Lincoln Highway Logistics Corridor Strategic Plan

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AN INITIATIVE OF CONNECTING COOK COUNTY

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List of Acronyms & Terms

3PL	Third-Party Logistics
AAR	American Association of Railroads
Allowable Gross Weight	Allowable Gross Weight is rated based on the ability of railroad track to carry the loaded capacity of a 4-axle rail car. Railroads are upgrading their track to handle 286,000# gross weights, and in some cases 315,000#.
AT	Automated Trucks
ATRI	American Transportation Research Institute
BEA	Bureau of Economic Analysis (United States Department of Commerce)
Branchline	A secondary railway line which branches off a more important through route.
Brownfield	Previously *developed* land that is not currently in use, whether contaminated or not.
BRC	Belt Railroad of Chicago, a terminal switching railroad in Chicago.
BUILT	Broadening Urban Investment to Leverage Transportation (Cook County)
CB&Q Railroad	Chicago Burlington & Quincy Railroad
CBP	County Business Patterns
CCBED	Cook County Bureau of Economic Development
CDBG	Community Development Block Grant
CFW	100 Cubic Feet of Waste
CGMP	Calumet Green Manufacturing Partnership
CHTT	Chicago Heights Terminal Transfer
Class I Railroad	Annual Operating Revenue in excess of $447,621,226
Clearing	Tree, shrub and other vegetation removal
CMAP	Chicago Metropolitan Agency for Planning
CMAQ	Congestion Mitigation and Air Quality
CMD	Centralized Manufacturing District
CN	Canadian National
CNT	Center for Neighborhood Technology
CoStar	A real estate property listing/inventory service
CREOP	Chicago Rail Economic Opportunities Plan
CRISI	Consolidated Rail Infrastructure and Safety Improvement
CSEDC	Chicago Southland Economic Development Corporation
CSX	CSX Railroad
CWS	Carload Waybill Sample
de minimis	Minor or inconsequential environmental conditions
Dedicated Train	A dedicated or unit train moves from one customer to another without intermediate stops. An example would be a coal train moving from a mine in Wyoming to a public utility.
DES	Department of Environment and Sustainability
DCEO	Department of Commerce and Economic Opportunity

DOTH	Department of Transportation and Highways (Cook County)
COD	Cargo Oriented Development
EBDL	Emerging Business Development Loan Program
EDA	Economic Development Administration (U.S.)
E J &E	Elgin, Joliet and Eastern Railroad
EPA	Environmental Protection Agency
EZ	Enterprise Zone
FAA	Federal Aviation Administration
FAF	Freight Analysis Framework
FAST	Fixing America's Surface Transportation
FHWA	Federal Highway Administration
FPDCC	Forest Preserve District of Cook County
FSAC	Freight Station Accounting Code
FTZ	Foreign Trade Zone
GIS	Geographic Information System
Greenfield	Land is undeveloped land in a city or rural area either used for agriculture or landscape design, or left to evolve naturally.
Grubbing	Removal of roots and stumps
GVWR	Gross Vehicle Weight Rating
HUD	Housing and Urban Development
IDOT	Illinois Department of Transportation
IEPA	Illinois Environmental Protection Agency
IHB	Indiana Harbor Belt Railroad, a short line switching railroad
IHS	Information Handling Services (now IHS Global Insight)
ILC	Integrated Logistics Corridor
LCL	Less than Car Load
LEHD	Longitudinal Employee-Household Dynamics
LHLC	Lincoln Highway Logistics Corridor
LTL	Less than truck load
Lump Sum	An all-inclusive price for work, not based on separate parts or measurements
LUST	Leaking Underground Storage Tank
Mainline	Track that is used for through trains or is the principal artery of the system from which branch lines, yards, sidings and spurs are connected
MPO	Metropolitan Planning Organization
MWRD	Metropolitan Water Reclamation District
NAFTA	North American Free Trade Agreement
NAICS	North American Industry Classification System
NCFRP	National Cooperative Freight Research Program
NFR	No Further Remediation
NS	Norfolk Southern Railroad

OAI	Opportunity Advancement Innovation (Workforce Development)
PAB	Private Activity Bond
Passing Siding	A section of track parallel to a through line and connected to it at both ends by switches or turnouts. Passing sidings allow trains to pass one another.
PESA	Preliminary Environmental Site Assessment
PESF	Project Evaluation and Selection Framework
PIN	Property Identification Number
QCEW	Quarterly Census of Employment and Wages
RAC	Residence Area Characteristics
Railroad Interchange	Track or yard where rail cars are transferred from one carrier to another
Rail Weight	Rail weight is rated based on the weight of a three-foot section of track. For modern track, 115# to 136# is standard, anything less is considered "light"
Railroad Yard	A grouping of connected tracks used to sort and build trains
REC	Recognized Environmental Condition
Reciprocal Switching	An industry term for switching railroad cars between a local facility and the nearest interchange with a connecting railway, where the railroad performing the reciprocal switch does not participate in the line haul of the railroad.
Regional Railroad	Regional railroads are line-haul railroads below the Class I revenue threshold that operate at least 350 miles of road and earn at least $20 million in revenue, or earn revenue between $40 million and the Class I revenue threshold regardless of mileage
Scraped	The removal of buildings and brush from a lot for sale/development
SCTG	Standard Classification of Transported Goods
Spur Track	A length of track for industrial storage or switching.
SRP	Site Remediation Plan
SSMMA	South Suburban Mayors and Managers Association
STB	Surface Transportation Board
STCC	Standard Transportation Commodity Code
Switching or Terminal Railroads	Local railroads include freight railroads which are not Class I or Regional. The Local railroad category can be further subdivided into local line haul carriers and switching & terminal carriers. This latter category is composed of railroads which primarily provide switching and/or terminal services for other railroads.
TCBSD	Thorn Creek Basin Sanitary District
TEERM	Temporary Emergency Economic Recovery Modification
TIF	Tax Increment Financing
TDL	Transportation Distribution and Logistics
Transload	The trans-shipment of dry or liquid bulk materials using trucks to deliver the first and last mile. Typical unpackaged products include plastic pellets, resins, coal, aggregates, sand, ore, petroleum, food, lumber, agriculture, cement and other
TRB	Transportation Research Board
Turnout	A switch necessary to allow a track vehicle to move from one track to another.

UPRR	Union Pacific Railroad
UPDS	Union Pacific Distribution Services
USACE	US Army Corps of Engineers
USEPA	US Environmental Protection Agency
VMT	Vehicle Miles Traveled
WAC	Workplace Area Characteristics

1.0 Literature Review

1.1 Introduction

1.1.1 Purpose

Cook County has identified potential economic development sites in the south suburban Chicago communities of Chicago Heights, Ford Heights, and Sauk Village. These sites are located near Lincoln Highway (US 30) roughly between Chicago Road (IL 1) on the west, Glenwood-Dyer Road on the north, Torrence Avenue on the east, and Sauk Trail on the south. The Canadian National Railway (CN), the Union Pacific Railroad (UP), CSX Transportation, and access-controlled highways (IL 394) are adjacent to or near each of these sites. They are collectively in an area known as the Lincoln Highway Logistics Corridor.

The Lincoln Highway Logistics Corridor Strategic Plan seeks to identify the best opportunities for investing in the future of these communities and for redeveloping existing vacant or underused industrial sites to elevate them to their "highest and best use" and to spur their economic growth. It seeks to help Cook County leverage existing rail infrastructure, consolidate similar industrial sites, and ensure easy access to the area's expressway network to tap this Corridor's full potential. This study therefore requires an understanding of the region's supply chain and the necessary locational factors needed to attract industrial development. To achieve its goals, Cook County has had its consultants complete a literature review, determine the area's strengths and weaknesses, analyze the competitive landscape, interview industry stakeholders, analyze cargo movements, evaluate the aforementioned sites, create a financial plan, and develop a strategic plan.

Section 1 completes this study's first task, the literature review. In this review, the consultants have investigated how industries that rely on or supply rail services to industrial sites choose their operating locations. They also have identified obstacles and opportunities for putting vacant or abandoned rail-adjacent sites into productive use.

Previous IDOT funded freight and economic development studies including "Drilldown on Innovation, Workforce and Infrastructure 2013[1] and Chicago Southland's Green TIME (Transit, Intermodal, Manufacturing, Environment) Zone[2] in the region have confirmed private investor/developer interest in locations providing:

1. Proximity and/or access to key markets to reduce transit time;
2. The efficient movement of goods from origin to destination with more than one modal alternative;
3. Access to competitive labor markets;
4. A return to the urban core and adaptive reuse;

[1] Drilldown Report on Innovation, Workforce and Infrastructure, CMAP, 2013, accessed 2017 http://www.cmap.illinois.gov/documents.

[2] Chicago Southland's Green TIME Zone, Center for Neighborhood Technology (CNT), 2010.

5. Appropriate zoning, compatible land use, transportation infrastructure, and community support; and
6. Lower overall operating costs.

The literature review begins the investigation determining to what extent these criteria hold true for the Lincoln Highway Logistics Corridor and what other considerations may impact location decisions.

1.1.2 Organization

The consultants provide a broad overview of the industrial site selection process from a small set of academic and business sources in Section 1.2 (National Perspective) to begin setting the stage for investigating the LHLC's specific sites. The consultants reviewed the nationally sourced site selection criteria developed in the recent Transportation Research Board's (TRB's) National Cooperative Freight Research Program (NCFRP) report on selecting sites for freight facilities and a second NCFRP report synthesizing freight research in urban transportation planning[3]. They augment this with a discussion on site selection from Cook County's Long Range Transportation Plan4 and the Chicago Railroad Economic Opportunity Plan (2011)[5] to view this issue from Cook County's perspective. They also analyze the ten criteria from NCFRP Report 13, apply them to the Lincoln Highway Logistics Corridor, and organize this section's findings using the NCFRP framework. The consultants also address the well-accepted concept of Cargo-Oriented Development (COD) and examine its core features with the goal of linking them to a successful Lincoln Highway Logistics Corridor effort.

In Section 1.3 (Railroad Precertification for Industrial Sites), the consultants briefly review the concept of precertification criteria used by the freight railroads to evaluate industrial sites for potential rail access. They next analyze the potential for these criteria to be applied to sites in the Lincoln Highway Logistics Corridor.

Section 1.4 (Site Selection by Industry Sector) presents a first pass on site selection by industry sector, focusing on manufacturing and logistics, based on a recent logistics study in Michigan[6]. Parson Brinckerhoff's (now called WSP's) freight and logistics team conducted this study, which encompasses industrial site selection and acquisition, as well as considerations for public agencies on industrial attraction. One of the Michigan study's deliverables became several chapters for NCFRP Report 13. Section 1.4 analyzes site selection criteria for two manufacturing and two logistics sectors in relations to the Lincoln Highway Logistics Corridor. This section also serves as a springboard to site selection screening and refinement which will take place later in this study.

Section 1.5 uses five freight facility examples relevant to the Lincoln Highway Logistics Corridor to identify successful strategies related to rail connections, transloading, and "green" environmental approaches.

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[3] National Cooperative Freight Research Program Report 23 – Synthesis of Freight Research in Urban Transportation Planning, 2013.
[4] Cook County Long Range Transportation Plan Volume 2-Chapter 4, Project Evaluation and Selection Framework (PESF), Cook County DOTH 03-10-2017.
[5] Chicago Railroad Economic Opportunity Plan (CREOP), IHS Global Insight et al, 2011.
[6] Logistics and Supply Chain Asset Study, Michigan Economic Development Corporation, Parsons Brinckerhoff Study, March 2015.

Section 1.6 (Findings and Recommendations) summarizes the site selection criteria and organizes them into a framework to analyze known obstacles and opportunities for putting vacant, underused, or abandoned rail-adjacent sites in the Lincoln Highway Logistics Corridor into productive use.

1.1.3 Approach

During their research, the consultants discovered several salient points that are highly important to the Lincoln Highway Logistics Corridor. These points can serve as guiding principles in site selection since they are common across all the literature reviewed.

- **Each Site is Unique** – Each candidate site for industrial rail-served logistics investment differs from all others and requires a customized approach.
- **Each Site must be Multi-Modal** – while rail-served sites are the focus of the Lincoln Highway Logistics Corridor, any potential investor understands the critical role that rail, truck, and intermodal access play in site selection.
- **Commodity/Goods Focus is Critical** – the Lincoln Highway Logistics Corridor succeeds by not attempting to serve all manufacturing and logistics sectors. Rather, identifying existing, scalable businesses that connect manufacturers to end users and that connect new suppliers to growing businesses is a more strategic approach.
- **Leveraging Existing Resources is Key** – the Lincoln Highway Logistics Corridor currently has a solid set of regional planning, financial, and manufacturing programs as well as funding at its disposal. Wisely leveraging these resources will be the key to success.
- **Industry Cluster Strategy is Needed** – the Lincoln Highway Logistics Corridor is currently home to a number of fabricated metal and machinery operations, plastics manufacturers, commercial vehicle/ parts sales and repair shops, and warehousing and distribution facilities. These existing industry clusters are in place; leveraging and expanding them to potential new products and/or services is the goal.
- **Technology Plays a Powerful Emerging Role** – the Lincoln Highway Logistics Corridor is poised to profit from emerging technology in the form of automated freight movement, transfer, security, and other supporting technologies. This technology effectively amounts to a new freight mode. Study partner Mi-Jack Products, Inc., is poised to help identify the most promising technologies and their application to the Lincoln Highway Logistics Corridor.

This literature review relies on all the information available at a national level for general site selection criteria, a small set of academic and business trade journal reviews, the Michigan Logistics Report, Cook County's Long-Range Transportation Plan's Project Evaluation and Selection Framework criteria, and the Chicago Rail Economic Opportunities Plan. The consultants shall use this information to create a framework to determine how to best leverage the Lincoln Highway Logistics Corridor's assets.

1.2 National Perspective

1.2.1 Trends in Freight Movement

The transportation and logistics fields are dynamic. Recent trends in the United States are important to understand since future freight development in the Lincoln Highway Logistics Corridor needs to respond to them. They include the following:

- **De-Globalization of Production**: Near-shoring (the return of production from overseas to nearby locations such as Mexico) and on-shoring (the return of production to the U.S. itself) have increased in recent years. Long supply chains involving sites in Asia have proved to be unreliable, requiring retailers to carry greater inventory or risk losing business. Asian labor costs have also been rising.

  The Lincoln Highway Logistics Corridor's is positioned at or near the Union Pacific, Canadian National, and Burlington Northern Santa Fe's "NAFTA" connections, which provide direct access to the south and southwest. This location provides opportunities to serve the automotive industry, where new facilities may be built or planned in Mexico, among others. It also enhances the Lincoln Highway Logistics Corridor's ability to serve industries using the expanded Panama Canal[7] and Post-Panamax vessels.

- **E-Commerce**: Due to the growth in e-commerce, fulfillment centers have been supplanting traditional regional distribution centers. Retailers use fulfillment centers to store items that are separately picked and sent to individual customers. Since fulfillment centers serve many individuals, they are located close to regional population centers. Regional distribution centers, on the other hand, store cases or bulk shipments that are typically sold to retailers who divide these cases or bulk shipments into smaller quantities that are then sold to individual customers in stores. Regional distribution centers need to be near highways and other major roads to have access to the retailers they serve and therefore do not have to be located near any particular regional population center.

  E-Commerce as a system works with continuous optimization of freight modes, which creates opportunities for logistics-related development in areas with access to multiple modes of transportation. Illinois benefits from these conditions, and thus several e-commerce companies such as Amazon are active here. According to the Trade & Industry Development journal, Amazon, Intersect Illinois, and the Illinois Department of Commerce and Economic Opportunity announced that Amazon plans to open two fulfillment centers in Aurora, Illinois[8]. These facilities are expected to add more than 1,000 additional full-time jobs with benefits to the state. The company currently has fulfillment centers operating in

[7] *http://www.morethanshipping.com/how-the-panama-canal-expansion-will-impact-u-s-ports-and-freight-traffic/, accessed January 2017.*

[8] *http://www.businesswire.com/news/home/20161219006336/en/Amazon-Expand-Illinois-Fulfillment-Centers-1000-Full-Time, accessed January 2017.*

Edwardsville, Joliet, and Romeoville with another fulfillment center under construction in Monee[9].

- **Energy Revolution**: Hydraulic fracturing, commonly referred to as "fracking", and horizontal drilling created new short- and long-haul rail and truck patterns roughly between 2010 and 2014[10]. The nation's energy infrastructure had been configured to process imports at coastal locations and distribute inland, and the fracking boom effectively turned that supply chain inside out, with supplies flowing from the central U.S. to coastal processing facilities. At one point, the growth in production suggested that shale gas might comprise 35-40% of all available gas in the U.S. by 2035. In recent years, however, oil and gas prices have continued to hit lows that have severely affected the shale industry.

- **Technology**: Rapid advances in research and testing of connected and automated vehicles, including trucks[11], could dramatically impact nearly all aspects of the trucking industry. A fully autonomous truck could have the ability to identify, interact with, and safely react to all aspects of the driving environment without a driver in control of the wheel. Theoretically, these aspects include, but are not limited to, weather conditions, road types, and unexpected events such as work zones and traffic accidents. As a result, drivers may need to adapt to new training requirements or operational responsibilities, overall logistics operations may become faster and more productive, and federal regulations could be dramatically altered to accommodate a new driving environment.

  Truck automation is by no means the only emerging technology that will impact the Lincoln Highway Logistics Corridor. Innovative systems in the design and operation of intermodal and transload facilities already enable freight container and bulk shipment transfers with fewer and more precise movements, resulting in cost, energy, space, and time efficiencies. Space efficiencies may be particularly important for the Lincoln Highway Logistics Corridor, given the relatively small size of industrial sites here compared to greenfield locations in Will County and elsewhere. Mi-Jack is an industry leader in developing these technologies, and is located just outside the LHLC in nearby Hazel Crest, IL.

  New technologies can also help reduce the environmental impacts and costs of logistics operations. This is especially important for industrial districts located adjacent to residential communities. U.S. Environmental Protection Agency (EPA) standards, for example, now mandate cleaner truck engines than engines manufactured before 2016[12]. Standards that are scheduled to go into effect in 2024 will further reduce some harmful emissions by approximately 25% over current standards. These standards may substantially reduce air pollution from mobile sources in the Lincoln Highway Logistics Corridor if it can be shown that the truck fleet in the study area contains a high percentage

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[9] http://www.tradeandindustrydev.com/industry/logistics-warehousing-distribution/news/il-amazon-expand-again-il-2-more-fulfillment-cent-0, accessed January 6, 2017.

[10] The Impact of Fracking on Freight Distribution Patterns, the Center for Freight and Infrastructure Research & Education (CFIRE), Mark Abkowitz, Vanderbilt University, 2016.

[11] "Identifying Autonomous Vehicle Technology Impacts on the Trucking Industry", American Transportation Research Institute (ATRI), J. Short and D. Murray, November 2016.

[12] News Release from EPA "EPA and DOT Finalize Greenhouse Gas and Fuel Efficiency Standards for Heavy-Duty Trucks", August 16, 2016. https://www.epa.gov/newsreleases/epa-and-dot-finalize-greenhouse-gas-and-fuel-efficiency-standards-heavy-duty-trucks-0.

of older trucks defined as those built prior to 2007 and if there is a program to aid the replacement of these older trucks. Air quality improvements are already being achieved for truck fleets serving the ports of Los Angeles-Long Beach and Houston. As an example, the Port of Long Beach's Clean Trucks Program has reduced air pollution from harbor trucks by more than 90 percent in a little over three years. In 2012, the program banned permanently the last remaining older, more polluting trucks from Port terminals. Today, virtually all of the 17,000 active drayage trucks servicing the Port terminals are 2007 or newer models. Currently, 45% were built after 2010, with a positive trend heading towards 50% by the end of 2017.[13]

Similarly, new engine technologies are available for the rail industry. Genset, electric hybrid, or fully electric technologies are increasingly powering switcher engine locomotives, dramatically reducing emissions in what has traditionally been among the most polluting aspects of rail operations. Illinois manufacturers produce at least two engine options for these locomotives. The Chicago Metropolitan Agency for Planning has invested Congestion Mitigation and Air Quality (CMAQ) funds in recent years to subsidize the purchase of these engines–a precedent that could be followed in the Lincoln Highway Logistics Corridor. Switcher engine locomotives with these technologies could provide carload service to new rail-served sites in the Lincoln Highway Logistics Corridor.

The South Suburban Mayors and Managers Association, with Northern Illinois University, has installed dozens of miles of fiber optic cable along key transportation corridors in the Southland and now seeks additional funding to lay fiber optic cable in the Lincoln Highway Logistics Corridor. This project seeks to speed up the transmission time of large amounts of data since third party logistics (3PL) companies may need this capacity. Other existing businesses could benefit from fiber-optic access, as well as new firms locating in the area. Further, this infrastructure also may significantly improve the feasibility of operating autonomous trucks via vehicle-to-vehicle or vehicle-to-infrastructure systems.

Applicability to the Lincoln Highway Logistics Corridor: Trends in freight movement provide opportunities for the Lincoln Highway Logistics Corridor. De-globalization of production provides opportunities for manufacturing and logistics workers to locate in the study area. E-commerce at the residential and commercial level is growing with the Lincoln Highway Logistics Corridor and is positioned to serve wide markets in the region. Energy changes with a potential rebirth of shale oil drilling in 2017 and beyond may require rail transport and affect overall freight mode choice throughout the U.S. Vehicle and manufacturing technology "robotics" is a powerful driver that will replace some workers and drive the need for a new category of knowledge workers in manufacturing and logistics. The South Suburban Mayors and Managers Association and the Center for Neighborhood Technology, with RW Ventures and the development of Cook County's Strategic Plan for Economic Development in the Southland, is preparing a proposal to the U.S. Economic Development Administration (EDA) for a business plan to establish a "Center for Smart Logistics". This plan would pilot the application of autonomous and energy-efficient trucking in freight facility to distribution center/factory applications in the Southland, including the Lincoln Highway Logistics Corridor.

[13] *The Port of Long Beach Clean Trucks Program, http://www.polb.com/environment/cleantrucks/, accessed November 2017.*

1.2.2 Economic Background of Site Selection

This section contains a brief introduction to classical economics and an overview of a small set of academic and business sources that touch on site selection criteria. At this stage, the specific notion of "rail-served" industrial sites will be set aside. The section seeks to create a first cut master list and identify any criteria that do not appear in other literature sources.

1.2.2.1 Classical

The classical economics of Adam Smith[14] and David Ricardo[15] identify three basic resources or factors of production: land, labor, and capital. All three of these are simultaneously required to produce a commodity. Their writings discuss the distribution of cost and value among these three factors.

- Land or natural resources — naturally occurring goods like water, air, soil, minerals, flora, and fauna that are used to create products. The land owner's payment for use and received income is rent.
- Labor — human effort used in production which also includes technical and marketing expertise. The payment for someone else's labor and all income received from one's own labor is wages. Labor can also be classified as an employee's physical and mental contribution to the production of goods.
- Capital stock— human-made goods used to produce other goods. These include machinery, tools, and buildings.

Applicability to the Lincoln Highway Logistics Corridor: Basic economic theory is consistent with existing conditions in the Lincoln Highway Logistics Corridor. The three resources needed for production are present in the study area. Much of the Lincoln Highway Logistics Corridor's available land has additional costs related to remediation, adding to the cost of purchase, rent, or site preparation. Labor and capital stock are readily available.

1.2.2.2 Industrial Site and Situation Factors

In a recent review[16], and well understood in the business arena, industry seeks to minimize production costs to maximize (capitalize) profits. The two geographical costs that are active are situation and site. Situation factors involve transporting materials to and from a factory or other industrial site. Industry seeks a location that minimizes the cost of transporting inputs to the factory and finished goods to consumers. Site factors result from a location's unique characteristics. Land, labor, and capital are the three traditional production factors that vary across locations.

Situation Factors: Industries locate near inputs to take advantage of certain natural resources and to reduce or increase bulk. By moving near an input, industries can reduce their product's bulk and transportation costs. An example is copper, which is in a bulk-reducing industry where the

[14] *Smith, Adam, "An Inquiry into the Nature and Causes of the Wealth of Nations", 1776.*
[15] *Ricardo, David, "Principles of Political Economy and Taxation", 1817.*
[16] *Fotovatian, Magie, "Industrial Site and Situation Factors", 2010.*

final product weighs less than the input. By locating the processing plant near the mines, industries can minimize their transportation costs.

Industries also locate near markets to decrease transportation costs for bulk-gaining industries, where a product gains volume or weight during production. An example is canned foods, where it is cheaper to send tin cans to a canning plant a few miles away from the major market center.

A break-of-bulk point is a location where transfer among transportation modes is possible. Manufacturers look for these when they are determining a site so that they can minimize air, rail, ship, or truck transportation costs.

Site Factors: Industries use Alfred Weber's least cost theory[17] which emphasizes that firms seek sites with minimum transportation and labor costs. They look at three costs: transportation costs, labor costs, and agglomeration. To Weber, transportation was the most important cost factor. Manufacturers try to locate near their buyers and sellers to reduce transportation costs and try to minimize the costs of transporting raw materials to their factories.

Industries will be willing to locate somewhere where they can hire people who will work for lower wages because their jobs are unskilled. If cheaper labor compensates for transportation costs, a firm will locate further away but only far enough from the market to get cheap labor.

Agglomeration occurs when industries locate near each other to reduce costs. Each factory will in some ways share costs. If things get too expensive because too many factories want to locate in the same area (e.g. increasing rents), deglomeration will occur.

Applicability to the Lincoln Highway Logistics Corridor: The Lincoln Highway Logistics Corridor is well-placed. It has access to water and power resources, raw goods (e.g. metals, chemicals, and foodstuffs given its Midwestern location), and convenient highway and rail access. The Lincoln Highway Logistics Corridor is also close to population centers in and near Chicago and to shipping facilities to bring the finished goods to market.
The Lincoln Highway Logistics Corridor is also close to skilled labor pools.
The Lincoln Highway Logistics Corridor definitely profits from agglomeration with respect to similar industries such as metal manufacturing, plastics, and chemical production.

1.2.3 Business Background of Site Selection

In "An Analysis of Industrial Location Factors," Peter Djing Kioe Djwa lists the following industrial location factors[18] that have value for businesses:

1. Markets
2. Labor
3. Materials and Services
4. Transportation
5. Government and Legislation
6. Financing

[17] *Weber, Alfred, "Über den Standort der Industrie" Theory of the Location of Industries" 1909.*
[18] *Djing Kioe Djwa, Peter, "An Analysis of Industrial Location Factors", University of British Columbia, 1960.*

7. Water and Waste Disposal
8. Power and Fuel
9. Community Characteristics
10. Individual Sites

These factors expand the previous economic discussion and begin the process of investigating rail-served industrial sites.

1.2.3.1 Industrial Real Estate Advertisements

Commercial industrial location services websites and their publications can also provide guidance on what industries are looking for when selecting sites. The website of an industrial real estate firm that specializes in rail-served sites[19], for example, uses the following to describe several available sites:

- Prices
- Lot size
- Building size
- Zoning
- Benefits (e.g. rail spurs with the number of linear feet, rail sidings for transloading, a particular railroad, and the number and size of truck bays
- Latest tenant (showing that the site is clean)
- Large flat and level site
- Security - night watchman's home on the property

1.2.3.2 The 5 C's for finding the Right Site

Strategic planning for industrial rail-served site selection can also profit from looking at well understood business criteria. The five C's[20] in a current business article can provide guidance (These are generally quoted from the cited article.):

- Cost of buying or leasing land, office equipment, communications, wages, training, taxes, and IT infrastructure, and remediation
- Capacity (worker expertise and pipeline) to supply the workforce
- Capability – presence of specific manufacturing or engineering skills and expertise that a company explicitly needs, as well as a sufficiently sophisticated work and operational environment. This includes nearby research and development, design, testing, and prototyping centers that foreign and local companies establish, and reliable infrastructure, such as robust communication lines, sufficient power and energy supplies, and modern transportation systems. Companies that seek high capabilities should look for the presence of innovation clusters — interconnected firms with skilled expertise for a given industry — targeted at their line of business.
- Communications – language and information sharing

[19] *NAI Maestas & Ward, 'Rail-Served Industrial Sites", Industry-Way-57152.pdf, https://www.gotspaceusa.com/wp-content/uploads/2016/02/Industry-Way-57152.pdf, Jim Wible, Keith Meyer accessed April 2017.*
[20] *"The Five Factors for Finding the Rights Site", Ajay Chamania, Heral Mehta, and Vikas Sehgal, https://www.strategy-business.com/article/10403?gko=e029a, accessed May 2017.*

- Culture – the location's ability to attract talent, measured by the accessibility of airlines, railroads, and highways; macroeconomic factors such as the level of political stability, inflation, and governmental policies supporting research and development; and quality of life. Quality of life includes a high standard of living, quality schools, safety, low pollution levels, moderate climate, entertainment, and the presence of an expatriate community. Many European companies, such as Volkswagen, Siemens, Faurecia, and ABB, have established research and development centers in eastern Europe, although costs are higher there than in other developing countries. The lure is primarily cultural: a shared history in some cases, the same or nearby time zones as that of their headquarters, and excellent transportation infrastructure.

Applicability to the Lincoln Highway Logistics Corridor: The five C's in this article echo some of the major findings from academic and other business research.

- Cost of land leads the list in screening criteria. It suggests that remediation and readiness of parcels in the Lincoln Highway Logistics Corridor is a high priority. Companies want move-in ready properties.
- Workforce is key. The Lincoln Highway Logistics Corridor is near a skilled and generally available manufacturing workforce.
- Culture (or shared background) is also a factor in site selection. The Lincoln Highway Logistics Corridor has a cluster of similar manufacturing firms that provide value in the Lincoln Highway Logistics Corridor.

1.2.4 National Cooperative Freight Research Program Site Selection Criteria by Facility Type

This section draws upon the framework established in the Transportation Research Board's National Cooperative Freight Research Program (NCFRP) Report 23, called "Freight Facility Location Selection". This report establishes freight facility categories and describes the key criteria that the private sector considers when making decisions about where to locate new logistics facilities.

The total cost environment is often cited as the most important criteria in site selection. It includes freight and logistics costs, labor costs, utilities, facilities costs, taxes, and remediation (brownfields and other). The cost of launching operations includes investigating and remediating brownfields to mitigate risks.

Establishing the framework that the NCHRP Report uses requires an understanding of seven logistics facility types: distribution centers, ports, intermodal terminals, bulk or transload terminals, hub terminals, city terminals, and integrated logistics centers.

- Distribution centers take several forms, but all fill the role of storing and facilitating the movement of goods to their final destination.
- Sea and air ports are key facilities for domestic shipping as well as rail and road interfaces for imported and exported goods.

- Intermodal terminals, in their purest form, include freight facilities that allow for the movement of truck trailers and marine, truck, or air containers between modes (e.g., road and rail, rail and maritime, and road and air).
- Bulk or transload terminals are receiving and distributing facilities for lumber, grain, concrete, petroleum, aggregates, and other such bulk products.
- Hub terminals are carrier-operated facilities whose principal function is intramodal re-sorting and re-consolidating of inbound into outbound load sets for continuation in intercity line haul.
- City terminals are carrier-operated facilities whose chief functions are the intramodal (e.g., truck to truck) sorting and consolidation of load sets between intercity line haul and local pickup and delivery, as well as the management of pickup and delivery services to customers.
- Integrated logistics centers (ILCs) or "freight villages" are a relatively new freight facility type. They are industrial parks or mixed use developments specifically built around high performance freight servicing facilities.

