical education to health and biomedical professionals for more than 95 years. In 1980, the University moved to its current location at 3333 Green Bay Road in North Chicago. The RFU's 93 acre campus includes a Basic Science Building, a Health Sciences Building, a Multimedia Gross Anatomy Laboratory, the Education and Evaluation Center, recently expanded research laboratories, three residence halls, and The Clinics at Rosalind Franklin University.

The University has expanded over the decades to consist of four schools:

- The Chicago Medical School
- The School of Graduate and Postdoctoral Studies
- The College of Health Professions
- The Dr. William M. Scholl College of Podiatric Medicine



*Rosalind Franklin University of Medicine and Science*



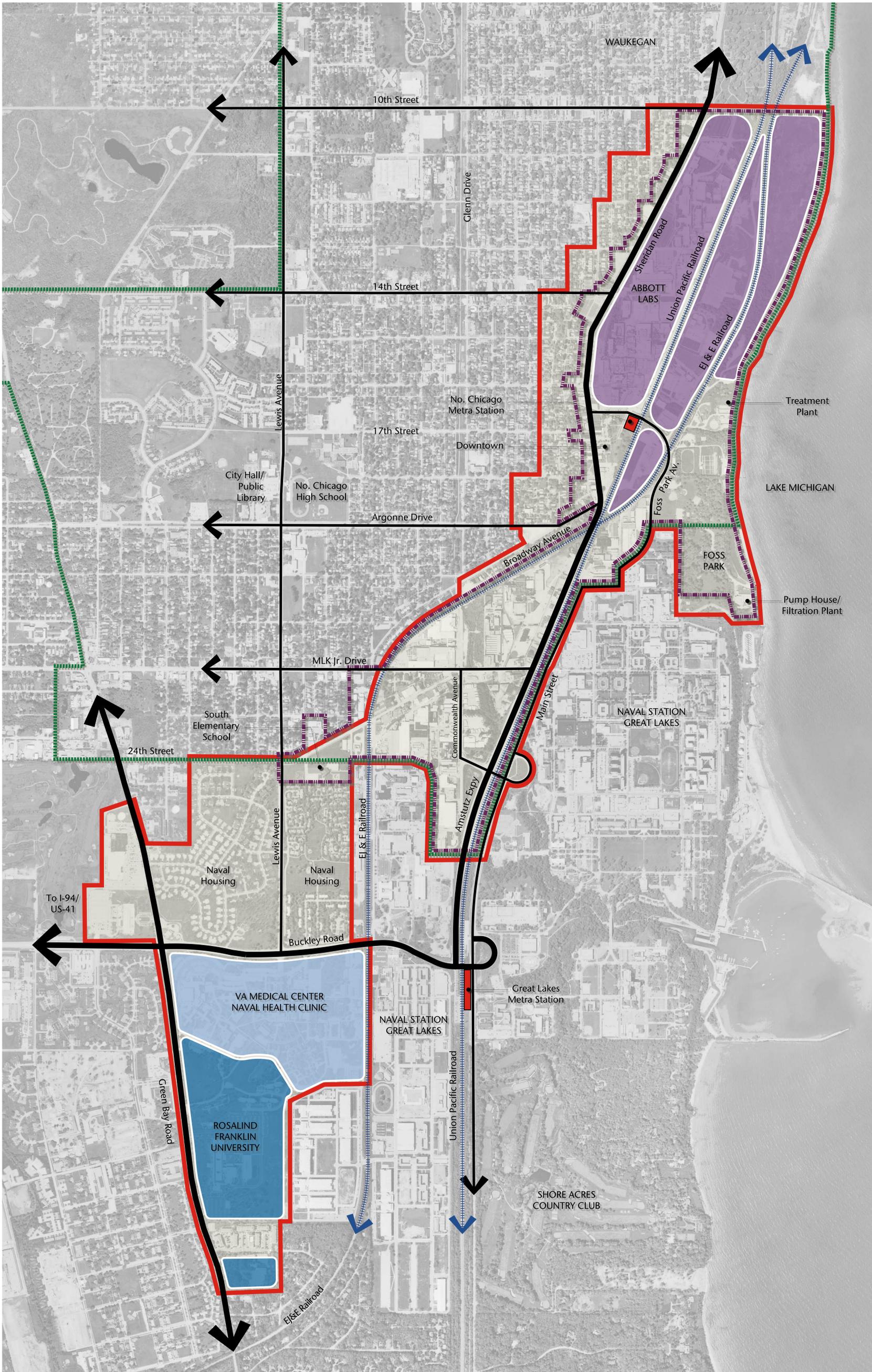
*Rosalind Franklin University Dormitory Facilities*

The RFU faculty consists of approximately 800 professionals dedicated to educating the 1,500 students enrolled within the institution.

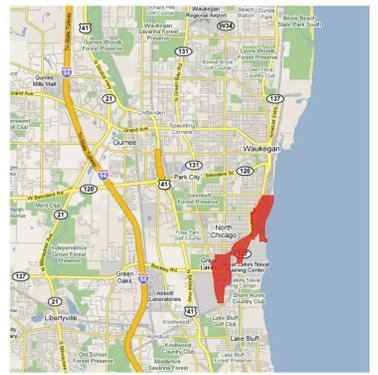
As one of the key stakeholders, the RFU plays an important role in sustaining and further expanding the proposed Biotechnology/Medical District. State-of-the-art facilities for research will continue to attract investment to the area. Also, diverse clinical opportunities that expose students to a broad spectrum of patients and cases will attract renowned faculty, students and professionals to the institution.

RFU is collaborating with the VA in various research efforts. It has come up with an ambitious strategic vision for growth and development over the next five years. These include attracting talented professionals to the area and increasing clinical and research capabilities.



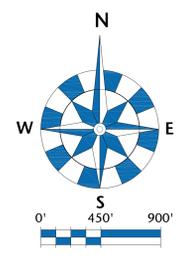


**Location Map** Not To Scale



**Legend**

- Abbott Laboratories
- VA Medical Center & Naval Health Clinic
- Rosalind Franklin University of Medicine and Science
- Study Area Boundary
- TIF District Boundary
- Enterprise Zone Boundary
- Arterial Right-of-Way
- Collector Right-of-Way
- Railroad Right-of-Way



**Northern Lights Biotechnology/Medical District • Context Map**  
**North Chicago, IL**

## Land Use & Physical Conditions

As previously described, the proposed Northern Lights Biotechnology/Medical District is comprised of several distinct sub-areas. Within each of these sub-areas exist a diversity of complementary and sometimes competing land uses which help to further define the character of the particular sub-area. Each sub-area and their corresponding characteristics are outlined below.



*Historic Downtown With Mixed-Use Buildings*

The sub-areas identified within the larger North Chicago Biotechnology/Medical District are defined by the following general boundaries:

- **Sub-Area A: Pharmaceutical/Research**  
(generally bounded by 10th Street on the north, 16th Street on the south, Lake Michigan on the east, and Lincoln Street on the west)
- **Sub-Area B: Downtown**  
(generally bounded by 16th Street on the north, Broadway Avenue on the south, Union Pacific Railroad on the east, and Glen Drive on the west)
- **Sub-Area C: Lakefront**  
(generally bounded by 16th Street (extended) on the north, 21st Street (extended) on the south, Lake Michigan on the east, and Foss Park Avenue on the west)
- **Sub-Area D: Commercial/Industrial**  
(generally bounded by Broadway Avenue on the north, Cable Place Road on the south, Main Street on the east, and EJ&E Railroad on the west)



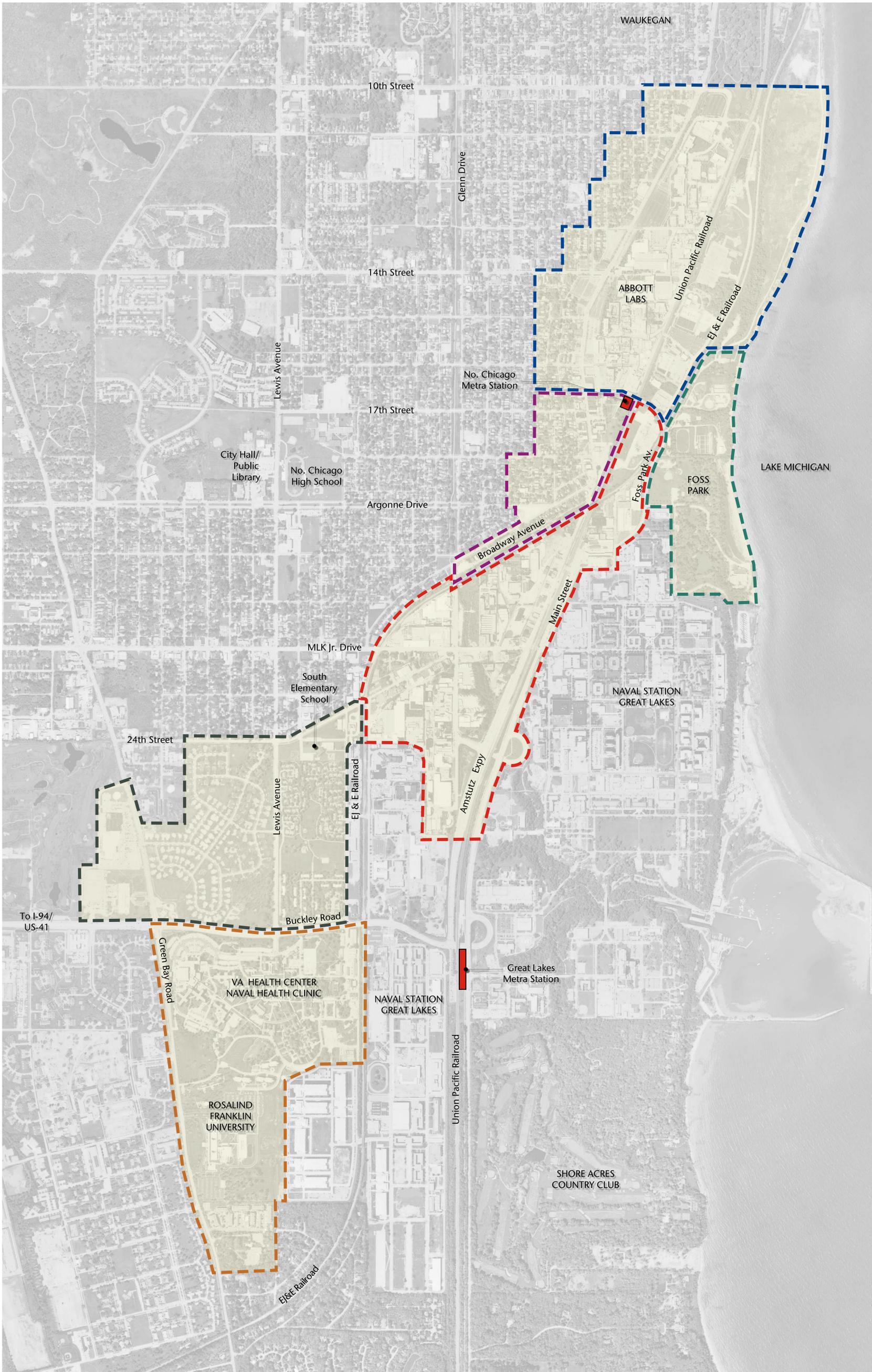
*Duplex Unit in Nimitz Neighborhood*

- **Sub-Area E: Naval Housing**  
(generally bounded by 24th Street on the north, Buckley Road on the south, EJ&E Railroad on the east, and Green Bay Road on the west)
- **Sub-Area F: Medical/Educational**  
(generally bounded by Buckley Road on the north, Bay Shore Drive on the south, EJ&E Railroad on the east, and Green Bay Road on the west)

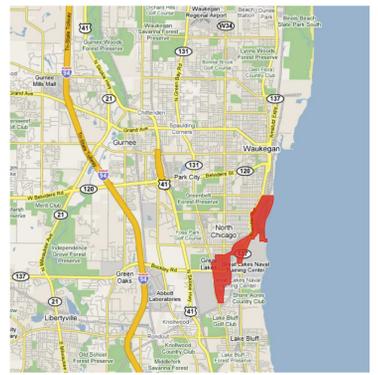


*Bluffs Overlooking Lake Michigan*



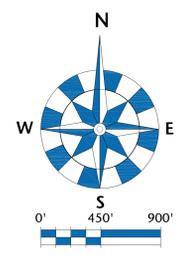


**Location Map** Not To Scale



**Legend**

- - - - Pharmaceutical/Research Sub-Area
- - - - Downtown Sub-Area
- - - - Lakefront Sub-Area
- - - - Commercial/Industrial Sub-Area
- - - - Naval Housing Sub-Area
- - - - Medical/Educational Sub-Area



**Northern Lights Biotechnology/Medical District • Existing Sub-Areas**  
**North Chicago, IL**

Dated: June 30, 2007  
 Drawing Number: Existing Sub-Areas  
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### Sub-Area A: Pharmaceutical/Research

The Pharmaceutical/Research sub-area encompasses the north and northeastern portions of the proposed Biotechnology/Medical District. The sub-area is based around the corporate office, research, and manufacturing facilities of Abbott Laboratories Corporation. Abbott Laboratories is the primary land owner in this sub-area with approximately 200 acres of total property. Abbott's holdings include a diversity of developed, under-developed, and vacant land uses. Building sizes range from one to five stories and are arranged in a campus setting, primarily east of Sheridan Road.

While portions of the campus appear to have reuse potential (e.g., headquarters building at 14th Street and the four story structures located along Sheridan Road between 10th Street and 14th Street), many structures appear to have limited use beyond that defined by Abbott Laboratories given their age, physical condition, and/or highly specified purposes for which they were originally built. A considerable portion of Abbott's campus is currently under-developed or undeveloped. This includes approximately 45 acres of land between the Metra and EJ&E railroad tracks as well as approximately 55 acres along the Lakefront north of 16th Street.

In addition to campus holdings on the east side of Sheridan Road, Abbott also owns considerable frontage along the west side of Sheridan Road including:

- Southwest corner of Sheridan Road and 14th Street;
- Northwest and southwest corners of Sheridan Road and 13th Street; and
- Southwest corner of Sheridan Road and 12th Street.

These parcels are utilized by Abbott Laboratories as secure surface parking lots for their employees and visitors. Given the location of these key parcels, their use as surface parking lots does not appear to represent their highest and best use.

The west side of Sheridan Road contains a mix of uses including auto oriented commercial, multi-family residential, religious institutions (e.g. North Shore Baptist Church), personal service commercial, US post office, restaurants/food service, surface parking lots, and vacant land.



Abbot's Facility at Sheridan and Foss Park Road

Shallow lot depths and odd parcel configurations contribute to conflicting land uses within the area.

Despite these issues, some new development has recently begun occurring including the construction of a new gas station and car wash along Sheridan Road north of 13th Street.

Immediately west of Sheridan Road exist long established, single-family residential blocks. The buildings and structures contained within these blocks are in fair to poor physical condition. These blocks provide an opportunity to increase development depths along Sheridan Road and/or provide locations for the development of alternative housing products such as townhomes and condominiums.

Despite the location of approximately 7,425 feet (1.4 miles) of Lake Michigan lakeshore along the east edge of the sub-area, usable common open space is limited. Abbott Laboratories currently owns all property located along the lakeshore and access is prohibited to the public.



Mixed-use Building With Retail and Residential Above





### Sub-Area B: Downtown

The Downtown sub-area was the City of North Chicago's original civic, retail, and commercial center. The sub-area is bounded by Foss Park Road on the north, Broadway Avenue on the south, EJ&E railroad tracks on the east, and Glen Drive on the west. The downtown consists primarily of one and two story mixed-use buildings with retail on the first floor and residential above.



*Downtown Mixed-Use Buildings*

This sub-area is home to North Chicago's Metra train station. A new 20,000 square foot commercial/retail project with a community bank, police sub-station, and neighborhood retail uses is nearing completion at the intersection of Sheridan Road and Grant Place. A new retail/residential development (i.e., community laundromat and rental apartments) has recently been completed at the northeast corner of Foss Park Road and Sheridan Road.

Multi-family and single family residential land uses such as the Thompson Manor Senior Housing, apartment buildings, and single family homes are also present within the Downtown. These uses are dominant within the blocks immediately west of Sheridan Road and along Broadway Avenue.

The City, in conjunction with local property owners has invested millions of dollars in façade renovation and commercial development over the past five years to re-energize the Downtown as the historic heart of North Chicago.



*New Laundromat With Second Floor Residential Apartments*

Although new development activity has been occurring, several vacant and under utilized parcels are located within the District and include the following:

- Southwest corner of Sheridan Road and Foss Park Road;
- Northeast corner of Grant Place and 18th Street
- Northwest corner of Sheridan Road and 18th Street; and
- Several parcels along Sheridan Road between Argonne Drive and 18th Street.

The Downtown sub-area contains limited public open space. Construction of the recently completed Veterans Memorial Park at the intersection of Sheridan Road and Broadway Avenue has begun to address this inadequacy. Additional open space should be considered as part of all future development and redevelopment initiatives.



*Mixed-Use Retail / Restaurant*





### Sub-Area C: Lakefront

The Lakefront sub-area is one of the most overlooked and under appreciated assets of the City of North Chicago. The sub-area is located east of the EJ&E railroad tracks, and bounded by the extension of 16th Street on the north, 21st Street on the south, and the lakeshore on the east.

This sub-area contains a mix of disjointed land uses including the North Chicago water pumping station, waste treatment facility, Federal Bureau of Investigation (FBI) firing range, Smurfit Stone Container Corporation, Edward Hines Lumber, and Foss Park. In addition, the Naval Center Great Lakes training station is located immediately to the south of the Lakefront sub-area.



*Smurfit-Stone Corporation Truck Marshalling*

Foss Park is a major public amenity providing approximately 40 acres of active and passive recreational open space. It is the only public access to Lake Michigan within the City of North Chicago. The Park is extensively landscaped with mature trees, ground cover, and bluffs along the lakeshore. A nature overlook is provided at the east end of the Park road to allow access to the lakeshore. Environmental sensitivity within the Park in regards to the lakeshore is carefully balanced with the City's desire to provide a high quality public open space for its residents.



*Foss Park Beach*



*Foss Park Playground*

While internally Foss Park is beautiful, the surrounding industrial and federal land uses including the Navy brig (prison) at the Park's entrance significantly detracts from the aesthetics of the area. Park users are forced to traverse past industrial buildings, semi-trucks, barbed wire fencing, sounds of automatic gunfire, and poor roadway and underpass conditions to access the Park.

These conditions result in the park being under utilized by community residents.

With the exception of the Naval recruit housing at Great Lakes, residential land uses are non-existent within the sub-area. The closest residential land use is a single family home more than 2,100 feet (0.4 miles) northwest of the entrance to Foss Park.



*FBI Firing Range Fenced Off From Foss Park*



### Sub-Area D: Commercial/Industrial

The commercial and industrial sub-area is bounded on the north and west by the EJ&E Railroad embankment, on the south by Cable Place, and on the east by Sheridan Road/Amstutz Expressway. The sub-area contains a diversity of warehousing, industrial, manufacturing, distribution, federal, and open space uses.

Development within the sub-area appears to have occurred inconsistently over the decades resulting in limited physical or perceptual connectivity. Shallow lot depths, odd parcel shapes and sizes, and limited enforcement of zoning and building regulations resulted in haphazard land use patterns. These are particular problems for the parcels south of King Drive along Morrow Avenue and those west of Commonwealth Avenue. The expansion of businesses such as Jelly Belly Candy Company, Liberty Coach, North Chicago Iron, King Wire, and others have further contributed to the land use pressures within the sub-area.



Jelly Belly Candy Company

Today, EMCO Chemical Distribution Company, located at the northwest corner of King Drive and Commonwealth Avenue needs to expand its facility. It has been in discussions with the City to vacate Commonwealth Avenue north of King Drive to allow for building truck marshalling, and employee parking to the east of their current facility.



EMCO Chemical Distribution Center

The location of the Robert McClory Bike Path and Pettibone Creek represent conflicting land uses within this historically industrial sub-area. Mitigation efforts are required to reduce the impacts between these conflicting land uses and the abutting industrial neighbors. Rights-of-way realignment, bike path relocation, and environmental protection and enhancement may be considered to allow these uses to function successfully within this sub-area.

In addition to the land use conflicts, deteriorated buildings and vacant parcels are located throughout the sub-area. The largest percentage of vacant land is located north of King Drive within the former Lavin property. Deteriorated buildings and structures are scattered throughout the Coleman/Commonwealth Industrial Park south of King Drive.

The City has acquired a significant amount of land within the sub-area through condemnation and tax foreclosure. During the past 5 years the City has cleared the former Lavin industrial facility, municipal water tower, vacated railroad spur lines, and attended to environmental remediation issues within the sub-area. The City continues to actively pursue redevelopment options including retail, commercial, and hotel uses for the 40+ acre site located at the northwest corner of Sheridan Road and King Drive.



McClory Bike Path Running Along Commonwealth Avenue



### Sub-Area E: Naval Housing

The Naval Center Great Lakes provides off-base housing for Navy families within the Nimitz and Forrestal neighborhoods. This sub-area is bounded by 24th Street on the north, Buckley Road on the south, Ray Street on the east, and Green Bay Road on the west. The Nimitz and Forrestal neighborhoods are divided east and west by Lewis Avenue.

The housing units within these neighborhoods consist primarily of one and two story townhome and duplex units. While the housing is well maintained, the architectural style is dated, provides limited overall square footage, and is dominated by front loaded garages. These neighborhoods are isolated to the west and south from North Chicago by two major arterials, Green Bay and Buckley Road.



*Townhome Unit in the Forrestal Neighborhood*

Navy installed fencing and rights-of-way blockades along the north and east edges of the neighborhoods prohibit their physical and perceptual connectivity to the larger North Chicago community. The Navy has indicated they may vacate the neighborhoods in the future following completion of new housing in adjacent communities.

The largest commercial use within the study area is located in this sub-area. The Navy Exchange Commissary, consists of a general store, bank, and other ancillary retail facilities. The strip-mall style development is dominated by a large parking lot along Green Bay Road. While currently meeting Navy personnel needs, the Navy is considering relocation of the Commissary to a more convenient location east of Green Bay Road.