The Lincoln Highway Logistics Corridor is likely an integrated logistics center (ILC) because of the current interplay between its transportation, distribution, and logistics (TDL) facilities and producers/shippers. The Lincoln Highway Logistics Corridor also has commonalities with distribution centers, intermodal, and bulk or transload facilities.

Integrated logistics centers frequently feature substantial multimodal freight infrastructure such as an intermodal or hub terminal at their heart. They include a full portfolio of activities relating to transport, logistics, and the production and distribution of goods for national and international transport. Assembly and manufacturing operations are accommodated alongside distribution, and the latter may include such specialized functions as parts banks that require immediate access to non-stop line haul transportation. Integrated logistics centers are claimed as examples of "Smart Growth" for manufacturing and logistics, because they are usually densely laid out, feature efficient logistics operations, strive for environmental gains, and interface with the local community.

Siting decisions for integrated logistics centers must address all parties in the mixed-use setting, including manufacturers, the shippers/receivers of goods, and the freight carrier. Integrated logistics centers are hybrid developments, surrounding a set of core transportation assets with industrial facilities. Consequently, they are designed for and are selected by manufacturers, shippers, and carriers. The operating mission that drives site selection must serve all users. In providing service, these parties are intent on economical design in their operating systems, assuring high performance at low cost. The decision factors they use to determine their site preferences are complex and vary according to facility type.

Table 1-1: Site Selection Criteria by Facility Type identifies such differences to the location decision across ten components. It can be considered a preliminary listing. The Lincoln Highway Logistics Corridor Strategic Plan uses the same ten site selection criteria, discusses their relevance to the study area as an Integrated Logistics Center, and adds locally relevant points to some of them. Missing at this early stage is a focus on the specific commodities, manufactured goods, and trade partners of Lincoln Highway Logistics Corridor businesses as well as planned development or industrial expansion.

Table 1-1: Site Selection Criteria by Facility Type

Location Criteria	Type of Logistics Facility						
	Distribution Center	Port	Intermodal Terminal	Transload Terminal	ILC	Hub Terminal	City Terminal
Ability to Access Key Markets or Customers	●	◑	●	●	●	◑	●
Interaction with Transportation Network	●	●	●	●	●	●	●
Labor and Workforce	◑	●	◑	◑	◑	◑	◑
Total Cost Environment	◑	●	◑	◑	◑	●	◑
Availability and Cost of Suitable Facilities	○	○	○	◑	○	◑	●
Utilities	○	○	○	○	◑	○	○
Permitting and Regulation	○	○	◑	◑	○	○	○
Tax Environment	○	◑	○	○	○	○	○
Public Sector Assistance and Incentives	○	○	○	○	◑	○	○
Climate and Natural Hazards	○	◑	○	○	○	◑	○

Key
Priority of Criteria: ● Primary Factor ◑ Important Factor ○ Lesser Factor

Source: National Cooperative Freight Research Program Report 13 - Freight Facility Location Selection: A Guide for Public Officials, 2011

1.2.4.1 Ability to Access Key Markets or Customers

The ability to access key markets or customers is a **Primary Factor** to the Lincoln Highway Logistics Corridor for all facility types under consideration. Freight facilities exist to provide the means of processing and moving goods from an origin to a destination. Origin and destination types may vary with the origin being the source of the raw materials or a manufacturing plant. The destination type is often the ultimate consumer of the goods. Freight facilities select locations that are efficient to optimize time and save money. According to the National Cooperative Freight Research Program study, access to key markets seeks to: 1) deliver goods with speed and precision that matches or exceeds the competitive standards in the market; and 2) establish a set of logistics costs that will prove as low as possible within the delivery standards. In short, access translates into minimizing operating time and monetary costs.

Applicability to the Lincoln Highway Logistics Corridor: The Lincoln Highway Logistics Corridor lies in a central location to serve Southland Chicago – a ten-mile radius that includes Tinley Park, Calumet City, Oak Forest (Illinois), and Hammond and Munster (Indiana). It also lies approximately 25 miles from downtown Chicago with easy access to I-80. In 2015, 41,800 daily trucks traversed I-80 just east of the I-94 Bishop Ford interchange and 16,800 daily trucks traversed the north-south I-94 Bishop Ford Expressway, just north of the I-80 interchange. IL-394 provides north-south access to the Lincoln Highway Logistics Corridor. Cook County will extend Joe Orr Road to the Indiana State Line providing future access.

Often overlooked are the resources and knowledge needed to keep trucks efficiently moving in a region of over 9.4 million people. Numerous businesses providing truck supplies and maintenance are located in the Lincoln Highway Logistics Corridor. Manufactured metal and plastic goods businesses whose suppliers and clients are often other manufacturing firms are also located in the Lincoln Highway Logistics Corridor. All these firms must be connected to shippers via truck or rail. The Lincoln Highway Logistics Corridor provides direct access to local business-to-business customers and ready transport options to areas further afield.

1.2.4.2 Interaction with the Transportation Network

This criterion is a **Primary Factor** to the Lincoln Highway Logistics Corridor for all facility types under consideration. In addition to the importance of being close to customers and markets, good access to the transportation network is a primary driver for site selection. The nature of this interface depends on the facility type and the markets to be served. It is rare that access to a single freight mode suffices. When seeking sites, industrial manufacturing or logistics companies normally have a transportation access plan in place that is consistent with their performance and cost requirements. The goal is to locate near key interface points in the transportation system such as major highways, the convergence of multiple interstate highways, freight rail terminals, and/or major seaports and airports. There are site-level considerations in addition to those at the market level. Sites with good transportation access may face community or other site-related issues preventing its effective use.

Applicability to the Lincoln Highway Logistics Corridor: The Lincoln Highway Logistics Corridor study is examining rail-served site development. However, very few rail-served facilities can survive without trucks. Manufacturers can have railroads deliver their raw materials but depend on trucks to distribute their finished goods.

The Lincoln Highway Logistics Corridor has excellent highway and rail access. IL-394, a north-south access-controlled, four-lane highway provides highway access to/from the Lincoln Highway Logistics Corridor to I-80 (east-west) and I-57 (north-south). The Lincoln Highway Logistics Corridor also has access to the Canadian National (CN), Union Pacific (UP), and CSX Class I railroads.

The Canadian National Intermodal facility is in Harvey approximately six miles north of the Lincoln Highway Logistics Corridor. The Union Pacific Intermodal Facility is in Dolton, approximately 10 miles north of the Corridor. A planned intermodal facility in Crete will lie on the CSX line approximately five miles south of the Corridor.

The Chicago Heights Terminal Transfer (CHTT) Railroad, a Union Pacific subsidiary, is a unique industrial loop railroad providing access to industrial properties in Chicago Heights. The age and condition of the rail infrastructure in the Lincoln Highway Logistics Corridor may be an issue, given changes over time in Class I railroad locomotive size and turning radius. The rail right-of-way is an asset in and of itself. The consultants shall review the possible impact of CREATE projects on the Lincoln Highway Logistics Corridor later in this report.

1.2.4.3 Labor and Workforce

Labor and Workforce is an **Important Factor** to the Lincoln Highway Logistics Corridor for all facility types under consideration. Within the manufacturing and logistics industries, labor and workforce corresponds to the availability of suitable personnel to staff a facility. Freight facilities can require a wide variety of talents depending upon the facility's exact nature, from unskilled laborers to skilled manufacturing specialists to IT/inventory specialists and engineers. Often, the number and type of workers employed in an integrated logistics center are small in comparison to the workforce of the manufacturing, wholesaling, and industrial service companies that are likely to co-locate with that facility. A strategic plan such as the one to be developed for the Lincoln Highway Logistics Corridor should therefore include an assessment of the job opportunities and workforce training needs associated with a comprehensive freight-linked industrial development strategy.

In evaluating locations, companies often first examine data from the U.S. Bureau of Labor Statistics and the Bureau of Economic Analysis regarding overall employment for a region or community. This information can indicate the community's overall labor market health and may also help indicate the general level of labor costs and workers' industry-specific occupational readiness. A key factor is the area's education infrastructure, including both the population's base educational attainment and the availability of follow-on training programs to fill specific requirements. Prospective freight businesses may request specific education and training information from the local government or economic development agency.

The presence or absence of a labor union within a region or a specific industry may also be a factor. Specific industries already expect to work with unionized labor; the union provides training and

some support to the local labor force and acts as an easily identifiable party that can readily represent labor in negotiations. On the other hand, some prospective businesses will actively work to avoid unionization and use location as part of an overall strategy to lessen the risk of their workforce becoming organized. The Lincoln Highway Logistics Corridor has the added complexity of its proximity to the Illinois-Indiana border. Generally speaking, Indiana's labor force has similar skills to Illinois, making Indiana a potentially attractive site for industry location since workers are mobile and generally have no issue crossing the state border for work. Propensity towards union membership is cited in the literature as a potential site-selection criterion. A preliminary look at 2016 labor statistics[21] shows that union membership for private manufacturing and construction workers in Illinois (18.4%) and Indiana (17.0%) are relatively close. In summary, the proximity to Indiana is a likely benefit to a Lincoln Highway Logistics Corridor industrial site. More investigation into workforce differential will be provided in this study's Strengths and Weaknesses Section.

Applicability to the Lincoln Highway Logistics Corridor: The Lincoln Highway Logistics Corridor has access to a skilled workforce in Illinois and Indiana. The Ford Motor Co. Stamping Plant in Chicago Heights is a manufacturer of sheet metal stampings and welded sub-assemblies for Ford Motor Company's automotive car and truck assembly plants since 1956. It employs over 1,300 people and typifies the workforce strength of the Lincoln Highway Logistics Corridor.

Partnerships with training programs at Prairie State, South Suburban, and Olive-Harvey Community Colleges provide a feeder line of skilled workers to the study area. The Calumet Green Manufacturing Partnership (CGMP) trains workers for manufacturing jobs in Southland factories, including plants in the Lincoln Highway Logistics Corridor. The workforce development organization OAI operates this program, which was founded in 2013 through a research project that the South Suburban Mayors and Managers Association and the Center for Neighborhood Technology undertook. The Calumet Green Manufacturing Partnership works closely with the Southland community colleges. It has placed over 200 newly trained Southland residents in skilled industrial jobs in more than 30 Southland manufacturing plants/facilities. It continues to rapidly grow.

A review of current trade journals optimistically forecasts strong career opportunities for manufacturing of all types with a key point being training particularly as it relates to emerging manufacturing technology and robotics.

1.2.4.4 Total Cost Environment

Total cost environment is a **Primary** Factor to the Lincoln Highway Logistics Corridor for all facility types under consideration. Guidance from the national site selection investigation pointed to this criterion as being of the highest importance. Companies develop comprehensive models to estimate the relative costs of doing business in each candidate location or scenario. The total cost of doing business in each location is naturally balanced against other operational factors, but it is a

[21] *http://www.unionstats.com/, Index of Tables, 2016 Union Membership and Coverage Database from the CPS, accessed 2017.*

key step. Having an estimate on the magnitude and type of costs streamlines the negotiation process with the local government or economic development agency. Key cost factors include:

- Freight and logistics costs
- Labor costs
- Utilities
- Facilities costs
- Taxes
- Remediation (brownfields and other).

Industrial real estate specialists[22] are an important source of expert advice on the subject of total cost environment for various types of industrial companies. However, also of high importance are analyses that demonstrate that freight and logistics costs frequently exceed facility and tax costs, even in a high-tax environment such as Cook County[23]. Manufacturers, warehousing, and retailers are becoming more sophisticated when it comes to their distribution and supply chain network, emphasizing the total cost of delivering goods, instead of a race to pay the lowest rent or purchase cost possible for a potential site.

Applicability to the Lincoln Highway Logistics Corridor: Cook County and other stakeholders have performed much preliminary work to bring the Lincoln Highway Logistics Corridor to the current point of interest and investment. In preliminary investigations, the consultants have identified a dozen or more potential candidate sites in the study area. Costs include land, environmental remediation, site preparation, and any freight rail retrofit. The identification and costing of a technology node or transfer corridor within or serving the Lincoln Highway Logistics Corridor could play an important part in attracting investment and attention to the study area.

1.2.4.5 Availability and Cost of Suitable Facilities

Availability and the cost of suitable facilities is a **Lesser** Factor to the Lincoln Highway Logistics Corridor for all facility types under consideration. National research shows that real estate availability and cost are typically not prime drivers for the location decision process, although an optimal facility in the right location can help enable selection decisions once the site satisfies other key strategic criteria. Even when facility cost is low, lack of other site needs can impede progress or remove a site/community from consideration. NCFRP Report 13 states that typical freight users investigating building availability or the space to construct buildings of a particular size already have developed specific requirements in mind. They are looking for particular building envelopes; layouts; ceiling heights; numbers of loading docks; floor loading limits; utility feeds; refrigerated spaces; purchase, rent, and operating costs; and/or other attributes depending upon their specific requirements. Alternatively, groups may search for land near specific transportation points or other partners. They determine plot sizes, possible layouts, prices, geologies, soils, hydrology, and other requirements, and seek parcels meeting these needs.

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[22] http://businessledger60.1upprelaunch.com/Content/Commercial-Real-Estate/Commercial-Real-Estate/Article/Goldfish-e-commerce-and-industrial-real-estate/24/90/18157, *Adam Roth, Senior Vice President, NAI Hiffman, industrial brokerage.*

[23] *Freight Train to Community Prosperity: Metrics for the Integration of Community Economic Development and Efficient Freight Movement, Center for Neighborhood Technology, October 2015.*

Industrial siting efforts review the availability of nearby operations to support their own manufacturing and freight activities. Operations such as bulk and transload facilities may collaborate on purchasing services or financing infrastructure. Site availability differs based on the type of freight logistics facility. As already stated, the presence of multiple modes for moving freight – rail lines and terminals, intermodal facilities, truck routes and terminals, ports and the like – are critical to the Lincoln Highway Logistics Corridor redevelopment process since they give prospective businesses alternative modes for moving goods.

Applicability to the Lincoln Highway Logistics Corridor: As noted in the overall cost category (Section 2.4.4), extensive preliminary work has been performed to bring the Lincoln Highway Logistics Corridor to the current point of interest and investment. Eight candidate sites have been identified between Joe Orr Road on the north, Sauk Trail on the south, IL 394 on the east, and IL 1 on the west. Each site has the potential to be rail-served as well as have truck access. The overriding goal to re-use existing buildings (some of which may be rehabilitated to meet current industry standards) and vacant commercial property. There are available and coterminous land parcels/clustering opportunities in the Lincoln Highway Logistics Corridor which can be used to leverage freight and industrial opportunities.

1.2.4.6 Utilities

Utilities are a **Lesser** Factor to the Lincoln Highway Logistics Corridor for all facility types under consideration. While the capacity of electric, natural gas, water, sewer, and other utilities (e.g. broadband) does not drive warehouse, distribution center, and intermodal facility location strategy as much as for other uses (e.g. data centers and manufacturing), the group making the site selection decision will still wish to ensure that utility capacity exists and is reliable and cost-effective. Power reliability is as important as power cost. Local utility availability and costs are usually determined through conversations with the local economic development agencies and utility providers.

Applicability to the Lincoln Highway Logistics Corridor: A full utilities inventory is included as one of the tasks in the overall Lincoln Highway Logistics Corridor strategic plan and ranking of sites. The South Suburban Mayors and Managers Association has worked with regional utility companies to extensively map utility infrastructure networks in the Southland, including the Lincoln Highway Logistics Corridor. For security reasons, these maps are only available on a need-to-know basis for economic development purposes and are available to this study. As noted earlier, the South Suburban Mayors and Managers Association seeks to extend its program of installing fiber optic cable along transportation corridors to sites under consideration in the study within the Lincoln Highway Logistics Corridor.

1.2.4.7 Permitting and Regulation

Permitting and regulation is a **Lesser** Factor to the Lincoln Highway Logistics Corridor for all facility types under consideration. Local, state and federal permitting and regulations impact how a group can implement their plans for a particular site and can also impact their timeline. Having industrial zoning status as well as compatible adjacent land uses is key to the permitting process and successful redevelopment of the Lincoln Highway Logistics Corridor as a freight corridor. According to NCFRP Report 13, fire codes, land use regulations, traffic regulations, zoning, and operating hour regulations all impact a freight facility location's feasibility. Officials' interpretation of codes and regulations can have a decisive effect on a facility's ability to function as planned. A potential site under consideration for a new freight or industrial use should lie within an area that has developed land use, transportation and zoning plans which explicitly permit and support these facilities. Groups view willingness to provide a clear permitting and regulatory path as a positive force.

Applicability to the Lincoln Highway Logistics Corridor: The Lincoln Highway Logistics Corridor team has finished identifying a small set of candidate industrial properties with the affected municipalities. Many of these are brownfields. The affected municipalities have completed extensive work independently and collectively with the South Suburban Mayors and Managers Association to characterize brownfield conditions within their jurisdiction. The brownfield regulatory issue is closely tied with the highly important total cost environment criteria (Section 2.4.4).

A secondary regulatory issue is related to the potential new industrial facilities' operating hours. The Lincoln Highway Logistics Corridor's existing manufacturing and freight facilities benefit from land use generally separated from residential uses. The consultants will glean additional information on operating hours and unusual permitting/regulations from their interviews with industries in the Lincoln Highway Logistics Corridor. Of note in the freight support area is the successful TDL FedEx Freight facility on Joe Orr Road in Chicago Heights, which operates on a standard 8 a.m. to 6 p.m. schedule.

1.2.4.8 Tax Environment

The tax environment is a **Primary** Factor to the Lincoln Highway Logistics Corridor for all facility types under consideration. All categories of taxes - income, sales, real estate, and property - significantly affect the cost environment for manufacturing and freight facilities. In northeastern Illinois, the cumulative tax burdens for industrial companies, including the costs of worker compensation, need to be compared to those in Indiana and Wisconsin. The tax environment of neighboring states may well be a factor in a Lincoln Highway Logistics Corridor site's attractiveness.

Property taxes are chief among the local components of the overall tax burden. Effective property tax rates can vary by more than 100% from one Southland community to another, based on the tax base's strength. In the Southland, land prices vary widely, based to a significant extent on different municipalities' tax rates. Commercial realtors in the area, frequently working with the South Suburban Mayors and Managers Association and the economic development staff of Southland municipalities, are familiar with a number of tax abatement programs available through Cook County and municipal governments, options for the creation of tax increment financing (TIF) districts, and other mechanisms to mitigate tax burdens that would otherwise make development projects infeasible. The Lincoln Highway Logistics Corridor team is dedicated to the concept of adaptive reuse/remediation of urban land, a goal the Corridors' local governments also embrace. Although multiple factors have tended to drive freight development farther out in the region, the Southland stands ready to build and locally grow the freight sector. The Lincoln Highway Logistics Corridor freight study keeps the criterion of growing the municipal tax base.

Applicability to the Lincoln Highway Logistics Corridor: When considering the tax burdens of industrial companies in the Lincoln Highway Logistics Corridor, this study must be pragmatic and follow the lead of the highly involved local governments, developers, and firms currently operating in the area. Taxes in the Lincoln Highway Logistics Corridor change based on the boundaries of various taxing districts, particularly school districts, which routinely cross municipal boundaries. Thus, it is not possible to cite a "municipal tax rate" other than on a specific property. The taxes applicable to specific sites under consideration in the study must be assessed relative to other Southland and Indiana locations. To the extent that tax rates are a disincentive to redevelopment, the study could recommend tax abatements, along with other types of public sector assistance, to reduce excessive tax burdens.

1.2.4.9 Public Sector Assistance, Support, and Incentives

The NCHRP study sets public sector assistance, support and incentives as "Important", which is of less impact to site selection than is the category "Primary". Public sector assistance, support and incentives are, however, a **Primary** Factor to the Lincoln Highway Logistics Corridor for all facility types under consideration. Public sector assistance in the forms of tax credits, grants, low-cost loans, training programs, utility discounts, and infrastructure development can address specific location shortcomings and can be used to close the gap between candidate locations. Specific incentive programs can include:

- Tax concessions or exemptions, such as the waiving of sales tax on building materials in an enterprise zone
- Loans and loan guarantees
- Employee tax credits
- Wage subsidies
- Land subsidies or grants
- Property tax abatements – Class 8 industrial abatement
- Utility rate reductions
- Targeted infrastructure improvements
- Improved transit service/connections
- Enterprise Zones
- Foreign Trade Zones (FTZ)
- Tax Increment Financing (TIF)/Special Service Area (SSA)/Business Improvement District (BID)
- Inventory tax reduction
- Expedited permitting and approvals
- Extended operating hours
- Environmental improvements (e.g. brownfield assessment/cleanup, cleaner locomotives/trucks, buffers to residential areas, and LED lights that don't reflect into adjoining properties)
- Workforce development and screening
- Zoning and building code policy

In the National Cooperative Freight Research Program study, freight companies and carriers stated that local strategies of building speculative infrastructure, public terminals, and warehouses cannot work without understanding how these directly address operating economics and forecasted market demand. A follow-on task of this Lincoln Highway Logistics Corridor Strategic Plan is a commodity flow analysis, built out of observed business information from study area businesses. Partnerships with and commitments from railroads, trucking companies, municipalities, trade consortiums, and others often drive successful freight facilities.

Applicability to the Lincoln Highway Logistics Corridor: The Lincoln Highway Logistics Corridor study team's long-term commitment to this and other freight projects in the region shows that public sector assistance is in place and can be built upon. A short list of deeply committed sponsors and partners includes the South Suburban Mayors and Managers Association (SSMMA), Cook County, the Chicago Metropolitan Agency for Planning (CMAP), the Center for Neighborhood Technology (CNT) and the Mi-Jack Corporation. Through the work of these partners and others, a program to support the development of sites within the Lincoln Highway Logistics Corridor is likely to include the following components:

- Illinois Enterprise Zone (EZ): Through a competitive process, the State of Illinois designates areas of up to 15 square miles as enterprise zones. A variety of State economic incentives are available within these zones to companies including elimination of sales tax on materials purchased for the construction of places of employment and certain types of equipment, a reduction of .5% of the State corporate income tax, further tax abatements for new business developments that employ threshold levels of employees, an option for accelerated depreciation of certain types of assets, and other benefits. Currently, most of the industrially zoned land in the Lincoln Highway Logistics Corridor is included in the "Lincoln and 394 Corridor Enterprise Zone". This enterprise zone status may expire at the end of 2019. If this expiration date is confirmed, the municipalities of the Lincoln Highway Logistics Corridor must collectively apply to renew their enterprise zone during 2017 to have the best chance of succeeding in the competition to designate an enterprise zone.
- Cook County Class 6B Tax Abatement: This abatement dramatically lowers the assessed value of industrial property, on which the tax rate is based, by up to 50% for up to 12 years, and might be renewed.
- BUILT in Cook County: Cook County established this program so that businesses may borrow funds at lower interest rates and with otherwise more favorable terms than would be available through conventional business lending. The State of Illinois has programs with similar benefits.
- Assistance in Brownfields Assessment or Abatement: Virtually any previously used industrial property in Northeastern Illinois must undergo professional assessment to determine if there is environmental contamination. If such contamination is discovered, a "Letter of No Further Remediation" must be secured from the Illinois EPA, stating that the contamination has been acceptably remediated before any institution will finance development on the property. The South Suburban Mayors and Managers Association's Brownfield Revolving Loan Fund or various federal EPA programs may help local industries assess and remediate brownfield conditions.
- Targeted infrastructure improvements to support industrial and transport distribution logistics (TDL) districts.
- Land Bank Involvement: When property is not generating income during the early and mid-phases of the redevelopment process, it may be useful to have a not-for-profit entity specifically chartered for this purpose to hold the property on a tax-exempt basis in the public interest. The South Suburban Land Bank and Development Authority or the Cook County Land Bank may hold land in this way within the Lincoln Highway Logistics Corridor.
- Other: Additional mechanisms such as the creation of tax increment finance district (TIF) or the application of any of several types of tax credits may also be used in the redevelopment of Lincoln Highway Logistics Corridor properties.

1.2.4.10 Climate and Natural Hazards

Climate and natural hazards are a **Lesser** Factor to the Lincoln Highway Logistics Corridor for all facility types under consideration. Business interruption risks are tied to trends in climate and natural hazards. All candidate sites for industrial or freight development have some form of natural hazard risk which is useful to understand and evaluate prior to site (or regional) selection. Thorough screening involves development of appropriate recovery plans.

Applicability to the Lincoln Highway Logistics Corridor: Climate and natural hazards are present in the Lincoln Highway Logistics Corridor as in all of Illinois. An inventory should consider whether the Lincoln Highway Logistics Corridor sites under consideration were designated as distressed property in the flooding related to the "Ike" storm of 2013, when extensive areas of southern Cook County were declared affected parts of a disaster area. It should also be considered that flooding is among the more likely types of disasters to affect southern Cook County's generally low lying areas. In this regard, all developments in Cook County must meet standards of capacity to retain rainwater that the Metropolitan Water Reclamation District of Greater Chicago (MWRD) established. Measures to meet these requirements and establish further resilience against flooding may be built into development projects through the environmentally friendly methods of "green infrastructure". The Center for Neighborhood Technology or other organizations in the region may be able to provide advice and other help on this matter.

Although the ten national criteria for successful freight-related site selection are valuable and relevant to the Lincoln Highway Logistics Corridor, they must be examined using local knowledge of the corridor to be useful to this project. For example, the Lincoln Highway Logistics Corridor has the advantage of being a site with a history of parties interested in this corridor and in other freight-ready properties in the Southland. The region has also been the recipient of award-winning national research including the CNT "Freight Train to Community Prosperity" work cited above and several Transportation Research Board papers related to energy, freight metrics and logistics[24]. An overview of these and other efforts is given in the next section. Several Center for Neighborhood Technology-developed criteria are added to the national set to address site selection in the Lincoln Highway Logistics Corridor, including local economic development, freight system efficiency, and environmental impact.

1.2.5 Chicago Rail Economic Opportunities Plan Criteria and Findings

In 2010, the City of Chicago completed its Chicago Rail Economic Opportunities Plan (CREOP)[25], which lists characteristics for successful rail-served industrial site selection in Chicago. This plan reviewed five sites located across Chicago and tabulated information on each site's total acreage, available buildings, likely use, job potential, tax potential, and shovel readiness. It also researched and identified each site's key issues and the best city policies to advance the site. Some of the issues that this plan mentioned were demolition costs, selecting the most tax intensive uses, preparing a preliminary or detailed site plan, finding a rail partner, finding a suitable user for a

[24] *Incorporating Energy Criteria in Intermodal Transportation Policy Decisions, Zumerchik, Lanigan & Rodrigue, Transportation Research Record, Volume 1522, 1996.*
[25] *Chicago Railroad Economic Opportunity Plan (CREOP), IHS Global Insight et al, 2011.*

special use building, and addressing a $12.5 million remediation fee on a single site and/or the possible risk of litigation. Some of the policies this plan discussed included developing TIF/tax abatement scenarios, working with Class I railroads, and supporting business retention and expansion. In the case of a site requiring remediation, the best city policy may not be evident until the remediation is complete. Some of these issues and policies are valuable in the context of site selection since they present tactical points transferrable to the Lincoln Highway Logistics Corridor.

The Chicago Rail Economic Opportunities Plan also addressed specifics of site characteristics for rail-based development that are consistent with Lincoln Highway Logistics Corridor goals. The research identified the following screening questions:

1. Is a rail siding present?
2. What are the existing and projected traffic volumes along the serving rail line?
3. What are the expected volumes for the new industry?
4. Is there adequate yard capacity to support service to a new customer?
5. What is the proximity and ease of access to the interstate highway system?

Applicability to the Lincoln Highway Logistics Corridor: A Chicago-area rail study has identified a set of criteria to evaluate five candidate sites for rail-served industry. Although the criteria generally echoed other those found in other studies, the following items emerged: estimating demolition costs, preparing a preliminary or detailed site plan, finding a rail partner, finding a suitable user for a special use building, and preparing for litigation. The Chicago Rail Economic Opportunities Plan also looked closely at the questions that need to be posed with respect to rail – Is a siding present? What are adjacent rail volumes? Is adequate yard capacity available?

1.2.6 Cargo-Oriented Development (COD) Metrics

The Center for Neighborhood Technology first developed the Cargo-Oriented Development (COD)[26] concept, which the municipal members of the South Suburban Mayors and Managers Association formally adopted as key to their economic development strategy. The municipal members have successfully applied this concept to brownfield redevelopment, transportation projects, and the Lincoln Highway and IL 394 Illinois Enterprise Zone application and implementation strategy.

Cargo-oriented development integrates freight system efficiency with the development of manufacturing and logistics businesses in ways that drive local economic growth, reduce poverty, improve the environment, and promote public safety. This development almost always takes place within existing communities.

Cargo-oriented development has the following characteristics:

- Freight facilities are located in industrial districts that include a mix of manufacturing and distribution businesses. These freight facilities readily serve a two-way function, carrying

[26] *Freight Train to Community Prosperity: Metrics for the Integration of Community Economic Development and Efficient Freight Movement, Center for Neighborhood Technology, October 2015.*

imported and finished goods into cargo-oriented development sites and carrying out products from nearby manufacturers for foreign and domestic distribution.

- Compact development patterns minimize truck travel distances and encourage market shifts to more efficient modes. The close proximity of domestic manufacturers to freight nodes also facilitates high-value cargo movement in each direction to help balance product flows.
- Workers can use public transit to reach industrial districts and/or publicly supported training programs to become qualified for jobs near their homes.
- Public and private infrastructure investments connect freight terminals to rail and highway networks. These investments minimize freight movement through non-industrial areas, ensure efficient freight movement through industrial districts, and enhance reliability. Reducing the neighborhood's contact with freight vehicles enhances public safety and improves the efficiency of freight movement.
- Public sector programs that incentivize private investment in innovative technologies enable freight operations in cargo-oriented developments to proceed with maximum efficiency in space, time, and costs with minimum generation of air, water, noise, or light pollution.
- Public policy and investment support of site predevelopment in existing industrial districts place development costs at these locations on a level playing field with construction at greenfield sites.

To assess the feasibility and performance of cargo-oriented development projects, the Center for Neighborhood Technology developed the metrics shown in Table 1-2 below. These metrics build upon the previously discussed time and cost elements cited in the National Cooperative Freight Research Program report while introducing a number of environmental site selection criteria. They seek to link network and site-specific freight industry investments with public economic development initiatives. While many freight facilities and nearby industrial developments incorporate some cargo-oriented development characteristics, few capture all or even most of them.

Table 1-2: Cargo Oriented Development Metrics Overview

A. Local Economic Development	B. Freight System Efficiency	C. Environmental Impact
Industrial Location Efficiency	Truck and System Productivity	Air Quality
Access for Manufacturers	Travel Time and Reliability	Water Quality
Job Creation and Career Paths	Drayage and Terminal Operations	Noise Level
Worker Transportation Access	Right-sized Shipping	Lighting
Public Costs and Revenues		Regional Land Use
D. Safety (Affecting All Metrics)		

Source: Center for Neighborhood Technology

Clear parallels exist between NCFRP Report 13 and the Center for Neighborhood Technology's cargo-oriented development approach. Conceptually, the National Cooperative Freight Research Program criteria focus on business decisions while the cargo oriented development approach focuses on business decisions and worker and community benefits.