*Navy Exchange Commissary Buildings*

South Elementary School is located at the intersection of Morrow Avenue and 24th Street. The location of the school is convenient to the Navy housing as well as residential neighborhoods to the north. The industrial uses abutting the west side of the school property negatively impact the institution. Truck movements on 24th Street along with noises and odors from the industrial processing are conflicting with the desired educational environment.

Several neighborhood parks are located within the Nimitz and Forrestal neighborhoods and appear to meet local needs. South Elementary School provides park space for its students immediately west of the main building. Additional open space could be provided through the rerouting of 24th Street along the north edge of the property.



### **Sub-Area F: Biotechnology/Medical/Educational**

The Biotechnology/Medical/Educational sub-area is bounded by Buckley Road on the north, Bayshore Drive on the south, EJ&E Railroad on the east, and Green Bay Road on the west. This sub-area is home to the Rosalind Franklin University of Medicine and Science, Naval Health Clinic Great Lakes, and North Chicago Veterans Affairs Medical Center. The sub-area consists of office, medical, educational, dormitory residential, multi-family residential, and open space land uses.

Each of the three institutions located within the sub-area historically developed independent campuses. In recent years the institutions have begun to share facilities and exchange property to address their respective growth and expansion needs. The Naval Health Clinic and Veterans Affairs Medical Center provide a series of cross services for their respective patients. Rosalind Franklin University leases some land from the VA and all of the institutions work together on various research and clinical care initiatives.

Buildings and structures within the sub-area appear to be in fair to good condition. They range in size from one to six stories depending on their intended use and age. Many of the older structures (40+ years) developed by the Navy and VA are one to four stories and brick construction. Newer buildings and structures including education and dormitories for RFU appear to provide greater height and square footage to address the facilities educational and residential space needs.

A number of buildings within the sub-area are currently vacant or under utilized. Review of the facilities plans provided by the sub-area institutions indicated that these under utilized facilities are maintained and available for future use, should they be needed.

RFU, Naval Health Clinic, and VAMC each have future development plans to provide new and expanded facilities to meet their respective clients service needs. Expansion of the Naval Health Clinic and VAMC has been proposed for the southeast corner of Green Bay Road and Buckley Road. RFU maintains a long term facilities plan which outlines their future growth and development program.

In addition to the educational and medical institutions, a small luxury apartment complex, The Woodlands, is located near the southern end of the sub-area. It divides the RFU campus at the southern end of the district. The University Clinics, Women's Health Center, and Scholl Foot Clinic are located at the far south end of the sub-area.

The campus environment upon which the sub-area is developed provides a significant amount of open space. Today, these areas are concentrated between the Naval/VA campus and RFU as well as within the southeast portion of the RFU campus. Open space considerations should be carefully evaluated with all future development plans to ensure that ample open space is maintained within this sub-area.

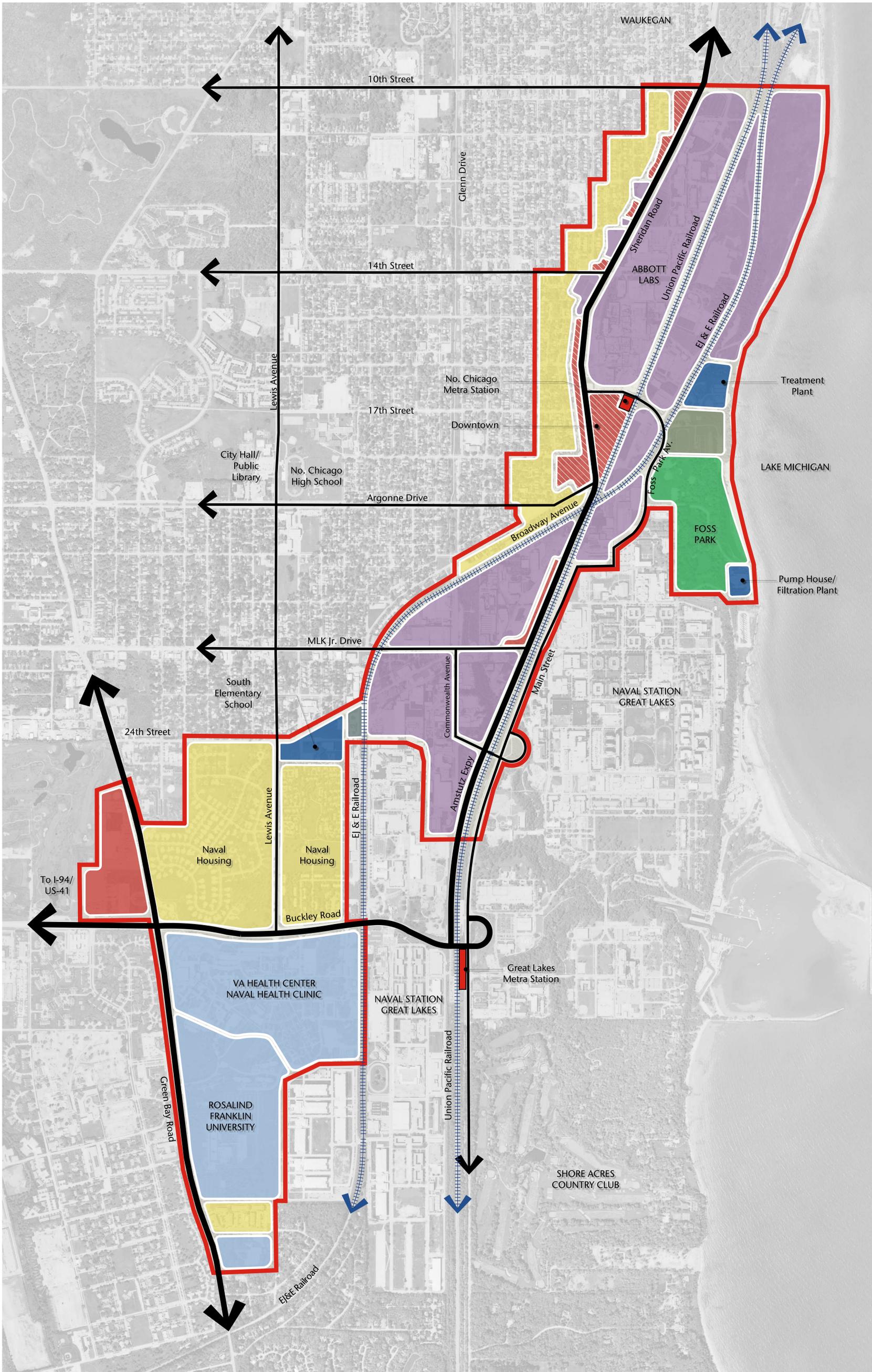


*VA Medical Center Facilities*

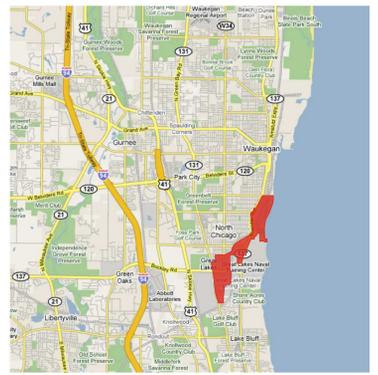


*Rosalind Franklin University*



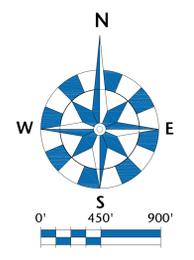


**Location Map** Not To Scale



**Land Use Legend**

- Industrial/Research
- Commercial/Office
- Mixed-Use
- Residential
- Public (Municipal)
- Institutional
- Open Space/Recreation
- Government (Federal)
- Military (Navy)
- Study Area Boundary



**Northern Lights Biotechnology/Medical District • Existing Land Use**  
**North Chicago, IL**

## Vehicular Access & Circulation

### Roadway Classifications

The roadway system within the proposed Biotechnology/Medical District serves a variety of travel needs including access to surrounding expressways, connections to adjacent neighborhoods and districts, and local access to industrial, commercial, and residential properties. Sheridan Road and Green Bay Road are the primary north-south thoroughfares through the area. Primary east-west connections are provided by 10th Street on the north, 14th Street, M.L. King Drive, and Buckley Road on the south. Access and circulation to and from the adjacent office, institutional, commercial, industrial, and residential neighborhoods is provided by a network of local roadways.

The roadway system is divided by hierarchy based on the design and use of the right-of-way. These classifications include: arterial, collector, and local roadway. Many of the rights-of way within the proposed Biotechnology/Medical District study area act as multi-purpose roadways. Based on the road system's multi-purpose characteristics and review of existing system operations, abutting land uses, and development, the roadway classifications are defined as follows:

#### Arterial Roadways:

Arterial roadways are intended to move vehicles efficiently through an area with limited intersections at collector roadways and non-residential access driveways. The following arterial roadways exist within the study area:

- Amstutz Expressway (between Buckley Road and M. L. King Drive)
- Sheridan Road
- Buckley Road
- Green Bay Road

#### Collector Roadways:

Collector streets are designed and intended to serve as linkages between the street network's arterial roadways and local roadways. The following collector roadways link the proposed Biotechnology/Medical District study area:

- M. L. King Drive
- Commonwealth Avenue
- Lewis Avenue
- Argonne Drive / Broadway Avenue
- 14th Street
- 10th Street



Intersection of 24th Street and Main Street

#### Local Roadways:

Local roadways link the collector roadways and specific destinations such as business/industrial parks, commercial/retail centers, residential subdivisions, or individual parcels or businesses. The proposed Biotechnology/Medical District study area includes a combination of public and private local roadways. For example, the roads within the Abbott Laboratories and RFU/VAMC campuses are private roadways. All remaining public and private rights-of-way within the study are classified as local roadways.

This hierarchy system provides for a clearly defined functional relationship between rights-of-way. The result is a roadway network that is easy for motorists to understand and provides for ingress and egress from the surrounding neighborhoods/districts, adjacent communities, and larger region.



Davis Street Looking East



### Roadway Access, Circulation, & Connectivity

Vehicular access and circulation within the proposed Biotechnology/Medical District is good in respect to the ability of motorists (automobile and truck) to arrive or depart from their intended destinations. Green Bay Road, Buckley Road, and Amstutz Expressway/Sheridan Road are the vehicular heart of the proposed Biotechnology/Medical District. These rights-of-way provide the critical access into, through, and out of the District.

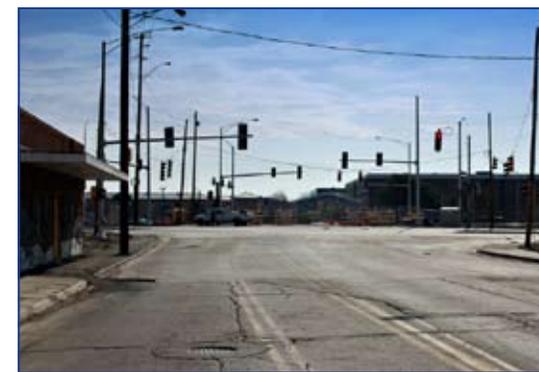
The access and circulation system is designed around the traditional grid alignment of north-south and east-west rights-of-way. The Amstutz Expressway/Sheridan Road and Green Bay Road angle through the area and serve as the primary north-south roadways. While Buckley Road, M. L. King Drive, and to a lesser degree 10th Street serve as the primary east-west roadways. This alignment system provides for multiple circulation routes and strong connectivity between sub-areas thereby minimizing congestion along collector and local roadways.

Overall, the alignment system appears to function well despite the identification of several problem areas. Sheridan Road at the north end of the study area is the eastern terminating point for all east-west streets between 10th Street on the north, and 16th Street on the south. Abbott Laboratories' closed campus limits extension of these roadways beyond Sheridan Road. Roadway alignments within the Downtown core (Sheridan Road between Foss Park Avenue and 18th Street) is confusing, with off-set and mid-block intersections. The 17th Street alignment is particularly poor with its off-set between the east and west sides

of Sheridan Road, limited visibility for passing motorists, and the perception of the right-of-way terminating in the parking lot of Salon Toluca. Mid-block intersections, such as Foss Park Avenue and Grant Place, also create potential congestion points by increasing the total number of ingress and egress options for motorists along this section of Sheridan Road.

Roadway connectivity on the east side of the Union Pacific Railroad tracks is strong except for the lack of a north-south connection between 17th Street and Grant Place. Motorists are forced onto Sheridan Road to circulate between uses along these abutting roadways. Connections between the east and west sides of the Union Pacific Railroad tracks are limited to Foss Park Avenue, 2nd Avenue, King Drive, 24th Street, and Buckley Road. With the exception of King Drive and Buckley Road these crossings are not located at primary collector intersections, are poorly signed, and fail to provide effective vehicular linkages between major activities centers such as Foss Park and the Naval Center Great Lakes. The City and Navy have recently cooperated to address this issue through the reopening of the roadway crossing at King Drive and Sheridan Road (A.K.A. Gate 4).

Internal circulation within the Coleman/Commonwealth Industrial Park is limited by narrow rights-of-way along 24th Street, Greenfield Lane, Neil Lane, and Allen Lane. These narrow rights-of-way result in pinch points at intersections and require trucks to perform dangerous back-up maneuvers or roll over curbs, parkways, sidewalks, and fencing to exit the area. In addition, the cul-de-sac at Morrow Drive and King Drive is too small (approximately 40' in diameter) to allow for semi-trucks to turn around. Subsequently, semi-trucks drive over the curb and through a vacant lot to access King Drive. Access to Morrow Drive requires traveling along 24th Street which passes through residential neighborhood and abuts South Elementary School. Trucks passing through the neighborhood and by the school create significant noise and pedestrian safety issues for children within the area.



Intersection M.L. King Drive and Sheridan Road



As mentioned previously, roadway connectivity to the Naval Housing sub-area is limited from the adjacent residential neighborhoods by barrier fencing and rights-of-way blockades. This requires motorists to exit at limited points along Lewis Avenue and Green Bay Road, thereby concentrating traffic congestion at two pinch points. Portions of private roads within the Naval Housing sub-area do not appear to meet modern standards for vehicular circulation.

Private roadways are the primary access and circulation method within the Biotechnology/Medical/Educational sub-area. While the roadways appear to meet the needs of the sub-area today, circulation and wayfinding is confusing due to the curvilinear nature of the roadways and unclear signage. Efforts should be made to develop uniform signage and directional kiosks within the area.

Lastly, Foss Park is under utilized due in part to its physical separation from the city by the UP and EJ&E railroads. Although it is accessible to vehicular traffic via Foss Park Avenue, the sub-standard linkage discourages use by community residents. Motorists who do find their way to the Park entrance are greeted by a view of the naval brig, which casts suspicion on whether the motorists are entering Foss Park or the Naval Center.

### Truck Routes & Restrictions

Based on the diversity of truck-reliant industries operating within the study area, it appears that the existing truck routes and restrictions do provide for efficient accessibility.

Truck routes and their associated length, width, height, and weight restrictions are imposed by the transportation or municipal agency with jurisdictional control over the right-of-way. The City of North Chicago and Illinois Department of Transportation (IDOT) each have jurisdictional control over specific rights-of-way within the boundaries of the City of North Chicago. By ordinance, North Chicago has classified all of its municipal rights-of-way into one of two categories for truck traffic. All rights-of-way not classified as Class II Truck Routes are required to comply with the applicable width, height, length, and weight restrictions outlined Chapter 95 ½, Sections 15-102, 103, 107, and 111 of the Illinois Vehicle Code.

The City has classified four (4) of its rights-of-way as Class II Truck Routes. All, or a portion, of three of these rights-of-way are located within the proposed Biotechnology/Medical District.

### Illinois Vehicle Code Requirements Chapter 95 ½, Section 15-102, 103, 107, & 111:

Restriction	Maximum (Not To Exceed)
Vehicle Width	8' 6"
Vehicle Height	13' 6"
Vehicle Length	60'
Vehicle Weight	18,000 lbs. per axle, 32,000 lbs. tandem axle

*Source: Illinois Vehicle Code, Illinois Department of Transportation, City of North Chicago*

The designated truck routes include:

- 10th Street from Glen Drive to Sheridan Road;
- 14th Street from Green Bay Road to Sheridan Road; and
- King Drive from Route 41 to Hervey Avenue.

In addition to these rights-of-way, IDOT maintains control over the Amstutz Expressway, Sheridan Road, Buckley Road, and M. L. King Drive between Hervey Avenue and Sheridan Road. IDOT rights-of-way are classified as Class II Truck Routes unless otherwise restricted.

Truck route designation and restriction signage is limited within the study area as well as along approaching rights-of-way. While businesses and industries are knowledgeable about the route restrictions the lack of signage does create confusion among trucking operators/drivers who originate from outside the community.



**Illinois Vehicle Code Requirements:  
Class II Truck Routes  
Chapter 95 ½, Section 15-102, 107, and 111g:**

<b>Restriction</b>	<b>Maximum (Not To Exceed)</b>
Vehicle Width	8' 6"
Vehicle Length	65'
Vehicle Weight	73,280 lbs.

*Source: Illinois Vehicle Code, Illinois Department of Transportation, City of North Chicago*



*Smurfit-Stone Container Corporation Along Foss Park Road*

**Traffic Controls**

Vehicular circulation and progression within the study area is maintained via a system of signalized and stop sign controls at area intersections. Traffic signals are provided at major intersections and access driveways including the following:

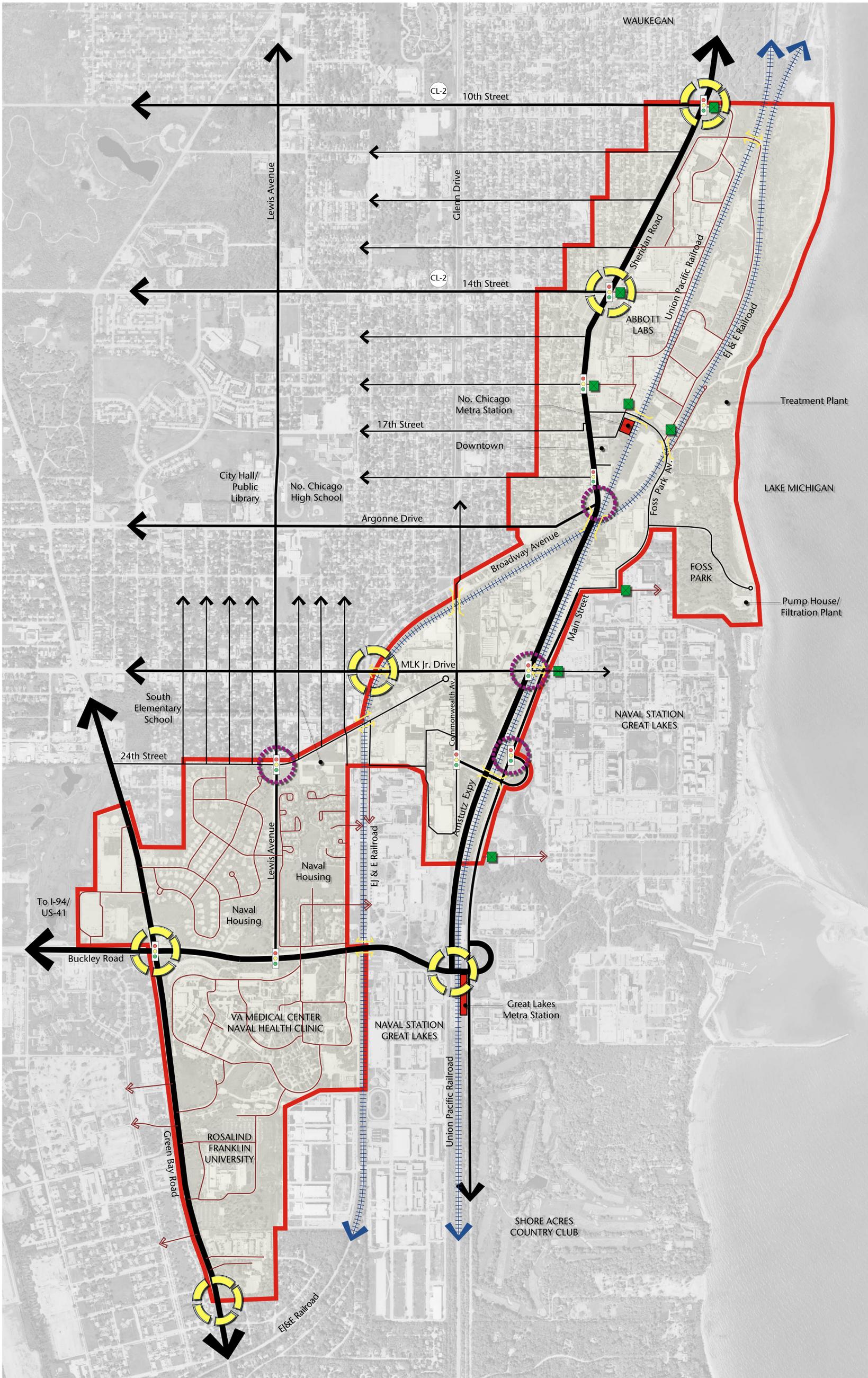
- 10th Street, 14th Street, 16th Street, 18th Street, M. L. King Drive, and Buckley Road along Sheridan Road/Amstutz Expressway;
- 24th Street Ramp, Farragut Avenue, and Buckley Road Ramp along Sheridan Road;
- M. L. King Drive and 24th Street along Commonwealth Avenue;
- Lewis Avenue and 24th Street;
- Buckley Road and Lewis Avenue; and
- Buckley Road and Green Bay Road.

Stop sign control is provided at all other roadway intersections within the study area.

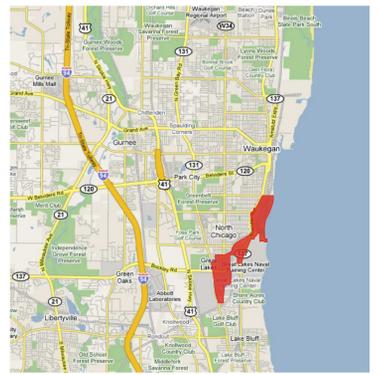
With the exception of the signals along Buckley Road, traffic signals within the study area are not interconnected. As a result, vehicular progression through the area, especially during the morning (6:30 AM – 8:30 AM) and afternoon (3:30 PM – 5:30 PM) rush hours is disjointed. Limited traffic gaps for motorists to enter the roadway from interconnecting side streets and site driveways further congest traffic along collector and local roadways. Police assistance is required at Abbott Laboratory’s 15th Street parking lot access drive during the morning and afternoon rush hours to control traffic and allow for ingress and egress from the lot. Left turns onto and from the Sheridan Road/Foss Park Avenue intersection as well as onto and from the Sheridan Road/2nd Avenue intersection is also difficult during the morning and afternoon rush hours.