Applicability to the Lincoln Highway Logistics Corridor: The cargo-oriented development concept expands the criteria for and targeted goals of a proposed freight facility. This study's focus therefore expands to include regional and local benefits such as transit access for workers and a freight facility's environmental footprint.

At the systems planning level, cargo-oriented development is concerned with freight efficiency at a multimodal level as well as regional land use efficiency based on remediation and reuse of industrial infill urban sites. Aside from its intrinsic usefulness, cargo-oriented development is the formally adopted and practically followed strategic development policy of the Lincoln Highway Logistics Corridor municipalities. Cook County has also adopted this policy. Cargo-oriented development implementation supports the adoption of innovative technologies such as those Mi-Jack Corporation[27] has developed. It creates a win-win synergy that brings cutting edge technology into the planning and execution of proposed rail-served industrial sites in the Lincoln Highway Logistics Corridor.

1.2.7 Cook County Long Range Plan Freight Improvement Metrics

Chapter 4r of the Connecting Cook County Long Range Transportation Plan's technical report establishes a Project Evaluation and Selection Framework (PESF) that helps the Cook County Department of Transportation and Highways (DOTH) prioritize freight, transit, bicycle/pedestrian, and roadway improvements. This framework's measures on freight-related road and railroad projects echo several Center for Neighborhood Technology metrics, particularly environmental benefits, that are not seen elsewhere. They are based on the following criteria and questions:

- Economic Development/Opportunity – Will the freight network improvement enhance existing jobs? Are they close to existing industries? Will it grow jobs?
- Accessibility/Reliability – Can the freight network improvement make jobs more accessible for low to moderate income households? Does it involve rebuilding at-grade crossings to reduce motorist delays?
- Safety – How will the freight network improvement perform on a number of measures related to road intersections that affect trucks?
- Land Use – Will the freight network improvement potentially serve vacant industrial land near a freight facility (potential cargo-oriented development)?
- Environmental benefits – Will the freight network improvement relieve traffic congestion or mitigate delay?

[27] *Huynh, Nathan and John Zumerchik, "Analysis of Stacking Priority Rules to Improve Drayage Operations Using Existing and Emerging Technologies", Transportation Research Record, 2010.*

Applicability to the Lincoln Highway Logistics Corridor: The transportation project evaluation framework for freight that was developed as part of the Cook County Long Range Transportation Plan has value in developing site selection metrics for the Lincoln Highway Logistics Corridor. The Lincoln Highway Logistics Corridor's industrial development would likely satisfy all five Cook County freight evaluation factors with high marks in economic development, access to jobs, land (re)use and environmental benefits.

1.3 Railroad Pre-Certification for Industrial Sites

The Canadian National (CN), Union Pacific (UP), and CSX are the three Class I railroads that lie within the Lincoln Highway Logistics Corridor. The CSX is the only railroad which listed its pre-certification criteria, a comprehensive map, descriptions of existing rail-served facilities, and other guidance on its website.

The pre-certification process is a rigorous technical and regulatory analysis that allows CSX to determine whether it can quickly implement freight rail service to a particular site. This process gives potential industrial users assurance that a site can have direct freight service in a short timeframe. Pre-certified sites are marketed for industrial development and expansion as CSX Select Sites©[28]. To receive this designation, CSX Select Sites© need to meet a rigorous list of key criteria, including, but not limited to:

- land control
- infrastructure and utility availability
- environmental and cultural reviews
- wetland delineation
- appropriate zoning and entitlement
- rail serviceability
- proximity to highways or interstates
- other location attributes and due diligence criteria.

Candidate sites for this pre-certification program must have between 100 to 1,000 developable acres, attractive characteristics for industrial end-users, and no "red flags" or barriers to quick development. These sites must also lie within communities that are committed to attracting new industrial operations.

The Lincoln Highway Logistics Corridor, which features the Chicago Heights Terminal Transfer Railroad (CHTT), also needs to understand the role of the short line and terminal railroads in the study area. Some of these issues include:

- The terminal railroad's ownership and potential collaboration
- The railroad track's condition, and
- The railroad's suitability to present-day locomotives.

[28] *CSX Select Site Criteria https://www.csx.com/index.cfm/customers/industrial-development/search-property-types/csx-select-sites/, accessed December 2016.*

Finally, rail-served industry in the Lincoln Highway Logistics Corridor requires research into access requirements for mainline, branch, or terminal rail lines. Locations on busy rail mainlines must be equipped with extensive running track and high speed switches so that trains can enter or exit the mainline at speed. It is far less costly to construct industrial access on low density rail branch lines. Later study efforts are set to review the rail lines in the Lincoln Highway Logistics Corridor to assess the likely cost of rail access based on railroad requirements for these corridors.

Applicability to the Lincoln Highway Logistics Corridor: The CSX precertification process is relevant to the Lincoln Highway Logistics Corridor in several ways. First, a parcel in the study area could be assembled and pitched to CSX as a candidate for their portfolio of "certified" rail-served sites, although the cost and the loss of local control are factors arguing against this path. Second, the CSX criteria can be tabulated and compared to those from other sources to assemble a master list. This comparison shows that the CSX Select Sites does indeed turn up several new criteria for industrial rail-served development: cultural review, wetland delineation and rail serviceability. The CSX Select Sites also notes an important overall criterion: due diligence. Inclusion and some planned use of the existing Chicago Heights Terminal Transfer Railroad and an understanding of access requirements for all three Class I railroads for mainline, branch, or terminal are also needed.

1.4 Site Selection by Industry Sector

This section examines site location requirements by industry using detailed, specific, and measurable criteria. The information presented is based on the recent Michigan Logistics Asset Economic Development Study, which has helped stakeholders identify and/or prepare sites for industries in areas such as heavy manufacturing, general manufacturing, food processing, or high tech manufacturing. The Michigan study further subdivided these broad categories into subcategories. For each of these subcategories, the Michigan study identified sixteen criteria based on business data tailored for that specific type of industry that are required to attract these industrial users. The criteria included minimum land requirements, security, various modes of transportation access, and the availability of various utilities. The consultants provided values for each of these criteria and applied them to each site's attributes to determine whether it could attract the aforementioned industrial users and/or identify what still needs to be done to attract these users.

This study's consultants adapted the Michigan study's tables below to pre-screen the Lincoln Highway Logistics Corridor for suitability for various sectors of the manufacturing and logistics industries. Businesses in both of these categories already exist within the Lincoln Highway Logistics Park Corridor. This study's consultants selected the subcategory "Machinery Manufacturing" for the larger Heavy Industrial/Manufacturing category, "Plastics Manufacturing" for the General Manufacturing category, "Auto Parts Distributor" for the Logistics Service Sector—Industrial Distribution category, and "Truck Terminal" for the Logistics Service Sector—Modal Facility category.

Industry-specific site location requirements allow closer analysis of specific criteria not examined earlier in this report, such as: minimum acreage, required population within a given radius, and distance to highway access (in miles). However, the site selection criteria are limited; cost, for

example, is not included. Acreage of a suitable size may be available, but would require significant brownfield remediation. Thus, these tables are helpful but need to be blended with the ten National Cooperative Freight Research Program Report criteria and local knowledge to prepare the final screening criteria, barriers, and opportunities.

1.4.1 Manufacturing Facility Site Selection

Heavy Industrial/Manufacturing and General Manufacturing are respectively addressed in Tables 4-1 and 4-2 below. These types of industries currently operate in the Lincoln Highway Logistics Corridor. The general manufacturing profile of the Lincoln Highway Logistics Corridor includes bulk processing, chemicals, metals, plastics, and transportation equipment.

Table 1-3 shows that the Lincoln Highway Logistics Corridor generally meets Heavy Industrial/ Manufacturing industry location requirements. The Corridor has several contiguous developable plots of land that are at least 25 acres with achievable site security. The population within an hour's drive is significantly more than the 30,000 indicated as necessary. The required pool of workers with appropriate skill sets is also available in the region. Pace bus route #357 serves the area and connects the Lincoln Highway Logistics Corridor with Metra Electric commuter rail service. The Lincoln Highway Logistics Corridor is also close to a supplier/vendor base both in south Cook County and Cook County in general. From the infrastructure side, suitable highway, intermodal, rail siding, cargo express (FedEx) and international access are all available. However, convenient port access is not available. Utilities including water, sewer, and electric capacity are likely sufficient. Fiber-telecommunications are not yet universally available in the Lincoln Highway Logistics Corridor.

Table 1-3: Industry Location Requirements – Heavy Industrial/Manufacturing
Example: Machinery

Location Requirement	Value	Available in Lincoln Highway Logistics Corridor?
Continuous Developable acres	Minimum of 25 acres	Yes
Security	Manageable at site	Yes
Population within a one-hour drive	Greater than 30,000	Yes
Public transit	Accessible	Yes
Skills	As defined by specific industry	Yes
Other economic network	Proximity to supplier/vendor base	Yes
Highway access	Interstate, SH or major arterial within 10 miles	Yes
Intermodal rail access	Within 100 miles	Yes
Rail siding	Preferable	Yes
Air access	Cargo express	Yes
Port access	Bulk B/B & project	No
International Access	Canada / Global connection	Yes
Water Flow (GPD)	36,000	Likely Sufficient
Sewer Flow (GFD)	32,500	Likely Sufficient
Electricity	1.0 MW	Likely Sufficient
Telecom	Fiber-telecomm highly preferred	No

Source Table: Investment Consulting Associates & Parsons Brinckerhoff, 2015

Table 1-4 moves from heavy to general manufacturing. It shows that the Lincoln Highway Logistics Corridor meets most of the industrial location requirements for general manufacturing. Since general manufacturing requires less minimum acreage than heavy manufacturing, more candidate locations are available for general manufacturing within the Lincoln Highway Logistics Corridor.

Table 1-4: Industry Location Requirements – General Manufacturing
Example: Plastics

Location Requirement	Value	Available in Lincoln Highway Logistics Corridor?
Continuous Developable acres	Minimum of 10 acres	Yes
Security	Manageable at site	Yes
Population within a one-hour drive	Greater than 30,000	Yes
Public transit	Accessible	Yes
Skills	As defined by specific industry	Yes
Other economic network	Proximity to supplier/vendor base	Yes
Highway access	Interstate, SH or major arterial within 20 miles	Yes
Intermodal rail access	Within 100 miles	Yes
Rail siding	Preferable	Yes
Air access	Cargo express	Yes
Port access	Bulk B/B	No
International Access	Canada / Global connection	Yes
Water Flow (GPD)	17,000	Likely Sufficient
Sewer Flow (GFD)	15,500	Likely Sufficient
Electricity	0.5 MW	Likely Sufficient
Telecom	Fiber-telecom highly preferred	No

Source: Investment Consulting Associates & Parsons Brinckerhoff, 2015

The Lincoln Highway Logistics Corridor has suitable highway, intermodal, rail siding, cargo express (FedEx), and international access. It also does not have convenient port access. Utility requirements are lighter than that for heavy manufacturing and are likely sufficient. The Lincoln Highway Logistics Corridor delivers all the requirements for both heavy and general manufacturing with the caveat that utilities require review on a parcel-by-parcel basis during site selection.

1.4.2 Logistics Facility Site Selection

This section addresses two freight logistics sectors: Industrial Distribution and Freight Modal Facility. These two types of logistics facilities have a close relationship with facilities currently operating in the Lincoln Highway Logistics Corridor. The Lincoln Highway Logistics Corridor is home to a number of support industries for auto and truck manufacturers, including the Ford Motor Company Stamping Plant in Chicago Heights and Applied Acoustics International (AAI), a Tier 1 supplier of noise, vibration, and harshness (NVH) solutions to the North American automotive industry. It also has a FedEx Facility in Chicago Heights that does less than load (LTL) deliveries, a resource for nearby freight modal facilities. Table 1-5 and Table 1-6 evaluate the Lincoln Highway Logistics Corridor point by point.

Table 1-5 shows that the Lincoln Highway Logistics Corridor generally meets the location requirements for subcategory Auto Parts Distributors of the larger Industrial Distributors category. The Corridor has several contiguous developable plots of land that are at least 25 acres with achievable site security. The population within a one-hour drive is significantly more than the 20,000 indicated as necessary. Pace bus route #357 provides public transit to the area and connects the Corridor with Metra Electric train service. The required pool of workers with appropriate skill sets is available in the region. The Lincoln Highway Logistics Corridor and south Cook County are close to end markets, with clusters of metal, plastic, and value-added product manufacturers, including transit vehicle manufacturers and auto assembly plants. Truck maintenance and repair are also important functions in the Lincoln Highway Logistics Corridor. From the infrastructure side, suitable highway, intermodal, rail siding, cargo express (FedEx) and international access are all available. However, convenient port access is not available. Utilities including water, sewer, and electric capacity are likely sufficient. Fiber-telecommunications are not yet universally available in the Lincoln Highway Logistics Corridor.

Table 1-5: Logistics Services Sector – Industrial Distribution
Example: Auto Parts Distributor

Location Requirement	Value	Available in Lincoln Highway Logistics Corridor?
Continuous Developable acres	Minimum of 25 acres	Yes
Security	Manageable at site	Yes
Population within a one-hour drive	Greater than 20,000	Yes
Public transit	Accessible	Yes
Skills	As defined by specific industry	Yes
Other economic network	Proximity to end markets	Yes
Highway access	Interstate, SH or major arterial within 5 miles	Yes
Intermodal rail access	Within 100 miles	Yes
Rail siding	Preferable	Yes
Air access	Cargo express	Yes
Port access	NA	No
International Access	Canada / Global connection	Yes
Water Flow (GPD)	11,500	Likely Sufficient
Sewer Flow (GFD)	11,500	Likely Sufficient
Electricity	0.5 MW	Likely Sufficient
Telecom	Fiber-telecomm highly preferred	No

Source: Investment Consulting Associates & Parsons Brinckerhoff, 2015

Table 1-6 shows that the Lincoln Highway Logistics Corridor generally meets the location requirements for Truck Terminals, a subcategory of the larger Modal Facilities category. The Corridor has several contiguous developable plots of land that have at least 25 acres with achievable site security. The population within an hour's drive is greater than the 200,000 that is minimally required. The region also has the required pool of workers with appropriate skillsets. Pace bus route #357 provides public transit to the area and connects the Corridor with Metra Electric train service. The Lincoln Highway Logistics Corridor is less than one mile to IL 394. Utility requirements appear sufficient.

Table 1-6: Logistics Services Sector – Modal Facility
Example: Truck Terminal

Location Requirement	Value	Available in Lincoln Highway Logistics Corridor?
Continuous Developable acres	Minimum of 15 acres for medium, 25 for hub or large LTL	Yes
Security	Manageable at site	Yes
Population within a one-hour drive	Greater than 200,000	Yes
Public transit	Accessible	Yes
Skills	Basic logistics, driver, material handling, technician	Yes
Other economic network	Ability to serve immediate region	Yes
Highway access	Interstate, SH or major arterial within 1 mile	Yes
Intermodal rail access	As defined by mode	Can be developed
Rail siding	As defined by mode	Yes
Air access	Variable	Yes
Port access	Variable	No
International Access	Variable	Yes
Water Flow (GPD)	10,000	Likely Sufficient
Sewer Flow (GFD)	10,000	Likely Sufficient
Electricity	Depends on specific functions. At least 1.0 MW	Likely Sufficient
Telecom	Fiber-telecomm highly preferred	No

Source: Investment Consulting Associates & Parsons Brinckerhoff, 2015

Other modal facility access criteria depend on the primary freight mode selected for investment. If the truck mode were selected, for example, the ancillary modes to truck (such as rail) would be optional to the facility and not necessary to success. The truck mode could be blended with rail, air, or port with the profile in place in the Lincoln Highway Logistics Corridor.

Applicability to the Lincoln Highway Logistics Corridor: The most detailed and comprehensive site selection criteria were assembled for two broad categories: manufacturing and logistics. Each criterion was further subdivided into heavy and general manufacturing/industrial and modal logistics. <u>The overall findings are that the Lincoln Highway Logistics Corridor fits the requirements for all four of these sectors.</u> The site criteria do not include screening for existing and competing facilities in the Lincoln Highway Logistics Corridor. In the case of new manufacturing or industrial distribution entering the corridor, any new facility would profit from the manufacturing cluster currently in place. In the case of a modal facility, competition would be a factor. For example, the existing FedEx facility in Chicago Heights may preclude having a successful similar facility open in the Lincoln Highway Logistics Corridor.

1.5 Examples of Rail Served Projects

The following examples provide some background in freight investment in the Lincoln Highway Logistics Corridor.

1. **Albert Lea, Minnesota Rail Served Industrial Effort** – This case study is documented in the November 2013 report entitled "Freight Rail Economic Development"[29]. The Minnesota Department of Transportation partnered with the Minnesota Department of Employment and Economic Development, Minnesota Regional Railroads Association, and a consultant team to study ways for increasing rail-related business development within Minnesota. They undertook the following tasks to examine action opportunities for rail growth: defining rail-oriented business development, conducting peer reviews, mapping and analyzing big data, establishing coordination with the Minnesota Department of Employment and Economic Development (DEED), preparing a Rail Shipper Tool Kit, and reviewing legislative programs to help rail development.

   This study's consultants have used the Minnesota report's case study on the city of Albert Lea, Minnesota as an example for the Lincoln Highway Logistics Corridor. Please note that the Minnesota report contains additional examples of rail-served industrial efforts available for review.

2. **OmniTRAX Projects in Illinois** – The second example with potential bearing on the Lincoln Highway Logistics Corridor is an emerging business model that OmniTRAX, Inc. typifies. OmniTRAX, Inc. is one of North America's largest private railroad and transportation management companies with interests in railroads, terminals, ports, and industrial real estate. OmniTRAX, Inc. operates a network of 21 regional and short line railroads covering 12 American states and three Canadian provinces. This company's railroads have interchanges with the Burlington Northern Santa Fe, Canadian National, CSX Transportation, Norfolk Southern, and Union Pacific. It transports commodities within the aggregate and industrial mineral, agricultural, chemical, crude oil, energy, food, lumber, metal, petroleum, and plastic industries. The business model, as well as examples in the Chicago and Decatur, Illinois regions make it a valuable case study for the Lincoln Highway Logistics Corridor.

3. **City of Rochelle, IL Industrial Parks and the City of Rochelle Railroad (CIR)** – The Rochelle Union Pacific/Burlington Northern Santa Fe Switching Yard, launched in 1998, has added value to the City of Rochelle and to the industrial parks that opened to serve it. The evolution of the Rochelle economy with respect to the switching service and industrial parks can provide some guidance for the Lincoln Highway Logistics Corridor. The marketing materials, site preparation focus, and openness to Enterprise Zones and Foreign Trade Zones are key points that the Lincoln Highway Logistics Corridor may find valuable.

4. **Davenport, Iowa Transload** – The rail-truck transload facility completed in Davenport, Iowa in 2015 is scale-appropriate for the Lincoln Highway Logistics Corridor and has rail and truck facilities in a limited/contained space. This site supports both transloading and

[29] *Minnesota DOT, "Freight Rail Economic Development" November 2013.*

containment. Transload services break down rail carload shipments that are destined for a number of customers and make economies of rail transportation available to companies that may not be located on an active rail spur. This entity's leverage of federal Economic Development Administration (EDA) funds is also key.

5. **Murphy Warehouse Company** – This full-service supply chain and logistics company based in Minneapolis is one of the Upper Midwest's largest asset-based logistics firms with fourteen locations in Minnesota and Missouri. Its core services include customized business logistics, fulfillment, international services, millwright, rigging, transportation, and warehousing. The Murphy Warehouse Company has diversified across rail, truck, logistics, and warehousing that is consistent with a potentially successful operation in the Lincoln Highway Logistics Corridor. The Murphy Warehouse Company is also a pioneer in the sustainability movement, an emerging issue in freight, and one that has made it profitable.

1.5.1 Example 1: Albert Lea, Minnesota

The City of Albert Lea is situated in southeastern Minnesota near the Iowa border at the junction of Interstates 35 and 90, about 90 miles south of the Twin Cities. In 2010, it had 18,016 people. The Canadian Pacific and Union Pacific provide freight rail service there. Hormel Foods Corporation, a multinational manufacturer and marketer of meat and other food products, is also located there. Although the Albert Lea case study has not been successful in attracting rail-served development, it offers important lessons for the Lincoln Highway Logistics Corridor.

Albert Lea was twice short-listed but unsuccessful as a site for a retail food distribution facility, despite its investment in a highway overpass over a Union Pacific switching yard and improved a potential Union Pacific/Canadian Pacific served site near an ethanol facility that might suit an intermodal facility. The Canadian Pacific line through Albert Lea is a low-density line that is currently for sale. The Union Pacific holds a line from Minneapolis to Kansas City that has geographic and track condition issues leading to a suspension of service at the switching yard. A short line holding company showed an interest in Albert Lea but needs a business plan with information on business volumes, suppliers, customers, and requirements for success.

Figure 1-1: Source, Canadian Pacific Website

The Minnesota Department of Transportation learned the following lessons from the Albert Lea case study (as quoted from the report):

- "Understand the customer base, freight flows and demand drivers. Any business interested in investing in rail development will need to develop a business plan with freight forecasts.
- Collaborate with site selection firms and proactively market location assets for new development. Making the short list for two national site searches indicates that many essential location requirements have been met. Continue to Think Big and work to improve identified weaknesses and pursue other retailers in similar economic sectors.
- Preserve rail access and gain a better understanding of the local rail network. Rail networks change; be ready to take advantage of network upgrades and improvements or a rail renaissance if new investors bring investments to the community. Meet with rail economic development coordinators for each railroad on an annual basis to stay abreast of their commercial interests."

Applicability to the Lincoln Highway Logistics Corridor:

Albert Lea Site: What is interesting about Albert Lea is that they have a core manufacturing area present (food) that they are working to capitalize on. The Lincoln Highway Logistics Corridor has a similar profile (metal/plastic/chemicals) and similar access to rail and highway. Albert Lea has not yet been successful but the messages that the MnDOT investigators gleaned from their visit and study are also critical to the Lincoln Highway Logistics Corridor:

- Build a business plan with freight forecasts.
- Market the area to site selection firms.
- Stay connected with rail people.
- Identify/build tools to help all participants in the process.

Top Summary from MnDOT's "Freight Rail Economic Development" report:

- A key issue for business is getting the railroad to stop at an industrial, transfer or warehousing site. The Minnesota DOT sponsored a document called the "Rail Shipper Toolkit" that describes the process of railroad business opportunity engagement and includes a matrix of rail contacts.
- Defining Rail Assets – Is it a liability or an asset? Who owns it? MnDOT developed resources including a MnDOT state rail map, a railroad website, and a service Freight Rail 411 that Railinc, a subsidiary of the Association of American Railroads (AAR), sponsored (www.railinc.com/rportal/freight-rail-411).
- Educating local shippers about rail – MnDOT recommends knowing the railroads in the region, the type of rail (branch or mainline), size and type of product shipment out of the area (one rail car can be the equivalent to four trucks) and outreach/education.
- Site selection is dynamic – community assets must be defined, documented and promoted in site selection publications. A county or state program such as the Minnesota Freight Rail Development Program can expedite this process.

1.5.2 Example 2: OmniTRAX Projects in Illinois

OmniTRAX is n ot a site selection strategy, but a business model that links specific business interests with renewed rail freight investment and service to generate economic development. Three recent OmniTRAX projects are pertinent to this study: the Chicago Rail Link, LLC[30] (in the Chicago region), the Manufacturers Junction Railway[31] (in Cicero, IL) and the Decatur Central Railroad, LLC (in Decatur IL)[32]. OmniTRAX also offers transload service to clients.

Figure 1-2: OmniTRAX Chicago Rail Link LLC Coverage

Chicago Rail Link, LLC, Chicago region - OmniTRAX, Inc. operates Chicago Rail Link, LLC (CRL), one of several railroads in Chicago that provides switching and terminal services for over 72 miles of track in Chicago. Its diverse customer base includes Archer Daniels Midland (ADM), Agrifine, ARRO Corporation, BP Amoco, Cargill, Great Northern Lumber, Horsehead Metal Management, Leavitt Tube, Nidera, and Ozinga/Midwest Marine. Chicago Rail Link also provides customized intermediate switching services through the Chicago Terminal complex. The interchanges offered are:

- Burlington Northern Santa Fe via the Belt Railway of Chicago (in South Chicago)
- Canadian National via the Belt Railway of Chicago (in South Chicago)
- Canadian Pacific via the Belt Railway of Chicago (in South Chicago)
- Chicago South Shore and South Bend via Belt Railway of Chicago (at Kensington Junction)
- CSX Transportation via the Belt Railway of Chicago (in South Chicago)
- Iowa Interstate Railroad, Ltd. (in Blue Island IL)
- Kansas City Southern via the Belt Railway of Chicago (in South Chicago)

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[30] *OmniTRAX website, Chicago Rail Link LLC, http://omnitrax.com/our-company/our-railroads/chicago-rail-link-llc/, accessed 2017.*
[31] *OmniTRAX Holding in Cicero IL, http://omnitrax.com/our-company/our-railroads/manufacturers-junction-railway-llc/, accessed 2017.*
[32] *OmniTRAX Launch in Decatur IL with DCR, http://www.wandtv.com/story/32489678/omnitrax-to-manage-decatur-central-railroad-starting-in-late-2016, accessed 2017.*

- Norfolk Southern via the Belt Railway of Chicago (in South Chicago)
- Union Pacific via the Belt Railway of Chicago (in South Chicago)

Please note that the Chicago South Shore and South Bend Railroad has a station at 115th Street near Kensington Junction. At this junction, the Chicago South Shore and South Bend Railroad diverts from the Canadian National and Metra Electric.

Manufacturers Junction Railway in Cicero, IL - Manufacturers Junction Railway (MJ) owns and operates over six miles of tracks in Cicero, Illinois. The railroad was incorporated to serve the former Western Electric Hawthorne Works, a primary producer of telephones and related equipment. Although part of its land was converted into retail space, most of it was redeveloped into a business center that includes rail customer candidates. Substantial warehouse and car storage space is available on and around the Manufacturers Junction Railway, presenting many growth opportunities as companies continue to relocate into the area.

The interchanges offered are:

- Belt Railway of Chicago (in Chicago)
- Burlington Northern Santa Fe via the Belt Railway of Chicago (in South Chicago)
- Canadian National via the Belt Railway of Chicago (in South Chicago)
- CSX Transportation via the Belt Railway of Chicago (in South Chicago)

Decatur Central Railroad + Topflight Grain Cooperative Joint Venture, Decatur, IL – In mid-2016, the Economic Development Corporation of Decatur & Macon County announced that OmniTRAX, Inc. will help them manage the Decatur Central Railroad, LLC which links Decatur to Cisco, IL, starting in late 2016. They also said that OmniTRAX is entering into a joint venture with Topflight Grain Cooperative, Inc. to operate, drive business to, and rehabilitate the line. Topflight Co-op members will use the Decatur Central Railroad to transport their grain to Archer Daniels Midland (ADM), Tate & Lyle, and other processing plants in and around Macon County, IL.

Comments of Business Leaders in Decatur IL

"We see the potential new avenues for business to re-locate back into our area here, create jobs, create business for not only ADM but for other businesses in the area," said Dennis Whalen ADM V.P./GM. The partnership between OmniTRAX and Topflight Grain will help bring more industry to the Midwest Inland Port.

"Right now we are the only shipper on that 13 1/2 miles. We want to bring in and develop as many shippers on this line as possible, to stimulate the economy on this rail line and to help us with what we've owned and operated for over 30 years," said Scott Docherty CEO/GM Topflight Grain CO.

OmniTRAX is hopeful that this new partnership will be beneficial for industry in central Illinois. "There's a lot of congested traffic in the Chicago area. S we believe that Decatur can be an outlet for a number of those companies that want to service the Midwest region," said Kevin Shuba CEO OmniTRAX. Location of the port played a significant role in the partnership

"That's the beauty of this that we are in a very good location to transport goods and products around the U.S. and even beyond to the rest of the world," Scott Docherty CEO/GM Topflight Grain CO.

Local officials are looking forward to possible job creation and future community support.

"They're going to be a partner in the community. Their name will be on that locomotive going up and down that track multiple times a day. They're a big proponent of safety, a big proponent of being a community partner. So, this is a different type of development that people have seen before or in the past," Ryan McCrady President Decatur EDC.

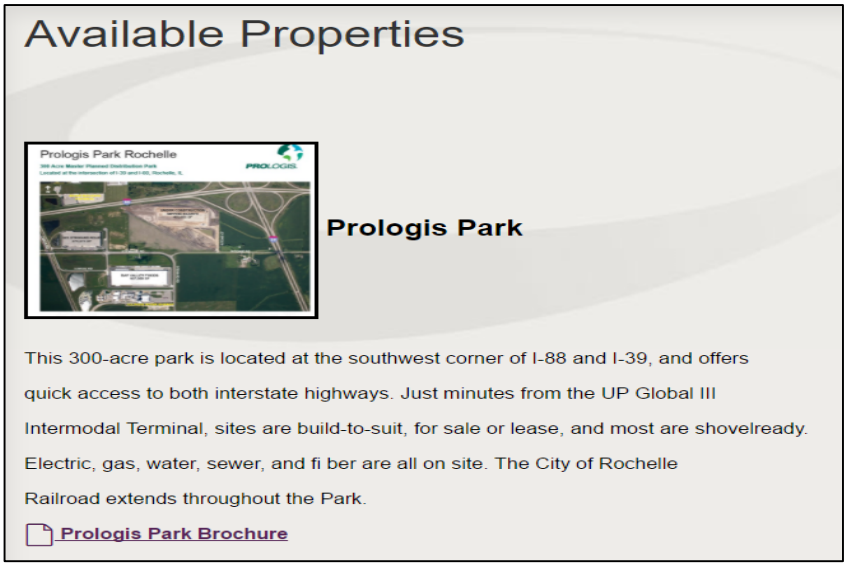
Applicability to the Lincoln Highway Logistics Corridor: OmniTRAX provides a useful business model for the Lincoln Highway Logistics Corridor team's review. Some of the strategies that are applicable to the Lincoln Highway Logistics Corridor are the following:

- OmniTRAX takes on the business development and risk for linking manufacturing and shipping concerns with freight railroads.
- The Chicago Rail Link, LLC offers a set of linked railroads in the region that may provide an opportunity for the Lincoln Highway Logistics Corridor's municipalities and businesses.
- The Manufacturers Junction Railway offers a template for revitalizing industrial property (Hawthorne Works) with existing rail infrastructure.
- Decatur Central Railroad + Topflight Grain Cooperative Joint Venture shows that a single product (agricultural goods) and an existing rail segment can be leveraged into a viable business given the use of a joint venture approach.

1.5.3 Example 3: City of Rochelle, IL and Railroad Junction

City of Rochelle Industrial Parks and the City of Rochelle Railroad (CIR) – The City of Rochelle, IL started service on the short line known as the City of Rochelle Railroad in January 1998. This short line was originally part of the Burlington Junction Railway (BJRY) which operates several short lines in Illinois and Iowa. Total Logistic Control, Inc. now operates the railroad. It provides switching service over two and half miles of industrial track in Rochelle, Illinois. This railroad provides an interchange between the Union Pacific and Burlington Northern Santa Fe and provides switching services for plants in its industrial park. Class I railroads typically delegate this task to short line railroads.