The City of North Chicago and IDOT are considering the installation of a new traffic signal along Green Bay Road south of Buckley Road. This signal would be located at the entrance to the Rosalind Franklin University of Medicine and Science campus. It would enhance ingress and egress to Rosalind Franklin’s campus as well as provide a secondary access point the Naval Health Clinic, VA Medical Center, and the various land uses located west of Green Bay Road.



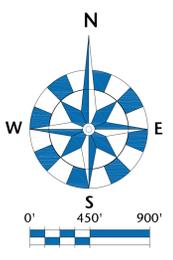


**Location Map** Not To Scale



**Legend**

- Traffic Signal
- Grade Separated Crossing
- At Grade Crossing
- Class-2 Truck Route As Designated by No. Chicago
- Blocked/Secure Point of Access
- Major Gateway
- Minor Gateway
- Cul-De-Sac
- Arterial Right-of-Way
- Collector Right-of-Way
- Local Right-of-Way
- Private Right-of-Way
- Railroad Right-of-Way
- Study Area Boundary



**Northern Lights Biotechnology/Medical District • Existing Circulation**  
**North Chicago, IL**



**Transit Access & Circulation**

Existing and future residents, employees, and patrons of the proposed Northern Lights Biotechnology/Medical District have access to a diversity of transit options including commuter rail, suburban bus, para-transit, and shuttles. Despite the general accessibility, some residents and employees are forced to use automobiles as certain areas are underserved by transit and there is a lack of coordination between transit agencies and major area employers.

**Metra Commuter Rail Service:**

The Metra Commuter Rail-UP (Union Pacific) North Line trains provide commuter rail access between Kenosha, Wisconsin and the City of Chicago via both the North Chicago and the Great Lakes commuter stations. All Metra trains are wheelchair accessible.

**North Chicago Commuter Station:**

Trains operate on a morning inbound and evening outbound rush-hour headway of approximately 20 minutes. Reverse commute, midday, evening and Saturday services operate on hourly headway. Sunday services operate on a two hour headway. Inbound trains to Chicago begin at 5:01 AM and end at 11:58 PM. Outbound trains from Chicago first arrive in North Chicago at 7:47 AM with the last train arriving at 1:45 AM. Based on the latest Metra passenger counts, there are an average of 190 weekday, 91 Saturday, and 90 Sunday boardings at the North Chicago Station.

The North Chicago commuter station has an attendant and newsstand for the convenience of its commuters. Commuter parking is provided via the adjoining station parking lot which has been divided into 32 permit spaces, 26 daily fee spaces and two handicapped spaces. The lot is utilized at roughly one-third capacity.



### **Pace Suburban Bus Service:**

The proposed Biotechnology/Medical District is served by four Pace Bus routes which include: 563, 564, 568 and 569. These routes provide convenient alternative transportation options for area employees and residents.

All Pace routes operate weekday services on an approximately 30 to 60 minute headway schedule beginning around 6:00 AM and ending around 7:00 PM. Weekend service is provided along routes 564 and 568. Route 568 provides Saturday and Sunday service while Route 564 is limited to only Saturday service. Dedicated bus stop locations within the study area are limited to heavier loading intersections such as Sheridan Road at 10th Street, 14th Street and 17th Street, Buckley Road at Lewis Avenue, and the North Chicago Metra Station. All Pace buses are wheelchair accessible. Pace also provides curb-to-curb and dial-a-ride service to persons with disabilities who are unable to use the fixed route system. Despite the overall level of service being good, Pace does not currently provide convenient access to Rosalind Franklin University. While Route 563 and 569 do circulate within the Naval Health Clinic/VA Medical Center campus they do not extend south to the main entrance of the Rosalind Franklin campus.

### **Pace Route 563: “Great Lakes Naval Station”**

operates between downtown Waukegan and the southwest corner of North Chicago via Sheridan Road, Foss Park Avenue, 2nd Avenue, Main Street, Sheridan Road, Buckley Road, Meridian Drive, Forrester Avenue, and Green Bay Road. The route serves:

- Downtown North Chicago;
- Abbott Laboratories;
- Metra’s North Chicago Station;
- Great Lakes Naval Base - Main Gate;
- Great Lakes Metra Station;
- VA Hospital; and
- RFU.

**Pace Route 564: “Jackson/14th”** operates between downtown Waukegan and Lakehurst Mall via Jackson Drive, 16th Street, Sheridan Road, and 18th Street within the study area. The route serves:

- Downtown North Chicago;
- Abbott Laboratories; and
- Metra’s North Chicago Station (one block walk).

**Pace Route 568: “Belvidere”** operates between downtown Waukegan and Lake County Branch Court via Belvidere, Lewis, Dugdale, 10th Street, McAlister, and Genesee Street. The route serves:

- Abbott Laboratories; and
- Mixed-use business along Sheridan Road at 10th Street.

**Pace Route 569: “Lewis”** operates between Waukegan and North Chicago via Newcastle, Edgewood, Lewis, 22nd Street, Green Bay Road, and Buckley Road. The route serves:

- Navy Commissary;
- Forrester & Nimitz Housing;
- Naval Health Clinic;
- VA Medical Center; and
- Rosalind Franklin University.

In addition to the Pace transit routes, they also provide van pool and van shuttle programs as a supplement to existing transit service. The Employer Shuttle Program provides a similar service to an employer who provides a driver and the Community Van Shuttle provides municipalities with a van at a reduced cost for use for shuttling senior citizens, employees, residents etc., using a city employee or volunteer driver.



*Pace Bus Along Route 564*



### Abbott Laboratories Employee Shuttle:

Abbott is considered to be one of the leading advocates of public transit and ridesharing in the metropolitan Chicago region. Evidence of this progressive stance is the fact that about 200 employees take Metra and about 800 share rides in car pools and five Pace van pools. Abbott contracts with a private provider, Laidlaw Transit, for the operation of their private employee shuttle service during rush hours. The shuttle service operates between:

- North Chicago Metra station and Abbott Park;
- Lake Bluff Metra station and Abbott Park;
- Lake Forest Metra (Milwaukee District) station and Conway Park; and
- Libertyville Metra station and Abbott Park.

During the midday, these vehicles are used to operate two intra-company shuttles between Abbott Headquarters and Abbott Park, and Abbott Park and Conway Park. Abbott participates in the “Shuttle Bugs” sponsored by the Transit Management Association (TMA) of Lake-Cook between the Lake Forest Metra (UP) station and Conway Park.

### Pedestrian Mobility

#### Access & Circulation:

Pedestrian access and circulation is provided via a network of sidewalks and bicycle paths distributed throughout the study area. This network is fairly extensive and links the industrial, office, retail/commercial, and residential sub-areas with adjacent neighborhoods as well as the sub-regional recreational trail system. In addition to the defined network system, pedestrians have also worn informal paths between two destinations where sidewalk or bike path linkages do not currently exist. These locations include the east side of Sheridan Road between 2nd Avenue and Broadway Avenue and the west side of Commonwealth Avenue between M.L. King Drive and Neil Lane.



*Deteriorated Sidewalk Along Sheridan Road*

The majority of pedestrian circulation within the study area is focused around key employment, transit, retail, commercial, and recreational nodes. These nodes include the Abbott Laboratories campus, North Chicago and Great Lakes Metra Stations, Downtown, Coleman/Commonwealth Industrial Park, Naval Health Clinic, VA Medical Center, Rosalind Franklin University, and Robert McClory Bike Path.

The negative perception of physical barriers and personal safety within portions of the study area contributes to the lack of pedestrian circulation between some activity areas. For example, deteriorated physical conditions, in conjunction with poor lighting and directional signage, discourage pedestrians from moving between Downtown and Foss Park. The harsh appearance of the Sheridan Road viaduct at Broadway Street acts as a perceptual barrier for pedestrians between Downtown and the commercial areas to the south.



*Foss Park Viaduct Looking Southeast*





**Robert McClory Bike Path:**

The Robert McClory Bike Path is a transportation and recreation amenity which provides an opportunity for alternative modes of access and circulation within the City and between its municipal neighbors to the north and south.

The path's alignment utilizes the vacated North Shore Railroad right-of-way north of Broadway Avenue, the Commonwealth Avenue and 24th Street rights-of-way south of Broadway, and the UP Rail right-of-way south of 24th Street. This alignment by-passes major employment, transit, and pedestrian activity areas such as Abbott Laboratories, North Chicago Metra Station, Downtown, Naval/VA and Rosalind Franklin campuses, and limits the transportation linkage potential of this amenity. The path also lacks linkages to other North Chicago activity areas such as the City Hall, Park District, Library, North Chicago High School, and retail/commercial areas to the west.

The physical condition of the bike path between the Amstutz Expressway at 24th Street and the Coleman/Commonwealth Industrial Park is poor, with obstacles comprised of broken glass, rocks, trash, and debris. The path's alignment through the Industrial Park provides limited buffering from vehicular movements along Commonwealth Avenue, lacks landscaping or screening of adjacent industrial properties, and generally presents a harsh environment which is counter to the recreational nature of the path system.



*Foss Park Playground*

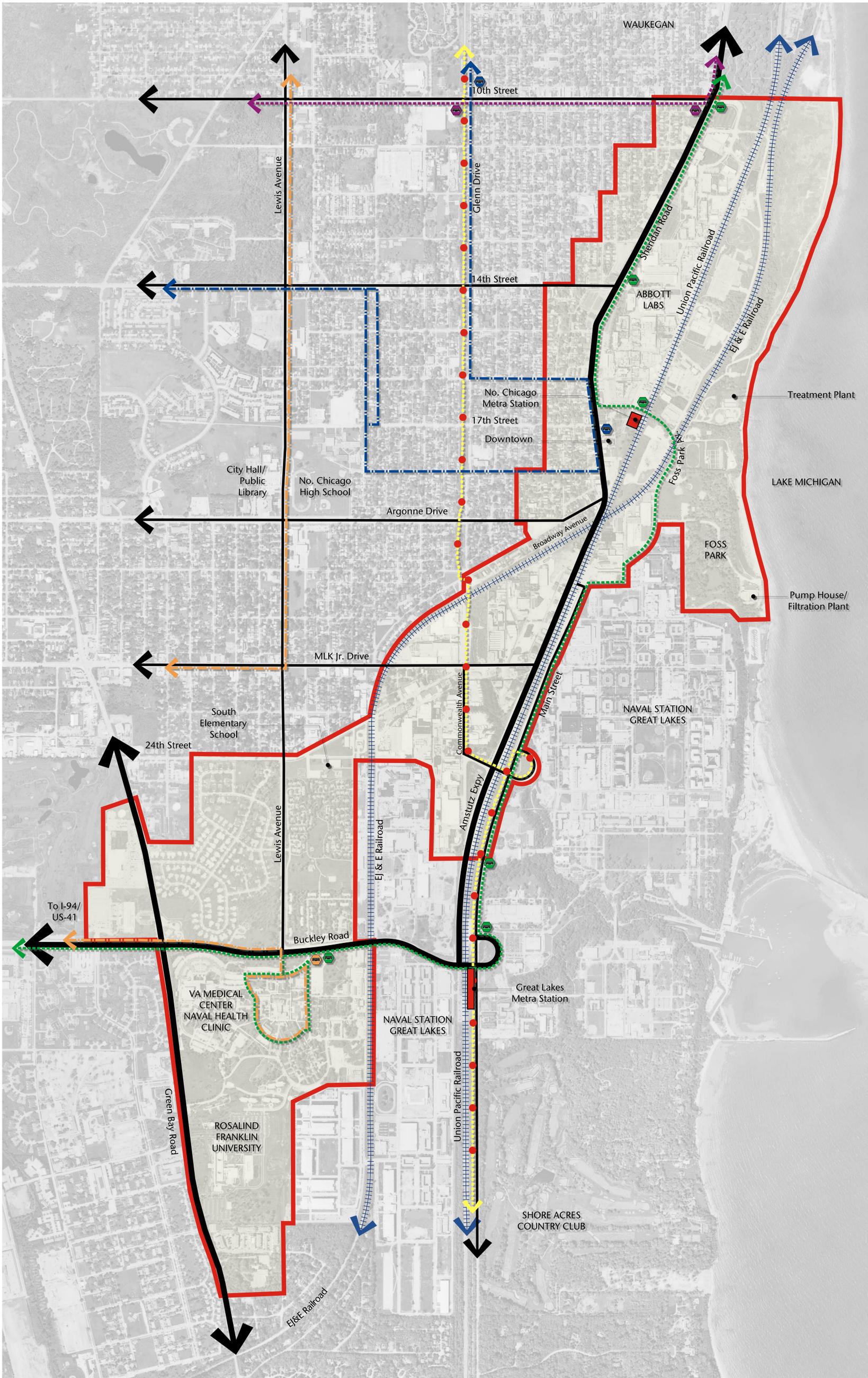


*McClory Bike Path Looking South*

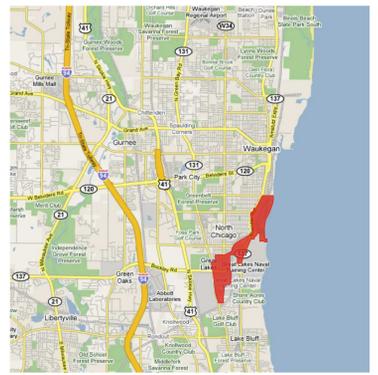


*McClory Bike Path Along Commonwealth Avenue*



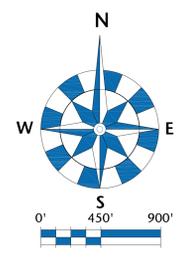


**Location Map** Not To Scale



**Legend**

- Pace Bus Route 563  
Ave. Weekday/Weekend Ridership (234/0)
- Pace Bus Route 564  
Ave. Weekday/Weekend Ridership (260/0)
- Pace Bus Route 568  
Ave. Weekday/Weekend Ridership (834/286)
- Pace Bus Route 569  
Ave. Weekday/Weekend Ridership (680/NA)
- Pace Bus Stop/Shelter
- Pace Bus Stop/Shelter
- Pace Bus Stop/Shelter
- Pace Bus Stop/Shelter
- R. McClory Bike Path
- Study Area Boundary



**Northern Lights Biotechnology/Medical District • Existing Public Transit**  
North Chicago, IL

## Open Space & Natural Environment

Although the City and proposed Biotechnology/Medical District is picturesquely situated on Lake Michigan, there is only one small point of public access to the lakefront located within the City's Foss Park. Foss Park is approximately 40 acres in area and serves as an excellent public amenity, containing mature tree, extensive landscaping, and a picturesque bluff overlooking the lakeshore. In addition, the park provides active recreation opportunities including well maintained playgrounds, ball field, basketball courts, and picnic shelters. However, the surrounding land uses which include the City of North Chicago water pumping station, waste treatment facility, Federal Bureau of Investigation (FBI) firing range, Smurfit Stone Container Corporation and Hines Lumber facilities limits its attractiveness for community residents.



*Foss Park Picnic Grounds*

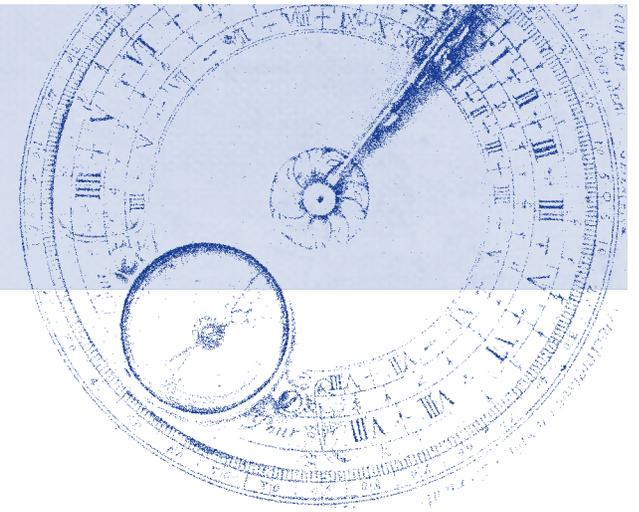
Open space elsewhere in the proposed Biotechnology/Medical District is limited to neighborhood parks within the Naval Housing sub-area, picnic grove within the Medical/Educational sub-area, South Elementary School playground, and the recently completed Veterans Memorial Park at the intersection of Sheridan Road and Broadway Avenue. The Pettibone Creek, located north of King Drive and immediately east of Commonwealth Avenue does provide an opportunity for additional open space. The Pettibone Creek is in poor physical condition with extensive overgrowth and discarded trash and debris.

The provision of community open space should be a primary consideration in conjunction with all future development and redevelopment activities within the proposed Biotechnology/Medical District.



*Foss Park Beach Looking North*





# FEASIBILITY STUDY

# Feasibility Study



In order to assess the feasibility of establishing a Biotechnology/Medical District in North Chicago, *S. B. Friedman & Company* conducted a feasibility study examining demand for the services of a medical district. This Biotechnology/Medical District study considers two sources of demand for such services. The first and most immediate source of demand comes from existing area institutions, such as Rosalind Franklin University, the North Chicago Veterans Affairs Medical Center, and Abbott Laboratories. The second possible source of demand stems from the long-term potential of the District to emerge as a biotech cluster within the Chicago region. *S. B. Friedman & Company* also examined several case studies of similar districts within the Midwest to determine key factors in the success of life science-based economic development strategies.

## Demand from Existing Institutions

In order to assess demand for new development within the proposed Biotechnology/Medical District, *S. B. Friedman & Company* interviewed representatives of major medical institutions and corporations currently located within the boundaries of the proposed District (i.e., “the stakeholders”). These interviews focused on:

- The condition of current facilities within the district, with a focus on obsolescent or underutilized facilities whose reuse might be facilitated by the proposed Biotechnology/Medical District;

- Future plans to expand services which might require the construction of new facilities with the assistance of the proposed Biotechnology/Medical District; and
- Amenities currently absent within the community which might be provided by the proposed Biotechnology/Medical District.

The three primary stakeholders interviewed in this process were Rosalind Franklin University, the North Chicago Veterans Affairs Medical Center and Abbott Laboratories. In each case, interviews were conducted with high-level representatives in the fields of facilities management, facilities planning and/or operations. A fourth institutional anchor in North Chicago, the Naval Station Great Lakes, has been excluded at this time owing to challenges in gaining access to appropriate high-level representatives. However, this is not thought to significantly impact the discussion of demand for new medically-related development, as many medical functions currently housed at Naval Station Great Lakes are being transferred to the VAMC.

## Rosalind Franklin University

The campus of Rosalind Franklin University currently occupies approximately 100 acres in North Chicago along Green Bay Road. Of this total, approximately 30 acres are buildable, according to the university.

The campus currently is split into three sections. The main section of campus is currently under a ground lease from the Veterans Affairs. This main section contains RFU’s academic buildings and student housing, as well as surface parking lots and open space. RFU is currently in the process of acquiring this property as a “fee simple conditions subsequent” interest, which would restrict use of the property to medically-related uses. As part of this transaction, RFU will also be selling some open space along Green Bay Road to the VA, and will be acquiring several buildings currently owned by the VA at the northeast corner of the RFU campus.

In addition, the southern portion of RFU’s campus comprises 12 acres along Green Bay Road, and contains the Scholl Foot Clinic and student medical services. The two sections of RFU’s campus are separated by a single private residential development, the Woodlands of Green Bay Road, which occupies approximately 10 acres. The majority of tenants at the Woodlands are Rosalind Franklin University students. Finally, the university’s behavioral health and reproductive medicine clinics are located outside the boundaries of the proposed district in Vernon Hills.

The university currently owns a number of vacant, obsolete or underutilized buildings. The most significant of these facilities are listed below.





- Dewey House is a historic residence built by the VA in 1914. The building is two stories tall and contains approximately 16,000 square feet. It is on the National Register of Historic Places, and is currently used by the Step 1 Boards Review Program. RFU's long-term plan for Dewey House is to convert the facility into quarters for the University President, as well as for use as an alumni facility. The total cost of such renovations is estimated to be \$4 million.
- Buildings 50, 51, 65, 124, 125 and 126 are currently unused. Located along Medal of Honor Drive, these buildings were constructed by the VA before 1945. Each building is two stories tall; together, the six facilities contain approximately 280,000 square feet of space. RFU would like to demolish these facilities. The current cost of demolition is estimated to be \$4 million.
- Buildings 59, 60 and 61 are two-story residences built by the VA in 1929. The buildings total approximately 20,000 square feet. The current use of these buildings is unknown.
- The Scholl Foot Clinic currently occupies 47,000 square feet in the southern section of campus. However, this building is currently 33 percent unoccupied, and is very inefficient as a site for patient care.

In addition, the university owns a number of vehicle storage facilities and other ancillary buildings on campus. The demolition and/or reuse of these facilities presents a key area of opportunity for development of new medical facilities related to the University.

RFU is currently planning for very rapid growth in research and education. As recently as 2003, total research spending at the university was approximately \$3 million. This figure has increased to \$16.7 million in 2007. The majority of this funding is in basic science research, and is funded through the National Institutes of Health. The university plans to increase research spending to \$60 million over the next several years. This figure will be divided evenly between clinical and basic science research. The university currently has 32 funded researchers, and plans to hire 20 additional researchers in the short-to-medium-term.

RFU plans to focus its research initiatives on the institution's existing areas of strength. Basic science research will focus on the areas of structural biology, neuroscience and cancer, while clinical research initiatives will focus on podiatry and wound healing for diabetics. The university is seeking funding from the National Institutes of Health for a \$6 million diabetes research and education center. Its proposal would focus on wound healing for diabetics, and is unique in that regard. The university is also exploring the possibility of establishing a brain and mind institute in partnership with the VAMC.