Figure 1-3: Marketing Materials from Rochelle



On its website, the City of Rochelle[33] states that it has capitalized on its logistics position to attract $1.2 billion worth of investment and 1,500 jobs. It is at the convergence of I-39, I-88, with the Union Pacific and the Burlington Northern Santa Fe Railroads. The Union Pacific's Global III intermodal terminal, which opened in 2003, has contributed to these achievements. However, Rochelle has

[33] *City of Rochelle Railroad and Industrial Parks, http://www.cityofrochelle.net/departments/economic-development/directors-welcome.html, accessed 2017.*

touted other industrial parks where manufacturers can receive service from either of two Class I railroads.

1.5.4 Example 4: Davenport Iowa Transload

In 2015, the City of Davenport, Iowa built a $17 million transload facility as a key industrial park amenity, using $3.4 million of its own funds and the rest in federal Economic Development Administration funds. This facility enables transloading of liquid and dry bulk commodities (with containment systems) and provides warehouse space with interior unloading capabilities and exterior lay down yards.

This transload facility includes a rail spur that allows commodities to move between trains and trucks. It supports multiple commodity types in a highly efficient operational design. It can currently accommodate up to 1,500 railcars annually and has room for expansion to meet market demands. It can be built out without impacting ongoing operations and has spurred growth in Davenport and at the nearby Eastern Iowa Industrial Center[34] .

The Davenport transload facility required combining competitive rail access issues, undertaking a freight logistics market analysis, developing final designs for a facility that fit within these findings and grant funding limits, and overseeing construction management oversight for the City of Davenport and the federal Economic Development Administration.

Applicability to the Lincoln Highway Logistics Corridor: The Davenport, Iowa (Quad Cities) city-owned transload facility and rail spur development provides a useful example for the Lincoln Highway Logistics Corridor team to review.

- City-owned facility – Is this possible for the Lincoln Highway Logistics Corridor?
- Davenport paid 20% of a $17 million facility. Is this a possible funding avenue for the Lincoln Highway Logistics Corridor?
- What competing facilities of this type are within 10 miles of the Lincoln Highway Logistics Corridor?
- What goods would be transloaded at the Lincoln Highway Logistics Corridor?

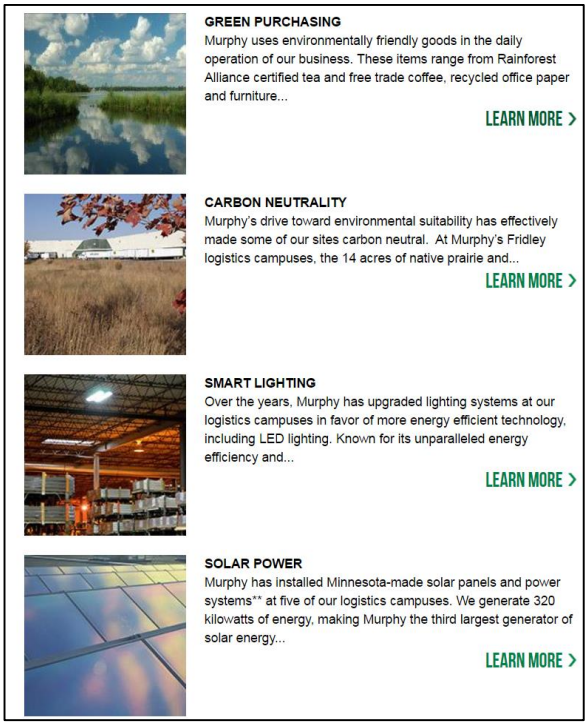
[34] *Website for the Eastern Iowa Industrial Center, http://qctimes.com/business/eastern-iowa-industrial-center-takes-off/article_bbf16086-02f6-58f8-b467-a42e31d309db.html*

Figure 1-4: Davenport Transload View

1.5.5 Example 5: Murphy Warehouse Company

The Murphy Warehouse Company is a full-service supply chain logistics company based in Minneapolis. Founded in 1904, it is one of the Upper Midwest's largest asset-based logistics firms with 14 locations in Minnesota and Missouri serving more than 250 customers. Its core services include warehousing, transportation, fulfillment, international services, rigging, millwright, and customized business logistics. Well-known for being a pioneer in the sustainability movement, the Murphy Warehouse Company has made significant "green" investments to their logistics campuses through a wide range of sustainability practices. Its core services are 3PL, distribution, warehousing, transportation, rail services, cross-docking, and customized solutions.

Figure 1-5: Sampling of Murphy Warehouse Green Initiatives



However, a warehouse firm's template is not the solution to the Lincoln Highway Logistics Corridor's rail-served industrial site selection questions. What is important in the Murphy Warehouse Company example is this firm's flexibility to expand and offer portal-to-portal services across the gamut of industry and transport to a wide array of customers.

In the Lincoln Highway Logistics Corridor, this flexibility may take a different turn, possibly toward manufacturing, immediate rail shipping from the plant site, and disposal/sale of manufacturing by-products. The Murphy Warehouse Company example also brings to the table its sustainability practices which translate into profit. It has become Minnesota's first warehousing and logistics company -- and one of just four companies based in Minnesota -- to earn LEED Gold re-certification. This re-certification is for Murphy's two Fridley, Minnesota-based logistics campuses that were originally LEED Gold certified in 2010. The 265,000 and 184,000-square-foot facilities process nearly half of all stormwater onsite, sequester carbon while providing habitat with native prairies and woodlands, operate with extreme energy efficiency compared to other like facilities (98 and 99 percentiles in Energy Star), and operate with sustainably purchased products and nearly zero waste. This energy profile is attainable for facilities in the Lincoln Highway Logistics Corridor as well.

Applicability to the Lincoln Highway Logistics Corridor: The Murphy Warehouse Company provides a useful example for review by the Lincoln Highway Logistics Corridor team in that it:

- Has expanded using flexibility across all aspects of the freight business.
- Has made money from incorporating "green" solutions. If a site in the Lincoln Highway Logistics Corridor requires significant remediation, why not make it the very best state of the art brownfield-to-greenfield test bed?

1.6 Findings and Recommendations

1.6.1 Site Selection Criteria and Comparison to IDOT and Other Factors

This literature review sought to determine to what extent the IDOT criteria noted in Section 1.1.1 hold true for the Lincoln Highway Logistics Corridor and what other considerations impact rail-served industrial location decisions. It also seeks to identify barriers to industries locating in the Lincoln Highway Logistics Corridor study area. Table 1-7 below is organized to address these questions. This table was set up to first tabulate the IDOT collected location criteria, which are shown in red in the table. A column called "Adequate in the Lincoln Highway Logistics Corridor?" tallies the various criteria with respect to the Lincoln Highway Logistics Corridor.

The IDOT criteria cover the basics of land, labor, and capital but also extend into the "green" criteria by mentioning "return to the urban core and adaptive reuse". They also involve the community by noting that community support is a key component of successful industrial site selection. These criteria thus mix the industrial business decider's profit-oriented point of view and the community-oriented point of view of the municipality, county, region, or training/employment outreach agency. This difference continues to be important throughout the review from other site selection sources. IDOT also mentions rail serviceability which is noted throughout the other sources as an infrastructure advantage.

Table 1-7: Site Selection Criteria Matrix

Criteria	Adequate in the LHLC?	Source						
		IDOT Studies	Business / Academic Point of View	Industrial Real Estate Advertisers	NCFRP	COD and Cook County PESF	CSX Select Sites	Michigan Logistics Study
Proximity and/or access to key markets to reduce transit time	Yes	1	1	1	1	1	1	1
Efficient movement of goods from origin to destination with more than one modal alternative available, rail serviceability	Yes	1	1	1	1	1	1	1
Access to competitive labor markets	Yes	1	1	1	1	1	1	1
A return to the urban core and adaptive reuse	Yes	1				1		
Appropriate zoning	Yes	1		1	1	1	1	
Compatible land use	Yes	1	1			1		
Transportation Infrastructure	No	1	1	1	1	1	1	1
Community support	Yes	1	1			1		
Low overall operating costs	Yes	1	1	1		1		
Total Cost including Financing	Yes		1	1	1			
Tax Environment, Permitting & Regulation	Yes		1		1	1		
Public Sector Assistance & Incentives	Yes		1		1			
Aggomeration/Clustering	Yes		1			1		1
Utilities	Yes		1	1	1		1	1
Quality of Individual Sites (including buildings)	No		1	1	1			
"Move-in" readiness	No			1				
Due Diligence / Environmental Review	No						1	
Security/Safety	Yes			1		1		1
Climate & Natural Hazards	Yes				1			
Local Economic Development	Yes					1		
Enviromental Benefits	Yes					1		
Public Transit	Yes					1		1

Note: For the purposes of this table, "Yes" indicates that the LHLC adequately meets the locational criteria of one or more of the sources. "1" indicates that the LHLC meets the specific locational criteria of the source in the appropriate column.

The IDOT criteria are echoed in the high points from all other sources which include the business/academic point of view, industrial advertisers, National Cooperative Freight Research Program, cargo-oriented development, CSX Sites, the Michigan Study, and the five examples presented in Section 1.5.

The five case study examples are important because they take the perspective of the city or business working to jump-start industrial rail served development and because most of them have been successful. These examples are not included on Table 1-7 because they are not screening

criteria. Instead, they offer several ideas for attracting investment to the Lincoln Highway Logistics Corridor:

- Prepare a rail-users toolkit similar to that of the Minnesota Department of Transportation.
- Understand the commodity flows and how they can be leveraged for successful rail-served industrial development (Albert Lea, Minnesota food distribution effort).
- Investigate private rail/industrial firms such as OmniTRAX and how they may be relevant in the Lincoln Highway Logistics Corridor.
- Investigate/expedite joint ventures such as the recently opened OmniTRAX-Topflight Grain Cooperative in Decatur, Illinois.
- Create and use focused marketing materials as in the City of Rochelle Railroad and Industrial Park constellation.
- Leverage federal funds such as the Economic Development Agency dollars used in the Davenport, Iowa transload facility.
- Invest in "green" infrastructure and operations which reduces costs over time, as shown in the Murphy Warehouse Company example.

1.6.2 Summary and Recommendations

The consultants conducted a literature review on rail-served and other industrial site selection criteria using business, academic, real estate, National Cooperative Freight Research Program, cargo-oriented development, Cook County, CSX-specific, and Michigan Logistics Study criteria. This literature review and Table 6-1 show that the Lincoln Highway Logistics Corridor satisfies all the IDOT criteria shown in red as well as other criteria mentioned in the review. The Lincoln Highway Logistics Corridor thus has high potential for development.

The Corridor has a few serious challenges to getting a rail served industrial site in play. Although transportation to highways and railroads are very good, transportation within the Corridor is not as good as it could be. The Chicago Heights Terminal Transfer Railroad requires updates and rehabilitation. Further, none of the available industrial sites in the Lincoln Highway Logistics Corridor are leveled and prepared. Some of these sites need a risk assessment conducted to determine the costs of remediating any environmental issues. The sites need "move-in" readiness which may include buildings, roads, parking, or landscaping. The focus on "move-in" ready sites is critical because time is essential to business. The elapsed time between the decision to locate a facility and the identification and securement of an appropriate site is measured in seasons, not in years.

In Section 2, the consultants review the strengths and weaknesses of the LHLC based on the industrial location factors identified in Section 1.

2.0 Strengths & Weaknesses based on Industrial Location Factors

2.1 Introduction

In Section 2, the consultants apply the industrial location factors previously identified in the literature review to the Lincoln Highway Logistics Corridor, quantitatively assess each factor, and rank the Corridor's overall strengths and weaknesses. The Lincoln Highway Logistics Corridor's key strengths are attractive land cost; a good transportation grid; congruence with social goals, including a return to the urban core; economic development and regional environmental benefits; suitable zoning/compatible land uses; and a seasoned workforce available for industrial jobs. Its weaknesses are environmental risk related to brownfield remediation, total cost (chiefly the municipal industrial property tax rate), the regulatory and tax environment, target property readiness, and the transportation grid. Other screening criteria, such as the transportation network, are strengths and weaknesses.

Section 2 is organized in the following sub-sections:

- **Section 2.2 – Review of Section 1 Findings** briefly reintroduces and more fully explains the full set of rail-served industrial location criteria introduced in Section 1. It shall identify and describe a set of ten overarching site selection screening categories that are shown in Table 2-1. These selection screening categories shall organize the twenty-two location criteria and provide a framework for the rest of Section 2.
- **Section 2.3 – Lincoln Highway Logistics Corridor Strengths and Weaknesses** determines whether each of the ten screening categories presented in Section 2 are applicable to the Lincoln Highway Logistics Corridor. It does not focus on a single target property but broadly outlines the Lincoln Highway Logistics Corridor's top five high-level strengths and weaknesses. These are listed in Table 2-2, which also fully discusses all ten screening categories under both strengths and weaknesses. In Section 6, Infrastructure and Site Analysis, the team applies screening categories to each target property.

Section 2 seeks to organize the screening categories' complex nature into a coherent thought piece to aid in ranking. This thought piece will then be used to analyze individual properties in Section 6. This section shall list some remedies under the appropriate screening category as well.

2.2 Review of Section 1 Findings

The literature review in Section 1 described the considerations which affect the location decision-making process for rail-served industrial developments. The consultants gathered the site selection criteria from academic reports, public and private sector resources, and other freight studies. Section 1's five case studies are also important because they provide successful examples of rail-served development from the project sponsor's perspective. Rail access and serviceability is noted throughout the literature review as an infrastructure advantage for industrial location decisions. The site selection criteria included economic fundamentals such as land, labor, and

capital, but also embraced policy criteria such as urban redevelopment, adaptive reuse of legacy sites, community support, and economic development. Throughout the literature review, the criteria balanced an industrial firm's business-oriented perspective with the public agencies' community-oriented perspective.

Table 2-1 shows the ten screening categories with Section 1's detailed site selection criterion that each category addresses. Each of the screening categories covers one to five detailed site selection criteria. These screening categories have helped the consultants get a handle on the main subject areas before ranking them at a corridor level. The consultants will use these same screening categories to evaluate and rank the Lincoln Highway Logistics Corridor's individual target properties later in this study.

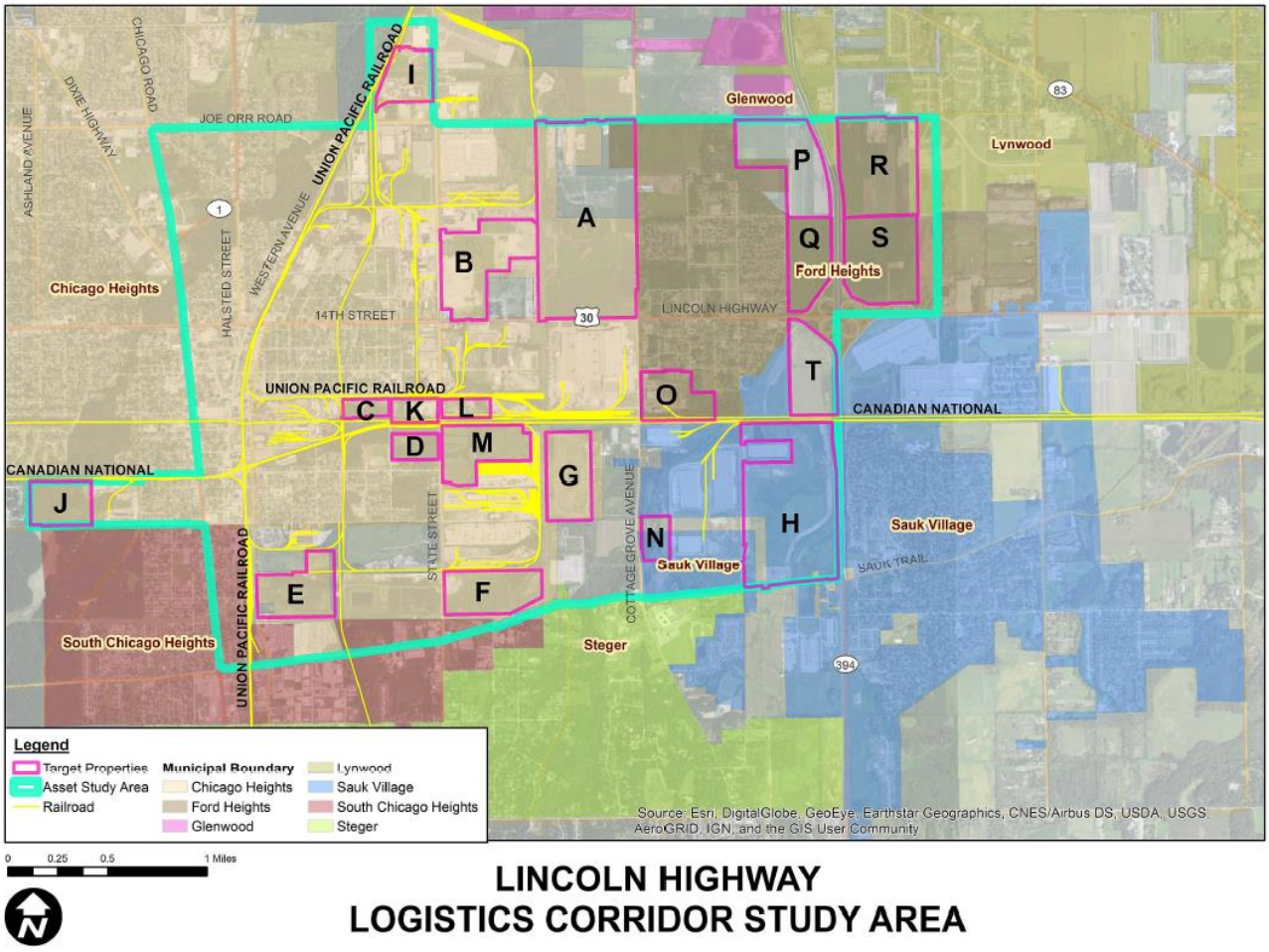
Table 2-1: Site Selection Criteria with Major Categories

ID	Screening Category	Task 1 Site Selection Criterion	Task 1 Report Section
1	Transportation Grid	Proximity and/or access to key markets to reduce transit time	Section 3.1
		Efficient movement of goods with multi-modal opportunities	Section 3.2
		Transportation Infrastructure	Section 3.7
2	Workforce	Access to competitive labor markets	Section 3.3
3	Social Goals	A return to the urban core and adaptive reuse	Section 3.4
		Community support	Section 3.8
		Local Economic Development	Section 3.20
		Regional "Green" Environmental Benefits	Section 3.21
4	Land Use	Appropriate zoning	Section 3.5
		Compatible land use	Section 3.6
5	Total Cost	Low overall operating costs, excluding property taxes	Section 3.9
		Total cost including Financing and all Taxes	Section 3.10
6	Regulatory & Tax Environment	Tax Environment, Permitting & Regulation	Section 3.11
		Public Sector Assistance & Incentives	Section 3.12
7	Synergy	Agglomeration/Clustering	Section 3.13
8	Readiness	Utilities	Section 3.14
		Quality of Individual Sites (including buildings)	Section 3.15
		"Move-in" readiness	Section 3.16
		Security/Safety	Section 3.18
		Climate & Natural Hazards	Section 3.19
9	Environmental Risk	Brownfield Due Diligence / Environmental Review	Section 3.17
10	Transportation for Workforce	Public Transit Access	Section 3.22

The process of developing the screening categories brought out one of the Lincoln Highway Logistics Corridor's fundamental findings: many of its strengths, made up of multiple site selection criteria, contain weaknesses as well. This dichotomy illustrates the contradictory nature of some of this Corridor's sites. Potential buyers, for example, may find low property values attractive but these property values may mask other costs, such as high municipal property taxes or the need for environmental remediation. Two screening categories appear in the top five of both strengths and weaknesses: Cost and Transportation Grid. A third, Environmental Risk, is a total "Fail". Section 2 will deal with these criteria first.

Figure 2-1 provides a screen capture of the twenty targeted properties in the Lincoln Highway Logistics Corridor as well as the study area boundary, railroads, and roadways. This figure communicates the synergy of the Lincoln Highway Logistics Corridor: a density of rail infrastructure, closely allied municipalities, and a large amount of developable industrial land.

Figure 2-1: Lincoln Highway Logistics Corridor Study Area and Target Properties



2.3 Key Findings: Strengths and Weaknesses

The Lincoln Highway Logistics Corridor is a blend of strengths and weaknesses with respect to its potential value to rail-served industrial sites. The consultants used the ten screening categories developed in Section 2.2 to broadly and qualitatively assess and rank the Corridor's top five strengths and weaknesses. The consultants used information from mapping and comprehensive data collection, insights gained from fields visits, roundtable discussions with the railroads and local experts, this study's previously completed tasks, and the preliminary Lincoln Highway Logistics Corridor Environmental Report. Table 2-2 ranks the Corridor's weaknesses and strengths by screening category.
The ranking approach is as follows:

- **FAIL** – The Lincoln Highway Logistics Corridor does not fulfill this screening category.
- **QUALIFIED FAIL/PASS** – The Lincoln Highway Logistics Corridor shows a good fit to the screening category across most criteria.
- **PASS** – The Lincoln Highway Logistics Corridor fulfills this screening category.

Table 2-2: Strengths and Weaknesses Ranked

Screening Category	Ranked by Weakness	Ranked by Strength	Score
Environmental Risk	1		FAIL
Total Cost	2	1	QUALIFIED FAIL/PASS
Regulatory and Tax Environment	3		QUALIFIED FAIL/PASS
Readiness	4		QUALIFIED FAIL/PASS
Transportation Grid	5	2	QUALIFIED FAIL/PASS
Social Goals		3	PASS
Land Use		4	PASS
Workforce		5	PASS
Synergy		6	PASS
Public Transit		7	PASS

2.3.1 Environmental Risk and Total Cost

Environmental Risk and Total Cost are fundamental and related factors which dominate any discussion about why the Lincoln Highway Logistics Corridor has difficulty attracting industrial development. Ongoing discussion of target properties backed up by data collected in the Lincoln Highway Logistics Corridor has underscored the following:

- Contaminated land is a major issue in the Lincoln Highway Logistics Corridor. Many of the target properties have contaminants. The extent of contamination and remediation costs are unknown and carry financial risks for potential investors.
- The target properties' total costs include industrial property taxes. The Lincoln Highway Logistics Corridor's high industrial property taxes are a well-known problem. Potential investors may balk from purchasing one of the target properties because they do not want

to see it reassessed at a higher rate or face increased costs of doing business if the area's taxing bodies dramatically increase their taxing levies.

2.3.1.1 Environmental Risk

The Corridor's most important redevelopment challenge is identifying and remediating brownfields. This study's consultants have thus ranked environmental risk in Table 2-2 as FAIL.

Working independently and jointly with the South Suburban Mayors and Managers Association (SSMMA), the Lincoln Highway Logistics Corridor municipalities have extensively characterized brownfield conditions within their jurisdictions. Many of the candidate sites are brownfield sites and others have an unknown status with respect to contamination. From the private sector perspective, the risk of buying contaminated land and facing remediation costs is massive.

To begin addressing these environmental shortcomings, the consultants recommend identifying a small set of targeted properties in the Lincoln Highway Logistics Corridor that are known to be contaminated and conduct an environmental review of them. This review will determine the viability of bringing these properties to a development-ready condition and provide rough estimates of remediation costs. The affected governmental bodies could then access one or more brownfield remediation assistance funds for the selected properties. For some of these properties, it could uncover fatal flaws.

2.3.1.2 Total Cost

The cost category covers both total costs and operating costs and is a **QUALIFIED FAIL/PASS**.

Total Cost - The national site selection investigation in Section 1 stated that a property's total cost is the most important factor for a developer and/or tenant when deciding where to invest or locate a business. In the case of the Lincoln Highway Logistics Corridor, this report addresses the following components:

- Land acquisition costs
- Brownfield and other remediation
- Infrastructure and building costs to achieve move-in readiness
- Property and other taxes

The Lincoln Highway Logistics Corridor contains undervalued land and property, particularly given its location close to population centers in Illinois and Indiana, I-80, and railroads, which positively factor in cost calculations. But total cost also looks at the concept of risk, a key element that developers and industrial firms weigh when seeking land or property. Risk is present in the Lincoln Highway Logistics Corridor when identifying and mitigating brownfields in targeted properties in the study area. Finally, property tax costs include absorption of uneven property taxes compared to other areas of the Southland or Indiana and the risk of future property tax increases. Property taxes are discussed in the next section, where some policy actions are also described.

However, total cost is maintained as a Qualified Fail/Pass since many funds and offerings are available for remediating contaminated sites and opportunities exist for significantly improving the region through brownfield site cleanup.

Operating Cost - Operating cost is defined here as expenses associated with a business' daily maintenance and administration. While operating costs generally do not include capital outlays, they may include accounting and legal fees, bank charges, sales and marketing costs, travel expenses, entertainment costs, non-capitalized research and development expenses, office supply costs, rent, repair and maintenance costs, utility expenses, salary and wage expenses, and freight and logistics costs. The Lincoln Highway Logistics Corridor target properties have similar operating costs to properties in other parts of the region which is a plus.

2.3.2 Regulatory and Tax Environment

The category of regulatory and tax environment is a **QUALIFIED FAIL/PASS**. Taxes in the Lincoln Highway Logistics Corridor vary based on location, given that local taxing districts, such as school districts, overlap with municipal boundaries. Local property tax rates, therefore, vary from site to site and even within target sites in some cases.

Property Taxes - The sub-category of tax environment, permitting and regulation, is one reason that the total cost of setting up a business in the Lincoln Highway Logistics Corridor is unattractive. As noted above, property taxes are chief among the local components of tax requirements. The effective rate can vary more than 100% from one Southland town to another, based on the local tax base's strength. Southland tax rates, including average rates within the study area, also tend to be higher as a group compared to other Cook County municipalities such as northwest suburban municipalities near O'Hare International Airport (please see Figure 2-2).

Indiana's tax environment is also a factor in whether to locate to the study area, given its proximity to the Illinois/Indiana state line. Many of the Lincoln Highway Logistics Corridor's advantages, such as its seasoned labor force and access to I-80 and Class I railroads, are also like those in Indiana.

In Chicago's Southland, land prices vary widely, based largely on different municipalities' tax rates. A program that combines tax abatements with other types of public sector assistance can be implemented to offset this tax burden. Frequently working with the South Suburban Mayors and Managers Association and municipal economic development staff, the area's commercial realtors are skilled at identifying and bundling available and sometimes vacant land to take advantage of the area's rail and highway network and its accessibility to manufacturing and population centers. They are also familiar with several tax abatement programs available through Cook County and municipal governments, options for creating tax increment financing (TIF) districts, and other mechanisms to mitigate tax burdens that would otherwise make development projects infeasible.

Public Sector Assistance and Incentives - Public sector assistance in the forms of tax credits, grants, low-cost loans, training programs, utility discounts, and infrastructure development can address specific location shortcomings and can be used as a regulatory tool to close the gap between candidate locations. Specific incentive programs include:

- Tax incentives
  - Tax concessions or exemptions, such as waiving sales taxes on building materials in an Enterprise Zone
  - Inventory tax reduction

  - Loans and loan guarantees
  - Tax Increment Financing (TIF)/Special Service Area (SSA)/Business Improvement District (BID)
  - Employee tax credits

- Regulatory relief
  - Land subsidies or grants
  - Property tax abatements (e.g. the Cook County Class 8 Program for industrial properties)
  - Expedited permitting and approvals
  - Zoning and building code policy

- Focused public investment
  - Improved transit service/connections
  - Environmental improvements (e.g. brownfield assessment/cleanup, cleaner locomotives/trucks, buffers to residential areas, or LED lights that reduce spillover "light pollution" into adjoining properties)
  - Wage subsidies
  - Workforce development and screening
  - Utility rate reductions
  - Targeted infrastructure improvements

- Specific government programs for industrial growth
  - Enterprise Zones
  - Foreign Trade Zones (FTZ)
  - The Cook County Bureau of Economic Development's South Suburban Economic Growth Initiative (SSEGI)

- Extended business operating hours

Programs in Place for the Lincoln Highway Logistics Corridor – The following public programs can support redevelopment efforts in the Lincoln Highway Logistics Corridor:

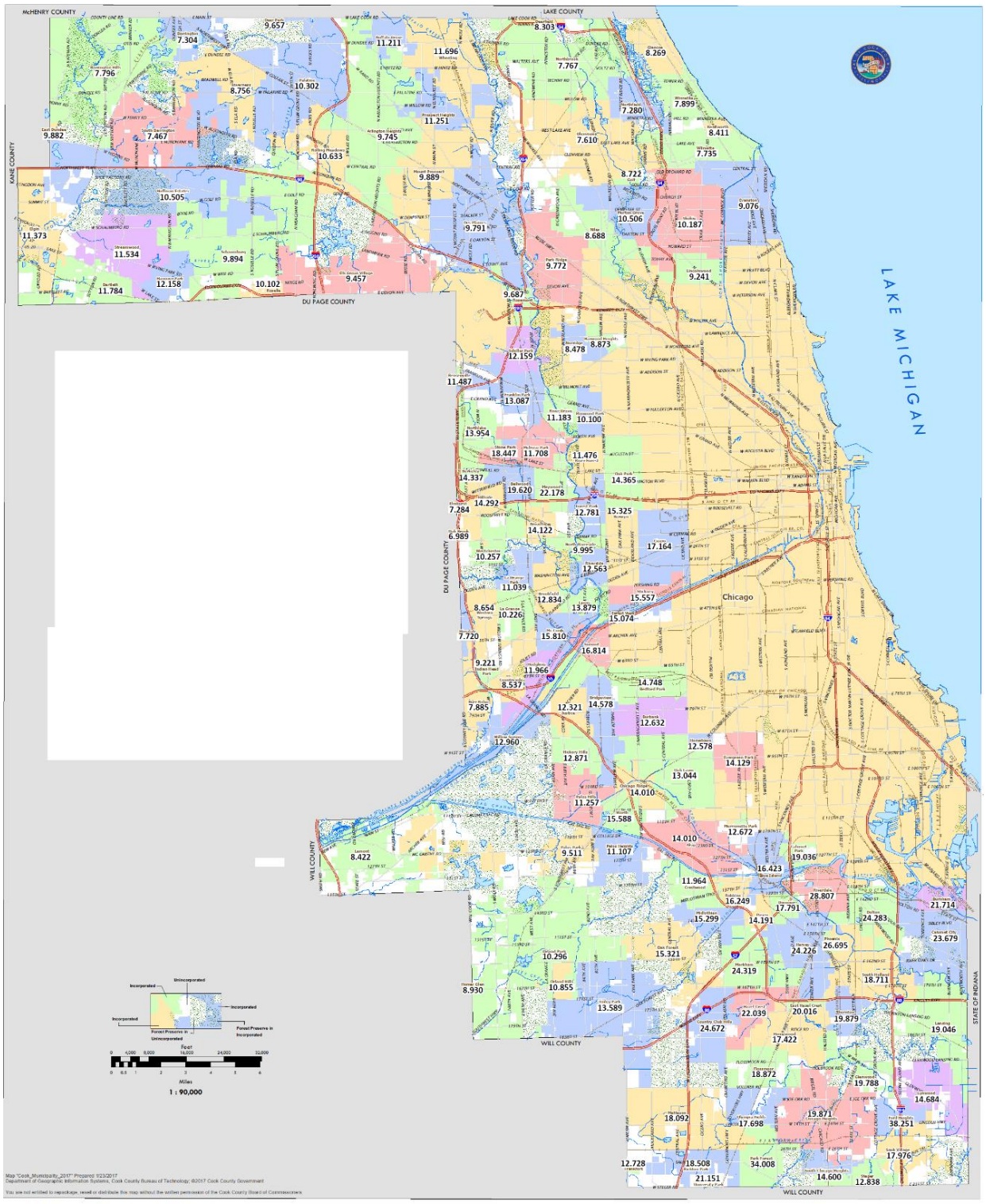
- Illinois Enterprise Zone (EZ): The State of Illinois competitively selects and designates areas that are up to 15 square miles as enterprise zones. It has a variety of State economic incentives available for companies within these zones, including the elimination of sales taxes on certain types of equipment and materials purchased for constructing places of employment, a 0.5% reduction of the State corporate income tax, further tax abatements for new business developments hiring a threshold number of employees, and an option for accelerated depreciation of certain asset types.

- Virtually all the industrially zoned land in the Lincoln Highway Logistics Corridor is currently included in the "Lincoln and 394 Corridor Enterprise Zone". This enterprise zone status may expire at the end of 2019, however. If this expiration date is confirmed, the municipalities of the Lincoln Highway Logistics Corridor must collectively apply to renew

their enterprise zone status during 2018 to have the best chance of competing for another enterprise zone designation.

- Property Tax Abatement: Tax rates are applied to assessed property values. The Cook County Class 6B Program dramatically lowers the assessed value of industrial property by up to 50% for up to 12 years, and may be renewed. The Cook County Class 8 Program also reduces property assessments for qualifying industrial properties in Bloom, Bremen, Calumet, Rich, and Thornton Townships for up to 12 years.
- BUILT in Cook County: Cook County created this program so that businesses may borrow funds at lower interest rates and more favorable terms than would be available through conventional business lending. Other State of Illinois programs provide similar benefits.
- Assistance in Brownfields Assessment or Abatement: Virtually any previously used industrial property in Northeastern Illinois must undergo professional assessment to determine if environmental contamination exists. If environmental contamination is found, the Illinois EPA must provide a Letter of No Further Remediation, which states that the contamination has been acceptably remediated before any institution will finance development on the property. The South Suburban Mayors and Managers Association's Brownfield Revolving Loan Fund or various federal EPA programs may help assess and remediate brownfield conditions.
- Targeted infrastructure improvements to support industrial and Transportation Distribution and Logistics (TDL) Districts.
- Land Bank Involvement: When property is not generating income during the early and mid-phases of the redevelopment process, it may be useful to have the property held on a tax-exempt basis by a non-profit entity specifically chartered to perform this function in the public interest. The South Suburban Land Bank and Development Authority or the Cook County Land Bank may hold land in this way within the Lincoln Highway Logistics Corridor.
- Other mechanisms such as the creation of a tax increment finance (TIF) district or the application of tax credits may also be used to redevelop Lincoln Highway Logistics Corridor properties.

Figure 2-2: Average Property Tax Rates, Cook County Municipalities



2.3.3 Readiness

The "Readiness" screening category is a **QUALIFIED FAIL/PASS** of the Lincoln Highway Logistics Corridor. This screening category shifts the focus from the environmental, cost, and policy arena into how well properties within the corridor are ready for industrial development. This screening category has the following five criteria: availability of utility hookups, quality of individual sites (including buildings), move-in readiness, security and safety, and climate and natural hazards.

Utilities - Businesses need to know that utility capacity is available, reliable, and cost-effective. The Lincoln Highway Logistics Corridor meets this site selection criterion. It has utility services required for industrial development. The South Suburban Mayors and Managers Association also seeks to extend its program of installing fiber optic cable along transportation corridors to sites under consideration within the study area.

A full utilities inventory is included as one of the tasks in the overall Lincoln Highway Logistics Corridor strategic plan and ranking of sites. The South Suburban Mayors and Managers Association in collaboration with regional utility companies have extensively mapped utility infrastructure networks in the Southland, including the Lincoln Highway Logistics Corridor. For security reasons, these maps are available on a need-to-know basis for economic development purposes and were provided for this study.

Quality of Individual Sites - Freight users typically investigate attributes of individual sites based upon their company's specific requirements. These requirements include the availability of existing buildings with a particular size envelope; layout; ceiling height; number of loading docks; floor loading limits; utility feeds; refrigerated space; and purchase, rent, and/or operating costs. Alternatively, a group may search for land near specific transportation points or for other partners needed to construct new buildings. The group may look for parcels that have specific plot sizes, layouts, price points, geology, soils, and/or hydrology.

The Lincoln Highway Logistics Corridor does not meet this site selection criterion. This study's consultants identified twenty candidate sites in the Lincoln Highway Logistics Corridor study area (See Figure 2-1). With a few exceptions, the sites are not graded, do not feature defined access points, and do not have instant appeal to potential developers and industrial firms. However, this shortcoming is not this Corridor's defining characteristic since a site preparation and build-to-suit approach can be taken. If an existing firm in the Lincoln Highway Logistics Corridor moves forward on a build-out expansion, the firm would clearly understand how it wants the land prepared.

Move-in Readiness - The Lincoln Highway Logistics Corridor generally is not move-in ready. As this study progresses, the consultants will review individual targeted sites for improvements that could enhance their viability. Move-in readiness is only an advantage where the facility is readily matched with the intended end use; speculative improvement to create move-in readiness carries a risk that the developer will not be able to profitably land a tenant or buyer.

Quality of individual sites is related to move-in readiness. Both are considered weaknesses: few target properties are prepared for industrial occupancy with site preparation or move-in readiness,

and the potential environmental contamination at sites in the Lincoln Highway Logistics Corridor poses a significant risk. Other than the risks of contamination and property tax liability, most of the target properties are vacant, which allows flexibility for assembling or grouping parcels or expanding adjacent industries.

Security and Safety - The Lincoln Highway Logistics Corridor meets this site selection criterion. Its existing manufacturing and industrial properties have demonstrated that they can feasibly build and maintain sufficient security measures to protect their holdings. Police forces in Chicago Heights and Sauk Village as well as the Cook County Sheriff's Office that serves Ford Heights and unincorporated areas, protect this Corridor's businesses.

Climate and Natural Hazards - Business interruption risks are tied to climate trends and natural hazards. All candidate sites for industrial or freight development have some form of natural hazard risk which is useful to understanding and evaluating sites (or regions) before selecting them. Thorough screening involves developing appropriate recovery plans.

The Lincoln Highway Logistics Corridor meets this site selection criterion. Although the Lincoln Highway Logistics Corridor has climate and natural hazards, they are less likely or severe compared to other parts of the country. Local policies also promote resiliency.

Flooding is the most likely natural hazard to occur in the Corridor. The Metropolitan Water Reclamation Department (MWRD) has established standards for retaining rainwater that all developments in Cook County must meet. Measures to meet these requirements and establish further resilience against flooding may be built into development projects through the environmentally friendly methods of "green infrastructure". The Chicago Metropolitan Agency for Planning (CMAP), the Center for Neighborhood Technology (CNT), and other organizations in the region can provide advice and assistance on this issue.

A climate and natural hazards inventory will consider the extent to which the Lincoln Highway Logistics Corridor sites under consideration were designated as distressed property in the flooding related to the "Ike" storm of 2013, when extensive areas of southern Cook County were declared affected parts of a disaster area.

2.3.4 Transportation Grid

Freight facilities provide the means of processing and moving goods from an origin to a destination. Access to key markets has two goals: 1) delivering goods with speed and precision that matches or exceeds the competitive standards in the market; and 2) establishing a set of logistics costs that will be as low as possible within the delivery standards. In short, access translates into minimizing time and operating costs.

The ability of the Lincoln Highway Logistics Corridor to move goods in and out of the area is a **QUALIFIED FAIL/PASS**. The Corridor's location fulfills this site selection criterion because it is close to customers and markets, has good access to the transportation network, and is accessible to an extensive rail and truck freight network.

The Lincoln Highway Logistics Corridor has direct access to IL 394 (about 2 miles to the east) and I-57 (about six miles to the west) via US 30, an officially designated Class II truck route. Each of these highways in turn provide access approximately five to ten miles north to I-80, I-94, and I-294.

In 2015, 41,800 trucks daily traversed I-80 just east of the I-94 Bishop Ford interchange and 16,800 daily trucks traversed the north-south I-94 Bishop Ford Expressway, just north of the I-80 interchange. An issue to monitor is the truck ways, which are located off the main highways and serve as routes for goods to market into and out of the Lincoln Highway Logistics Corridor.

The Lincoln Highway Logistics Corridor also has access to the Canadian National (CN), Union Pacific (UP), and CSX Class I railroads. The CN intermodal facility is in Harvey and the UP intermodal facility is in Dolton, which are approximately six and ten miles, respectively, north of the Lincoln Highway Logistics Corridor. A proposed CSX intermodal facility in Crete would lie approximately five miles south of the Lincoln Highway Logistics Corridor. The Chicago Heights Terminal Transfer (CHTT) Railroad, a UP subsidiary, is a unique industrial loop railroad providing access to industrial properties in Chicago Heights.

Although the rail right-of-way is an asset in and of itself, the age and condition of the rail infrastructure in the Corridor is an issue. It is the rail holdings, numerous in the Corridor, that led to the qualified fail/pass mark for transportation grid. Long-term disinvestment has led to poor existing conditions even on currently used rail spurs. The complexity of Class I rail ownership in the area also creates challenges in providing rail access to individual target properties. The potential volume of rail cargo in the Lincoln Highway Logistics Corridor, in its current state, does not approach unit train status which would trigger additional investment in rail infrastructure.

This study should recommend continued investment in the roadway network. The railroad investment question is more complicated, given the railroads' private ownership and their reluctance to improve or to continue or improve service unless there is a business case for it. Solid rail investment comes with a solid business opportunity. A new business or expansion of an existing business that can pay for a rail spur or similar is the approach that will most likely succeed. Working with a business partner and gaining support from a public sector assistance or incentive program could lead to success. Under the right circumstances, governments can invest in railroads.

2.3.5 Social Goals

The social goals screening category covers four subject areas that are: redeveloping the urban core and adaptive reuse, community support, local economic development, and regional "green" environmental benefits. Each of these screening categories are strengths for the Lincoln Highway Logistics Corridor.

Redeveloping the Urban Core and Adaptive Reuse - One of this study's motivating forces was the desire to redevelop a suburban area of Cook County, remediate brownfields, and draw value from underused properties. The Lincoln Highway Logistics Corridor meets this site selection criterion. Chicago Heights, Ford Heights, and Sauk Village are developed communities with redevelopment sites available for industrial uses.

Community Support - The Lincoln Highway Logistics Corridor meets this site selection criterion. The Southland's long history of redevelopment projects and this study have further cemented community support in the area. The village mayors and other local officials in this Corridor, the South Suburban Mayors and Managers Association, key departments within Cook County, the State of Illinois, the south suburban business communities, and a variety of training and employment centers strongly support this Corridor's redevelopment.

Local Economic Development - The Lincoln Highway Logistics Corridor meets this site selection criterion, which aligns well with Section 3.2 (Regulatory and Tax Environment). Deeply committed sponsors and partners, including the South Suburban Mayors and Managers Association, Cook County, The Chicago Metropolitan Agency for Planning, the Center for Neighborhood Technology, and Mi-Jack Corporation, have leveraged economic development efforts in the Southland. Local economic development efforts include industrial and logistics training, job placement, and access to brownfield remediation funding through the South Suburban Mayors and Managers Association's Brownfield Revolving Loan Fund or various federal Environmental Protection Agency programs. The level of commitment and expertise of the major players in the Southland is a powerful change agent.

Regional "Green" Environmental Benefits - The concepts of Cargo-Oriented Development (COD) include principles for minimizing freight development's environmental impacts. The Lincoln Highway Logistics Corridor meets this site selection criterion because it can offer companies the opportunity to shift truck cargo to rail, where feasible, to reduce pollution. Its location near population centers can also potentially minimize the amount of truck miles driven.

2.3.6 Land Use

The land use screening category covers two subject areas, appropriate zoning and compatible land use; both are strengths for the Lincoln Highway Logistics Corridor.

Appropriate Zoning - The Lincoln Highway Logistics Corridor meets this site selection criterion. Appropriate zoning for industrial, manufacturing, and logistics firms is in place in all the Corridor's municipalities. None of the target properties within the Lincoln Highway Logistics Corridor will require re-zoning, a potentially contentious process, especially where there are adjacent residential or other sensitive land uses.

Compatible Land Use - The Lincoln Highway Logistics Corridor also meets this site selection criterion. The land use pattern in the Lincoln Highway Logistics Corridor generally separates residential, commercial, and industrial uses. The target parcels in the study area are often adjacent to existing industrial property, vacant land, transportation facilities, and/or utilities, enhancing the existing land uses' value.

2.3.7 Workforce

The workforce category covers one subject area, access to competitive labor markets. Manufacturing and freight facilities can require a wide variety of talent from unskilled laborers to skilled manufacturing specialists and engineers. The Lincoln Highway Logistics Corridor meets this site selection criterion. The Lincoln Highway Logistics Corridor has access to a skilled workforce in both Illinois and nearby Indiana. In 2012, the Lincoln Highway Logistics Corridor

had a healthy manufacturing employment level commensurate with some of the strong manufacturing zip codes in Illinois and Indiana, such as Gary, Indiana. Also during this time, its percentage of manufacturing jobs to all employment was 45%, higher than the summary percentages for Cook County or Illinois (Longitudinal Employer-Household Dynamics, 2012).

This seasoned workforce resides in both Illinois and Indiana. Per the Longitudinal Employer-Household Dynamics data, 14% of Chicago Heights's workforce (those employed in the 60411-zip code) live in northwest Indiana. It has a magnitude and history, which the Ford Motor Co. Stamping Plant in Chicago Heights typifies. Since 1956, this plant has manufactured sheet metal stampings and welded sub-assemblies for Ford Motor Company's automotive car and truck assembly plants. This plant employs over 1,300 people and typifies the Lincoln Highway Logistics Corridor's workforce strength.

Partnerships with training programs at the Prairie State, South Suburban, and Olive-Harvey Community Colleges provide a feeder line of skilled workers to the study area. In 2013, the workforce development organization OAI founded a program, which works closely with the aforementioned community colleges to train workers for manufacturing jobs in Southland factories, including plants within the Lincoln Highway Logistics Corridor. This program emanated from a research project that the South Suburban Mayors and Managers Association and the Center for Neighborhood Technology led. OAI has placed over 200 newly trained Southland residents in skilled industrial jobs in more than thirty manufacturing facilities. This program continues to rapidly grow.

2.3.8 Synergy

Not easily quantified, synergy in a proposed industrial investment area is identified by the presence of available developable land, industrial product similarity, and people dedicated to change in the region.

Agglomeration/Clustering

Land - The Lincoln Highway Logistics Corridor is approximately 16 square miles stretching over three municipalities. It contains 217 acres of vacant industrial land in Chicago Heights, 32 acres of vacant industrial land in Ford Heights, and 86 acres of vacant industrial land in Sauk Village. Many of these parcels are contiguous, adjoin utility right-of-way corridors, and/or are near railroad right-of-way.

Relatively large target properties are typically situated near product manufacturing in allied industries such as plastics, chemicals, metal manufacturing, and transportation equipment. These properties allow bulk industries sufficient room to expand.

Commodity Confluence - Commodity flow analysis conducted in Section 5 of this study show that the key goods for review and strategic action in the Lincoln Highway Logistics Corridor are the chemical products, fertilizer, machinery, plastics/rubber, transportation equipment, and recyclables/scrap steel and fabricated metal industries. Expanding existing plants or siting allied industry to form "clusters" adjacent to these plants could accelerate growth within the Corridor.

Allies/Friends/Timing – Since public, private and not-for-profit groups in the region are focusing their actions on redeveloping the Lincoln Highway Logistics Corridor, the time may be right for remediating a few brownfields. A variety of skills are available to the Lincoln Highway Logistics Corridor to provide expertise in accessing grants, incentives, and other redevelopment tools.

2.3.9 Public Transit

While highway access and car ownership are often assumed in industrial site selection, transit availability is also important. Transit availability provides a substitute or backup plan to driving for workers and provides job opportunities for those without vehicles. The Lincoln Highway Logistics Corridor meets this site selection criterion.

Pace Route 357 runs east-west along U.S. Highway 30 (Lincoln Highway) each day and connects with the Metra Electric District at 211th Street Station. Pace Route 358 serves properties along Sauk Trail in Chicago Heights and Sauk Village and continues to the South Shore Station in Hegewisch from Monday to Saturday. Pace Route 352 provides daily north-south service along Halsted Street to link Chicago Heights with the CTA Red Line 95th Street/Dan Ryan Station. Pace also maintains the Chicago Heights Transportation Center at 1620 Vincennes Avenue where riders can connect between these services and four other Pace routes.

With this summary of LHLC's strengths & weaknesses based on industrial location factors, the study will take a closer look at how the corridor compares with other successful industrial development areas in the region.

3.0 Competitive Assessment

3.1 Introduction

In this Section, the Consultants will assess how well sites in the Lincoln Highway Logistics Corridor compete for development with other industrially zoned sites in Northern Illinois and Indiana. Firms that depend upon rail service to support critical supply chains would likely be the ideal market for this Corridor.

Staff at the Cook County Department of Transportation and Highways identified the following four industrial parks in the region for the Consultants to analyze:

- Buffington Harbor, Gary, IN
- University Crossing, University Park, IL
- Pullman Park Planned Development 1167, Chicago, IL
- City of Rochelle Railroad and associated business parks, Rochelle, IL

The following information is identified for each industrial park profile:

- Major customers
- Primary commodities moving into and out of each industrial park
- Primary services offered
- Access to major highways, roadways, railroads, and other transportation modes
- Major barriers to entry
- Economic data including aggregate property and sales taxes
- Key strengths and weaknesses

The Consultants then compared each of these industrial parks to the Lincoln Highway Logistics Corridor to determine their competitive position.

3.2 Site 1: Buffington Harbor, Gary, Indiana

3.2.1 Contact

Bo Kemp - Senior Director - Faegre Baker Daniels Consulting

Bo Kemp is a Senior Director with Faegre Baker Daniels Consulting and represents the firm's government advocacy and consulting team, focusing on public-private partnerships (P3) and municipal operations. Mr. Kemp is also the Senior Advisor to the Mayor of Gary, IN and the Gary Economic Development Corporation's Executive Director. In his roles, Bo is responsible for helping oversee the Gary Sanitary District (waste and storm water), negotiating the city's new residential waste collection contract, implementing the Mayor's Clean Technology (waste to energy) strategy, and helping guide and negotiate a $100 million public-private partnership with the Gary/Chicago International Airport. This public-private partnership includes development of the industrial footprint between the airport and Lake Michigan. This footprint contains three Class 1 rail lines (Norfolk Southern, CSX and Canadian National) and a potential cargo shipping port in Buffington Harbor

3.2.2 Description

The Mayor of Gary, Indiana is working on a proposal for the development of a multimodal freight industrial park, which will be situated on a 150-acre parcel in Buffington Harbor. This proposal seeks to leverage the existing transportation assets of rail, highway, and marine transportation systems, which currently exist at Buffington Harbor to serve the large Northwestern Indiana and Northeastern Illinois business base. The site sits within the City of Gary's Lakefront Tax Increment Financing (TIF) district.

The City of Gary established a port district in the 1970s, although that organization has only begun to recently take shape. The Gary Common Council approved by-laws for the port district in September 2017, after which the Mayor appointed the first board members. The long-term plan for the port district is to develop the 150-acre parcel at Buffington Harbor into an industrial park, capitalizing on its access to multiple transportation modes and lower levels of congestion compared to Chicago. The port authority also seeks to leverage the picturesque lakefront and sand dunes to attract businesses seeking a higher quality of life.

The establishment of a port district is less about investing in and facilitating maritime trade and more about the economic development tools that a port designation brings. For example, port districts can develop tax-exempt sites and solicit private investment in the construction, operation, or maintenance of facilities on port property[35]. These tools allow the port district to more easily attract private investment than the larger municipal government.

3.2.3 Major Customers

The largest manufacturing and transportation companies in Buffington Harbor include:

- Carmeuse Lime
- Lakes and Rivers Logistics, Inc.
- CN

3.2.4 Primary Commodities

Aggregate stone, calcium and dolomitic lime, chemical grade limestone, and crushed limestone aggregate products are this site's primary commodities.

3.2.5 Primary Services Offered

Buffington Harbor Industrial Park is still under development and currently has three customers: Carmeuse Lime, Lakes and Rivers Logistics, Inc., and the CN. Carmeuse Lime is a producer of lime and limestone products that are used in multiple industrial applications, including uses in the steel industry. Lakes and Rivers Logistics, Inc. is a stevedore cargo handling business which provides storage and a lay down area for dry bulk cargo. It has the capability to handle wind blades and components, steel making material, aggregate, and grain. The CN has storage tracks near the facility.

[35] *Indiana Code, Chapter 5. Creation of Port Authorities by Local Governments, Section 8-10-5-12.*

3.2.6 Access to Transportation

Buffington Harbor is 25 miles southeast of Chicago, with access to I-65, I-80, I-90 and I-94. U.S. 12 and U.S. 20 provide access for oversize and overweight permitted trucks. Gary has six truck terminals serving more than 100 trucking firms as well as the Gary/Chicago International Airport.

Buffington Harbor is a municipally owned port and is not part of the Ports of Indiana. The latter is an important organization that helps market three ports in the state and provides economic development assistance. The dock can accommodate lake vessels and river barges.

Buffington Harbor is home to three Class 1 railroads: the CN, CSX and NS, as well as the Indiana Harbor Belt Railroad (IHB), a regional short line railroad which provides passenger and freight service. The region has five significant railroad switching yards to move freight to and from manufacturing sites. These yards were built decades ago to serve the large local industries and have significant capacity to handle local freight. The Class 1 railroads connecting to Chicago are running more than 50 trains per day along their respective corridors.

The Northern Indiana Commuter Transportation District operates the South Shore commuter rail line through Gary, IN and has three stations there. Amtrak has supplementary bus service to downtown Gary, IN for its rail passengers.

3.2.7 Major Barriers to Entry

The Northern Indiana Regional Planning Commission's 2010 Regional Freight Study identified highway congestion, a lack of heavy haul truck corridors, a lack of investment in local infrastructure, and weather conditions (e.g., lake effect snows) as impediments to freight movement in the Buffington Harbor area. New business start-ups also have difficulty securing funding given the lack of a local consumer base.

Northwest Indiana has four interstates, I-65, I-80, I-90, and I-94. I-65 runs north-south and I-80, I-90, and I-94 run east-west through northern Indiana. I-80 and I-94 run on the same road from Lansing, IL through Gary to Lake Station, IN. I-90 is a tollway that is close to I-80/I-94. Many commuters and truckers take I-80/I-94 to avoid paying tolls on I-90 when it is convenient. This section of I-80/I-94, therefore, is frequently congested.

Truckers also face a weight restricted bridge when they exit off Indiana State Route 912 (Cline Avenue) to Buffington Harbor Drive. This bridge limits access to trucks that are over 16,000 Gross Vehicle Weight Rating (GVWR), have three or more axles, or tow a vehicle exceeding 10,000 lbs. Failure to comply with this posting will result in a fine of $5,000 per occurrence.

The Class 1 railroads are handling high train volumes on this Corridor through Gary, IN. Shared Amtrak operations add to the complexity of these local freight operations.

3.2.8 Economic Data

Northwest Indiana accounts for nearly a tenth of Indiana's economy. It is included in the Chicago-Naperville-Elgin, IL-IN-WI Metropolitan Statistical Area (MSA), which is ranked at the nation's third largest economy.

According to http://www.stats.indiana.edu/dms4/propertytaxes.asp, the Lake Ridge School district in Calumet Township in Gary has a property tax rate of 7.8939, which was ranked the highest property tax rate in Indiana in 2017. The median property tax rate in the state is 1.93.

3.2.9 Key Strengths and Weaknesses

Key Strengths:

- Like the Lincoln Highway Logistics Corridor, Buffington Harbor is within 25 miles of Chicago.
- Large steel and energy industries in Gary are reinvesting and modernizing with a strong focus on creating sustainable employment; other large companies are making substantial investments and creating higher paying jobs that require higher skill levels.
- Access to three Class 1 railroads and the short line, Indiana Harbor Belt, enable North American freight connections.
- Access to Amtrak and the South Shore Line provide passenger and commuter service respectively to the area.
- Access to Great Lakes and inland waterway marine transportation
- The establishment of a port district as an economic development tool. Buffington Harbor is developing a master plan for future port development.
- A Tax Increment Financing (TIF) District also supports local development.
- Strong experienced leadership with Public-Private Partnership (PPP) expertise
- State economic development incentives and property tax relief is available for business attraction. Currently working with developers on infill opportunities
- Indiana is the second cheapest state in the country for buying workers' compensation insurance, according to the Oregon Department of Consumer and Business Services' biennial rankings36. As of 2016, Indiana's workers' compensation insurance rates were 53 percent lower than the national average. Meanwhile, Illinois was tied for the 8th highest cost for workers' compensation insurance.

Key Weaknesses:

- Like the Lincoln Highway Logistics Corridor, funding is needed to complete redevelopment of logistics facilities.
- Travel time reliability is poor due to heavy traffic on interstates.
- A posted bridge on Buffington Harbor Drive requires alternative routing to access the logistics facility.
- Lack of Indiana-designated heavy haul truck corridors is of concern for oversize/
- overweight (OSOW) shippers.
- Lake effect snows are a significant winter weather impediment.

[36] http://www.cbs.state.or.us/external/dir/wc_cost/files/report_summary.pdf

3.3 Site 2: University Park, Illinois

3.3.1 Contact

Mayor Vivian Covington and John Pate, Village Manager, University Park, IL

Vivian Covington is the first female African-American to serve as Mayor in the Village of University Park. The Mayor has been a member of the Village's Trustee Board since 2003 and a Library Board Trustee since 2001. Ms. Covington is an Information Technology expert with more than 37 years' experience of Federal government service and is currently employed with the Veterans Administration.

3.3.2 Description

The Governors Gateway Industrial Park and Commerce Center is a 1,600-acre industrial park located in University Park in Will County's Monee Township. Farmland largely surrounds this facility. Ninety percent of the companies in this industrial park are in one of four Tax Increment Financing (TIF) Districts that have been in place since 1987. A new Tax Increment Financing (TIF) District has been created along University Parkway between I-57 and Cicero Avenue to ensure that industrial development will continue in the area and allow the Village to capitalize on future development.

The CN and the Metra Electric District provide freight and commuter rail service respectively to this industrial park. Highway access is convenient, with I-57 located immediately west of this industrial park and I-80/I-94 located five miles to the north. The Governors Gateway Industrial Park and Commerce Center is 15 miles west of I-65.

3.3.3 Major Customers

Eighty-four companies are listed in the Village of University Park's 2017 Industrial Park Directory; these are shown in Table 3-1. The companies located in this industrial park are involved in construction, food, logistics services, and technology. Several industries have rail access that is currently in use.

Table 3-1: 2017 University Park Industry Park Directory

2017 Village of University Park Industry Park Directory	
Advanced Mobility	Legacy Supply Chain
Aim National Lease	Lineage Logistics ICM
ALRO Steel Corp.	LMS Intelibond
Altra Builders	LSP University Park LLC
American Backhoe Service	M&R Graphics
Applied Systems	M. Lizen Manufacturing Co.
Aqua Illinois	Marigold Land Co.
Arbon Steel	Matrix Network Technologies
Arizona Shower Door	Metaltek Fabricating
AT&T	Mid Atlantic Products
Avatar Corporation	Midwest Custom Case Inc.
BASCO	Miller Metals
Bio Mass Energy Systems	Mission Produce

2017 Village of University Park Industry Park Directory	
Bimba Manufacturing Co.	MPI Label Systems
Bluelinx Corp.	National Tube Supply
Brennan Steel	PPL University Park LLC
Budrick Truck Lines	Pallet Quest Inc.
Clorox Company	Premier Transportation
Dart Company (Formerly Solo Cup)	Quality Hinges Inc.
DOT Foods	R&R Excavating
DSC Logistics	Regional Fence Sale
Dynamic Transportation	S&S Nationwide
ELCO Laboratories Inc.	Severn Trent Laboratories
Elman Trucking	Shanklins Truck Sales
Empire Refactory Sales	Skyline Movers Inc.
EMT Repair Services	Solvay USA Inc.
Esmark Steel Group	South Chicago Parents & Friends Inc.
Events Catering	Specialty Maintenance Repair
Federal Signal Corp.	Tri-R Distributing Inc.
Fontas Group	Tandem Metals Inc.
Holland LP	Test America
Heckenast Racing	The Playhouse Inc.
Hexacomb Corp	Tinley Ice Co.
Hydrite Chemicals	Universal Lubricants LLC
Insure Soft	University Park Energy LLC
Jessie's Country Kitchen	Ware-Pak Inc.
Jones Parts and Service	Western Utility Contractors
Katie's WIFI Café	Weldstar Company
Kennametal Tricon Metal and Svc.	Wilkens Foodservice
Kessler Industries	Wingfoot Commercial Tire
Labelblank Corp.	Yoshino America Corp.

3.3.4 Primary Commodities

The aforementioned companies provide transportation services, storage, and other industrial services. They support construction material, lumber, steel, food supply, and pharmaceutical supply chains.

3.3.5 Primary Services Offered

The Governors Gateway Industrial Park and Commerce Center is easily accessible to I-57, which seems less congested and more reliable than I-80 or I-55. It is also close to Chicago consumers and manufacturers.

Will County is considered to be a business-friendly location. Plenty of open space is available for future development and a variety of housing is available to suit multiple demographics. Affordable housing is also near the industrial park.

The Governors Gateway Industrial Park and Commerce Center is often considered a backup or second choice for industries reliant on intermodal railroad service facilities located in Joliet or

Elwood. Since the Governors Gateway Industrial Park and Commerce Center was established before the Joliet/Elwood intermodal complex, the existing warehouses in the Governors Gateway Industrial Park and Commerce Center are somewhat smaller than the newer industrial warehouses that are being built along I-55.

3.3.6 Access to Transportation

The CN serves the Governors Gateway Industrial Park and Commerce Center.

Access to I-57 is an attractive location for transportation and logistics firms with easy access to a large consumer and manufacturing business base in the Midwest. The park is considered close enough to the Joliet/Elwood intermodal complex to benefit from freight moving in international, intermodal service. Distribution companies find this location to be less congested than the areas around I-55, which results in more reliable transit times.

3.3.7 Major Barriers to Entry

The Governors Gateway Industrial Park and Commerce Center has few barriers to entry. Its location to the interstate highway system is good. It has rail access to the CN, which may be a limiting factor for rail shippers seeking access to customers that the BNSF, UP, CSX or NS serve. Available farmland surrounding the industrial park provides room for expansion.