The RFU campus currently contains approximately 150,000 square feet of research space, the majority of which is comprised of wet labs. A portion of this space is housed in a new \$10 million research facility, which was completed in 2005. The university owns a vivarium with a current capacity of 3,000 animals per year, and it is actively pursuing a grant which would allow it to double the facility's capacity. In addition, RFU houses a number of support facilities for researchers, including a life

cell imaging facility. RFU's current facilities are sufficient to support the work of approximately 50 researchers. However, new research facilities will be necessary to accommodate growth once the university has successfully hired its target of 50 researchers.

In addition, RFU is contemplating several other initiatives which will require the development of new facilities in coming years. The university would like to double the number of students living on-campus. It currently houses approximately 200 students on campus in three dormitories, which were completed in 2002. This will require the construction of additional student residence buildings. RFU is also contemplating opening new schools in the field of nursing and pharmacy, which would require the construction of additional academic buildings. Finally, RFU is interested in acquiring adjacent properties to allow for the development of an internal circulation system for the campus.

As previously mentioned, RFU has approximately 30 acres of vacant land in its North Chicago campus. As such, the university has adequate land for new facilities. However, the university is constrained in terms of capital available to finance the construction of new facilities. University representatives have expressed interest in creative solutions to this problem, including such possibilities as the construction of multi-tenant facilities on university-owned land and/or leasing space in multi-tenant facilities.

Finally, representatives of the university have expressed a desire to see amenities such as retail and entertainment provided in North Chicago.



Such amenities are critical in attracting high-quality students. The proposed Northern Lights Biotechnology/Medical District at North Chicago could assist in the development of such uses.

### **North Chicago Veterans Affairs Medical Center**

The North Chicago Veterans Affairs Medical Center (VAMC) currently occupies approximately 100 acres at the intersection of Buckley and Green Bay Roads. The medical center has operated in North Chicago for approximately 80 years. Its campus currently contains 150 operating hospital beds, as well as a 204-bed nursing home facility, a 60-bed facility for homeless veterans, and 89 beds for persons undergoing rehabilitation for alcohol and drug abuse. The campus also contains facilities which are leased to area businesses and non-profit organizations, such as Public Action to Deliver Shelter, a local organization that works with homeless individuals.

The VAMC's service area includes portions of northeastern Illinois and southeast Wisconsin, and contains approximately 67,000 veterans. In 2006, the hospital treated approximately 24,000 veterans. VAMC also operates community-based clinics in Evanston and McHenry, Illinois and Kenosha, Wisconsin. The medical center is also in the process of implementing a unique collaboration between the Veterans Administration and Department of Defense. Under this initiative, VAMC would provide medical services not only to veterans within its catchments area, but also to active-duty

Naval personnel at Naval Station Great Lakes and their dependents. This would add approximately 60,000 people to VAMC's service load.

In order to accommodate this expansion of services, VAMC is implementing a three-phase expansion plan. During Phase I, which was completed in 2003, mental health services for Navy personnel were shifted to VAMC. In Phase II, which was completed in 2006, the medical center underwent a \$13 million expansion, allowing for improvements to VAMC's emergency room, as well as the facility's operating and surgical areas. As a result of this expansion, inpatient medicine, surgery and emergency room services were shifted from Naval Hospital Great Lakes to VAMC. In Phase III, which began in 2006, a new \$122 million ambulatory care facility will be constructed on the VAMC campus. This new facility will complete the integration of Navy and VA medical services in North Chicago, and will allow the Department of Defense to terminate its remaining medical services at Naval Health Clinic Great Lakes. To support these facilities, VAMC is also planning to construct a structured parking facility at the intersection of Buckley and Green Bay Roads and a surface parking lot on property acquired from Rosalind Franklin University.

VAMC currently employs 1,100 people, including 110 physicians. Employment at the medical center is expected to increase as medical care for active duty personnel is shifted to VAMC. The hospital also has a strong focus on teaching. All doctors on staff are required to teach, and more than 400 residents were trained at VAMC in 2004. The hospital has a particularly strong relationship with Rosalind Franklin University. Many VA physicians have academic appointments at the university. The hospital is also in preliminary discussions with RFU regarding the creation of a brain and mind institute to promote neuroscience research. However, several resources available for research at VAMC are currently underutilized. For example, the hospital contains a large vivarium for animal research, which is currently unused.

Because of VAMC's position as a direct provider of medical services to veterans, the medical center is relatively insulated from competition from other providers. VAMC does contract out for a number of services, such as specialized cardiac care or neurosurgery. However, under VA policy these services must be provided at the lowest possible cost. In most cases, this requires that patients travel to VA facilities in Milwaukee or Chicago for such specialized services. Representatives of the medical center have indicated a desire to see some services provided within the community, such as open MRI and radiation facilities.





Active duty military officers and their dependents receive medical care through TRICARE, a managed health care program provided by the Department of Defense. TRICARE enrollees utilize civilian medical providers more extensively than veterans. As such, the presence of a substantial number of active duty military personnel and their dependents in North Chicago does present an opportunity for civilian medical care providers who are looking to expand within the area. This may present a long-term opportunity for developers looking to build a medical office building in North Chicago.

While the VAMC is pursuing significant expansion without the assistance of the proposed Northern Lights Biotechnology/Medical District at North Chicago, several factors indicate that the medical center might benefit from the assistance of such a District in the future. The high level of collaboration between Rosalind Franklin University and VAMC, the adjacency of these two facilities, and preliminary discussions between the two institutions on joint research ventures indicate that there is an opportunity over the medium term for the proposed Biotechnology/Medical District to assist in fostering more active collaboration and higher-quality medical research in North Chicago.

### **Abbott Laboratories**

Abbott Laboratories currently occupies between 200 and 300 acres in a lakefront campus within the contemplated Biotechnology/Medical District. This lakefront campus is located along Sheridan Road, and is traversed by the Union Pacific and Elgin, Joliet & Eastern railways. The site is served by a commuter rail station near the intersection of Sheridan Road and 16th Street. In addition, a number of rail spurs extend into the campus from the Union Pacific rail line. The company has operated in North Chicago since the 1920's.

Abbott's lakefront campus contains a number of buildings, which range widely in age. Its oldest building dates to the 1930's, while the company's newest research and development facility was completed in the 1990's. Approximately 50-60 percent of building space within the campus is dedicated to manufacturing, with the balance of space split between wet labs and administrative uses.

Manufacturing facilities within the lakefront campus are highly specialized, and can be divided into four "plants." Two plants are utilized for fermentation processes and chemical synthesis. A third plant manufactures final drug products, primarily ointments and oral liquids. A fourth plant is occupied by Hospira, an Abbott spin-off, and manufactures intravenous medications. These facilities are highly specialized and highly fixed. The company's fermentation plant, for example, consists of 31 fermentation tanks, each of which is four stories tall and 18 feet in diameter. Materials for Abbott's manufacturing processes enter the site via truck and rail, while output leaves primarily via truck.

Wet lab space at Abbott's lakefront campus is also highly specialized. For example, solvent-based research requires the use of highly specialized exhaust systems. Much of this space is associated with quality assurance testing, which is required as part of the drug manufacturing process.

Over 3,000 employees work at Abbott's lakefront campus each day. The majority are directly employed by Abbott, while a minority is employed by Hospira. The lakefront campus is highly self-contained, and the company's goal is to keep employees on-site during the work day to promote efficiency. Most employees only receive 30 minutes for lunch, making trips to off-site restaurants difficult. In addition, many employees work in "bunny suits" made of non-linting, anti-static fabric, which are designed to prevent employees from contaminating the work environment. The process of "suiting up" can take from five to 30 minutes, further discouraging employees from leaving the campus for food or other services. As such, the site contains a cafeteria, which offers meals to Abbott employees at subsidized prices, and also contains a credit union.



According to company representatives, the opportunities for Abbott to benefit from the proposed Biotechnology/Medical District are limited. Abbott's supplier and research relationships operate on a global level. The company's major research relationships include Duke University, as well as institutions in Utah and California. The company does have a partnership with Victory Hospital in Waukegan for Phase II clinical trials. However, no clinical work is conducted within North Chicago at this time, and the company expressed limited interest in expanding such functions. In addition, approximately 40 percent of Abbott's lakefront campus is currently vacant, allowing the company adequate room for expansion. This vacant land is concentrated along the lakefront east of the Elgin, Joliet & Eastern railway.

While company representatives expressed little interest in the services provided by the contemplated medical district, in the long term there may be a role for the proposed Biotechnology/Medical District in this area. The District could assist in reconfiguring facilities at Abbott's lakefront campus or in reusing obsolete facilities or underutilized land.

## Recommendations

Interviews with representatives of major institutions within the contemplated Biotechnology/Medical District indicate a wide range of needs among area institutions. The potential demand for services provided by a proposed Biotechnology/Medical District can be summarized as follows.

1. Promote the Expansion of Rosalind Franklin University. Of the stakeholders identified above, RFU has the most ambitious plans for short-term, local expansion, and has the potential to significantly benefit from the services provided by a proposed Biotechnology/Medical District. If established, the district should focus on promoting the expansion of research and employment at RFU. This could include such projects as the construction of additional dormitories for medical students, the development of a diabetes education and research center, and the reconfiguration of land uses in the area to improve circulation with the university's campus. The district should also promote collaboration between RFU and VAMC. The adjacency of these institutions, as well as the availability of developable land, will significantly improve the feasibility of such initiatives.
2. Develop Local Amenities. Local amenities, such as retail and entertainment venues, have been identified as critical to attracting students and researchers to area institutions, particularly RFU. Improved public open space and increased

access to the lakefront would also assist in attracting talent, and would be important for attracting and retaining technology-oriented businesses. If established, the proposed Biotechnology/Medical District should prioritize the provision of such amenities within the district.

3. Explore the Development of Professional / Medical Office Buildings. Successful development of medical office space is dependent upon several factors. Interviews with developers of such buildings indicate that proximity to a high-volume of potential patients with private insurance and the availability of an appropriate anchor tenant are the two most significant factors. In that regard, while broadly speaking these factors are not yet present in North Chicago, the presence of a significant number of military personnel enrolled in TRICARE is an asset, as is the presence of combined, major teaching hospital. Over time, the expansion of RFU and VAMC may also provide an opportunity for these institutions to serve as an anchor able to make long-term space commitments for office, clinical/diagnostic and teaching/research services. The proposed Biotechnology/Medical District should therefore work closely with area stakeholders to determine when conditions for developing a medical office building are ripe, and should assist in the development of such a facility – perhaps by assembling and/or writing-down the cost of land for such a development and providing other value-added services such as credit-enhancement to attract developer financing for such a facility.



4. Assist in the Reuse of Obsolete or Underutilized Facilities. Certain facilities within the district have been identified as obsolete or underutilized. RFU owns several buildings which are in need of demolition. In addition, Dewey House at RFU and the vivarium at VAMC are currently underutilized. Over time, additional stakeholder assets are likely to become obsolete or underutilized. The reactivation of these facilities can be a critical component of North Chicago's economic development strategy. If established, the proposed Biotechnology/Medical District should assist in the redevelopment or reactivation of currently underutilized facilities. The district should also monitor the utilization of area assets over the long-run, and should work closely and collaboratively with stakeholders to insure that assets are being used to their full potential.

## Demand for Biotechnology Development

One of the potential opportunities for North Chicago would be to pursue the establishment of a cluster of private biotechnology enterprises. The U.S. Department of Commerce defines biotechnology as the “application of molecular and cellular processes to solve problems, conduct research, and create goods and services.” This section of the study analyzes the potential of establishing a biotechnology cluster in North Chicago. The analysis first tests the overall potential of the Chicago metropolitan region to become a biotechnology center and then assesses the competitive position of North Chicago and its capacity to attract a share of new biotechnology companies created in the region. Data sources for this research include interviews with representatives of biotechnology trade groups, developers of biotech office and laboratory space, leasing agents active in the biotech industry, and representatives of local economic development organizations.

## Trends in the Field of Biotechnology

Biotechnology is a rapidly growing sector of the U.S. economy. Even though most biotechnology companies in the U.S. are small, operate at a loss, and require significant capital investment, the sector as a whole has achieved vigorous growth in revenues. Nationwide, between 1994 and 2005, annual revenues of biotechnology-related sectors have grown from \$11.2 billion to \$50.7 billion while keeping operating losses relatively flat at approximately \$4 billion. According to Ernst and Young, this trend suggests that the biotechnology sector in aggregate is moving towards profitability and has “come of age.”

While biotechnology has applications in several industries including agriculture, aquaculture, animal health and food, the majority of biotechnology companies are focused on biomedical research and technology related to human healthcare applications. The field of biomedical research and technology is expected to become increasingly important in the 21st century, driven largely by increased healthcare spending of the aging U.S. and worldwide populations.





## Regional Strengths

The Chicago region has several building blocks necessary for establishing a successful biotechnology center. Assets which make Chicago a good location for biotechnology research activity include:

**Academic Institutions.** Most of the existing biotechnology clusters in the country are affiliated with major academic research institutions, primarily because the commercialization of scientific research at these institutions is fundamental to the development of these clusters. Chicago has several prestigious academic institutions including Northwestern University, the University of Chicago and the University of Illinois-Chicago, all of which have core department strengths in bioscience and medical research. The region is home to several other medical schools, including Loyola University Stritch School of Medicine, Rush University Medical Center and Rosalind Franklin University. These institutions offer advanced degrees in medical or related fields and received over \$660 million dollars in research funding from the National Institutes of Health and National Science Foundation in 2005.

**Research Institutes.** The Chicago region is home to several premier research and development institutes. Argonne National Laboratory, located in DuPage County, is a federal research institute whose annual operating budget is \$475 million. The institute operates the Advanced Photon Source, an important tool for protein structure research. Fermilab, also located in DuPage County, is a federal research institute devoted to high-energy physics, and has an annual operating budget of \$260 million.

**Skilled Workforce.** A skilled workforce with advanced degrees is a prerequisite for biotechnology companies. According to World Business Chicago, the City of Chicago has more college graduates per capita than any other major city in the country. Nearly 31,000 graduate-level medical, business, science, engineering and other degrees are awarded annually by universities in the Chicago region.

**Existing Healthcare/Pharmaceutical Corporations.** Chicago is a hub for major medical/pharmaceutical companies. Abbott Laboratories, Hospira, Astellas, Takeda and Baxter International are headquartered in the Chicago region. According to the World Business Chicago, the region's drug and pharmaceutical employment concentration is 126 percent higher than the national average and represents 6.5 percent of total U.S. drug and pharmaceutical employment. These large corporations often provide research contracts and equity investments to research institutions and startup biotechnology companies. They are also often the final buyers of the technology developed by these companies.

Even with these considerable assets, the Chicago region is not yet home to a major biotechnology cluster. According to a Brookings Institution study entitled "Signs of Life: The Growth of Biotechnology Centers in the U.S.," only nine of the 51 major metropolitan regions have established successful biotechnology clusters. These nine "top-tier" metropolitan areas (Boston, San Francisco, San Diego, Raleigh, Seattle, New York, Philadelphia, Los Angeles and Washington) have above-average levels of biotechnology research as well as commercialization of research.

Historically in Chicago there has been a disparity between overall research activity and the conversion of research into successful commercial ventures. The Brookings Institution study estimates that only six biotechnology firms founded in the Chicago area between 1990 and 2001 were still present as independent entities in 2001. The other biotechnology firms formed in this period were either acquired by larger companies or ceased to operate. The value of National Institutes of Health (NIH) research funding for medical schools and research institutions in this time frame averaged \$180 million a year, indicating that the region produced approximately 3 companies per \$100 million in research funding. By contrast, the nine top-tier metropolitan centers on average produced approximately 27 companies per \$100 million in research funding between 1990 and 2001.





Research and interviews with key informants indicate that a lack of facilities with wet lab space, limited funding and the absence of a strong system of collaborations between scientists, management executives and trade groups contributed to the relatively low rate of commercialization of research in the Chicago region. Additionally, past efforts at technology transfer by research institutions had a greater focus on licensing research and technology innovations rather than nurturing new independent companies. These factors resulted in the migration of local companies which graduated from incubator facilities to the East and West Coasts, where biotechnology clusters were more established.

Several recent trends suggest that the Chicago region can raise its national profile in the field of biotechnology in the future. Recently, government, academic and business leaders in the region have been pursuing strategies to address regional deficiencies and promote a biotechnology cluster in the region. These strategies include:

**Increasing Academic Research Funding.**

Significant federal research dollars are being captured in the Chicago region. Between 2001 and 2005, research funding by the National Institutes of Health in the state of Illinois increased from \$515 million to \$733 million. Additionally, in 2000 Governor Ryan enacted Illinois VentureTECH, a \$1.9 billion initiative which aims to enhance research and development in biotechnology, health sciences, information technology and advanced physics. The investment includes grants to universities and institutions to develop research

as well as funds for the construction of research facilities. There is a correlation between increased academic research funding and the number of university-related startup companies generated by a region. As research funding in the region increases, and the culture of innovation and commercialization becomes more established, the number of biomedical and other technology-driven spin-offs are likely to increase.

**New Collaborations.** According to numerous reports on bioscience-related economic development, collaboration between academic institutions and other key players within a region is critical to creating and developing a successful biotech cluster. This is particularly true in a large metropolitan area like Chicago where geographical distances may be a significant barrier to cooperation between major institutions, venture capital firms and management professionals. In recognition of the need to connect public, private and educational resources, the Illinois Biotechnology Industry Organization (iBIO) recently launched the PROPEL project. Through PROPEL, industry, academia, service professionals, entrepreneurs, and government agencies connect to create and support a vibrant entrepreneurial community in Illinois. PROPEL affords entrepreneurs increased access to resources including one-on-one coaching by seasoned startup veterans who have taken companies through initial

public offerings (IPOs) or major acquisitions by global firms. Coaching culminates in a presentation by the entrepreneur of his or her refined business model/financial strategy and critique by a customized group of experts in business development, marketing, finance, investment, and law. PROPEL is modeled on the best practices of several other programs around the U.S., including San Diego CONNECT, which has been shown to improve the likelihood of new company survival by as much as 60 percent.

**Access to Capital.** Seed and venture capital funding is another key building block of the biotechnology industry. As previously indicated most biotechnology companies, particularly early stage companies, operate at a loss. Startups typically depend on venture capital funds to underwrite their costs. Chicago venture capital firms rank 8th in the nation in the overall amount of biotechnology investment according to Carnegie Mellon's Center for Economic Development, in its 2002 "Bio Rising" report. However, even though local venture capital is available, many of these investments have historically been made outside the region and on later stage companies. A stronger network between venture capital firms and local biotechnology companies is being established through iBIO's PROPEL program. The state's VentureTECH initiative also includes \$800 million in state-directed venture capital investments. Additionally BIO 2006 — the Biotechnology Industry Organization's all-star exhibition — has raised the reputation of Chicago as a rising biotechnology center. As the industry strengthens locally, venture capital funds are likely to follow.





**New Research Facilities.** Research facilities with wet lab space are critical for the growth of the biotechnology sector. While one of the first incubator centers in the nation was developed at the Illinois Medical District in Chicago, there has been a shortage of research facilities with wet lab space for graduate companies from these incubators. Since 2000 several new facilities and new research parks have been developed to alleviate historical space shortages. These have been funded by both private funding from developers and corporations, and public funding from state and local sources. VentureTECH has been one of the primary public funding sources used for funding the new facilities and research parks. The new developments in the region are as follows.

- Forest City is now developing the Illinois Science and Technology Park, in the Village of Skokie. The Park will offer up to 2 million square feet of life science laboratory, office and conference space for lease in renovated or to-be-constructed buildings. With approximately 660,000 square feet already built out, the park has 460,000 square feet available and 1.3 million square feet ready for build-to-suit needs. (Additional detail on this development is provided in the case study section below.)

- Construction has started at the University Technology Park (UTP) on 15 acres at the Illinois Institute of Technology's Main Campus. When fully built-out, it will offer 1.5 million square feet of rentable space for biotechnology, engineering and high-tech companies. The park will include a 33,000 square foot incubator facility that is slated for completion in 2008. A four-story, 126,000 square foot Technology Business Center with provisions for build-to-suit wet lab, dry lab and office space is currently leasing.
- DuPage National Technology Park, an 800-acre development in DuPage County is currently being development. This park aims to attract information technology firms by providing access to high-quality utility and telecommunications infrastructure. While the focus of the park is on information technology, Northern Illinois University has announced plans to develop a Proton Therapy Center within the development. Wet lab space may be constructed in later stages of the project should demand for such facilities be demonstrated.

### **Potential for a Biotechnology Park in North Chicago**

A new biotechnology research park in North Chicago would benefit from many of the existing assets and recent trends in the region. As the Chicago region establishes itself as a nationally recognized biotechnology center, North Chicago could capture a share of the biotechnology activity in the region. The specific local strengths that North Chicago could leverage to enhance its competitiveness in the region are as follows:

**Presence of Local Institutions Conducting Biomedical Research.** A new biotechnology park within a future medical district in North Chicago would be in close proximity to Rosalind Franklin University, the North Chicago Veterans Affairs Medical Center and Abbot Laboratories. As described earlier, a fair amount of research in the biomedical field is already occurring at these institutions and is likely to be expanded in the future. RFU currently has \$16.7 million in research grants and has plans to expand its research capability to \$60 million over the next several years. Many VAMC physicians have academic appointments at the University and the hospital is also in preliminary discussions with RFU regarding the creation of a brain and mind institute to promote neuroscience research. Abbot also conducts research in North Chicago but has limited collaborations with area institutions. While the presence of these institutions is a significant asset, the level of research would have to be enhanced considerably in the future to achieve the amount of technology transfer and commercialization that occurs in other successful biotechnology parks.





**Presence of Research Facilities.** The RFU campus currently contains approximately 150,000 square feet of research space, the majority of which is comprised of wet labs. In addition, RFU houses a number of support facilities for researchers, including a life cell imaging facility and a vivarium with a current capacity of 3,000 animals per year. VAMC also contains a large vivarium for animal research, which is currently unused. Many biotechnology companies are dependent on such facilities for research and clinical trials. The opportunity to lease space at these facilities could potentially attract biotechnology companies to North Chicago.

**Proximity to Healthcare/Pharmaceutical Companies.** Lake County has a regional concentration of healthcare/pharmaceutical companies. Several of the large healthcare/pharmaceutical companies in the region, including Abbot Labs and Baxter International, are located in Lake County. Because these companies directly benefit from the innovations of new biotechnology companies, they have unique synergies with such companies and are often a source of capital investment for them.