3.3.8 Economic Data

Sales tax in University Park is 8% and telecommunication taxes are 13%.

3.3.9 Key Strengths and Weaknesses

Key Strengths

- Most of the land in the Village of University Park is in Will County, which is perceived to be more business friendly and responsive than Cook County.
- I-57 is less congested than other primary interstates in Northeastern Illinois and Northwestern Indiana.
- Passenger rail access provides transportation options for a regional workforce.
- Located in Will County, the industrial park benefits from the recent growth and reputation of transportation, warehousing, and distribution development in and around CenterPoint Properties.
- Industrial sites have been branded and marketed and are more modern than Lincoln Highway Logistics Corridor properties.
- A variety of housing is available for the local workforce.

Key Weaknesses

- One Canadian based Class 1 railroad serves this industrial park.
- The local truck routes that connect this industrial park to the Joliet/Elwood intermodal complex on I-55 are congested.

3.4 Site 3: Pullman Park Planned Development 1167, Chicago, IL

3.4.1 Contact

Angelica Marks, Vice President Real Estate, Chicago Neighborhood Initiatives (CNI)

Chicago Neighborhood Initiatives (CNI) is a private organization dedicated to economic and community development in Chicago's low-to-moderate income neighborhoods. It primarily works to attract real estate development to revitalize neighborhoods, but also offers training and microfinancing for local entrepreneurs. Chicago Neighborhood Initiatives is the master developer of the Pullman Park planned development.

- Chicago Neighborhood Initiatives has resources to provide infrastructure, site preparation and utility access for prospective businesses. This helps them attract more inquiries. Chicago Neighborhood Initiatives started providing these resources because they previously lost several inquiries after not having pad-ready sites with utilities available.
- It fulfills the role of a catalyst in bringing tenants and developers together and in helping mitigate risks for industrial developers.
- Chicago Neighborhood Initiative works with brokers to primarily attract new business.

3.4.2 Description

The Pullman community area is approximately 4.86 square miles and originated as a planned industrial town in the 1880s. It is generally bounded by 95th Street on the north, 115th Street on the south, Stony Island Avenue on the east, and Cottage Grove Avenue on the west. Although Pullman's population has significantly declined over the last several decades, it has recently seen new development, some of which is described in this section, and the designation of the Pullman National Monument in 2015. CTA

The Pullman Park Planned Development occupies 180 acres adjacent to I-94 near Lake Calumet, 12 miles south of the Loop. The developers have subdivided this development into parcels that will accommodate a 40,000-square foot big box retailer, 50,000-75,000 square feet of neighborhood retail, 1,100 new residential units, and indoor and outdoor recreational space. The developers intend for this site to be an economic engine for the community, providing both temporary construction jobs and permanent jobs. To date, three phases of development have been completed.

Phase A

This $37 million phase included both public and private infrastructure improvements required to create a 15.5-acre pad for a 150,000-square foot Walmart store. Public infrastructure improvements consisted of rebuilding and re-routing Doty Avenue from 107th to 111th Streets and building two retention ponds. Private improvements included utility installation, environmental remediation, dynamic compaction, and grading and construction of parking lot improvements. Construction for this phase started in July 2011 and was subsequently completed in September 2012, creating approximately 150 construction jobs. Walmart opened for business in September 2013, creating 400 new jobs and providing the community with fresh foods and retail goods.

Phase B

Initially approved in November 2012, this phase also included $37 million in public and private improvements. The result is 67,000 square feet of retail space that Ross Dress for Less and a 20,000-square foot Planet Fitness Health Club anchor.

Phase C

In 2013, Method, a leading manufacturer of eco-friendly cleaning products selected the Pullman Park Planned Development for its new 150,000 square foot manufacturing facility. A TIF district that the City of Chicago approved in August 2013 supported this $11.6 million project. A 21-acre pad was constructed for Method's factory. Method employs 100 people and opened in 2014. Amcor is Method's bottling plant and is located next to Method. Gotham Greens is Method's tenant and runs a rooftop garden to supply fresh foods to local restaurants.

3.4.3 Major Customers

- Amcor
- Gotham Greens
- Method
- Walmart
- Whole Foods Distribution Center
- Ross Dress for Less

3.4.4 Primary Commodities

The Pullman Park Planned Development's six businesses support local food growing and local distribution. Several retail facilities also feature consumer goods. Companies which provide packaging support local business activities. Method is a household consumer goods soap company which packages and distributes cleaning products to national retailers.

3.4.5 Primary Services Offered

- Financing to help new business in a planned development site in an urban area.
- Sites for mixed use retail and industrial applications.
- Industrial development catalyst for site development.

3.4.6 Access to Transportation

NS is the primary railroad. Direct access to I-94 from 111th Street, close proximity to I-80, I-57, and IL 394; close proximity to the Illinois International Port District's facilities on Lake Calumet.

3.4.7 Major Barriers to Entry

- Small parcel sizes (60 acres in multiple parcels remain to be developed).
- Primarily retail focus, so the Pullman Park Planned Development is not a typical industrial park.
- The Chicago Neighborhood Initiative has limited funds, which are insufficient for large site attraction efforts.

- While rail is close to the facility, the small size of the development limits the introduction of rail spurs for bulk commodities.

3.4.8 Economic Data

Between 2000 and 2010, Pullman experienced a 22 percent decline in population. The median 2013 household income of the community was $40,818, compared to an average of $47,270 for the City of Chicago, a difference of roughly 16 percent. A total of 34 percent of the residents had household incomes of less than $25,000, compared to 29 percent of residents for the City of Chicago.

The sales tax rate in Chicago is 10.25% and the telecommunications tax rate is 7%.

3.4.9 Key Strengths and Weaknesses compared to the Lincoln Highway Logistics Corridor

Strengths

- Leadership and oversight from the Chicago Neighborhood Initiative
- Expertise in using tax credits to attract new business
- Financing and a TIF district to fund local development related improvements
- The Chicago Neighborhood Initiative has resources to mitigate development risk.
- The Chicago Neighborhood Initiative develops relationships to bring prospective tenants to the development.
- NS rail access
- Interstate highway access
- Pullman Crossing has a branded marketing effort and a master plan for the development of the remaining 60 acres.
- Proximity to Olive-Harvey College and technical training facility

Weaknesses

- While NS rail access is present, current tenants are not using it.
- First banking effort was undercapitalized and defaulted to US Bank.
- The Chicago Neighborhood Initiative does not build speculative buildings, given that City of Chicago buildings permits expire after 12 months of inactivity, which may be insufficient time to a prospective client. However, CNI may consider speculative construction in the future.
- Parcels are small with limited truck parking space.
- Local street traffic has many stop signs, as well as constrained turning geometry for Class 8 trucks, making truck access to some facilities difficult.

3.5 Site 4: City of Rochelle IL Railroad & Industrial Park

3.5.1 Contact

Jason Anderson – Director, Greater Rochelle Economic Development Corporation

The Greater Rochelle Economic Development Corporation (GREDCO) is a partner of the City of Rochelle and plays a unique and effective economic development role. Much of Rochelle's success in attracting industrial clients and other new business is tied directly to its relationship with the Greater Rochelle Economic Development Corporation. Its mission is "*To take the lead role in attracting new businesses and industries to the Rochelle Area, consistent with the strengths, stability, and quality-of-life of the area*".

The Greater Rochelle Economic Development Corporation's Board of Directors is made up of community-wide business leaders that actively help the Economic Development Department with strategic planning. The Greater Rochelle Economic Development Corporation also enjoys entrepreneurial flexibility that allows the Rochelle area to position itself quickly and favorably to potential business clients.

3.5.2 Description

Rochelle has two industrial parks.

Prologis Park

Prologis Park is a 300-acre industrial park located at the southwest corner of I-88 and I-39. Most sites are shovel-ready and available as build-to-suit, for sale and/or for lease. Electric, gas, water, and fiber optic cable are available at each site. The City of Rochelle Railroad extends throughout Prologis Park. It is a few miles from the UP Global III intermodal terminal. Truck parking and driver services are available in the area, which create a transportation friendly environment for the trucking community.

CenterPoint Intermodal Center

The CenterPoint Intermodal Center is a 338-acre park on Rochelle's west side, offering quick access to I-88 and I-39. It provides same-day access to nearly every major Midwestern market. Located next to the UP Global III intermodal terminal, sites are available for built-to-suit, for sale, or for lease. CenterPoint Properties manages this site.

3.5.3 Major Customers

Table 3-2: Rochelle Industrial Park Directory

2017 Rochelle Industrial Park	
Allstate	Illinois River Energy
Americold	Nippon Sharyo Manufacturing
BNSF Railway	Quick Start
Boise	Rochelle Foods
BP	Rochelle Printing
Cedar Siding	Ryder
Clark Dietrich Building Systems	Sara Lee
Del Monte Foods	Silgan
Hub Printing Inc.	Union Pacific Railroad
Burlington Jct. Railway	Wausau Supply Company

3.5.4 Primary Commodities moving in and out of each industrial park

The 20 customers in Rochelle's industrial park handle the distribution of frozen food, lumber, and construction materials moving inbound to Chicago. They also handle fracking sand, food, and construction materials moving outbound west of Rochelle.

3.5.5 Primary Services Offered

Rochelle's industrial parks primarily warehouse and distribute goods to support the Illinois, Iowa, Wisconsin, and Minnesota consumption area. Transloading is offered for fracking sand to move locally sourced sand to drilling locations that rail serves.

The passenger rail construction facility serves the passenger rail network in nearby Chicago.

3.5.6 Access to Transportation

Both the Union Pacific and the BNSF directly serve Rochelle. The City of Rochelle Railroad switches railcars to both Class I railroads. The Union Pacific Global III Intermodal terminal provides efficient, low-cost shipping and offers industrial transloading services.
The City of Rochelle Railroad provides switching services to local industries as required, interchanging railcars with Union Pacific Railroad and BNSF mainline trains. It is expanding track to new industrial areas and is increasing storage tracks to accommodate increased railroad traffic. Uniquely, the City of Rochelle publicly owns this railroad.

Highways:

Interstate I-39 is noted as a "Transportation and Logistics Corridor", connecting national suppliers to Illinois commercial interests along this north-south corridor. I-88 is considered the "Research and Development Corridor" connecting important technology and research and development enterprises east-west along its route. State Highways 38 and 251 intersect in Rochelle, providing important rural and agricultural access and support the movement of oversize and overweight heavy haul loads connecting to and from the railroad network.

3.5.7 Major Barriers to Entry

Rochelle's industrial parks have no significant barriers to entry for site selectors. Land is inexpensive and sites are shovel ready with good highway and rail transportation access. Taxes are low compared to Cook County.

3.5.8 Economic Data

The general merchandise sales tax is 7%, including a 0.75% municipal sales tax. The telecommunications tax rate is 13%.

In 2003, the UP opened Global III, a new inland port on 1,200 acres it purchased in Rochelle, Illinois. This investment cost $5.4 million, according to its website. Global III was designed to handle 750,000 intermodal containers per year at full build out. Currently as built, it handles 500,000 intermodal containers per year.

The UP received federal and State funds for this project, including a $4.3 million grant from IDOT's Economic Development Program for roadway access, a $3.3 million loan from IDOT's Rail Freight Program, and a $2.2 million grant from the U.S. Economic Development Administration to fund water lines, sanitary sewer lines, and roadway improvements.

An economic impact study analyzed the rail development's impact spanning a 50-mile radius. It stated that the Global III intermodal facility caused over $1 billion in capital investment, created over 4,500 jobs, and stimulated demand for nine million square feet of industrial space. This rail development established Rochelle as a regional freight hub. Between 2002 and 2008, the number of people working in Rochelle who lived outside of the city increased 9.6%. In 2008, only 25.9% of the people working in Rochelle also lived there.

Freight transload operations also grew up around Global III. A pipe company that needed to move 30 miles of pipe over an 18-month period selected a facility in Rochelle given its interstate access and space for a lay down area to stage the pipe. A windmill components operation was also established in Rochelle. It distributes components over a 400-mile radius from the facility. A dry grind corn-to-ethanol plant also located in Rochelle, bringing 60 new jobs.

3.5.9 Key Strengths and Weaknesses compared to the Lincoln Highway Logistics Corridor

Strengths

- Congestion free alternative to Chicago.
  - Access to two Class 1 railroads
  - Short line switching railroad provides customized services, including the establishment of the municipally owned City of Rochelle Railroad in 1986.
  - Grade separations to reduce at-grade crossing delays.
  - Convenient access to I-88 and I-39
- Business friendly
- Supportive community pro-growth development environment
- Shovel ready sites for development

- Good workforce
- Low-cost land accessible to transportation
- Low-cost power, water, sewer, and utilities
- A cluster of food and refrigerated warehouses attracts similar sector companies.
    - 2-3 cold chain cross dock facilities which can handle multiple types of chilled food products
    - 70 million cubic feet of dry storage
    - 30 million cubic feet of cold storage
    - Diversity of products from food, manufacturing, to bulk commodities
    - 150 plugs for refrigerated unit charging (truck or rail)
- Received 20 million in State and Federal grants over 15 years
- Foreign Trade Zone

Weaknesses

- The distance to Chicago consumers is approximately 81 miles.

3.6 Summary

The following main points can be gleaned from the strengths and weaknesses in the individual assessments:

- The burden of high tax rates is an impediment to development in the Lincoln Highway Logistics Corridor.
- Workers compensation rates in Illinois are significantly higher than neighboring states.
- Rail access is an advantage but not a differentiator for site developers. To date, industrial developments in Buffington Harbor and Pullman do not use available railroad access.
- Successful industrial parks feature shovel ready sites with utility and transportation access to enable rapid development of new facilities.
- Proximity to Chicago and to multiple forms of transportation remains important to the region's industrial development.
- Availability of a skilled workforce is essential for industrial development.

To further flesh out the existing conditions report, a set of comprehensive industry interviews were conducted in the LHLC. These are presented in Section 4.

4.0 Industry Interviews

4.1 Introduction

The final product of this effort is the Strategic Plan provided in Section 8 which focuses on tactics for redevelopment of existing vacant or underused industrial sites to elevate them to their "highest and best use" to spur economic growth. These strategies will leverage the existing rail and highway infrastructure and the vacant or underused industrial sites to tap this Corridor's full logistics potential. This study therefore requires an understanding of the region's producers and consumers including the necessary locational factors needed to attract industrial development. Section 4, Industry Interviews required the Consultants to identify and contact between 12 and 20 stakeholders to share their perspectives about current opportunities in the target development area. They completed a total of 18 interviews in 2017. Stakeholders included railroads, logistics service providers, and real estate professionals, as well as existing and prospective businesses.

To frame the interview process, Cook County identified 21 potential economic development sites in Chicago Heights, Ford Heights and Sauk Village (Appendix 4A). These sites are located 30 miles south of Chicago's central business district, near Lincoln Highway (US 30) between Chicago Road (IL 1) on the west, Joe Orr Road on the north, Torrence Avenue on the east, and Sauk Trail on the south. Parcel sizes range from 14 to more than 300 acres. Some have rail service while others do not. Some sites are publicly owned; some are not. The sites are collectively within five miles of the Indiana State Line.

Primary transportation assets include rail access to four Class I railroads and critical state and interstate highway networks including I-80, IL 394, and US 30. While the Union Pacific Railroad (Union Pacific Railroad) and the Canadian National Railway (CN) are the primary Class I railroads serving the Lincoln Highway Logistics Corridor, the CSX Railroad has reciprocal switching rights to this area given historic railroad agreements. The Norfolk Southern Railway (NS) owns access rights to the Ford stamping plant in Chicago Heights but after a grade crossing closure at US 30, this railroad segment was orphaned from the Norfolk Southern Railway mainline rail network and is currently not in use. Transportation assets, whether highway or rail, play an important commercial role in the Lincoln Highway Logistics Corridor.

4.1.1 Purpose of Stakeholder Interviews

The interview task was completed to identify current stakeholders' perceptions about industrial development opportunities and barriers in the Lincoln Highway Logistics Corridor.

The Consultants identified the following three critical stakeholder groups to explore development opportunities:

1. Railroads with access to the Lincoln Highway Logistics Corridor
2. Local developers who have successfully developed industrial parks
3. Current land owners, lease holders, and business owners.

The Consultants interviewed the railroads to gain a current understanding of railroad access, the condition of the local infrastructure, and a better understanding of how service is designed to connect local users to the North American railroad network. They also interviewed local developers to identify real estate and industrial development perceptions about the Lincoln Highway Logistics Corridor, including regional development preferences and recommendations for this Corridor. Finally, they contacted local businesses to gain insights about inherent location advantages and the business climate in the study area.

4.1.2 Organization

This report is organized in three sections with an appendix for reference documents. The three main sections are the following:

- The review of key findings which summarizes the voices of stakeholders interviewed.
- The description of the interview candidate selection process which identifies the process and tools used to identify stakeholders.
- Detailed interview highlights presented for each stakeholder, which note insights that support the key findings.

4.1.3 Brief Railroad History of the LHLC

Rail-served industrial development has a long history in the Lincoln Highway Logistics Corridor. Historical documents from the Chicago Heights Historical Society identify the Chicago Heights Land Association, a 75-acre industrial park as the first planned manufacturing district in Illinois. The Chicago Heights Land Association was designed to be served by a railroad and a warehouse company to support steel manufacturing in Illinois.

The Chicago Heights Terminal Transfer (CHTT) was incorporated in March 1898 under the general laws of the State of Illinois for constructing a railroad which could assemble shipments from different points in the Town of Bloom, Cook County, Illinois. The Chicago Heights Terminal Transfer connected local manufacturers in this industrial park with the Chicago Burlington & Quincy Railroad, which in turn connected Chicago Heights to important suppliers and customers in the region. In 1927, the Chicago & Eastern Illinois (C&EI) Railroad purchased the Chicago Heights Terminal Transfer. At the time of acquisition, the Chicago Heights Terminal Transfer operated 6.8 miles of mainline in Chicago Heights and 22 miles of side tracks. The Union Pacific Railroad now owns the Chicago & Eastern Illinois Railroad's track and operating authorities.

This railroad network was essential to the industries that the Chicago Heights Land Association wanted to attract, particularly steel. The Chicago Heights Land Association developed the concept of a steel manufacturing industrial cluster to attract European entrepreneurs with the promise of free land, a few free factory sites, free water and electricity, and inexpensive fuel. These guarantees attracted John W. Thomas, who in 1893 founded Inland Steel. By 1900, 44 industries along with Inland Steel generated a combined output worth $53 million[37].

Historical ownership of rail lines in the Lincoln Highway Logistics Corridor affects access to Class I service today. In May 1967, the Missouri Pacific Railroad acquired the Chicago & Eastern Illinois.

[37] *Chicago Tribune, October 12, 1988 "Founding Fathers Made All the Difference" by Jacquelyn Heard.*

As a condition to this acquisition, the Interstate Commerce Commission imposed a competitive access condition requiring the Missouri Pacific to give up the Chicago & Eastern Illinois Railroad rights on the line from Woodland Junction, IL to Evansville, IN to the Louisville & Nashville Railroad (one of the CSX's predecessors). The Commission also required that Missouri Pacific Railroad and the Louisville & Nashville Railroad share joint ownership of the railroad between Woodland Junction, IL and Dolton, IL. Today, the Union Pacific Railroad and CSX operate this line, which connects the Lincoln Highway Logistics Corridor to the North American railroad network. Even though CSX owns half the Woodland Junction-Dolton segment, the Union Pacific Railroad dispatches and maintains this line. Shippers who desire to connect to the CSX from Lincoln Highway Logistics Corridor properties must pay for reciprocal switching services which the Union Pacific Railroad determines. Today, the Dolton Yard is a busy classification yard which supports north-south service on the Union Pacific Railroad network and provides important access to Laredo, TX and beyond.

The Norfolk Southern Railway served the Lincoln Highway Logistics Corridor, including the Ford stamping plant until the closure of an at-grade rail crossing on US 30 at the Illinois-Indiana border in 2013. The remaining track segment is no longer connected to the Norfolk Southern rail network. The Norfolk Southern Railway is currently leasing its rail property to an energy company that does not use the railroad.

The Canadian National Railway Railroad acquired the Elgin, Joliet, and Eastern (EJ&E) Railroad in 2009 from U.S. Steel. The EJ&E connected Waukegan, IL to Gary and Porter, IN, passing through the Lincoln Highway Logistics Corridor's southern boundary. The Canadian National Railway did not receive industrial properties as part of this transaction. The Canadian National Railway currently serves parcels in the Sauk Village study area.

As a result of this railroad history, the Lincoln Highway Logistics Corridor is home to legacy rail transportation infrastructure remaining from a planned manufacturing district that has access to three Class I carriers with extensive service networks in Canada and the U.S. as well as access to rail connections in Mexico. Parcels of various sizes are available with excellent highway access and proximity to a large Chicago-anchored consumer district.

4.2 Key Findings

The following key findings emerged from the interviews the Consultants conducted in this section:

1. The Lincoln Highway Logistics Corridor is connected to a congested shared use Union Pacific Railroad freight rail corridor. Two busy rail junctions north of Chicago Heights (Thornton and Dolton Junctions), Amtrak's Cardinal and Hoosier Service trains that run on part of the Union Pacific Railroad north of Chicago Heights, and coordination with Metra movements to the north impact this freight rail corridor. Moreover, Canadian National Railway switching movements are impacted by sharing the mainline south of Matteson with freight; Amtrak's City of New Orleans, Illini, and Saluki trains; Metra Electric service, and service to and from multiple industries from Gary, IN to University Park, IL.

2. New industry starts in the Lincoln Highway Logistics Corridor will need to be carefully analyzed to ensure rail service can be designed to reliably serve new industries located on a busy railroad network.

3. The Chicago Heights Terminal Transfer track is old and, in some cases, does not meet current industry standard allowable gross weight. This means railcars may not be loaded to full capacity when moving on outdated infrastructure. Track curvature precludes access by modern Class I railroad locomotives, which requires workarounds for local customers. Investment is needed to upgrade much of the existing track to improve competitiveness.

4. Railroads are reactive to customer inquiries and are seldom in a position to be proactive given limited real estate and land holdings.

5. Railroads have limited rail-served industrial sites available in northeastern Illinois.

6. Most of the Lincoln Highway Logistics Corridor sites are neither site certified by the railroads nor shovel ready.

7. The Lincoln Highway Logistics Corridor lacks an inventory of housing and local amenities to satisfy a new workforce for a single owner of the largest 300-acre site.

8. The State of Illinois's business climate is uncertain. Cook County is viewed as slow to respond to business concerns.

9. Local businesses are concerned about declining property values and increasing taxes.

10. Indiana is perceived to be more business friendly.

11. South suburban municipalities compete against each other for industrial prospects.

12. Highway access and proximity to Chicago are the primary industry attractions.

4.2.1 Railroad Industry Perspectives

The railroad industry is dynamic and has multiple business units which provide service tailored to customer segments. Broadly speaking, there are three segments of freight railroad service: Intermodal Service which is a terminal-to-terminal service of dedicated containers or trailers that logistics partners typically own.

The first is Transload Services that the railroad and/or logistics service providers offer. This service brings railcars to a site where bulk freight is transferred between rail and truck for local delivery. Full Railcar Service brings railroad cars from road trains to and/or from local industries. Freight moves from industry dock door via rail to an industry dock door in a single transportation mode. Railroads solely control this traffic and do not rely on trucks to provide this service.
The Lincoln Highway Logistics Corridor study is focused on transload or full railcar service, not intermodal service. For these two service types, railroads are mainly interested in three considerations:

1. Is there network capacity to move freight from terminals to local industries with sufficient time to spot local shipments at customer docks within the crew's service hours?

2. Does the track have sufficient capacity to enable modern industry standard rail cars with maximum loading weight (i.e., 286,000# allowable gross weight)?
3. Do they have access to the customer site?

4.2.1.1 Network Capacity

The Union Pacific Railroad (UPRR) is the dominant carrier in the Lincoln Highway Logistics Corridor. The Union Pacific Railroad acquired the Chicago Heights Terminal Transfer Railroad (CHTT) through a series of mergers and acquisitions in 1997. This transfer railroad provides local service to most of the industries in the Lincoln Highway Logistics Corridor. The Union Pacific Railroad and CSX share operating rights on the Villa Grove Subdivision[38], which connects the Union Pacific Railroad Dolton Terminal to the Lincoln Highway Logistics Corridor. This heavily used rail corridor supports Union Pacific Railroad, CSX, and Amtrak trains and is a very busy freight corridor.

The Canadian National Railway Railroad has direct service to the Sauk Village area and connects the Lincoln Highway Logistics Corridor to the Canadian National Railway network via its Gary, IN switching terminal. The Canadian National Railway Railroad has limited access to industries within the Lincoln Highway Logistics Corridor and serves fewer industries than the Union Pacific Railroad.

FINDING 1 – The Lincoln Highway Logistics Corridor is adjacent to a heavily congested rail corridor which will impact service reliability. The serving carrier should carefully study new industries in the Lincoln Highway Logistics Corridor to ensure that sufficient crew time and network capacity can support new traffic.

FINDING 2 – New railcar business startups will need to be carefully studied to make sure that sufficient service windows are available for local freight trains to move between switching terminals and Lincoln Highway Logistics Corridor customers.

4.2.1.2 Track Capacity

Railroads historically priced rail transportation in dollars per hundredweight of cargo, with the price typically scaled to reflect the cargo's value. After deregulation in the 1970s and 1980s, some commodity prices were simplified to dollars per carload. In either case, there is significant benefit to the shipper and carrier to load the rail cars as heavily as practical, which requires appropriate track designs to accommodate these weights. The current industry standard is an allowable gross weight of 286,000# and some railroads would like to move toward 315,000# in the future. To maximize profit per train, railroads want all their partners to be as efficient as possible and have the capability to move freight on 286,000# railroads. Portions of the rail in the Lincoln Highway Logistics Corridor are reported to be below this standard and many of the industry spurs have such tight curvature that modern locomotives cannot access the industry docks.

FINDING 3 – The existing rail infrastructure needs to be updated to 286,000# track and existing rail curvatures need to be updated to improve efficiency.

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[38] The Union Pacific Railroad Villa Grove subdivision runs from approximately 81st Street in Chicago to Villa Grove in Douglas County, IL. CSX operates jointly on the subdivision from Dolton (IL) Junction to Woodland Junction in Iroquois County, IL.

4.2.1.3 Railroad Industrial Site Development

Railroads are not in the real estate business and do not typically own vacant sites or directly develop available land. A customer inquiry typically initiates the railroad industrial development process. Specific origin and destination volumes and service requirements necessitate a detailed service plan analysis to ensure that sufficient network capacity exists to add new freight. Given the reactive nature to customer inquiry and a commodity-driven marketing focus, few railroads undertake brownfield redevelopment projects.

FINDING 4 – Railroads are reactive to customer inquiry and are seldom proactive in the redevelopment of industrial property given limited land holdings.

FINDING 5 – Railroads are interested in real estate development opportunities when they are sole source providers because they have a limited inventory of available rail-served sites for business prospects.

4.2.2 Real Estate and Industrial Development Industry Perspectives

Since railroads have limited land holdings, real estate experts and developers have stepped in to assemble property and develop logistics centers where transportation synergies can be achieved, such as the CenterPoint Logistics Park in Elwood/Joliet. Other real estate firms help clients find rail-served sites in the region based on individual purpose and need. For example, food manufacturers and distributors look for low-cost utilities to minimize refrigeration costs. Chemical and plastics companies typically have expensive customized piping requirements. Retail and ecommerce companies typically seek buildings with clear interior walls and high ceilings to accommodate sophisticated RFID and racking systems.

Brownfield sites face many challenges that make them less attractive to developers. Given dramatic growth and changes in commodity and e-commerce services, site specifications often preclude outdated buildings.

Interviews also identified an uncertainty in the business climate in Illinois and the fact that neighboring states are more responsive to business needs and are more cost competitive. Concerns were expressed about the pace of response at the County level.

FINDING 6 – The sites in the Lincoln Highway Logistics Corridor have not been assembled, marketed, or groomed to compete with shovel-ready sites offered in other areas. Potential tenants face risk in site cleanup efforts if environmental hazards are identified. Lack of shovel-ready site certification can result in extended development time to assemble permits and utility access.

FINDING 7 – Industrial sites must also consider ample attractive housing stock for employees. The Lincoln Highway Logistics Corridor is not considered to have an attractive residential community.

FINDING 8 – The real estate and developer community expressed unanimous concern about uncertainty in the Illinois business climate and Cook County's responsiveness.

Nevertheless, the existing transportation infrastructure and industrial base in the Lincoln Highway Logistics Corridor are key advantages. Properties in the Lincoln Highway Logistics Corridor area

will have appeal to a narrow segment of industries including the logistics and steel industries. If sites could be certified as shovel ready and branded as a single industrial park, development risks would be lessened and this area would be more attractive for industrial development.

4.2.3 Local Business Industry Perspectives

A divide exists between new businesses which have been incentivized to locate in the area and longstanding businesses which have been in the area for 20 or more years. While new industries have received incentives to develop new facilities, existing businesses note that property values have declined while taxes have increased. In general, many legacy companies in the area were involved in the steel industry's industrial ecosystems, either as suppliers, scrap brokers, storage facilities, or fabricators. More recent business development, however, tends to be centered on logistics supply chains which leverage first and last mile highway access. Located at the doorstep between Indiana and Chicago, these companies, which include 3PL service companies, trucking companies, and transloaders, need excellent highway connections to locate in the Lincoln Highway Logistics Corridor. New businesses are attracted to the area because of highway access and incentives; rail access was not mentioned in the interviews as a primary attraction for these companies.

Most companies were negatively concerned about Illinois' business climate. Sites in Illinois are not competitive with Indiana property taxes, relocation incentives, or workers' compensation insurance. They see the City of Chicago Heights as responsive, but do not perceive Cook County as business friendly.

Local industries with rail service noted that they work around aged rail infrastructure. Most industries using the rail network need facility upgrades to attract new transload users, yet the interviewee noted that he does not know of a local rail funding program in Illinois to address these needs. Transportation funding programs in Illinois have caps and limits on how much funding can go to railroad projects, and highway applications typically oversubscribe these funds.

FINDING 9 – The uncertain Illinois business climate, increasing tax rates, and declining property values concern local businesses. Several existing businesses are no longer investing in Illinois and are increasing activities at facilities outside of Illinois.

FINDING 10 – Indiana is perceived to be a more attractive location for business growth.

FINDING 11 – South suburban communities are extremely competitive amongst themselves and are concerned about neighboring communities poaching industrial client leads. This lack of cooperation makes it difficult to attract new business, even when the rail-served sites offer distinctly different advantages, services, parcel sizes, and carrier networks. In some cases, prospective tenants can use this lack of cooperation to their advantage if communities bid against each other for incentives.

4.3 Opportunities

A broad set of opportunities emerged from the industry interviews.