**Presence of Management Talent.** Lake County has a high concentration of entrepreneurs and management level workers. Such workers are critical to startup biotechnology companies, as sound business sense is required for the successful commercialization of technological innovations.

**Availability of Land.** There are opportunities within the potential Biotechnology/Medical District to assemble contiguous land and create a campus environment with new research facilities that have strong linkages to existing institutions. Additionally, as the need for new research space arises, RFU has indicated its willingness to consider selling/ground leasing land for the development of a multi-tenant research/medical facility. The presence of a predetermined institutional anchor would reduce the risk for a private developer and therefore enhance the economic feasibility of developing such facilities. A creation of the proposed Biotechnology/Medical District would also facilitate the assembly of land, marketing of available sites, and the ultimate development of a biotechnology cluster.

The major impediments to the establishment of a biomedical cluster in North Chicago appear to be the lack of proximity to a major research university with an established technology transfer program and the lack of amenities like shopping and restaurants to attract a skilled workforce. As RFU pursues its aggressive plan to grow its research funding and hire research staff there is a potential to spin-off new biotechnology companies. Instead of relying heavily on a university relationship another option would be to explore if North Chicago could leverage the presence of the many healthcare/pharmaceutical companies in Lake County and develop a new model for a biotechnology cluster that builds on research contracts and equity contributions from these corporations. Additionally the desired campus environment, retail, restaurant and other amenities could potentially be developed by the proposed Biotechnology/Medical District.

### Absorption Potential

Annual absorption of private medical research lab space in multi-tenant buildings in the Chicago region is currently estimated to be 150,000-200,000 square feet per year by the manager of the life sciences and technology practice at CB Richard Ellis in Chicago. Much of this demand is from graduate companies that have secured initial financing, have a stable leadership core and are nearing commercialization. This current absorption level is estimated to be two or three times the historical absorption levels over the past three years. The sharp increase in absorption is primarily due to recent availability of wet lab space in new biotechnology research parks. However, these recent space additions have outpaced demand, resulting in a backlog in the inventory of research space. Additionally, the biotechnology research parks in the Chicago region, including ISTP, CTP and UTP, have plans for building new space in the near future. Therefore, in the short term (i.e., the next three to five years), there appears to be no unmet demand for biotechnology-oriented research space.

However, absorption is expected to grow by 20-30 percent per year for the next 3-5 years due to the trends described earlier. As absorption increases and existing inventory is leased there will likely be an opportunity to develop a new biotechnology research park in North Chicago and capture a share of the regional demand.





## Recommendations

In light of the points described above, it appears reasonable to pursue the development of a biotechnology cluster at the proposed Biotechnology/Medical District in North Chicago. However, the ultimate feasibility of the biotechnology park will likely be driven by the nature of the institutional and corporate backing for this effort and/or the interest of an experienced biotechnology developer. In the interim, the City can consider undertaking the following actions:

1. Reserve Land for a Biotechnology Park. Reserve up to 50 acres of land for a future biotechnology cluster in the proposed framework plan for the proposed Biotechnology/Medical District in North Chicago. Further analysis and planning would be required to determine the appropriate size, scale and programming for a new research park.
2. Promote the Development of Local Amenities. Initiate the planning and development of shopping, entertainment uses, restaurants and other amenities to create a high quality environment in the District
3. Initiate Contact with Experienced Biotechnology Park Developers. During the research interviews for this study, representatives of Forest City indicated that they would consider setting up a satellite campus in North Chicago and requested contact information of representatives in the City. The City should consider following up with Forest City and initiating discussions with similarly experienced developers of biotechnology parks.

## Case Studies

In order to identify lessons which might guide efforts to promote the medical and biotechnology industries in North Chicago, *S. B. Friedman & Company* prepared four case studies of medical and biotechnology initiatives in the Midwest. These case studies illustrate the wide variety of initiatives currently underway in the region, and provide several models which the City of North Chicago might use to build upon the community's existing resources. The first case, the Illinois Medical District in Chicago, provides an example of an established and successful state-driven medical district. The second, Renaissance Park in Peoria, is a more recent local initiative which aims to promote medical and high-tech employment. University Research Park in Madison, Wisconsin provides an example of a highly successful university-led biotechnology development. Finally, the Illinois Science and Technology Park provides an example of a privately-led biotech development which reuses existing facilities.

## Illinois Medical District (Chicago, Illinois)

The Illinois Medical District (IMD) is a 560-acre medical district located in the City of Chicago's Near West Side community area. The IMD is the state's oldest medical district, having been established by the Illinois General Assembly in 1941. The IMD is most similar to the district currently contemplated for North Chicago. According to its enabling legislation, the purpose of the IMD is "to attract and retain academic centers of excellence, viable health care facilities, medical research facilities, emerging high technology enterprises, and other facilities and uses" which are necessary as part of this mission.

As previously discussed, the district has the power to accept grants, loans or appropriations and to acquire and dispose of property. The IMD is also vested with the power to acquire property through eminent domain or condemnation, and has at times been granted quick-take powers. Development within the district is guided by a master plan, which must conform to local zoning requirements. The district is governed by a commission composed of seven members. Four members are appointed by the Governor of Illinois, two by the Mayor of Chicago, and one by the President of the County Board of Cook County. The commission's total budget for fiscal year 2005 was approximately \$6.8 million. The operating subsidy provided to the IMD by the state of Illinois has declined significantly in recent years.





The state budget for fiscal year 2007 includes an operating subsidy of less than \$200,000 for the IMD, as compared to \$1 million just a few years ago. Similarly, the more recently established Springfield Medical District has not received financial assistance from the state beyond a small grant to fund the creation of a master plan.

The IMD is home to several major medical institutions and public health facilities, including:

- Rush University Medical Center, an academic medical center housing schools of medicine and nursing, as well as a children’s hospital, geriatric hospital and Presbyterian-St. Luke’s Hospital;
- John H. Stroger Jr. Hospital, part of the Cook County Bureau of Health system;
- University of Illinois Medical Center, which houses the medical, dental and nursing schools of the University of Illinois at Chicago, as well as the University of Illinois Hospital;
- Jesse Brown Veterans Affairs Medical Center;
- Ruth M Rothstein Core Center, an outpatient care facility for persons affected by HIV/AIDS and other infectious diseases;
- Illinois State Police Forensic Science Center at Chicago, a state-of-the-art forensic and investigative lab; and
- West Side Center for Disease Control.

Together, these institutions house approximately 2,200 hospital beds, and employ 20,000 people. While the IMD’s focus is the promotion of medical and high-tech uses, the district also contains a number of non-medical uses. A large neighborhood shopping center at the intersection of Roosevelt Road and Ashland Avenue was completed in 2002,

and a supportive living facility for low-income seniors was constructed in the DDA in 2000. The Federal Bureau of Investigations recently completed an office building along Roosevelt Road, and the Cook County Juvenile Temporary Detention Center is also located in the southern portion of the district.

One of the IMD’s most high-profile developments is the Chicago Technology Park (“CTP”), a 56-acre technology-oriented business park located in the northwestern portion of the district. The park was established in 1982, and its’ first facility, the CTP Research Center, was completed in 1987. The Research Center is a 56,000 square foot business incubator which houses 23 firms and approximately 150 employees. The facility contains a conference room with multimedia and teleconferencing capabilities which can seat up to 30 people, as well as a resource center and library. Tenants at the Research Center are concentrated in the fields of biotechnology, medical research and pharmaceutical production. CTP also houses two “graduate facilities” for firms which have outgrown the CTP Research Center. Altogether, 27 firms have graduated from CTP since 1985.

The IMD also contains a number of sites which are available for new development. The district owns approximately 10 acres at the intersection of Ogden and Damen Avenues. This site, formerly the location of Chicago Medical School, is presently planned as a mixed-use development containing ancillary uses which will support IMD member institutions. The IMD has also used its authority to condemn property to assemble the District Development Area (“DDA”). The DDA is approximately 100 acres in size, and is located

in the southern portion of the IMD. The area has been assembled gradually since the 1960’s, and is intended as a potential site for new development in support of the IMD’s mission.

One of the principal benefits of establishing a medical district such as the IMD is the creation of an entity whose singular focus is the promotion of medical and technology-based economic development and which is relatively insulated from the political process. The IMD has extensively employed its ability to assemble development sites through condemnation, and this has proven critical to the growth of the district. Such initiatives are generally difficult for municipalities to undertake independently.

In addition, the structure of the IMD Commission does require an active partnership between the state, county and local levels of government. The municipality’s voice on the commission is substantial, and the partnership can serve as a means for the City of North Chicago to raise its profile within Lake County. It is important to note, however, that the establishment of a state medical district no longer guarantees the provision of an annual operating subsidy by the State of Illinois. Start-up costs for the district beyond the creation of a Master Plan will likely require commitments from the City of North Chicago, Lake County or member institutions.





### Renaissance Park (Peoria, IL)

Renaissance Park is 773-acre medical and technology district located in Peoria, Illinois. The district was created by the City of Peoria in 2003, with the goals of fostering the development of institutions of higher learning, expanding viable health care and medical research facilities, and attracting emerging high technology enterprises. Renaissance Park is located directly west of downtown Peoria, and is centered along West Main Street. The district is home to several major medical and research institutions, including:

- Bradley University, a private research university with 6,100 students and an endowment of \$216 million;
- The National Center for Agricultural Utilization Research (NCAUR), a federal research facility, which works to identify new uses for agricultural commodities;
- Methodist Medical Center and OSF St. Francis Medical Center, two teaching hospitals; and
- The University of Illinois College of Medicine at Peoria (UICOMP), a medical school with approximately 150 students.

Renaissance Park had its genesis in a series of discussions, begun in 2000, between Peoria community leaders regarding the City's role in the modern, knowledge-based economy. These discussions, sponsored by UICOMP, led to the commissioning of a study by the Battelle Memorial Institute analyzing Peoria's strengths and highlighting areas of opportunity for development of technology-driven industries. As a direct result of these efforts, the City created Renaissance Park.

Development within Renaissance Park is overseen by the Peoria Medical and Technology District Commission (the Med-Tech Commission), an 11-member body appointed by the Mayor and approved by the Peoria City Council. The Med-Tech Commission makes recommendations to the Peoria City Council regarding the acquisition, sale and lease of property within the district, and may apply for and receive grants, loans and appropriations. The Commission is also empowered to collect assessments or fees from entities which enter into contracts for district enhancements, and also performs the duties of the Peoria Zoning Commission within the district. Finally, the Med-Tech Commission must approve all building permits within the district which exceed \$350,000 in value so as to ensure conformity with the district's Master Plan

The City's efforts to promote medical- and technology-based economic development in Renaissance Park are complemented by the efforts of Peoria NEXT. Peoria NEXT is a collaboration between Caterpillar, the Heartland Partnership, Illinois Central College, and the medical and research institutions in Renaissance Park. The mission of Peoria NEXT is to "facilitate discovery, innovation and commercialization of new technologies for economic development." This is pursued through a number of initiatives, which are required to be a collaboration between two or more member institutions per the by-laws of the organization. The organization has no employees at this time, and operating expenses are paid through membership dues.

One of the organization's principal initiatives within Renaissance Park is the Peoria NEXT Innovation Center, a \$13 million business incubator completed in 2007. The 48,000 square foot facility contains wet- and dry-lab space, as well as conference rooms and other common tenant facilities. The facility was financed through federal and state funds, as well as substantial contributions from Bradley University, Methodist Medical Center and Caterpillar.

In addition, Peoria NEXT has worked to attract venture capital firms to the region, and provides seed grants to research projects. The group has organized a number of "Knowledge Communities," which are organized around an area of inquiry and which encourage area researchers to network and share ideas. Finally, through its "NEXT Steps" initiative, the organization facilitates interaction between area researchers, entrepreneurs and investors.

While Renaissance Park is similar to the IMD in terms of many of its goals and strategies, the districts differ in several important respects. The IMD is an agency of the state and has been granted several powers normally reserved for municipalities, such as the ability to acquire property through condemnation. Decisions regarding such acquisitions are made by the IMD Commission, which contains representation from several levels of government and is relatively insulated from local politics. Renaissance Park, on the other hand, is strictly a local creation. It is a planning overlay district within the City of Peoria. The Med-Tech Commission is appointed exclusively by the Mayor of Peoria, and can only make recommendations regarding the acquisition and disposition of property to the City Council.





In addition, Renaissance Park is distinguished by the high level of collaboration between the City of Peoria and local stakeholders. Bradley University, Methodist Medical Center and Caterpillar contributed substantially to the financing of the Peoria NEXT Incubation Center. Local institutions have also committed significant resources to the operations of Peoria NEXT's initiatives. Operations for the Innovation Center are being managed by Bradley University, while the Heartland Partnership manages the NEXT Steps program. Such collaboration has allowed multiple initiatives to be pursued simultaneously, and has allowed initiatives in Peoria to draw upon the expertise of multiple institutions.

#### **University Research Park (Madison, WI)**

University Research Park (URP) is a biotechnology-oriented business park created in 1984 by the University of Wisconsin at Madison (UW-Madison). The primary goals of the park are to facilitate economic development and to enable the University to more effectively compete for research and academic talent. The park is 250 acres in size, and has a total staff of six persons.

URP was financed through proceeds from the sale of university-owned land as well as grants from the Wisconsin Alumni Research Foundation (WARF). WARF is an entity established to capture and manage revenues from the licensing of technologies developed at UW-Madison. The foundation reinvests those revenues in new research at the University. WARF currently holds 1,800 patents, 40 percent of which have been commercialized. The foundation has an endowment of \$1.3 billion, and

has helped to finance 15 university buildings since 1938. While the foundation has historically charged licensing fees for use of its patented technologies, more recently it has taken equity stakes in start-up businesses.

The four major tenant types in the park are biotechnology, information technology, engineering, and business support services (e.g., law, accounting, insurance). Development of the park initially proceeded slowly, but accelerated significantly between 1990 and 2002. Building occupancies have tended to be 90% or higher throughout the life of the park, and all buildings in the park are ground leased.

In addition, URP houses an incubator, which currently occupies approximately 70,000 square feet within a larger structure. Support services in the incubator include shared conference rooms, high speed Internet access and phone systems. The park has a critical mass of support services which assist start-up firms with business issues and systems creation like payroll and insurance. The park's partnership with UW-Madison gives tenants access to university libraries and databases. Leases in the incubator are short-term and lab space rents for \$30 to \$32 per square foot gross.

Through initiatives such as URP, UW-Madison has been highly successful at cultivating a local biotechnology industry. According to a report by Applied Real Estate Analysis, Madison had 1.5 million square feet of wet lab space in 2005, which was three times the entire inventory of wet lab space in the Chicago metropolitan area at that time. In 2004 Forbes Magazine named Madison the best place in the country for business, and described the city as a "hotbed of biocapitalism."

URP is an example of a successful university-led biotech development. One of the critical factors in this success has been the involvement of WARF. The foundation has been vital in luring top-quality researchers to the university, and has financed the construction of new research labs, including those at URP. It has fostered a pro-business environment in Madison, and has raised the profile of the community among entrepreneurs and investors. Active efforts by area institutions to commercialize medical research will therefore be critical to replicating the success of Madison in North Chicago. In addition, while initiatives in Madison may serve as models for North Chicago, it is important to note the different scales of activity occurring in the two communities. UW-Madison received \$660 million in federal research funding in 2004, while Rosalind Franklin's total research budget in 2006 was approximately \$17 million. Therefore, the opportunity to develop a thriving biotechnology industry must be viewed as a long-term opportunity contingent upon growth by local institutions.



### **Illinois Science & Technology Park (Skokie, IL)**

The Illinois Science and Technology Park (ISTP) is a 23-acre biotechnology park located near the intersection of Oakton Street and Skokie Boulevard in Skokie, Illinois. The development is owned by Forest City Enterprises, a national real estate developer based in Cleveland, Ohio. Forest City has extensive experience developing biotechnology parks. Its most well-known endeavor in this field is the University Park at MIT, located in Cambridge, Massachusetts. University Park is a \$750 million development containing 1.3 million square feet of research space, as well as retail space, a hotel and 670 housing units. In addition to this University Park at MIT, Forest City has developed other life science parks in Baltimore, Denver, and Philadelphia.

ISTP is located on the site of the former headquarters of Searle Corporation, a pharmaceutical company. In 2003, the company was acquired by Pfizer, which subsequently terminated operations in Skokie. The 28-acre Skokie campus was sold to Forest City in 2005 for \$43 million. Forest City demolished nine buildings and retained four buildings, including an administrative building along Searle Parkway and Building Q, a state-of-the-art research facility completed in 2001.

ISTP currently contains approximately 660,000 square feet of office and laboratory space, as well as a large parking garage. Tenants attracted to the development to-date include Evanston Northwestern Health Care and Astellas Pharmaceuticals, as well as several smaller nanotechnology and biotechnology firms. At

full occupancy Forest City expects that the development will contain approximately 2 million square feet of space and employ as many as 6,000 people. The development provides a variety of amenities for tenants, such as free parking and an auditorium with video-conferencing capabilities. A park space is planned for the core of the development, and a stop along the Chicago Transit Authority's "Skokie Swift" rapid transit line is planned for Oakton Street, adjacent to the project.

ISTP is not located adjacent to a major research university. In this respect, the project is an exception among Forest City's biotech projects. However, the advantages of the project's site include:

- Easy access to the interstate highway system via I-94;
- Proximity to Northwestern University, which is approximately four miles east of the site; and
- A central location within the Chicago metropolitan region, midway between downtown Chicago and the pharmaceutical and life science companies of the northern suburbs.

ISTP is notable as an example of a privately-led biotech development. The project has received public financial assistance. It is located in a tax-increment financing (TIF) district, and the Village of Skokie is providing \$10 million in TIF assistance for necessary infrastructure improvements. The State of Illinois has also provided \$5 million in assistance through the Department of Commerce and Economic Opportunity for project costs. This assistance amounts to approximately two percent of total anticipated project costs. In addition, the Skokie Swift station at Oakton Street is anticipated to cost \$15 million, and is being financed through local and federal funds.

The feasibility of the project was further enhanced by the terms of the transaction between Pfizer and Forest City. Forest City acquired the entire ISTP site for less than the replacement cost of Building Q. These terms are a reflection of Pfizer's desire to alleviate the impact of its decision to close down the Searle campus on the local community.

Finally, ISTP is notable as an example of a biotechnology development which reuses existing research and development facilities. Wet lab space is extremely expensive to build. The presence of wet lab facilities on the Searle campus allowed Forest City to jump-start its project with reduced up-front investment. ISTP may therefore serve as a model for the reuse and rehabilitation of existing research facilities. The contemplated North Chicago Medical District could acquire such facilities through condemnation, or could serve as a vehicle for the donation of such facilities by departing property owners. In the latter scenario, the donation could also provide tax benefits to former owners.



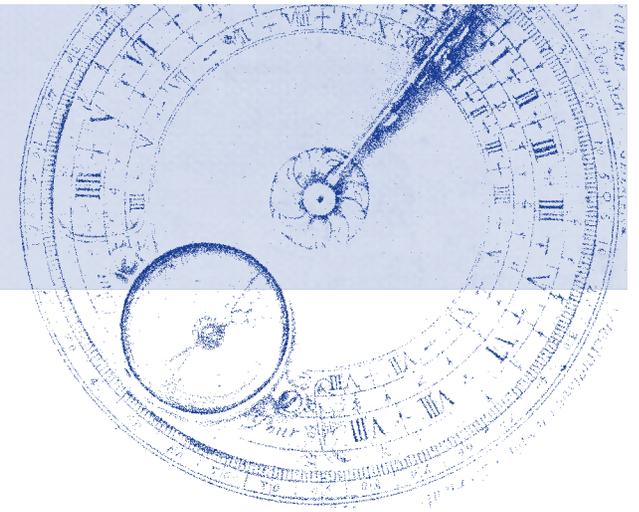


## Conclusions

The feasibility study demonstrates that there is demand for new facilities from existing stakeholders in North Chicago. The North Chicago Veterans Administration hospital is currently in the process of expansion as a part of a merger of services with Department of Defense and Rosalind Franklin University has plans to expand its academic and research programs in the next few years. Additionally, based on a review of the biotechnology industry in the Chicago region and the competitive position of North Chicago it appears that there is potential for a biotechnology research park in North Chicago over the long term. To facilitate the expansion of local stakeholders, enhance local amenities and assemble land for a future biotechnology park, the City should consider pursuing the designation of the proposed Biotechnology/Medical District.

The proposed Biotechnology/Medical District's efforts will be augmented by several other redevelopment tools/programs which are currently available in North Chicago. The boundaries of North Chicago's Downtown TIF District substantially overlap those of the proposed Biotechnology/Medical District. Developments within the TIF district are eligible to receive financial assistance to pay for such TIF-eligible expenses as demolition, environmental remediation, land assembly and rehabilitation of existing facilities. In addition, those portions of the proposed Biotechnology/Medical District which are north of 24th Street or east of Greenfield Avenue are within the Waukegan/North Chicago Enterprise Zone. This zone, established in 2006, provides incentives for development which include the abatement of sales taxes on building materials, as well as a corporate income tax deduction for financial institutions lending to projects within the Enterprise Zone. Together, these tools increase the likelihood of success in attracting life science-based economic development to the City of North Chicago.





# DISTRICT FRAMEWORK PLAN

# District Framework Plan

The District Framework Plan recommendations in regards to land use, business mix, transportation, transit, and open space represent the potential of the City of North Chicago to support a vibrant mixed-use Biotechnology/Medical District by building upon its strengths and overcoming existing and potential obstacles. The Plan's recommendations will serve as the basis for future planning, collaboration, and development activities between the current and future District institutions and stakeholders.

In developing the following recommendations, existing land use and physical conditions, market feasibility, transportation, and open space conditions have been examined, reviewed with community officials and stakeholders, and provided herein as the guiding document for future implementation initiatives.

The land use and transportation recommendation maps demonstrate the means by which land uses and physical conditions may change over time to achieve the City's goals and objectives for this District. The goals of the Framework Plan are:

- to safeguard the district's future as North Chicago's center for academic, medical, biotechnology, commercial, and industrial excellence;
- to enable and encourage existing institutions such as Rosalind Franklin University of Medicine and Science, North Chicago VA Medical Center, Naval Health Clinic Great Lakes, and Abbott Laboratories to continue

to grow and be competitive within the local, national, and international market place;

- to attract complementary medical and biotechnology related businesses and industry;
- to provide for a diversity of educational, research, office, commercial, residential, and open space uses to meet the needs of current and future businesses, employees, patrons, residents, and visitors;
- to complement the land uses and activities located within the adjacent neighborhoods and communities;
- to utilize a comprehensive rather than piecemeal approach toward land use, transportation, infrastructure and employment improvement initiatives;
- to improve the efficiency, safety, and accessibility of vehicular and pedestrian traffic throughout the district; and
- to enhance recreational access to Lake Michigan while simultaneously protecting the lakeshore as one of greatest assets of the City of North Chicago and State of Illinois.

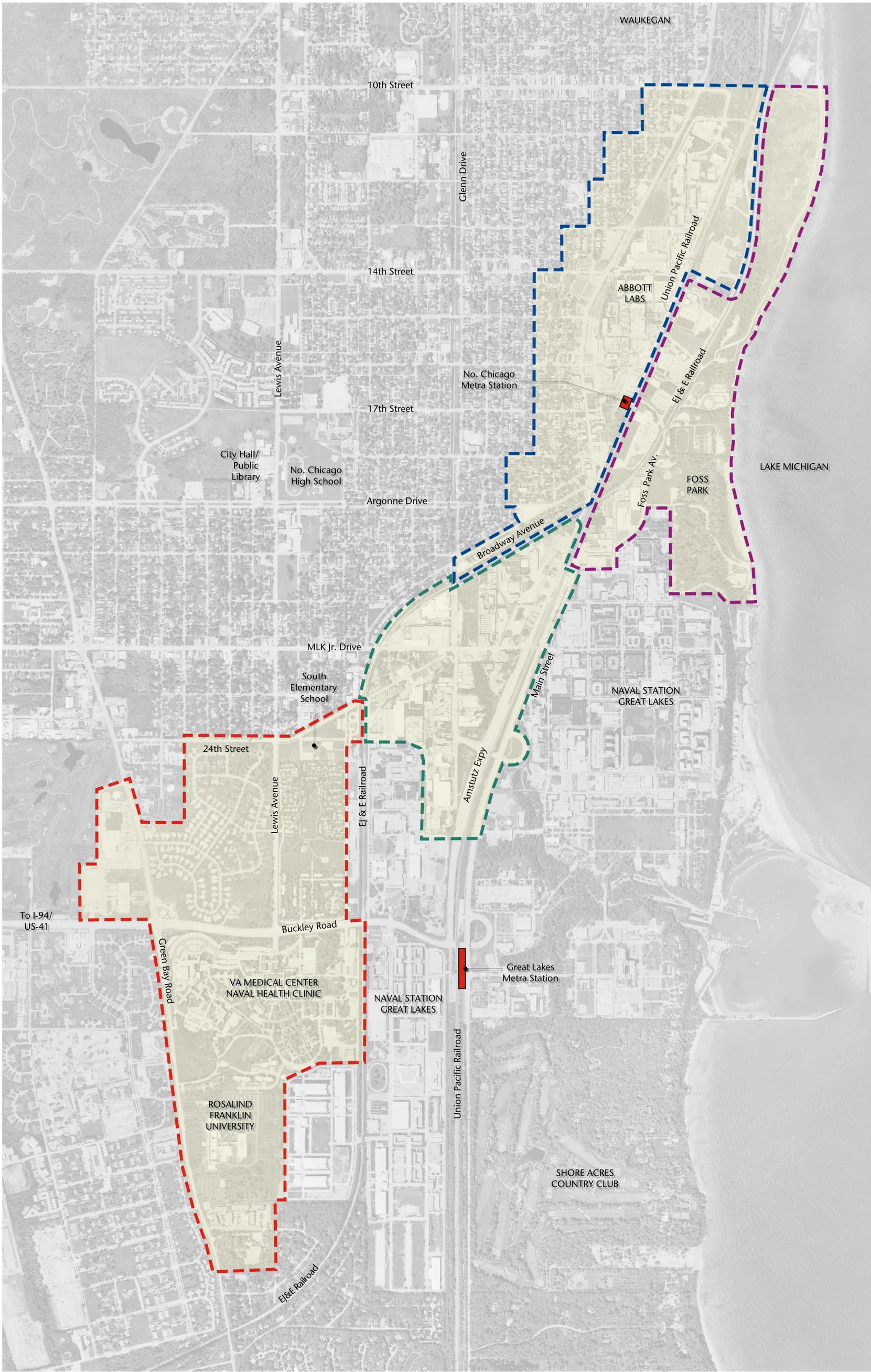
These goals serve as the guiding principals under which the Northern Lights Biotechnology/Medical District shall be established and continually evaluated to ensure its successful implementation.

## District Sub-Area Recommendations

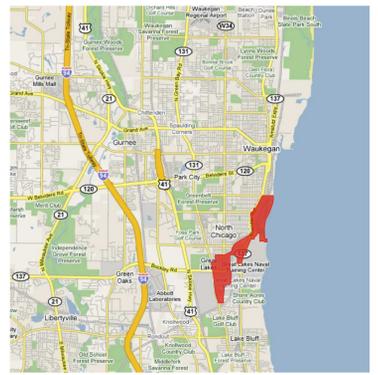
The development recommendations outlined within the Framework Plan are intended to be long term initiatives. The ultimate pace at which development and redevelopment occur will be driven in large part by institutional and private demand for the types of space and services identified within the feasibility study. It is the purpose of this study to demonstrate that the demand exists. And thereby identify recommendations regarding how to position the proposed Biotechnology/Medical District to provide the land and facilities needed when the market dictates.

Based on our analysis of existing land use, physical, and market, conditions we have identified four District sub-areas. Each sub-area has its own distinct characteristics and focuses on a particular component of the overall Biotechnology/Medical District. Within each sub-area land uses that are complementary to the primary land use are also provided to ensure its diversity and long term sustainability. In turn, the four sub-areas then work collectively to define the unified Northern Lights Biotechnology/Medical District at North Chicago.



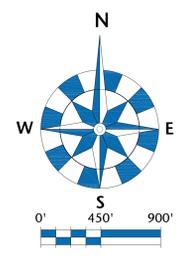


**Location Map** Not To Scale

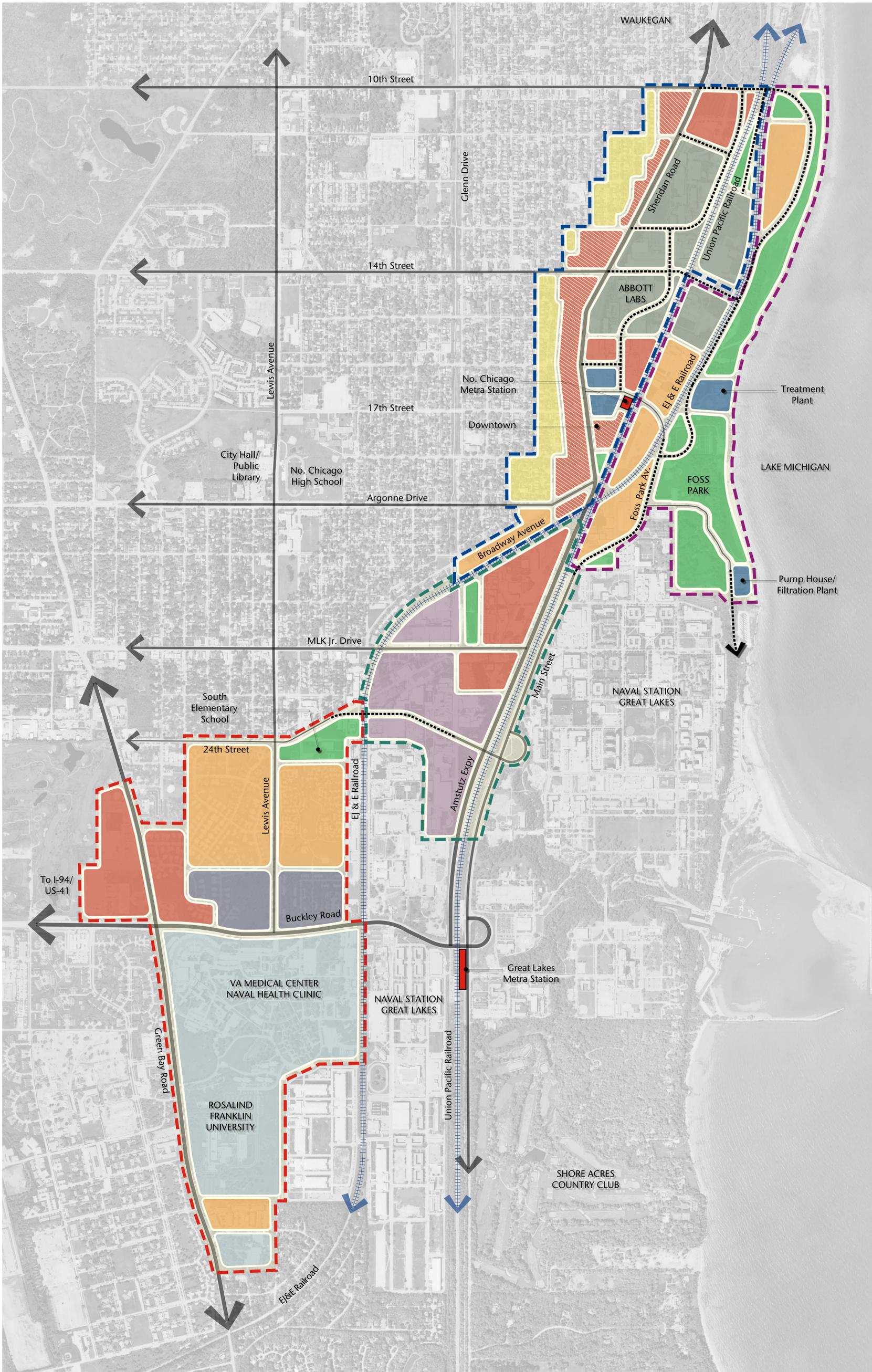


**Legend**

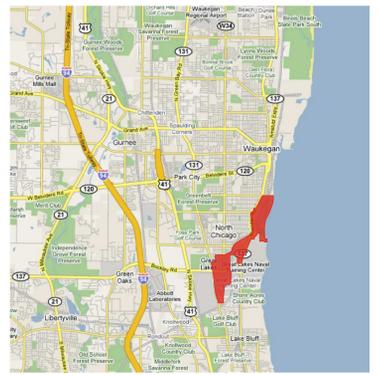
- - - - Pharmaceutical/Research Sub-Area
- - - - Lakefront Residential Sub-Area
- - - - Commercial/Industrial Sub-Area
- - - - Medical & Institutional Sub-Area



**Northern Lights Biotechnology/Medical District • Recommended Sub-Areas**  
**North Chicago, IL**

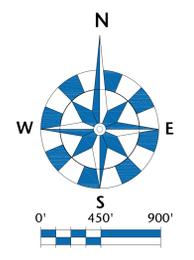


**Location Map** Not To Scale

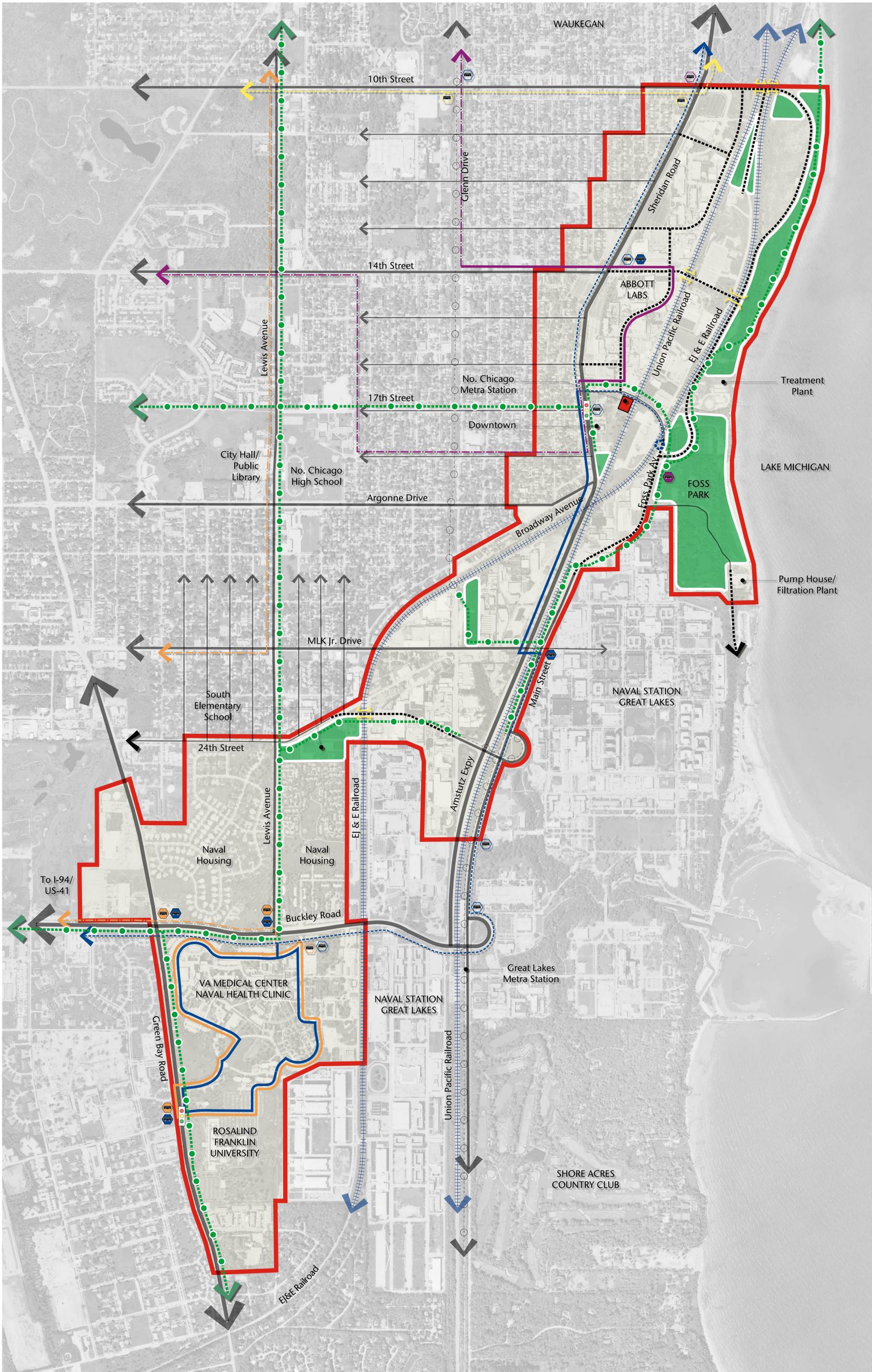


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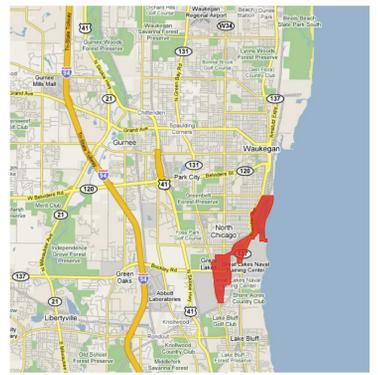
- Pharmaceutical/Research Sub-Area
- Lakefront Residential Sub-Area
- Commercial/Industrial Sub-Area
- Medical & Institutional Sub-Area
- Industrial
- Office/Research
- Commercial/Office
- Mixed-Use
- Single Family Residential
- Multi-Family Residential
- Public (Municipal)
- Institutional
- Biotechnology
- Open Space/Recreation
- Proposed Roads



**Northern Lights Biotechnology/Medical District • Land Use Recommendations**  
**North Chicago, IL**

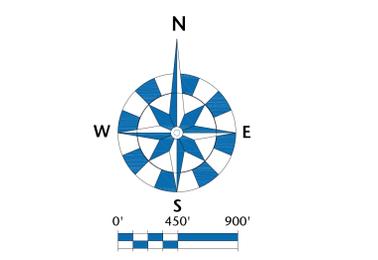


**Location Map** Not To Scale



**Legend**

- Proposed**
- Proposed Traffic Signal
  - Proposed Grade Separated Crossing
  - Proposed At Grade Crossing
  - Proposed Road Network
  - Proposed Bike Network
  - Pace Bus Route 563
  - Pace Bus Route 564
  - Pace Bus Route 568
  - Pace Bus Route 569
  - Pace Bus Stop/Shelter
  - Pace Bus Stop/Shelter
  - Pace Bus Stop/Shelter
  - Proposed Bike Path
- Existing**
- Arterial Right-of-Way
  - Collector Right-of-Way
  - Local Right-of-Way
  - Railroad Right-of-Way
  - Study Area Boundary
  - Existing Bike Network
  - Pace Bus Route 563 Ave. Weekday/Weekend Ridership (234/0)
  - Pace Bus Route 564 Ave. Weekday/Weekend Ridership (260/0)
  - Pace Bus Route 568 Ave. Weekday/Weekend Ridership (834/286)
  - Pace Bus Route 569 Ave. Weekday/Weekend Ridership (680/NA)
  - Pace Bus Stop/Shelter
  - Pace Bus Stop/Shelter
  - Pace Bus Stop/Shelter
  - Pace Bus Stop/Shelter
  - R. McClory Bike Path
  - Study Area Boundary



**Northern Lights Biotechnology/Medical District • Circulation Recommendations**

North Chicago, IL

Sheet 1 of 1

Dated: August 10, 2007  
 Drawing Number: Proposed Circulation  
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### Pharmaceutical/Research Sub-Area

The Pharmaceutical/Research sub-area is bounded by 10th street on the north, the EJ&E and Metra tracks on the south and east, and Lincoln Street on the west. The pharmaceutical and research activities of Abbott Laboratories will be a major influence on development and redevelopment activities within this northern sub-area.

It is anticipated that Abbott will continue to develop and manufacture pharmaceutical, medical, and nutritional products in the sub-area. Through the reconfiguration of unused or under-used portions of Abbott's property additional redevelopment opportunities may be created to support the establishment of new uses and industries.

To further serve existing and new industries, mixed-use retail, office and residential development such as restaurants, cafes, niche retail, financial institutions, and multi-family condominium, townhomes, and apartments should be provided along sub-area rights-of way. The City should consider relocation of City Hall and the Public Library to the Downtown as a means to attract visitors, spur growth, and continue its revitalization initiatives.

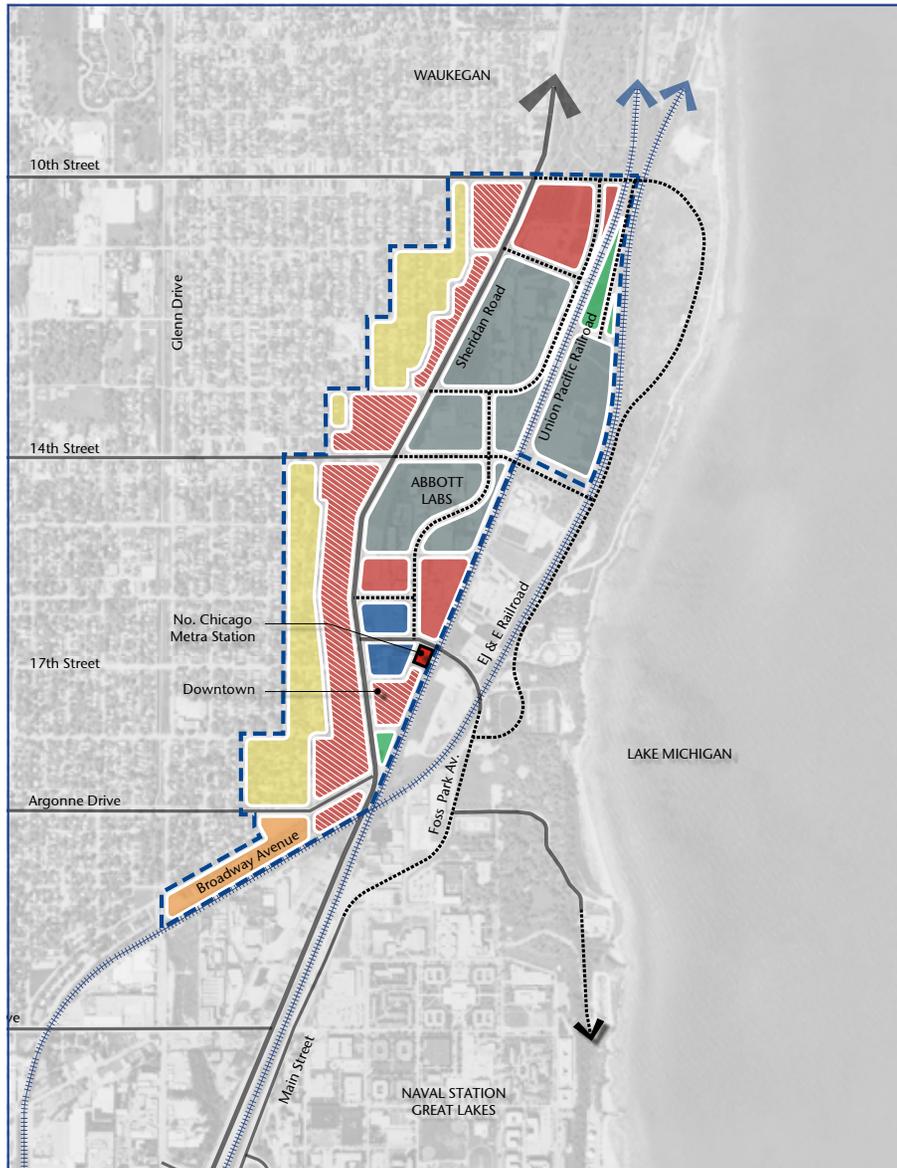
The following is a summary of available land use and circulation opportunities within the Pharmaceutical/Research sub-area:

- Consider adaptive reuse of vacant and /or under-utilized buildings for the location of complementary and supporting pharmaceutical, research, and industrial enterprises.