1. Canadian National Railway supports the extension of rail track into Sauk Village to serve new properties by rail.
2. CSX has reciprocal switching rights for properties in the study area which the Chicago Heights Transfer Terminal Railroad historically served. However, congestion on the Dolton to Woodland Junction Subdivision often requires the Union Pacific Railroad to hold cars at Dolton Yard, which extends service times and increases operating costs.
3. Each railroad company mentioned recent changes to their industrial development inventory of available properties. Section 6 of the Lincoln Highway Logistics Corridor Feasibility Study provides a detailed description of available sites, including utility, access, tax, and parcel description information.
4. Explore the possibility of developing a rail extension from the Happ property to replace former rail access to the Bob Fox property ("Site B" of the Lincoln Highway Logistics Corridor target sites).
5. Work with brokers and railroads to assemble a pre-development plan for each Lincoln Highway Logistics Corridor site. Consider rebranding and assembling all Lincoln Highway Logistics Corridor properties with a single point of contact and web presence. Remove blighted buildings and overgrown landscaping to clean up the sites. Advertise Lincoln Highway Logistics Corridor sites on railroad and real estate development marketing websites to increase visibility.
6. Stabilize the Chicago Heights and Ford Heights tax base to attract business development. While the Lincoln Highway Logistics Corridor has strong transportation assets and highway connections, there is uncertainty about the state and local business climate. Business stakeholders' perceptions of Illinois, Cook County and Chicago are not positive in the current market.
7. Explore opportunities to equalize or match development incentives for communities near the Illinois/Indiana State Line.
8. Transloading facilities in the area would benefit from improved rail infrastructure. If funding could be found to upgrade rail track, more business could be handled at these facilities. For example, improved paving at these facilities would allow food-grade commodities to be transloaded at current facilities without risk of contamination from gravel debris. Fencing and off-street parking would reduce theft and improve safety and security.
9. Vacant tax delinquent parcels may provide expansion opportunities or off-street parking for transloaders.

10. FedEx has an aggressive growth strategy and will double volumes again in the next five years. Make sure local economic development firms are working closely with FedEx to expand in the Lincoln Highway Logistics Corridor.
11. The longstanding business owners in the Lincoln Highway Logistics Corridor recommend that property taxes should not exceed 2% of the assessed property value. Recent tax increases are not sustainable and taxes on existing businesses should not be used to subsidize new enterprises.
12. Identify workforce development training needs to improve the area's workforce.
13. Improve communication and cooperation between south suburban municipalities to improve business attraction.
14. Local companies note that local road infrastructure improvements are needed.

4.4 Interviews

The Consultants completed twenty interviews to gain insights about existing conditions and policies which limit growth in the area and to identify the best opportunities for redeveloping existing vacant or underused industrial sites to elevate them to their "highest and best use". While they contacted more than twenty-five companies, several of them declined to participate or were non-responsive to repeated outreach efforts. Eighteen interviews contained enough substance to be documented in this report.

4.4.1 Interview Process

In October 2016, the Consultants assembled a list of 277 regional stakeholders, which included public agencies, freight service providers, and local industries. They reduced this list to 57 and then further prioritized it to 30 candidates to ensure there would be at least 20 participants. The 18 interviewees that were finally used for this report are listed in Appendix 4B.
The Consultants prepared discussion guides (shown in Appendix 4C) for each stakeholder group to identify the following:

- How is rail service provided to the target area today?
- How do developers view the available sites in the Lincoln Highway Logistics Corridor from a business attraction prospective?
- Why are current land owners and lease holders located in the Lincoln Highway Logistics Corridor?

These interviews sought to identify potential business opportunities and/or potential users for vacant or underutilized parcels in the target study area. The Consultants conducted in-person or telephone interviews between March and November 2017. They emailed an interview packet to each company, which included a letter of project introduction, an interview application, a parcel map, and an interview discussion guide. Below are company descriptions and a summary of key findings for each interview.

4.4.2 Individual Interview Summaries

4.4.2.1 Interview 1: Canadian National Railway

The Canadian National Railway is the largest Canadian railroad in North America, with 19,600 miles connecting Atlantic, Pacific and Gulf of Mexico ports. In 2016, the Canadian National Railway generated $12 billion in revenue.

Scott Anderson represents the Canadian National Railway's industrial development group. The Canadian National Railway owns no developable property in the target area and only has limited access to Bulkmatic at 2351 State Street in Chicago Heights. However, it serves Winpak, at 1111 Winpak Way in Sauk Village. The Canadian National Railway has interchange rights to the Norfolk Southern Railway switching tracks located just south of the Ford stamping plant (although it currently has no direct connection between the Canadian National Railway and Norfolk Southern Railway tracks). The Norfolk Southern Railway switching tracks are no longer active given a grade highway crossing closure in 2013.

Mr. Anderson spoke of a vibrant industrial development environment in the North Central states and mentioned that 22 million square feet of warehouse capacity has been built in Illinois, but none in Cook County. He also mentioned that vacancy rates were going down in Illinois, yet no one has undertaken speculative construction efforts in Cook County.

The Canadian National Railway switch crews come from Kirk Yard in Gary, IN to switch the Bulkmatic and Sauk Village customers. Switch crews then travel to University Park, IL industries before returning to Kirk Yard. The Canadian National Railway local train is often delayed due to required meets and passes with Amtrak and Metra trains. If new customers were added in the target area, the Canadian National Railway would need to understand the origin and destination rail freight flows for the new customer since this might influence local service patterns.

Mr. Anderson said that the Canadian National Railway is very enthusiastic about the prospect of serving additional sites and existing industries in the target area. He stated that the Canadian National Railway has no land in the Chicago area and must work with real estate brokers and developers to find properties for potential clients. The Canadian National Railway will contact Norfolk Southern Railway about potential access to the Ford plant via the Norfolk Southern Railway tracks next to the former EJ&E right-of-way in an effort to serve Chicago Heights properties.

To access the largest parcel in the Lincoln Highway Logistics Corridor, the Canadian National Railway would have to cross Lincoln Highway. In today's environment, railroads prefer to close public highway grade crossings, not create new ones, so the probability of a new grade crossing is not strong. Mr. Anderson also mentioned that the Canadian National Railway is updating its industrial development website to provide more information about potential parcels.

Mr. Anderson said that the formula for new industrial developments varies by region and carrier. The Canadian National Railway evaluates each proposal on a case-by-case basis because of unique circumstances such as network freight density, competitive developments, existing crew time for local trains, and local business conditions. Site certification can provide a head start for potential development, saving 12 to 18 months in the project development process. In terms of successful

development models, Mr. Anderson mentioned the Canadian National Railway's success with greenfield sites in Memphis, TN and Calgary, Alberta. In each case, the Canadian National Railway has partnered with a real estate developer. Mr. Anderson noted that Michigan has an effective state-level economic development program. Within the Lincoln Highway Logistics Corridor, he mentioned that the Sauk Village Logistics Center was a good example of industrial rail development.

4.4.2.2 Interview 2 CSX (Railroad)

CSX Transportation operates more than 21,000 miles of railroad in 23 states and two Canadian provinces, connecting 70 ports and more than 240 short line railroads. In 2016, CSX generated $11 billion in operating revenue and spent $2.6 billion on network improvements. The Consultants interviewed Adam Hess, Industrial Development Manager, and Tom Livingston, Regional Vice President for Government Affairs.

The CSX believes that all rail-served sites are valuable and supports the Lincoln Highway Logistics Corridor Feasibility Study. It has no local service to these sites but does have reciprocal switching rights with the Union Pacific Railroad. The CSX operates 20 trains per day on the Villa Grove Subdivision that it shares with the Union Pacific Railroad between Dolton, IL and Woodward Jct. IL. The CSX believes that sites with less than 50 acres will be harder to develop as a logistics center and suggested that 300 acre sites might be more marketable in this area, if they were divided into parcels for multiple tenants. Large sites typically attract buyers who have larger workforces and will require more community amenities than the Lincoln Highway Logistics Corridor may be able to meet. Furthermore, large customers likely will have many superior choices compared to this site, such as large greenfield sites in Will County. The RidgePort Logistics Center in Wilmington, IL, for example, boasts 22 million square feet of warehouse space in a master planned rail-served logistics park of 2,500 acres.

The CSX representatives said that potential customers tell them that brownfield urban sites such as those in the Lincoln Highway Logistics Corridor have the following significant barriers to development: 1) A negative perception of the State of Illinois considering its debt, crime, and overall business climate; 2) Cook County is considered to be a hard place to do business; and 3) the Lincoln Highway Logistics Corridor is considered to have a poor workforce profile.

When industrial customers scan potential properties for new industrial starts, often rail service is only one of many site-related attributes under consideration. Rail often fits into the “nice to have” category and can be left off the list when other priorities such as workforce, utility cost, and logistics access are deemed more important. A site without rail access can meet these priorities.

Rail served sites have a natural life cycle. When in a greenfield state, sites are at their highest level of demand. Repurposed sites can be productive but often require special effort to match new users to existing facility layouts, unless the site is scraped. Car repair facilities are often considered appropriate for mature rail sites. In the final life cycle stage, rail-served industrial sites are often used for car storage. While car storage can generate positive cash flow for the company, it can be a liability for the community. Branding is critical for rail-served sites, and a single point of contact is necessary to help market clustered sites similar to the Lincoln Highway Logistics Corridor.

CSX has no property rights off the shared Union Pacific Railroad mainline, but it would be interested in the target area if it can access these sites through reciprocal switching agreements. If access becomes available, the CSX would add these properties to their rail inventory for future customers. However, the Union Pacific Railroad would control switching to and from Chicago Heights.

The CSX recently purchased 1,100 acres of property in Crete, IL just south of the study area. Approximately 100 acres is planned for an intermodal terminal and the remaining 1,000 acres could be master planned into a rail served industrial facility similar to RidgePort Logistics Center in Wilmington, IL. CSX would have direct access to the sites in Crete, IL instead of having to rely on the Union Pacific Railroad to provide the last few miles of rail service to the Lincoln Highway Logistics Corridor.

4.4.2.3 Interview 3 Norfolk Southern Railway (Railroad)

The Norfolk Southern Railway generated $9.9 billion in annual revenue in 2016 and funded $1.9 billion in capital investments to ensure safe and efficient operations and growth. It operates in 22 states and includes more than 19,500 miles of railroad.

The Consultants invited Herbert Smith, Norfolk Southern Railway Government Affairs; Andrew Vollmer, Norfolk Southern Railway Property Manager; and Eli Falls, Industrial Development Manager to participate in a conference call to discuss target site opportunities in the Lincoln Highway Logistics Corridor. Andrew Vollmer manages the purchase and sale of properties and right-of-way leases to maximize the Norfolk Southern Railway Railway's service area. Eli Falls works with customers to identify properties for potential customers and users of the Norfolk Southern Railway. Herbert Smith is responsible for managing relationships with local communities.

The Illinois Department of Transportation rail map shows four Norfolk Southern Railway tracks next to the Canadian National Railway (former Elgin, Joliet, & Eastern) that is across from the Ford Motor Company stamping plant on the southwest corner of US 30 and Cottage Grove Avenue. This former main track was "orphaned", i.e., disconnected from the Norfolk Southern Railway network, after a highway-rail grade separation project was completed on US 30 just west of the Illinois-Indiana State Line. The Surface Transportation Board (STB) provided the Norfolk Southern Railway with access to the Canadian National Railway to mitigate this grade separation's impact. However, the Norfolk Southern Railway has not exercised this provision because of a lack of market demand and the cost of building the connection to the Canadian National Railway. The Norfolk Southern Railway has discontinued service to the four tracks south of the Ford plant and has leased the property to a pipeline company. The Surface Transportation Board provisions would require substantial investment to reconnect these tracks to the Norfolk Southern Railway core rail network.

Mr. Vollmer was unaware of any reciprocal switching rights to the Chicago Heights Terminal Transfer Railroad, a Union Pacific Railroad subsidiary. He thought that the target area properties could be desirable for development given its proximity to Chicago and good road and interstate access. For the Norfolk Southern Railway, these sites would be expensive to serve because rail service has been discontinued from their main line, and it is unclear if existing local railroad crews

would have enough time to work this line if it were placed back into service, given the area's current rail business and rail congestion. Upfront capital costs to repair the existing tracks leading to the sites and the cost to develop the sites were mentioned as barriers to further development.

The Norfolk Southern Railway is unique among Class I railroads in its engineering support for new or prospective rail customers. If a new customer contacts the Norfolk Southern Railway, a team of specialists will work with the client to design and make development recommendations. The Norfolk Southern Railway is in the process of updating their industrial development website for public access. In 2017, the Norfolk Southern Railway was unaware of any publicly funded incentives for rail infrastructure improvements in Illinois. They mentioned that St. Louis has done impressive work in the redevelopment of its railroad assets, especially with the western approach to Merchants Bridge and improvements around Norfolk Southern Railway's Luther Yard in Missouri. The Norfolk Southern Railway representative recommended that the best formula for industrial rail development was to start with the railroad carrier and to keep them engaged in the conversation during the shipper engagement process. They also asked to be kept informed of opportunities as public agencies work with developers in the Lincoln Highway Logistics Corridor.

4.4.2.4 Interview 4 - Union Pacific Railroad (Railroad)

The Union Pacific Railroad operates 32,100 miles across 23 states. In 2016, it earned $18.6 billion in revenue and invested $3.5 million in capital spending. The Union Pacific Railroad network is primarily an east-west network connecting the U.S. West Coast to Chicago, St. Louis, Memphis, and New Orleans railroad gateways, which in turn connect to Eastern railroads. The rail line from Dolton, IL connects to important Gulf ports, U.S./Mexico border crossings and plastics/resin producers. The Union Pacific Railroad has the shortest route-miles between Chicago and Mexico, a market which might be further developed. Bulkmatic is a transload operator in Chicago Heights, which also has facilities in Mexico.

The Union Pacific Railroad is the dominant carrier in Chicago Heights, primarily because it owns the Chicago Heights Transfer Terminal Railroad, which serves most of the Corridor's rail-served industries. The Union Pacific Railroad owns several transloads on its network and partners with a network of expert firms that independently operate rail transfer facilities across North America to extend its market reach. The Union Pacific Railroad also has a subsidiary Union Pacific Distribution Services (which was recently changed to the Loup). The Loup coordinates door-to-door service for customers using the Union Pacific Railroad's carload transportation network. Sandy Christiansen, the Union Pacific Railroad's Network Economic and Industrial Manager, met with the study team several times during the project.

The Union Pacific Railroad organizes its commercial efforts around commodity groups and car types. It prefers that potential shippers or development inquiries use its online tool to identify potential business opportunities. This tool captures potential inbound and outbound rail volumes proposed to move between Union Pacific Railroad commercial origins and destinations. Once an opportunity is catalogued, the Union Pacific Railroad’s marketing and transportation groups identify if sufficient railroad network capacity is available to serve the customer. This process is reactive and customer/developer inquiry triggers it. The railroad does not proactively seek new customers to fill existing locations on available rail served properties.

The Union Pacific Railroad transports 40-50 cars a day to and from Chicago Heights. Auto parts and components move in boxcars, steel moves on flat cars, hopper cars may be filled with chemicals, plastic, agriculture products or scrap, and tank cars move bulk liquids. Some railroad cars move directly to customers while other railcars can all be processed at transloads for local delivery. The Union Pacific Railroad makes one local switching trip per day between its terminal in Dolton, IL and the Chicago Heights industries. Railcars are moved to and from the Dolton Yard where the cars are added to or separated from trains traveling elsewhere on the Union Pacific Railroad's network. Cars moving to connecting railroads are interchanged once a day to the Indiana Harbor Belt (Indiana Harbor Belt Railroad) Yard in Blue Island or are handed off to the Belt Railway of Chicago (BRC) at Clearing Yard. There is a fee to transfer rail cars between railroad carriers.

All railcars moving to or from Chicago Heights, traveling on the Union Pacific Railroad are routed through the Dolton classification yard. There is not enough rail volume from the Chicago Heights area to support dedicated trains of more than 100 railcars to single terminals outside of the Chicago switching district.

The Union Pacific Railroad and CSX have a dedicated refrigerated produce boxcar train. Service originates from two locations in Washington State and California. These trains on average have 55-60 cars and do not stop at intermediate stations, in order to reduce end-to-end transit time to the East Coast. However, they are refueled in Chicago. While these trains are not handled in Chicago Heights, the Union Pacific Railroad refrigerated marketing team was contacted to determine if the Lincoln Highway Logistics Corridor could be a viable destination for a new produce train. At this time, the Union Pacific Railroad has not received any inquiries for refrigerated rail service in the Lincoln Highway Logistics Corridor.

4.4.2.5 Interview 5 - Bob Fox Property Development (Real Estate/Developer)

Bob Fox owns the site at 1301 South State Street ("Site B" of the target properties). Mr. Fox, is a private land owner and developer. This site is currently leased to a car company to temporarily store vehicles which have been returned to the manufacturer. It had rail access at one time but the rail has been removed. The neighbor to the north of this site, Happ's Inc., at 901 State Street, is a railroad equipment reclamation business and a wholesaler of railroad ties. The Union Pacific Railroad serves Happ's and could extend its service to Bob Fox's parcel to the south.

Bob Fox prepared the site at 1301 South State Street to appeal to potential tenants or buyers. He said that his property is shovel ready, clean, and graded. No drainage problems have been reported. Mr. Fox believes that potential buyers will not consider his property given the current property tax rate of 37% as compared to competing locations where the property taxes rate is only 22%. He noted that this site is only five miles from Indiana where taxes are lower. Parcel tax and incentive differential are addressed later in this study.

Mr. Fox reports that potential developers have inquired about his property, but believes that Union Pacific Railroad railroad connections to other Class I railroads needs to be improved. Mr. Fox is unsure what impact if any, the potential Crete intermodal rail development would have on his property. He believes that the local community has an adequate workforce and that the community is pro-development and supportive of local industry.

4.4.2.6 Interview 6 – JLL (Real Estate/Developer)

The Consultants contacted Scott Duerkop of JLL (formerly Jones Lang LaSalle) to discuss commercial real estate opportunities for the Lincoln Highway Logistics Corridor. JLL is a professional services firm with expertise in global real estate. It has operated for more than 250 years and has more than 70,000 employees located in 80 countries. Mr. Duerkop is an expert in supply chain and logistics real estate development matters in the region.

The Illinois industrial property market has been strong for greenfield opportunities outside of Cook County, but the sites must be groomed and pre-development and utility information must be assembled to attract buyers or tenants. Prospective buyers and tenants are typically looking for sites which are "shovel ready" and have no barriers to development. Few clients are looking for "fixer upper sites" unless they have more than 24 months' lead time. To market sites, it is best to clear brush from the prospective site, remove buildings, remediate environmental issues, and address any storm water issues to shorten the development time for prospective buyers. Developers expect to find low cost, ready to connect utility and communication services, along with transportation access that supports their supply chain. Tenants are interested in transit times and connections to the right railroads, highways, air or marine terminals. Developers also need to ensure there are no title issues, liens, holds, or past due taxes that could complicate a real estate transaction.

Developers also seek business friendly communities, with a high-quality workforce and competitive local tax structures. Community attributes and amenities that support the workforce are also important, such as availability of executive housing, continuing education and training opportunities, and local services such as restaurants, post offices, banks, and child care.

Sites with less than twenty acres limit the size of warehouse facilities they can support. For example, a small 150,000 square foot warehouse requires a 15-acre site, and the current trend in the industry is toward larger warehouses. In 2016, Amazon announced a second 700,000 square foot warehouse in Will County, which will employ 2,000 full-time workers.

Property searches can take as long as 36-48 months. Most of the initial prospect inquiries never materialize because one or more of the site's profile attributes do not match the client's criteria. While a prospective property might match all the physical requirements and price, other attributes like highway connections, local congestion, and travel times to suppliers or customers may not fit a strategic logistics plan, and may cause a site to be eliminated. Branded sites with concise, clear site specifications is important to accelerate the development process. The real estate and development community is moving away from print media and magazines in favor of websites and password protected subscription services such as CoStar. These new online services allow users to specify their search preferences to quickly filter potential sites and attributes.

While most real estate professionals say that site attraction incentives and economic development incentives do not drive the deal, these programs are certainly considerations in tie-breaking opportunities. Forgivable loans, tax incentives, workforce development credits, and transportation access improvements can influence a final decision. For example, Lake County, Indiana offers new industries a 10-year property tax abatement program. The program's first five years are tax fee, and then taxes are graduated to current levels over the remaining five years.

4.4.2.7 Interview 7 - NAI Hiffman (Real Estate/Developer)

NAI Hiffman is a leading provider of leasing, property management, and investment sales representation for owners and occupiers of office, industrial, and retail space in the metropolitan Chicago market. It has a team of 160 real estate professionals at its corporate headquarters in Oakbrook Terrace, IL. Eleven other office locations provide on-site property management nationwide; all operational decisions are made in Chicago. Ownership, leadership, and the support team for brokerage, property management, accounting, research, and marketing are co-located at the corporate office.

Chris Gary, a NAI Hiffman broker, noted that the City of Chicago Heights is business friendly but struggles with structural challenges that are difficult to overcome. Specifically, he noted that high tax rates in the Lincoln Highway Logistics Corridor are not competitive with other Illinois suburbs or Indiana. The local sales tax base has eroded and property tax rates are high, especially for industrial and commercial properties, due in part to the relatively low value of properties in the community. Housing prices have fallen which leads to a deficient residential tax base. The south suburbs' population base is also shrinking.

In the real estate business, prospective tenants and owners seem unwilling to pay a premium for rail access, although rail access is often included on a search list of "important attributes". The price of the property is not a large development driver compared to the cost of logistics to serve existing customers. For many industrial buildings, the building itself is a relatively low-valued "shell" that houses relatively high-valued equipment or products. Speculative buildings can be customized to help attract prospective tenants if they have a short lead time to construct a new facility.

4.4.2.8 Interview 8 - Holladay Properties (Real Estate/Developer)

Holladay Properties is a fully-integrated real estate company. It has developed over 20 million square feet of commercial space and actively manages over 10.6 million square feet of office, industrial, retail, multi-family, hotel, and healthcare properties. Holladay Properties has more than 230 employees working from offices throughout the eastern U.S. and has sites in Merrillville and Burns Harbor, IN. It also has worked with clients in Terra Haute, IN to develop rail-served property.

The 300-acre Burns Harbor site provides an example of what can be done by co-locating business with similar clients and service providers. It has assembled an impressive grouping of retail, office and light industrial tenants, most of which have a significant customer base in Illinois. The first development ring of the park is highway-oriented retail, the second ring of sites includes office and small manufacturers, and the third ring of tenants includes warehouses and third-party logistics providers. The larger manufacturers are deepest in the park and are buffered from the local neighborhood. Holladay recognizes that they cannot compete with big warehouse developments like those located in Joliet. Instead, they have carved out a second-tier niche industrial park, catering to smaller clients. Many of the tenants at this site have located in Indiana given a more favorable business climate and a higher growth rate.

Michael Micka, VP Development at Holladay Properties, places a premium on interstate highway access and notes that rail access in the Burns Harbor area was not as important to tenants as reliable highway access. There is some concern that the lack of reliability of interstate transit time, particularly with new service enforcement hours for truck drivers, could negatively impact some distribution networks.

Holladay Properties recommends that the Lincoln Highway Logistics Corridor should divide up large land parcels into several smaller lots. For a single company to use a 300-acre lot, the firm would require executive housing nearby and other service amenities in the area that are not available within the Lincoln Highway Logistics Corridor. They also indicated that the Chicago Heights location has good highway access but that Illinois does not compare to Indiana in terms of business incentives and cost of doing business.

4.4.2.9 Interview 9 - Hyde Development (Real Estate/Developer)

Hyde Development is a family-owned commercial real estate developer and investor based in Minneapolis, MN. The firm was established in 2012 and focuses on urban redevelopment and brownfield sites. Since 2012, the company has completed over 1.7 million square feet of industrial and office development in Minnesota, Colorado, and North Dakota. Paul Hyde completed the interview.

Hyde Development worked with Colliers Industrial Brokers on the redevelopment of a $145 million development, a 1.7-million-square-foot business park in Fridley, MN. They rehabilitated a former 122-acre BAE Systems campus and Navy arms facility to attract e-commerce fulfillment centers. This infill site is located adjacent to a railyard and park land. Public transportation is available for workers and the buildings have been customized to attract urban rapid flow warehouse operations where products move through the facility quickly to meet end–customers' tight delivery windows. Products are not stored or staged there to replenish regional stores. For this site, Hyde Development used brownfield remediation funding and worked with local economic development officials. Each of Hyde Development's sites has rail access, but none of its tenants have moved freight by rail in any of these new locations.

4.4.2.10 Interview 10 – Watco (Transloader)

Watco Companies LLC was launched in 1983 as a transportation solutions company, focusing on terminal and port operations, supply chains, industrial parks, and railcar repair shops, with operations in North America and Australia. It operates 37 short line railroads with over 5,000 miles of track, and serves as a contract operator for 33 industrial switching locations. Watco's Terminal and Port Services Division manages more than 80 terminals. Linda Jordan completed the interview.

In partnership with Kinder Morgan, Watco operates a steel transload facility at 162 East 26th Street, Chicago Heights, IL, where it transloads steel from trucks to railcars. The Union Pacific Railroad serves this site with reciprocal switching rights available to the CSX and the Canadian National Railway, although it does not use those connections. This site is approximately 20 acres and has a 65,000 square-foot covered storage area located on 14 acres, twelve of which are

dedicated to storage. This property is only partially fenced and Watco needs to invest in perimeter fencing to reduce vandalism. Trucks are often parked on the street waiting to come into the site.

Watco would like to expand to serve other customers and products but this requires track, pavement, and machinery upgrades, which are purpose-built for specific commodities. This site has 42-45 car spots but only 12-15 of these car spots are currently usable. To use the remainder of this site, Watco needs track upgrades, which cost approximately $300,000, along with other site improvements at an estimated cost of $200,000. Watco would also like to invest in a rail and truck scale that approximately costs $70,000. The track that currently connects this site to the Union Pacific Railroad has a 28-degree curve (approximately 200' radius), which is tighter than the current industry standard of 10-degrees (or the desired 6.5-degrees for six-axle road locomotives). Because Union Pacific Railroad engines cannot navigate this curve, cars are left on the lead track and Watco must pull them in with its own front end loader, modified with a rail knuckle.

An ADM milling facility nearby is under construction and presents an opportunity for Watco. During construction, ADM would like to transload dry bulk edible products from pneumatic railcars. However, food grade transload customers typically require a paved facility to ensure rocks and stones don't contaminate the food grade product, and the Watco facility is unpaved. Another current opportunity is to transload 8-10 ethanol cars per month to distribute ethanol to local users.

Watco is working with Jack Hynes and the Chicago Heights Economic Development agency to expand. The property across the street from Watco at 160 E. 26th Street in Chicago Heights is available and under Watco's review. If Watco cannot acquire a new site for truck parking, it will have to demolish the existing building and grade the site for truck parking.

4.4.2.11 Interview 11 - Union Pacific Distribution Services (Transloader)

The Union Pacific Railroad provides door-to-door logistics options for customers that lack on-site rail access through their Distribution Services group, recently rebranded as Loup. This service bundles Union Pacific Railroad rail line haul service with transload operations and trucking partners to help serve the supply chain journey's first- and last-mile. The Union Pacific Railroad owns and operates 11 transload sites on its rail network and brokers freight to an additional 600 partners that operate transload facilities in Canada, Mexico, and the U.S. This group also works closely with Union Pacific Railroad's Industrial Development group to help clients find sites to own or lease.

The Consultants interviewed Joshua Johnson, the lead for the Union Pacific Railroad transload services branch. He stated that Chicago is in the top five locations where the Union Pacific Railroad receives transload requests. Within the region, the highest demand for transloading comes from food products producers, which are often looking to reach sites in Northlake and Elk Grove Village. Three Union Pacific Railroad Distribution Service transload sites are listed in the Chicago Heights area, yet only two are active.

4.4.2.12 Interview 12 – Bulkmatic (Transloader)

Established in the 1970s, Bulkmatic is one of the largest dry bulk transportation companies in the country. A privately-owned company with 43 terminals in the U.S. and 12 terminals in Mexico, Bulkmatic operates transloads on the BNSF, CN, CP, CSX, KCS, Norfolk Southern Railway, Union Pacific Railroad, and Mexican railroads. The Chicago Heights facility is the only Bulkmatic transload operated in the U.S. with local warehouse capabilities. In 2016, Bulkmatic added 100 new trucks to its existing fleet to serve customers better. For years, the industry's largest food companies and plastics manufacturers have relied on Bulkmatic, making it the leading bulk logistics solution for bulk food, dry chemical products, and plastics. The company's full line of services is extensive and includes many other services. Bulkmatic serves the Ports of Elizabeth, NJ; Jacksonville; Mobile; Philadelphia; and Tampa. Alfie Bingham, Executive VP of Operations, completed the interview.

Bulkmatic has two sites in Chicago Heights; one site services equipment and the other site serves a customer base within a 250-mile radius. The Chicago Heights Transload Terminal handles the highest volume of any facility in Bulkmatic's network. Bulkmatic provides first- and last-mile connections for many clients in the Chicago Heights area, linking them to the Class I railroads. The Union Pacific Railroad is Bulkmatic's largest volume partner in Chicago Heights. Primary commodities handled at this site include petrochemical and agricultural products.

4.4.2.13 Interview 13 – FedEx (Logistics Company Service Provider)

FedEx has grown tremendously since it began in 1973 and now serves more than 220 countries and territories. FY17 revenues amounted to $60.3 billion, and FedEx employs more than 400,000 associates. FedEx has four transportation divisions. FedEx Express is the original overnight air shipment service and comprises 57% of total revenue. FedEx Ground provides package deliveries that account for approximately 30% of total revenue. FedEx Freight provides less than truckload (LTL) freight services that contribute approximately 10% of total revenue. FedEx Services provides retail and office support services that make up approximately 3% of total revenue.

FedEx operates the fastest LTL premium service in the LTL industry, primarily due to its market share and freight density in urban markets. The economy LTL service uses intermodal where feasible. The broad portfolio of transportation services allows FedEx to meet the needs of a wide range of customers, most of whom use services from two or more of the operating companies. Kevin Lee, Facility Manager, completed the interview.

The FedEx facility in Chicago Heights handles about 9,000 LTL freight shipments per day with approximately 1,000 employees (truck drivers and freight handlers). Approximately 75% of them live in the Chicago Heights area. In November 2017, FedEx opened a new facility near Midway Airport. It will move the intermodal business, which is now processed at Chicago Heights, to the new facility, which is closer to Willow Springs, the number one intermodal volume source for FedEx and railroad terminals in Chicago. This is approximately 4,000 units per day. Separating business units by flow characteristics helps improve terminal efficiency, and so FedEx chose to move the slower-moving intermodal business to the Midway location to allow the Chicago Heights location to focus on other business lines such as Fed Ex Ground (small package) and Freight (LTL truckload) for cross dock consolidation.

Peak activity time at the FedEx terminal is from 11 PM to 5 AM. Many of the ground shipments come in from Indiana. Air freight from Indianapolis is also processed at this site. The Chicago Heights site has new processing equipment, which improves efficiency at the local operations. FedEx can easily absorb new equipment at the Chicago Heights facility because of strong demand for outbound business.

Hiring is all done online and corporate reviewers screen it. This process moves quickly and openings are filled from a nationally recruited applicant pool. This means that local residents must monitor employment opportunities closely.

4.4.2.14 Interview 14 - XPO Logistics (Logistics Company Service Provider)

Rhodia, a chemicals manufacturer, has contracted with XPO Logistics to operate a leased, private warehouse facility for the past twelve years. Rhodia brings chemicals into its Chicago Heights facility by rail, processes them, and stores the finished products at the XPO Logistics warehouse/distribution facility that is adjacent to its factory.