- Develop new office and research facilities between the Union Pacific and EJ&E Railroad tracks immediately north of 15th Street.
- Construct mixed-use retail/office/residential infill development along the west side of Sheridan between Broadway Avenue and 10th Street. Initial development should be focused around key intersections along Sheridan Road including, 10th Street, 14th Street, Foss Park Avenue, Grant Place, and 18th Street.
- Develop shared multi-story off-street parking garages in conjunction with retail, office, and residential development.
- Develop a mixed-use commercial/retail plaza at the southeast corner of 10th Street and Sheridan Road to serve area employees and residents.
- Consider relocation of the North Chicago City Hall and Public Library to the Downtown, near the Metra Station and the new Grant Place retail development.
- Rehabilitate the single and multi-family housing within the two blocks immediately west of Sheridan Road.
- Consider acquisition and consolidation of strategic properties to the west of the Sheridan Road to provide larger lots for development along Sheridan Road.
- Provide open space and pocket parks for public congregation at key locations including the intersection of 14th Street and Sheridan Road to encourage daily pedestrian activity.
- Where possible, reconnect the rights-of-way grid through the extension of 10th Street and 14th Street to the lakefront. This will require new rail grade crossings along the Union Pacific and EJ&E railroad lines.
- Provide a new north-south right-of way to the east of Sheridan Road to link 10th Street on the north and Foss Park Avenue on the south.
- Convert private roadways within the sub-area to public rights-of way in conformance with current City regulations.
- Extend the City's bike path system from Foss Park Avenue along 17th Street to link to North Chicago High School, City Hall, and the Public Library.



# Pharmaceutical/Research • Land Use Map

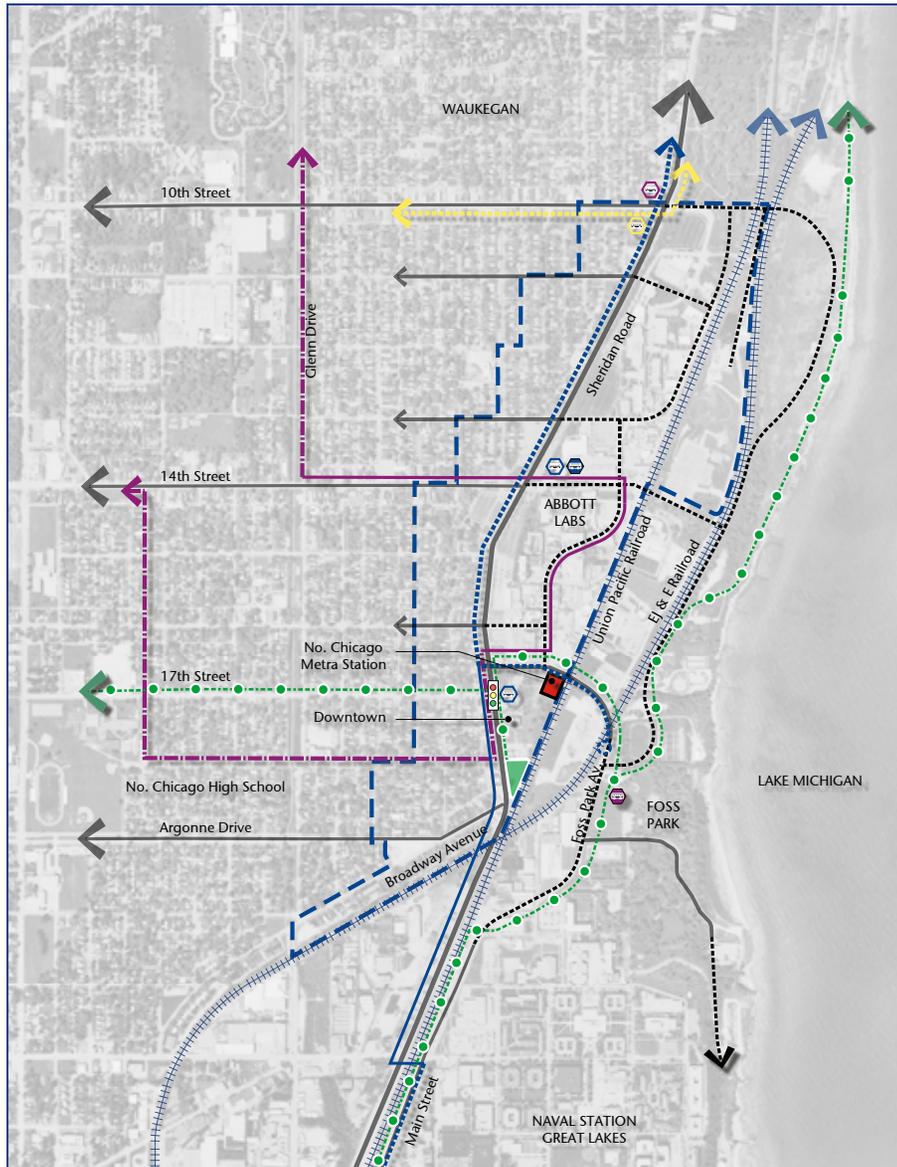


## Legend

- Pharmaceutical/Research Sub-Area
- Lakefront Residential Sub-Area
- Commercial/Industrial Sub-Area
- Biotechnology, Medical & Institutional Sub-Area
- Industrial
- Office/Research
- Commercial/Office
- Mixed-Use
- Single Family Residential
- Multi-Family Residential
- Public (Municipal)
- Institutional
- Open Space/Recreation
- Proposed Roads



# Pharmaceutical/Research • Transit Map



## Legend

Proposed	Existing



### Lakefront Sub-Area

The Lakefront sub-area is bounded by the lakeshore on the east, Union Pacific and EJ&E tracks on the west, Foss Park on the south, and 10th Street (extended) on the north. The sub-area's major strength lies in the ability after more than 80 years to reclaim the lakefront for the benefit of existing and future North Chicago businesses, residents, and visitors. The FBI firing range should be relocated away from the lakefront and the property combined into Foss Park. Vacant and existing industrial users including Smurfit Stone and Hines Lumber should be redeveloped with high density residential (condominium) development. Residential land uses would benefit from their proximity to proposed open space amenities as well as provide housing opportunities for employees of the abutting pharmaceutical/research sub-area. Convenience oriented retail uses may be considered for the first floor of residential buildings but should be secondary to the primary residential land use.

A new north-south right-of way should be provided along the lakefront to the east of the EJ&E Railroad and link 10th Street on the north and Foss Park Avenue on the south. All new development should be located to the west of this new right-of-way thereby preserving public open space along the lakeshore. The City should consider extension of the Foss Park access road to the Great Lakes Harbor should this amenity be made available by the Navy to the City.

The following is a summary of available land use and circulation opportunities within the Lakefront sub-area:

- Relocate the incompatible land uses located along the lakefront including the FBI firing range. Following site remediation, incorporate the property into an expanded Foss Park.
  - Relocate the Smurfit Stone Container Corporation and Hines Lumber facilities to an industrial district near the expressway. Redevelop these sites for multi-family condominiums and neighborhood oriented commercial with park and lakefront accessibility.
  - Reclaim and redevelop all lakefront property between the North Chicago water treatment facility and 10th Street as a public lakefront park.
  - Provide a new north-south right-of-way along the lakefront to link 10th Street on the north and Foss Park Avenue on the south.
  - Consider development of high density residential (condominiums) between the EJ&E Railroad tracks and the new lakefront right-of-way.
  - Where possible, connect the lakefront right-of-way to the west through the extension of 10th Street and 14th Street. This will require new rail grade crossings along the Union Pacific and EJ&E Railroad lines.
- Consider extension of the Foss Park access road south to the Great Lakes Harbor should public access to the harbor be made available by the Navy.
  - Implement lakefront and shoreline enhancements which are environmentally sensitive while increasing accessibility for the community. Enhancements should include scenic overlooks, walking paths, benches, trash receptacles, and parking areas.
  - Enhance the Foss Park entrance by removing the deteriorated gatehouse and fencing along Foss Park Avenue and increase the size and visibility of the park entrance signage.
  - Implement streetscape and landscape enhancements to visually buffer the water pumping and treatment facilities, as well as the Naval Center brig and base housing to the south. Request relocation of the Naval Center brig to a location away from the Foss Park entrance gate.
  - Extend the City's bike path system along Main Street to Foss Park and along the new lakefront roadway to connect with the Waukegan bike path at 10th Street.



# Lakefront • Land Use Map

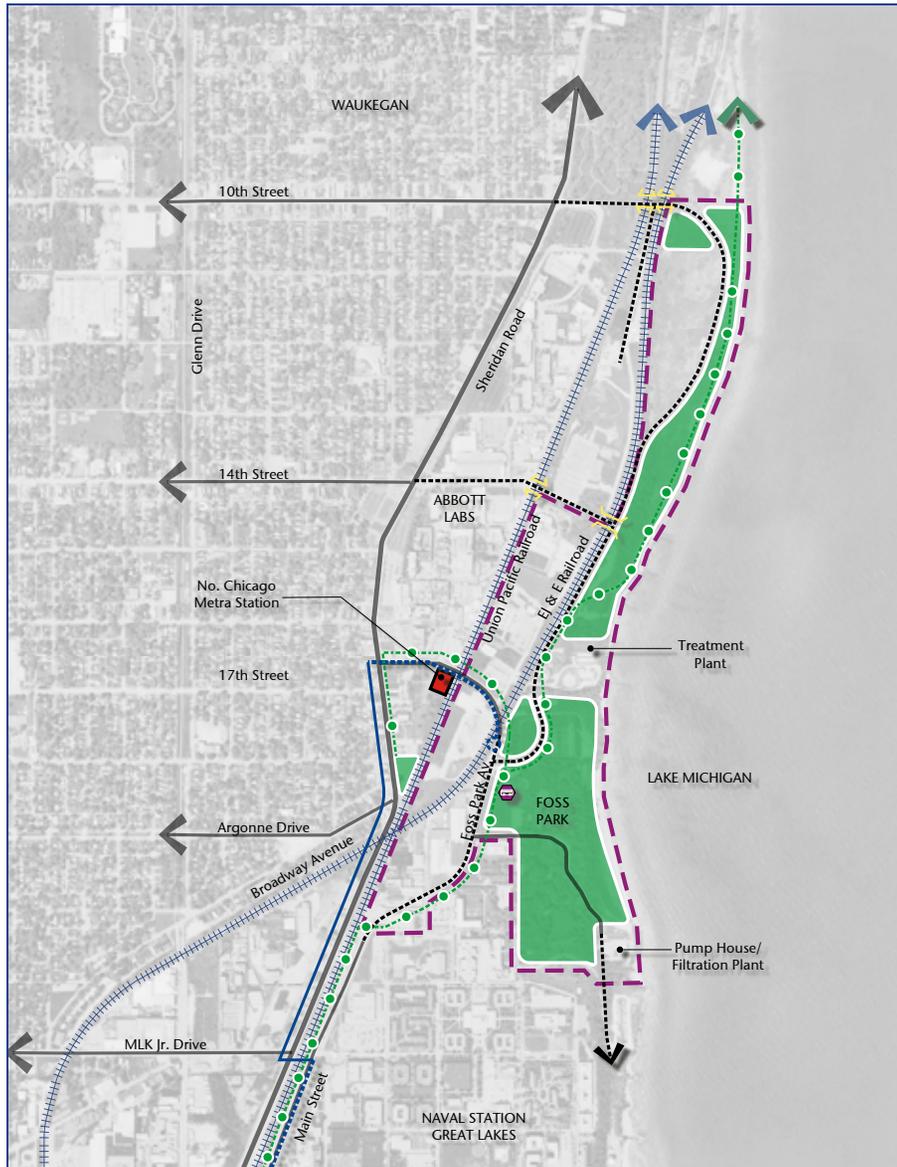


## Legend

-  Pharmaceutical/Research Sub-Area
-  Lakefront Residential Sub-Area
-  Commercial/Industrial Sub-Area
-  Biotechnology, Medical & Institutional Sub-Area
-  Industrial
-  Office/Research
-  Commercial/Office
-  Mixed-Use
-  Single Family Residential
-  Multi-Family Residential
-  Public (Municipal)
-  Institutional
-  Open Space/Recreation
-  Proposed Roads



# Lakefront • Transit Map



## Legend

Proposed	Existing





### Commercial/Industrial Sub-Area

The Commercial/Industrial sub-area is bounded by the EJ&E Railroad on the north and east, Main Street on the west, and Cable Place Road on the south. This sub-area serve as the vital link between the major pharmaceutical/research institutions to the north and medical/educational institutions to the south. Through the development of quality commercial and retail business and modern flex-tech business/ industrial incubator space this area will serve as the backbone of the proposed Biotechnology/Medical District.

The northwest and southwest corners of Sheridan Road at King Drive should be developed with community level commercial and retail space to benefit for their visibility along these key transportation routes. The former Fan Steel building should be renovated and incorporated into the redevelopment plans for the Sheridan Crossing retail center. Uses within this area should cater to the needs of community residents as well as recruits, employees, visitors and patrons of the Naval Center Great Lakes. The reopening of the Naval Center's Gate 4 provides a great opportunity to capture a significant amount of vehicular and pedestrian traffic entering and exiting the base.

The industrial areas south of King Drive should be developed with modern flextech space. This area may provide space for industries serving and/or developing out of the Pharmaceutical/Research sub-area to the north and Medical & Education sub-areas to the south. Buildings should be one to three stories in height and maintain a consistent architectural style representative of a modern business park. Shared off-street parking should be provided throughout the sub-area.

Existing railroad spur lines, small parcels, and inadequate rights-of-way should be removed and consolidated to allow for configuration of efficient lots depths and sizes. Morrow Avenue between 24th Street and Commonwealth Avenue should be vacated. 24th Street should be rerouted to directly link to the entrance ramps at the Amstutz Expressway and provide additional land abutting the South Elementary School.

The Commonwealth Avenue right-of-way north of King Drive should be vacated to the EJ&E Railroad embankment to allow for expansion of the EMCO Chemical Distribution facility. The former right-of-way should be used to increase EMCO's truck marshaling and loading area as well as provide additional off-street parking for its employees.

The Pettibone Creek between King Drive and the EJ&E railroad embankment should be remediated to provide much needed public open space within the sub-area. In addition to environmental remediation and removal of trash and debris, creek bank stabilization, paver paths, native landscaping, trees, ornamental lighting, benches, trash receptacles, and signage should be provided to make this a desirable passive recreation area for employees and visitors.

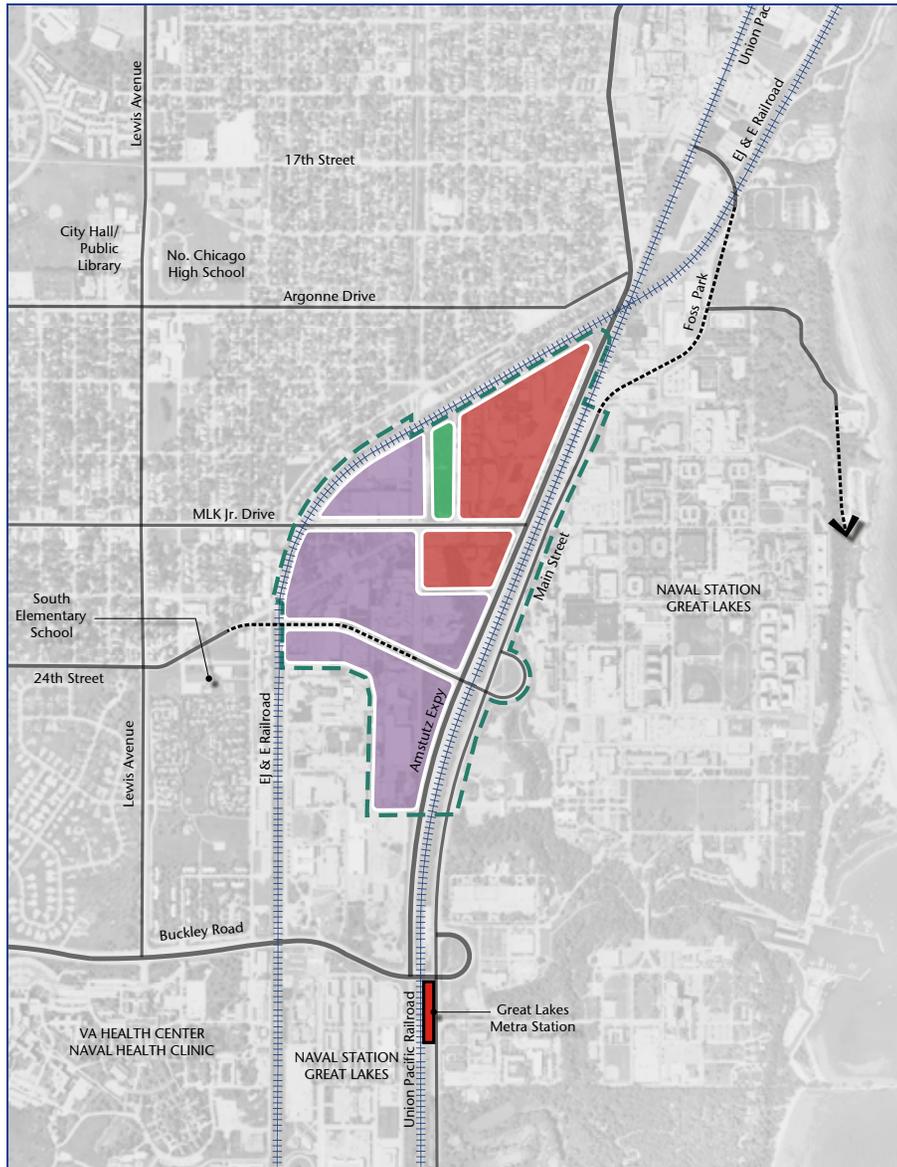
The following is a summary of available land use and circulation opportunities within the Commercial/Industrial sub-area:

- Develop new commercial and retail uses at the northwest and southwest corners of King Drive and Sheridan Road to serve community and Naval Center shopping needs.

- Consider the adaptive reuse of large masonry structures such as the Fan Steel building for commercial and office space uses.
- Consider vacating Commonwealth Avenue north of King Drive to allow for expansion of EMCO Chemical Distribution's truck marshaling, loading, and employee parking areas.
- Consolidate parcels south of King Drive to provide efficient lot depths and sizes.
- Consider vacating the various railroad spur lines, Morrow Avenue, and other inadequate rights-of-way south of King Drive to provide for modern access and circulation within the area.
- Realign the 24th Street right-of-way to directly connect to the Amstutz Expressway ramps near Commonwealth Avenue. This realignment will also allow additional land area to be provided to the north side of South Elementary School, thereby reducing noise impacts at the school and increasing student safety.
- Develop a new public open space along the Pettibone Creek to include environmental remediation and clean up of the site, creek bank stabilization, paver paths, native landscaping, trees, ornamental lighting, benches, trash receptacles, and a signage.
- Consider rerouting Pace Bus 563 along Commonwealth Avenue and King Drive to increase transit options for area employees.
- Extend the City's bike path system along King Drive to the new Pettibone Creek Park as well as along the realigned 24th Street to link to South Elementary School.



# Commercial/Industrial • Land Use Map

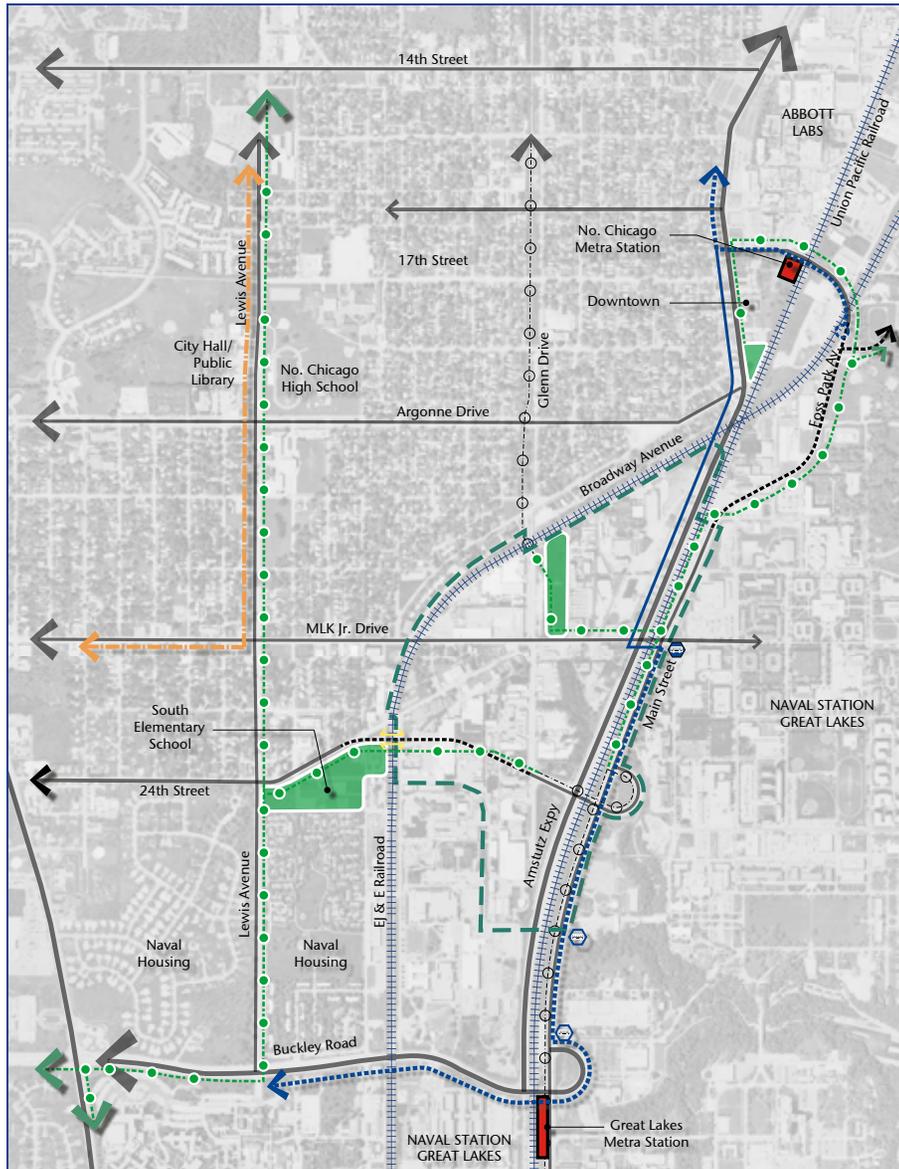


## Legend

-  Pharmaceutical/Research Sub-Area
-  Lakefront Residential Sub-Area
-  Commercial/Industrial Sub-Area
-  Biotechnology, Medical & Institutional Sub-Area
-  Industrial
-  Office/Research
-  Commercial/Office
-  Mixed-Use
-  Single Family Residential
-  Multi-Family Residential
-  Public (Municipal)
-  Institutional
-  Open Space/Recreation
-  Proposed Roads



# Commercial/Industrial • Transit Map



## Legend

Proposed	Existing





### **Biotechnology, Medical & Educational Sub-Area**

The Biomedical, Medical & Educational sub-area is bounded by Green Bay Road and the Navy Commissary on the west, 24th Street on the north, EJ&E Railroad on the east, and Rosalind Franklin University on the south. The existing medical and educational institutions will continue to define the primary character and land uses within this sub-area. Land for future facility expansion and attraction of new facilities should be preserved along abutting properties. Supporting commercial and retail uses should be located within walking distance of area institutions to meet employee and patron needs as well as encourage pedestrian circulation and activity. Moderate density residential uses such as townhomes should be provided within ½ mile of the sub-area institutions to accommodate employee, faculty, and student housing needs.

The northwest and northeast corners of Buckley Road and Lewis Avenue should be preserved for future development of an approximately 50 acre biotechnology park. This park may house emerging biomedical research and manufacturing facilities, as well as provide expansion space for the Veterans Affairs Medical Center, Naval Health Clinic, and Rosalind Franklin University. The accessibility, visibility, and proximity to the existing institutions south of Buckley Road makes this location ideal for sharing resources and forging collaborative research and educational relationships.

Community and regionally oriented commercial / retail uses should be located at the northwest and northeast corners of Buckley Road and Green Bay Road to benefit from the significant traffic volumes along these rights-of-way. The Navy Commissary may be relocated to the east side of Green Bay Road or along Buckley Road to place it in closer proximity to its clientele at the Naval Center Great Lakes. Grocery stores, restaurants, niche retail, and entertainment related uses should be provided to capture pass by traffic, serve the community population and meet the expressed needs of employees, patrons, and visitors to the sub-area institutions.

The VA Medical Center, Naval Health Clinic, and Rosalind Franklin University will continue to develop and expand within their existing campuses. Where possible, available buildings should be adapted and reused to meet the needs of future expansion. The use of available vacant land within the sub-area for new facility development including office, clinic, and residential (dormitory) uses should be provided at strategic locations that balance the growth needs of the institutions while preserving the quality campus environment that exists within the sub-area. Shared parking within both surface lots and structures should be provided to maximize efficiency and preserve land for future development needs.

If it should become available, the Navy's Forrestal and Nimitz neighborhoods should be redeveloped for moderate density residential housing (e.g., townhomes). The units should be designed and targeted for employees, their families, and students living and working within the Biotechnology, Medical & Educational sub-area.

Private roads, dead-end streets and blockades should be eliminated within the sub-area. All future rights-of-way should be based on the City's established grid system to reconnect neighborhoods and provide alternative routes through the sub-area. Circulation within institutional campuses should be coordinated among the stakeholders to ensure the provision of logical travel routes which are easy to follow for employees and visitors. A new traffic signal should be provided at Green Bay Road and Cromwell Drive to enhance ingress and egress to the sub-area from the south.



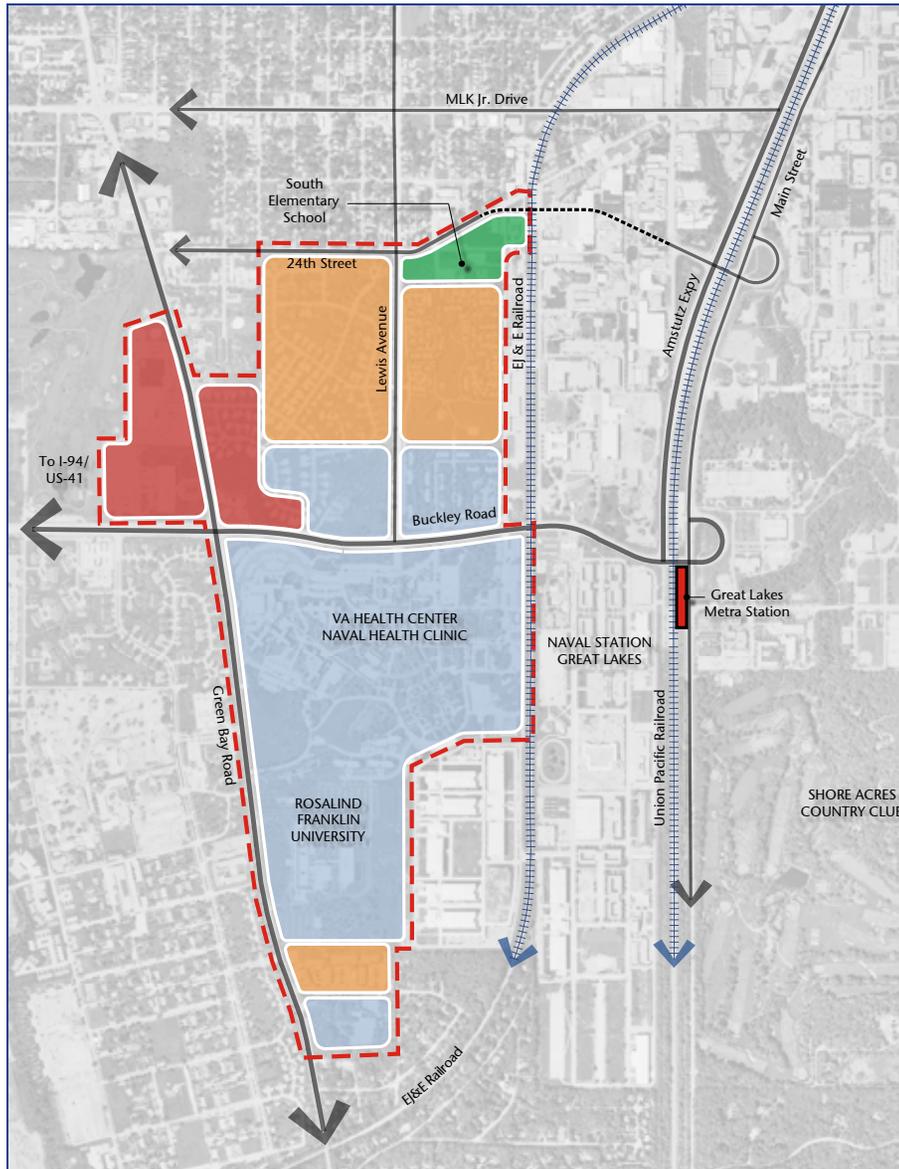


The following is a summary of available land use and circulation opportunities within the Biotechnology, Medical & Educational sub-area:

- Develop community and regional level commercial/retail uses at the northwest and northeast corners of Buckley Road and Green Bay Road. Consider relocation of the Navy Commissary from the west side of Green Bay Road to the northeast corner of Green Bay Road and Buckley Road.
- Redevelop the property at the northwest and northeast corners of Buckley Road and Lewis Avenue with medical and educational related uses. This area should be preserved for expansion of the VA Medical Center, Naval Health Clinic, Rosalind Franklin University and similar medical and educational related entities.
- Consider the adaptive reuse of existing vacant or underutilized buildings for future growth and expansion needs.
- The development of new facilities on vacant/open land should be designed to maintain the established campus environment within the sub-area.
- If available, redevelop the Navy's Forrestal and Nimitz neighborhoods with townhome units to meet the needs of the institution's employees, their families, and students. Utilize traditional neighborhood design (TND) principals such as grid streets, walkability, varying lot sizes, and ample open space when redesigning the neighborhood.
- Create shared surface and garage parking structures to open additional land for redevelopment within the institutional campuses.
- Preserve and provide new common open spaces for employees, visitors, and patients throughout the sub-area.
- Reestablish and reconnect with the City's grid street system to provide alternative circulation routes as part of future development and redevelopment initiatives.
- Enhance connectivity between Rosalind Franklin University, VA Medical Center, and Naval Health Clinic through coordinated circulation routes and signage enhancements.
- Consider a signalized intersection at Green Bay Road and Cromwell Drive to improve ingress and egress for the campus from the south.
- Extend Pace Bus routes 563 and 569 south through the sub-area, to enhance employee, patient, and visitor accessibility.
- Extend the City's bike path system along Lewis Avenue, Buckley Road, and Green Bay Road.



# Medical & Educational • Land Use Map

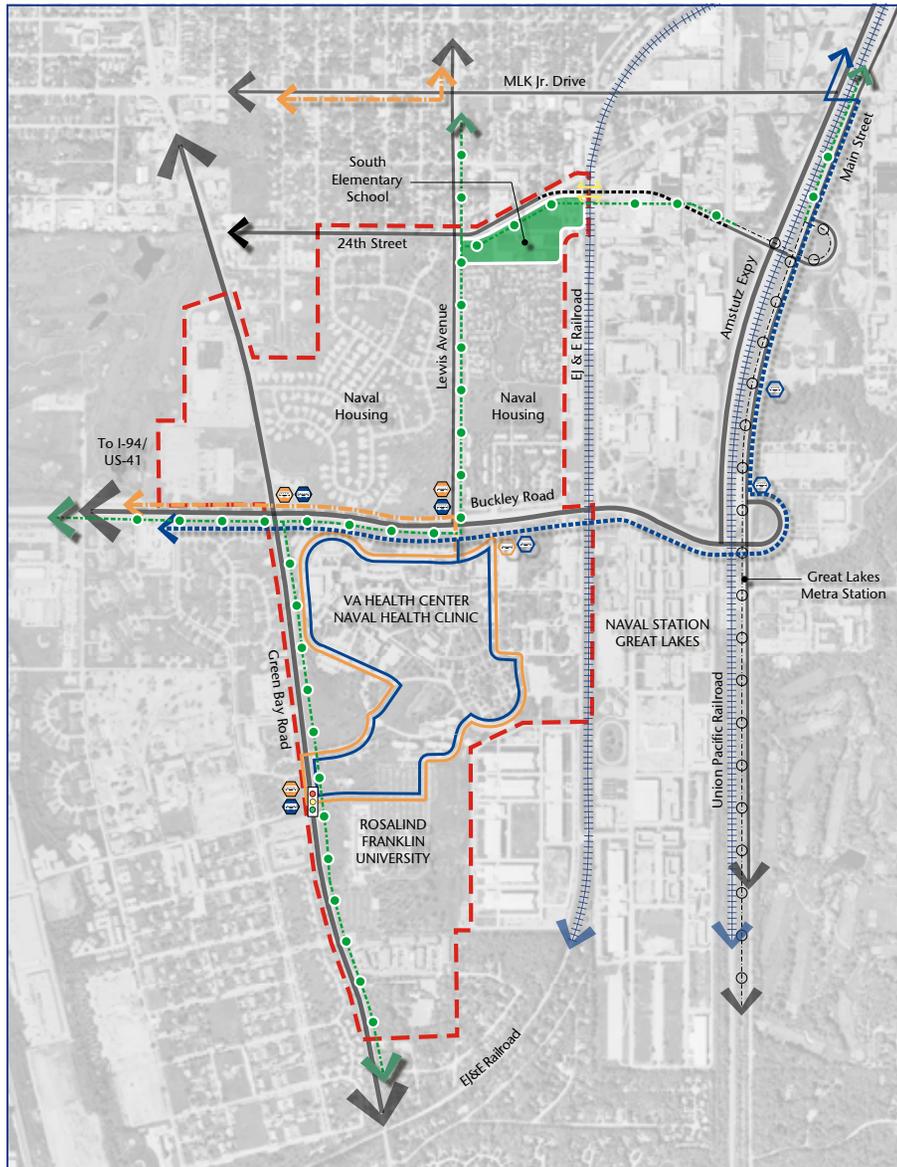


## Legend

- Pharmaceutical/Research Sub-Area
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- Commercial/Industrial Sub-Area
- Biotechnology, Medical & Institutional Sub-Area
- Industrial
- Office/Research
- Commercial/Office
- Mixed-Use
- Single Family Residential
- Multi-Family Residential
- Public (Municipal)
- Institutional
- Open Space/Recreation
- Proposed Roads



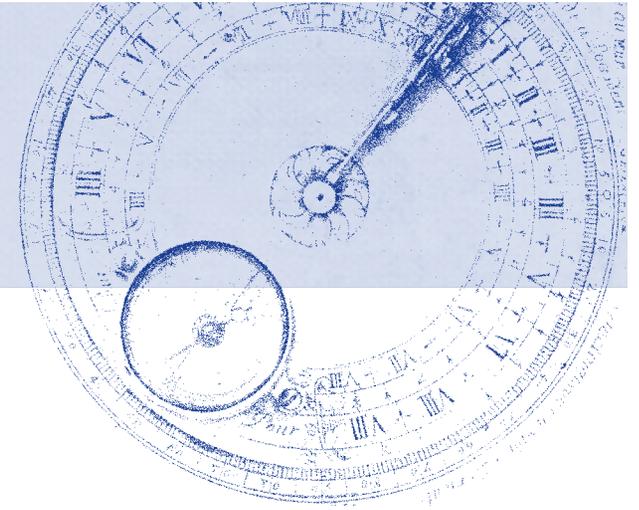
# Medical & Educational • Transit Map



## Legend

Proposed	Existing





## IMPLEMENTATION & NEXT STEPS

# Implementation & Next Steps

Implementation of the Northern Lights Biotechnology/Medical District Framework Plan will require significant administrative effort by the City of North Chicago and coordination with the institutional partners and local and state agencies and officials. Wherever possible the resources of the institutional and community members should be utilized to advance the designation of the North Chicago Biotechnology/Medical District. To this end, the goals and objectives of the District Framework Plan must be well defined, open lines of communication established, and community and institutional member responsibilities clearly outlined.

Implementation of the Framework Plan will require three (3) primary tasks, which include:

**Phase 1:** District Framework Plan Submittal

**Phase 2:** Formation of the Biotechnology/Medical District Commission

**Phase 3:** Preparation of the Biotechnology/Medical District Master Plan

These phases are intended to move the Framework Plan forward through its approval with the City of North Chicago, submittal to the State of Illinois for formal establishment of an Illinois Biotechnology/Medical District, identify and select the initial members of the Biotechnology/Medical District Commission, and initiate the preparation of the required Master Plan for the new District. Upon its completion the Master Plan will become the guiding document to initiate future planning, acquisition, financing, marketing, retention,

attraction, development, and enhancement initiatives throughout the Biotechnology/Medical District.

## Phase 1: District Framework Plan Submittal

Upon completion of the Northern Lights Biotechnology/Medical District Framework Plan, the City should conduct a series of meetings and public presentations to discuss with the community, area stakeholders, and District institutions the goals, objectives, and recommendations outlined within the plan. The meetings should be conducted in a workshop format to allow for presentation of the principal components and recommendations of the plan and more importantly to allow for detailed question and answer sessions between the City and community stakeholders.

To be conducted simultaneously with the public meetings/presentations, the City should solicit the support of their local State of Illinois Senate and House representatives. It is critical to the success of the proposed Biotechnology/Medical District that the community and State representatives clearly understand the benefits provided to the City and northern Illinois by the establishment of the proposed District. Based on the input received during the public presentations and meetings with local State representatives, the City should make any appropriate modifications to the recommendations of the final Framework Plan.

Following completion of the public review process and appropriate plan modifications, the North Chicago City Council should approve a resolution adopting the North Chicago Medical District Framework Plan as the guiding document for establishment of the Northern Lights Biotechnology/Medical District at North Chicago.

The City should work with its State delegation members to draft a legislative bill for the establishment of the official Northern Lights Biotechnology/Medical District at North Chicago. In order for the “Northern Lights Biotechnology/Medical District at North Chicago” to be established, the legislation must delineate the boundaries of the proposed District, define its powers, limitations, and governance structure. The bill must proceed through the State’s normal course of committee hearings and debate on the floor of both chambers and upon passage be signed into law by the Governor.

The enabling legislation for the proposed Northern Lights Biotechnology/Medical District at North Chicago should be submitted to the General Assembly as early as possible within the next legislative session to allow the necessary time for review, discussion, amendments, and approval.





## **Phase 2: Formation of the Biotechnology/ Medical District Commission**

Immediately upon establishment of the District, selection of the Biotechnology/Medical District Commission representatives should be conducted to oversee its operation as per the powers, limitations, and governance structure outlined within the enabling legislation. These powers may include the ability to:

- maintain the proper surroundings for a biomedical center and related technology center;
- attract, stabilize, and retain therein hospitals, clinics, research facilities, and educational facilities;
- provide for the creation, maintenance, relocation, development, and expansion of health care, research, educational, and other ancillary or related facilities in support of the District;
- apply for and accept grants, loans or appropriations;
- condemn and assemble land;
- establish zoning, land use, and transportation master plans; and
- establish and enforce building and development codes.

The members of the Commission are appointed by the City of North Chicago, Lake County Board, and Governor of Illinois proportionately as provided for within the District's enabling legislation. The City, County, and Governors office should begin as soon as possible to identify the proportionate mix of representatives for the District. This will be required to be included in the enabling legislation.

In addition, each selecting entity should begin to identify candidates for their respective positions on the Commission. This will enable the rapid establishment of the operational team for the District following its approval by the Governor.

## **Phase 3: Preparation of the Biotechnology/ Medical District Master Plan**

Among the Commission's initial responsibilities is the preparation of the official Biotechnology/Medical District Master Plan. The Master Plan is official guide to the orderly development of all property within the District.

The Commission should prepare and distribute a detailed Request-for-Qualifications and/or Request-for-Proposals to solicit responses from qualified consultant teams to assist in the development of the Master Plan. Based on the responses received, a short list of three to five consultant teams should be selected to provide a proposal presentation to the District Commission. The presentations should be structured to provide a detailed overview of each consultant team's:

- recommended project approach;
- past experience with Biotechnology/Medical District Master Planning similar to that envisioned for North Chicago;
- key recommendations and implementation methods found to be successful in other medical districts;
- failures of other Biotechnology/Medical District planning efforts and methods to avoid such failures within the North Chicago Biotechnology/Medical District;

- anticipated timelines for the Master Plan development; and
- anticipated costs for the professional fees and expenses.

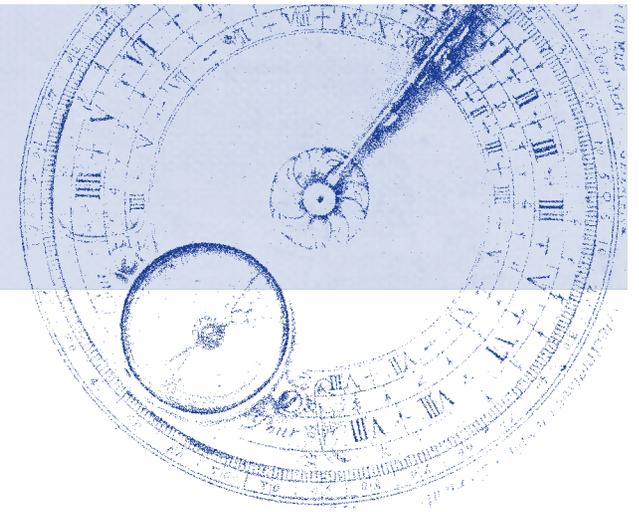
Based on the evaluation criteria established by the Commission and the results of the interview process the consultant team should be selected.

The selected consultant team should immediately undertake the development of a comprehensive, community participation based, master planning process for the District. The purpose of the Master Plan should be to coordinate the planning, development, and decisions of District stakeholders such as to:

- create a recognized and respected medical and biotechnology related district;
- increase the District's operational efficiency through coordinated decision making;
- enhance the sense of organization of and cooperation among District stakeholders;
- strengthen and diversify the City of North Chicago's economic base by the retention and attraction of medical and biotechnology related industries; and
- improve the overall quality of life for District employees, patrons, and visitors.

The Master Plan shall serve as the guiding document to initiate future planning, acquisition, financing, marketing, retention, attraction, development, and enhancement initiatives throughout the area.





# CONCEPT PLAN RENDERINGS

# Commercial & Office Center



# Commercial & Office Center



# Biotechnology Park



# Biotechnology Park



# Regional Commercial Center



# Regional Commercial Center



# Townhome Residential Neighborhood



# Townhome Residential Neighborhood



# Corporate Office / Research Park



# Corporate Office / Research Park



# Mixed-Use Retail, Condominium & Townhomes



# Mixed-Use Retail, Condominium & Townhomes



# Mixed-Use Retail / Office & Adjacent Commercial Center



# Mixed-Use Retail / Office & Adjacent Commercial Center



# Lakefront Townhome & Condominiums



# Lakefront Townhome & Condominiums



# Flextech Business Park



# Flextech Business Park



# Civic Offices



# Civic Offices



# Limitations of Our Engagement

Our report is based on estimates, assumptions and other information developed from research of the market, knowledge of the industry and meetings during which we obtained certain information. The sources of information and bases of the estimates and assumptions are stated in the report. Some assumptions inevitably will not materialize, and unanticipated events and circumstances may occur; therefore, actual results achieved during the period covered by our analysis will necessarily vary from those described in our report and the variations may be material.

The terms of this engagement are such that we have no obligation to revise the report or to reflect events or conditions which occur subsequent to the date of the report. These events or conditions include without limitation economic growth trends, governmental actions, additional competitive developments and other market factors. However, we are available to discuss the necessity for revision in view of changes in the economic or market factors affecting the proposed project.

Our report is intended solely for your information, for use in pursuing the designation of an Illinois Biotechnology/Medical District in North Chicago, and for fulfilling the requirements of any grants which have been used to fund this study. This report should not be relied upon by any other person, firm or corporation or for any other purposes. Neither the report nor its contents, nor any reference to our firms, may be included or quoted in any offering circular or registration statement, appraisal, sales brochure, prospectus, loan or other agreement or any document intended for use in obtaining funds from individual investors.

We acknowledge that our report may become a public document within the meaning of the freedom of information acts of the various governmental entities. Nothing in these terms and conditions is intended to block the appropriate dissemination of the document for public information purposes.