Raw materials come into the Rhodia facility by rail and are processed into different grades of specialty chemicals, which go into plastics, surfactants, and mixed oxides used in the agrochemical, animal nutrition, automotive, consumer goods, cosmetics, energy, and pharmaceutical industries. Outbound shipments from the XPO Logistics warehouse move by truck. XPO Logistics provides warehouse management, hires employees for the warehouse, and manages fulfillment for Rhodia customers. Different types of chemical products have different handling requirements, such as food grade, industrial grade, and pharmaceutical grade packages for calcium carbonite products. Ken Brown and Patty Eberle completed the interview.

XPO Logistics hires locally when possible. They report that many of the technical schools who train warehouse operators do not provide certification for some of the specialty fork truck operators. In fact, many of the workers need to be retrained to meet minimum insurance requirements to work for XPO Logistics.

4.4.2.15 Interview 15 - K&C Trucking (Logistics Company Service Provider)

K&C Trucking was founded in 1968. Their primary business is full truckload commercial flatbed transportation for the steel industry. The company owns eight acres in Chicago Heights and has an 8-truck bay building. It currently has 33 employees. The company moved to Chicago Heights in the mid-1980s to be close to customers and to IL 394. Location was the primary consideration along with workforce availability, real estate costs, taxes, and business fees. Rail access had no impact on where to locate.

The owner is concerned that the business climate is declining and that he will have to move. Property tax increases have eroded his profitability—in fact, he has not made a profit for the past two years. He said his relationship with the City of Chicago Heights is favorable, but County services are slow and unreliable. For example, his company needed to expand a curb cut at his front entrance. He had to apply for a permit to get the work done. He was told that if he made a donation to a campaign the permit could be expedited but if he did not, the curb cut could take up to two years to program. An accident recently occurred which the owner feels demonstrated the safety need for this requested curb cut. For trucks to make the tight turn into the entrance, they

must make a wide swing into oncoming traffic. One of these movements resulted in a fatal collision.

Scott and Leanne Balkema with K&C Trucking noted that Bedford Park is very business friendly. K&C Trucking is considering relocating there but would have to sell its current property in a soft real estate market.

4.4.2.16 Interview 16 – Happ Industries (Local Business)

Happ Industries supports railroad maintenance and construction activities. They clean up and scrap materials after railroad construction projects or derailments. Steven Happ, the owner, needs rail access to compete for business; all bidding is predicated on delivered freight rates. If Happ moves more than 10-15 miles away from its customers, it loses freight rate advantages. Chicago Heights was Happ's first transload facility which it originally leased to be close to their primary customer, Chicago Heights Steel. It subsequently purchased the 50-acre property it currently uses. Happ Industries has rail access to the Canadian National Railway, CSX, and Union Pacific Railroad Railroads and would like to gain access to the Norfolk Southern Railway to compete in southeastern U.S. markets. Happ currently employs 100-125 individuals, including truck drivers for local delivery.

Happ Industries would not pick this Chicago Heights location if it were selecting a new site today given its limited rail access. Happ Industry's business is growing faster in the East and Southeast, and has other locations in Florida, Indiana, Minnesota, Pennsylvania, and Wisconsin, which are growing faster. Happ Industries has developed transloads near the Port of Chicago and finds that water transportation is the cheapest way to move scrap steel. Happ is expanding transloading service to handle plastics for BP Oil, and is also providing it with car storage options. Happ Industries moves 80-foot pipe segments for Union Pacific Railroad customers in the area and is on the Union Pacific Railroad approved vendor list.

Access to the Norfolk Southern Railway would improve Happ Industries' economic competitiveness, but a wetland area between its current location and the Norfolk Southern Railway right-of-way blocks its access to the Norfolk Southern Railway. Instead, Happ must send cars to the Indiana Harbor Belt Railroad to be switched to the Norfolk Southern Railway, which is a cost prohibitive movement. Happ moves 50 cars per month on the CSX but service has deteriorated and equipment is difficult to get from the CSX.

The local tax structure limits business activities at this location. If taxes were competitive with other states, business at this location would be "booming". Steve Happ suggested Cook County explore opportunities with other steel mills, power plants, and e maybtransloaders, although a number of transload operations are currently in place in Chicago Heights. He mentioned Kenosha and Racine, WI as good business model for redevelopment.

4.4.2.17 Interview 17 – Winpak (Local Business Sauk Village)

Winpak manufactures and distributes high-quality packaging materials and machinery. Its products are used primarily to protect perishable foods, beverages, and health care products. The largest and original business unit creates flexible packaging. The second business unit makes rigid packaging and flexible lidding, which are marketed as a system. The third business unit

specializes in packaging machines. Winpak is part of a global packaging group and operates ten production facilities in Canada, the United States, and Mexico. Chicago is a major market for Winpak.

At the Sauk Village location, Winpak makes K-cups for Green Mountain Coffee, potato chip containers, sliced cheese plastics, and portioned pet food containers. About 40 employees currently work at the Sauk Village plant and the company plans to add 100 additional new jobs. Winpak also has a facility in Chicago Heights. The Consultants interviewed Gary Tsao about the Lincoln Highway Logistics Corridor site.

The Sauk Village facility broke ground on a 348,000-square foot addition to the current 267,000-square foot facility near Sauk Trail. This expansion will include a 197,000-square foot warehouse, a 137,950-square foot production plant, an amenity area, maintenance and storage areas, a break room, washrooms, a mechanical utility room, a trucker's room, a shipping office, and a plant grinding room. The building's exterior will gain a second rail spur, 12 storage silos, two new 4,000-amp electrical services, 150 new parking spots, 25 truck stalls, 20 dock doors, and an exterior drive-in door.

Winpak will also renovate some of the current structure, including 15,000 square feet of new office space on the second floor, renovation to the main lobby to accommodate new stairs, an elevator to the second floor, large locker rooms and training spaces and upgrades to current maintenance offices and tool storage rooms. Winpak was awarded a Class 8 property tax incentive from Cook County, and also worked out an incentive package with Commonwealth Edison as part of the deal to stay at its current location.

Construction on the original building on a 28-acre parcel of land was completed in 2012. The State of Illinois provided a $1.6 million business investment package to help fund the project. Winpak's total investment was around $30 million. This site was important to Winpak because it is within 3-4 miles of its original manufacturing location and proximity to this talent base was important.

Rail was an important factor since Winpak receives inbound materials by rail. However, rail service initially was not consistent; some switching service days were skipped entirely. As business has scaled up, service has improved. The rail spur was constructed in two phases. The company self-financed the second spur, which cost approximately $300,000.

When Winpak was looking for this site it watched one of its competitors, Phoenix Packaging, work closely with the State of Virginia on a new location in Dayton, VA. Business climate, real estate costs, taxes, fees, and assessments were not priority issues in Winpak's location decision.

4.4.2.18 Interview 18 - PICO Chemical (Local Business)

Established in 1976, PICO Chemical Corporation is a privately held, full service ISO 9001:2008 certified manufacturer of value-enhanced specialty chemicals and lubricants. These products are used to clean, condition, lubricate, protect, and provide value to manufacturing and service related industrial processes. Coatings manufacturers (paints, inks, resins, adhesives, etc.) and a wide range of metal working, metal forming, and steel producing companies use PICO's products.

Pico located in Chicago Heights as a result of multiple business criteria. Transportation access and taxes were the primary screening criteria for the new site. Rail access, business climate, real estate cost, and workforce were secondary considerations. It was noted that the key attributes which have the greatest economic impact include site size and location. While transportation access was a key consideration, PICO had no preference about the type of rail service (i.e. short line vs Class I) available to and from the site. PICO currently does not use rail for either inbound or outbound transportation. The interviewee also noted that Chicago Heights is a poor location for restaurants and has limited stores in the immediate vicinity, which diminishes the value of the location for employees. The company feels the local workforce needs more education.

Barriers to growth at its existing facility include high taxes. Roads and area improvements would need to be made for further expansion. PICO noted that taxes need to be cut, infrastructure needs to be upgraded, and the city government needs to be more closely involved to improve this location's attractiveness for other industries.

Detailed Appendices in support of Industry Interviews are provided in:

- Appendix 4A Parcel Map
- Appendix 4B List of Completed Interviews
- Appendix 4C Discussion Guide Packet

In the next section, the Consultants will discuss the existing commodity movements in the LHLC.

5.0 Regional Cargo Goods Movement Assessment / Commodity Analysis

5.1 Introduction

5.1.1 Purpose

As noted in the Section 1, Cook County has identified potential economic development in the Lincoln Highway Logistics Corridor's rail-adjacent industrial areas.

Section 5, Regional Cargo Goods Movement Assessment – Commodity Analysis, is fifth of the eight tasks that the Consultants have undertaken for the Lincoln Highway Logistics Corridor Strategic Plan. Section 5 investigates site selection criteria using the lens of existing commodity flows in and out of the Lincoln Highway Logistics Corridor. The Consultants assess how manufacturers access inputs to their processes and ship finished goods in this section. It includes, but is not limited to, the following activities:

- Determining which types of manufacturing companies most likely use industrial rail access in Northeastern Illinois.
- Considering changing trends in manufacturing location decision-making. For example, falling natural gas prices may create new opportunities for expanding manufacturing companies. This is particularly true for firms that use natural gas in their production processes, such as plastic and chemical manufacturers.
- And taking into account the value of being able to access multiple regions of the country, continent, and coastal ports from the same industrial corridor.

5.1.2 Organization

The Consultants have organized this section into the following four main subject areas:

- **Organization and Approach** presents the organization and approach to Section 5's commodity flow work.
- **Inventory of Freight Data Sources** presents the freight data sources the consultants used to develop the commodity flow analysis. It provides a brief overview of each data source, its potential value, and its limitations. All efforts center on the Lincoln Highway Logistics Corridor, although the data lens also includes how the Lincoln Highway Logistics Corridor fits into national and international markets. The Consultants leverage employment, land use and truck flow data for their usefulness in understanding commodity flows.
- **Analysis of Freight Data Sources** dominates Section 5. The Consultants processed and analyzed all commodity datasets they obtained from national, statewide, regional, and local sources to better understand the Lincoln Highway Logistics Corridor's major commodity flows and to better understand how these commodities are linked to rail-served, industrial manufacturing. They also include a short look at employment data, which can serve as a rough proxy to commodity flows to round out this analysis. Employment data is available

at a finer geographic level of detail than most commodity flow data, thus offering insights that are more specific to the Lincoln Highway Logistics Corridor.

- **Summary and Recommendations** summarizes the commodity analysis findings for subsequent sections.

5.1.3 Approach

Since supply chains are complex and since publicly available data sets that are designed to understand them have limitations, the Consultants relied on the following principles when choosing datasets to support their analysis in Section 2:

- **Use the latest data from consistent analysis years** – Freight studies profit when a recent study year is obtained and used. Cook County and IDOT launched the Lincoln Highway Logistics Corridor study in 2016. The Consultants therefore focused on freight datasets from 2012-2015, which represents the most recent, complete, and consistent data available. Future estimates of commodity flows use a 2045 forecast year from the Freight Analysis Framework (Freight Analysis Framework).
- **Use Cook County or Chicago metropolitan area data to provide context for the Lincoln Highway Logistics Corridor** – Many national data sources are limited in their ability to separate the Lincoln Highway Logistics Corridor from Cook County, the Chicago metropolitan area, or Illinois. However, national sources often have useful features such as a future year forecast of commodity flows that makes them important to a study. The Consultants therefore have included these data sources in this analysis to provide context for the Lincoln Highway Logistics Corridor. It is reasonable to assume that some trends at the regional or county level also apply to the Lincoln Highway Logistics Corridor. Firms within the same industries in northeastern Illinois are likely to approach supply chains in similar ways.
- **Understand that data sources may be inconsistent in their details**– Apart from the scalability issues cited above, the data sources in this analysis are collected at different locations, years, and commodity classes. While the specifications of the datasets may be different, the general findings are consistent. Section 4, Summary and Recommendations, compares the results of this analysis across datasets.
- **Understand that data collection on commodity flows for the Lincoln Highway Logistics Corridor is ongoing** – This report seeks to establish a framework for data collection and analysis of the most recent and complete datasets available. The Consultants will continue to gather additional information, such as recent sales of industrial parcels or the launch of new manufacturing facilities, as the Lincoln Highway Logistics Corridor Feasibility Study progresses. Cook County will determine how to include this information in the final Section 8, Strategic Development Plan.
- **Know that employment and land use data can be a key to understanding commodity flows** – Several employment datasets and forecasts were available to the Lincoln Highway Logistics Corridor Feasibility Study, including an assortment of information that the

Chicago Metropolitan Agency for Planning (CMAP) provided. The Consultants judiciously included this information in the report since it relates to commodity flows.

- **Local knowledge is key** – Key sources of commodity flow information are the businesses currently operating in the Lincoln Highway Logistics Corridor. The final report in Section 8 will also include information on commodity flows gleaned from Section 4, Industry Stakeholder Interviews, and insights from case studies completed in Section 3, Competitive Landscape.

This commodity flow summary provides a framework for deeper investigation to be conducted in this study's remaining phases. It uses commodity flow data available at a national and state level, including regional employment, land use, and truck flow data and addresses the findings as they pertain to the Lincoln Highway Logistics Corridor.

5.2 Inventory of Freight Data Sources

This section briefly introduces each freight-related dataset from the largest scale to the smallest scale. The Consultants analyzed each of these datasets in Section 3.

5.2.1 Freight Analysis Framework(FAF) 4.2 Commodity Flows

The Freight Analysis Framework (Freight Analysis Framework)39 is an open source commodity flow database that the Federal Highway Administration (Federal Highway Administration) supports. It is the only open source data available for analyzing freight and commodity flow data across all modes for a given base year and future year. The Consultants used the most recent Freight Analysis Framework, Version 4.2, which has a base year of 2012 and a forecast year of 2045.

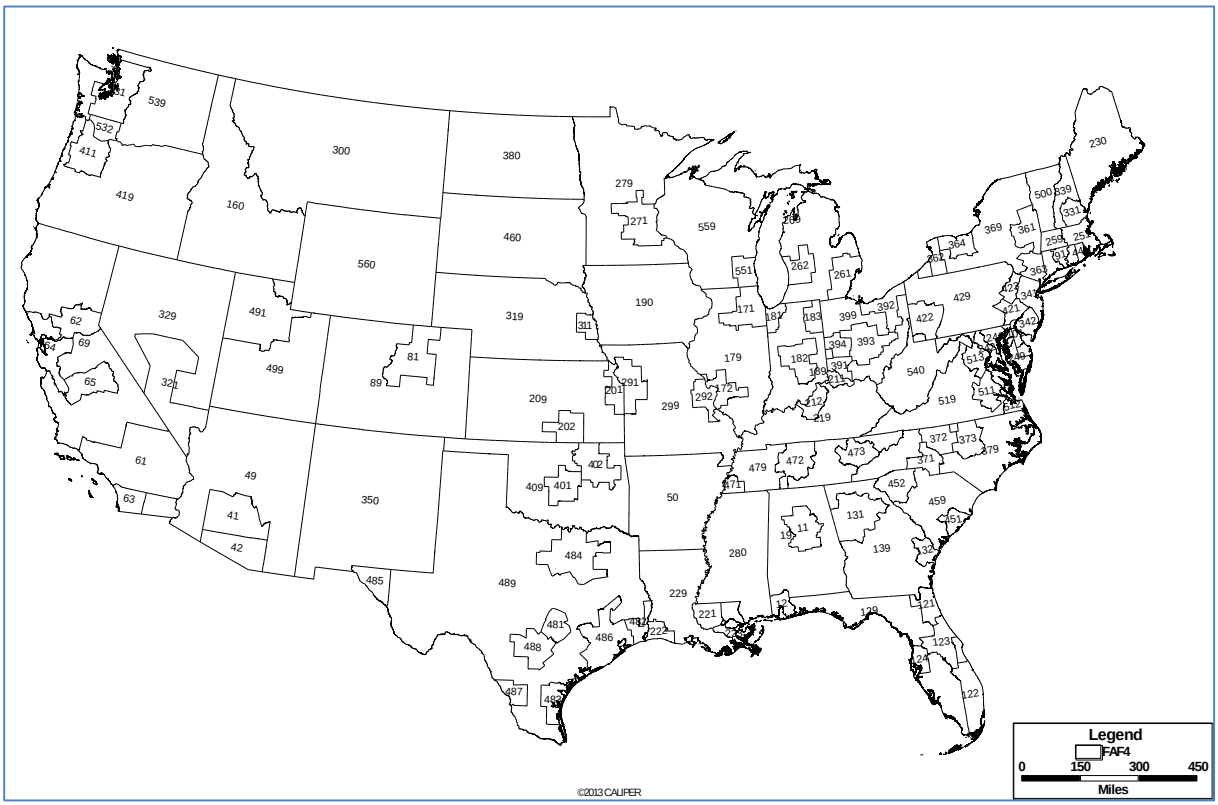
Freight Analysis Framework data is prepared using data from the 2012 Commodity Flow Survey (CFS) and international trade data from the Census Bureau, as well as data from agriculture, extraction, utility, construction, service, and other sectors. Data from Version 4.2 of the Freight Analysis Framework provides commodity flows in thousands of tons and in 2012 dollars by:

- Freight Analysis Framework zones (132 domestic + eight international zones).
- Standard Classification of Transported Goods (SCTG) commodity types (43 types)
- Domestic freight mode, including air, multiple modes/mail, pipeline, rail, truck, and water. International imports and exports are processed so that their domestic movements are retained for analysis and mapping.
- Port of entry/exit (i.e. border crossing, seaport or airport) for international flows.

The Freight Analysis Framework zone system is shown in Figure 5-1. The 43 commodity classes, including the Standard Classification of Transported Goods commodity codes, are shown in Table 5-1.

[39] Freight Analysis Framework (Freight Analysis Framework), http://www.ops.fhwa.dot.gov/freight/freight_analysis/faf/, accessed 2016.

Figure 5-1: Version 4.2 Freight Analysis Framework Districts



Source: Federal Highway Administration, FAF4.2

Table 5-1: FAF Standard Classification of Transported Goods (SCTG) Commodity Classes

SCTG	Commodity	SCTG	Commodity	SCTG	Commodity
01	Live animals/fish	15	Coal	29	Printed products
02	Cereal grains	16	Crude petroleum	30	Textiles/leather
03	Other agricultural products.	17	Gasoline	31	Nonmetal mineral products
04	Animal feed	18	Fuel oils	32	Base metals
05	Meat/seafood	19	Coal-n.e.c.	33	Articles-base metal
06	Milled grain prods.	20	Basic chemicals	34	Machinery
07	Other foodstuffs	21	Pharmaceuticals	35	Electronics
08	Alcoholic beverages	22	Fertilizers	36	Motorized vehicles
09	Tobacco prods.	23	Chemical prods.	37	Transport equipment
10	Building stone	24	Plastics/rubber	38	Precision instruments
11	Natural sands	25	Logs	39	Furniture
12	Gravel	26	Wood products	40	Misc. mfg. products.
13	Nonmetallic minerals	27	Newsprint/paper	41	Waste/scrap
14	Metallic ores	28	Paper articles	43	Mixed freight
				99	Commodity unknown

Source: Federal Highway Administration, FAF4.2

5.2.2 2013 Surface Transportation Board Carload Waybill Sample for Illinois

The Carload Waybill Sample (CWS) is a stratified sample of rail carload waybills for all U.S. rail traffic that rail carriers terminating 4,500 or more revenue carloads annually submit to the Surface Transportation Board[40] (STB), which administers them. The Surface Transportation Board is an independent adjudicatory and economic-regulatory agency that Congress has charged with resolving railroad rate and service disputes and with reviewing proposed railroad mergers. Because the Carload Waybill Sample contains sensitive shipping and revenue information, access to this information is restricted.

Released annually, the Carload Waybill Sample is used for various projects, analyses, and studies. Federal agencies use the Carload Waybill Sample as part of their information base. States use it as a major information source for developing state transportation plans. Railroads are entitled to obtain Carload Waybill Sample data for movements they participated in. Transportation practitioners, consultants, and law firms with formal proceedings before the Surface Transportation Board or state regulatory agencies use Carload Waybill Sample data. The rules for release of Carload Waybill Sample data are codified at 49 CFR 1244.9.

For this study, the Consultants used data from the 2013 Carload Waybill Sample that was provided to Cook County through an agreement with the Illinois Department of Transportation that was signed in January 2017. Strict guidelines on the detail permitted to be tabulated and mapped are adhered to in this report's analysis section.

5.2.3 American Transportation Research Institute (ATRI) Truck Flow Data

The American Transportation Research Institute (ATRI) has been engaged in critical transportation studies and operational tests since 1954. The American Transportation Research Institute, part of the American Trucking Associations Federation, is a 501(c)(3) not-for-profit research organization headquartered in Arlington, Virginia. Its primary mission is to conduct transportation research with an emphasis on the trucking industry's essential role in a safe, efficient, and viable transportation system.

One of the datasets available to the Lincoln Highway Logistics Corridor is the Chicago Metropolitan Area for Planning's American Transportation Research Institute truck data, which is a probe-based showing of observed origins and destinations of Class 7 and Class 8 truck trips in the larger Chicago metropolitan region. This dataset includes truck locations as reported every five minutes, allowing truck trips and tours to be estimated. It covers three two-week periods in 2014 and is aggregated to the Chicago Metropolitan Area for Planning's traffic modeling zones. This data was provided to the Chicago Metropolitan Area for Planning in shapefile format to allow its staff to summarize the origins and destinations of large trucks traveling through the Lincoln Highway Logistics Corridor.

[40] *Surface Transportation Board website, https://www.stb.gov/stb/about/overview.html, accessed January 2017.*

5.2.4 Regional Economic and Land Use Analysis

The Chicago Metropolitan Agency for Planning is the official regional planning organization for northeastern Illinois. As part of its long range planning, the Chicago Metropolitan Agency for Planning maintains data and information on the regional freight system, such as the American Transportation Research Institute analysis described previously and convenes an advisory Freight Committee made up of public and private sector stakeholders. The Chicago Metropolitan Agency for Planning has provided manufacturing cluster employment data, land use data, and a small set of relevant studies on freight commodity flow. The Consultants reviewed these reports for background information. The combination of data and reports advances the commodity flow reporting effort.

5.2.4.1 Manufacturing Cluster Employment Data

The Chicago Metropolitan Agency for Planning provided two datasets on manufacturing employment focused on the Lincoln Highway Logistics Corridor. These datasets are drawn from the Economic Modeling Specialists, Inc. (EMSI) database. Economic Modeling Specialists, Inc. is a data vendor that produces an employment allocation model that relies on several federal datasets (Quarterly Census of Employment and Wages, County Business Patterns, and Current Employment Statistics). The reports also draw from the following agencies: the Illinois Department of Employment Security, Employment Projections; Indiana Department of Workforce Development; and Wisconsin Department of Workforce Development, Bureau of Workforce Information. The Chicago Metropolitan Agency for Planning provided this data in spreadsheet form. What reports are you talking about and where did they come from?

5.2.4.2 Land Use Data

The Consultants obtained the 2013 Land Use Inventory from the Chicago Metropolitan Agency for Planning's Data Hub[41]. It provides a geodatabase and supporting documentation for 60 categories of land uses in northeastern Illinois. This dataset is an update of the 2010 parcel-based Land Use Inventory that primarily focused on locations of potential land use change between 2010-2013. The Consultants analyzed the industrial land and vacant industrial land categories for the three municipalities in the Lincoln Highway Logistics Corridor study area.

5.2.4.3 Regional Sectoral Analyses

The Consultants reviewed several reports and databases for the commodity flow effort, including the following:

- Metropolitan Chicago's Manufacturing Cluster: A Drill-Down Report on Innovation, Workforce, and Infrastructure (2013)[42].

[41] https://datahub.cmap.illinois.gov/

[42] *Chicago Metropolitan Agency for Planning, Metropolitan Chicago's Manufacturing Cluster: A Drill-Down Report on Innovation, Workforce, and Infrastructure, Chicago Metropolitan Agency for Planning, 2013, accessed 2017* http://www.cmap.illinois.gov/documents/10180/69902/FULL%20Technical%20Report%20web.pdf/3243f710-f91d-4632-934a-3682fc19fffc

- The Freight Manufacturing Nexus: Metropolitan Chicago's Built-In Advantage (2013)[43]
- The Chicago Rail Economic Opportunity Plan (2011)[44]

5.2.5 Census Longitudinal Employer-Household Dynamics (LEHD) Data

The Longitudinal Employer-Household Dynamics (LEHD)[45] dataset is a Census product that focuses on employment. Data files are organized into the following three types: Origin-Destination, Residence Area Characteristics (RAC), and Workplace Area Characteristics (WAC), all at various geographies. Data is available for most states for the years 2002–2014. The Consultants selected the Workplace Area Characteristics by zip code for 2014 for the Lincoln Highway Logistics Corridor to supplement employment data the Chicago Metropolitan Agency for Planning provided from the Economic Modeling Specialists, Inc. (EMSI) database.

5.2.6 County Business Pattern Employment Data

County Business Patterns (CBP)46, which the U.S. Census provides, is an annual series that shows county-level economic data by industry. This series includes the number of establishments, employment during the week of March 12 for each scenario year, first quarter payroll, and annual payroll. This data is useful for studying the economic activity of small areas; analyzing economic changes over time; and creating a benchmark for other statistical series, surveys, and databases between economic censuses. Businesses use this data to analyze market potential, measure the effectiveness of sales and advertising programs, set sales quotas, and develop budgets. Government agencies use this data for administration and planning. The Consultants used the County Business Patterns data to verify major employment categories in the study area and to link them with commodity groups.

5.3 Analysis of Commodity Flow Datasets

5.3.1 Freight Analysis Framework Version 4.2 Commodity Flows

The Federal Highway Administration's Freight Analysis Framework dataset is valuable because it is national in scope, includes domestic, import and export commodity flows, reports on weight and value, and provides a future year commodity flow – all across the key freight modes of air, multiple modes/mail, pipeline, rail, truck, and water. Please note that multiple modes/mail in the Freight Analysis Framework includes not only small courier-type shipments, but also shipments made via intermodal container.

One of the limitations of its data is that it is available only for large zones such as the entire Chicago metropolitan area, rather than smaller study areas like the Lincoln Highway Logistics Corridor. For instance, the Chicago Freight Analysis Framework zone includes 10 counties in northeastern Illinois. Nevertheless, an analysis of Freight Analysis Framework data provides a

[43] *The Freight Manufacturing Nexus: Metropolitan Chicago's Built-in Advantage, August 2013, http://www.cmap.illinois.gov/documents/10180/69902/Freight-Manufacturing-Nexus-8-6-13-1.pdf/16f3459b-05af-4eac-af71-f9a8f18f7bc2*

[44] *Chicago Railroad Economic Opportunity Plan (CREOP), IHS Global Insight et al, 2011, https://www.cityofchicago.org/mwg-internal/de5fs23hu73ds/progress?id=3J3a2Vp3BdDS7bC4gADzdevGEuB4llbJ6fWifczkIMk,.*

[45] *Longitudinal Employer-Household Dynamics Data https://lehd.ces.census.gov/data/, accessed 2017.*

[46] *County Business Patterns Products http://www.census.gov/econ/cbp/, accessed 2016.*

high-level assessment of the types of goods present in the Chicago metropolitan area and how they move.

Another limitation of the Freight Analysis Framework is that it provides estimates of freight flows to, from, and within freight zones, but does not provide an assessment of flows that simply pass through a zone on their way to other destinations. This is a weakness for the Chicago metropolitan area, which is a central transportation hub for the nation.

The Consultants analyzed the Freight Analysis Framework data using weight in tons and value in 2012 equivalent dollars. They present the results of their analysis using the following measures:

- 2012 Regional Summaries by Weight and Value by freight mode.
- 2045 Regional Summaries by Weight and Value by freight mode.
- 2012 Top Commodities in the Region by Weight and Value (All Modes).
- Short-Term Trends (2007-2012) in Commodity Flows for Truck and Rail Modes (Stress Test).
- Long-Term Trends (2012-2045) in Commodity Flows.
- Top Commodities Shipped Out – National Ranking.

5.3.1.1 2012 Regional Summaries by Freight Mode for Weight and Value

The following tables and figures show total freight commodity flows by mode in the Chicago Freight Analysis Framework region:

Table 5-2: 2012 FAF4.2 Commodities by Weight by Freight Mode

Domestic Mode	Total Tons (000s)	% of Total
Truck	399,616	57%
Rail	82,108	12%
Water	18,504	3%
Air	288	.04%
Multiple Modes/Mail	25,083	4%
Pipeline	178,750	25%
Total	**704,348**	**100%**

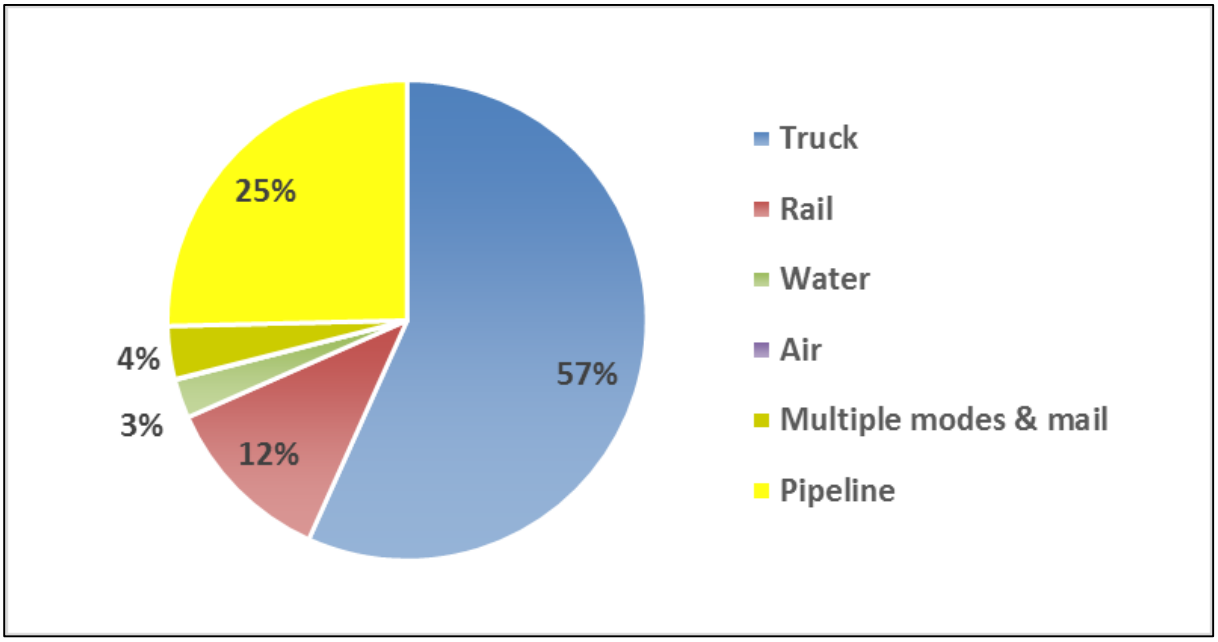
Source: Federal Highway Administration, FAF4.2

Table 5-3: 2012 FAF4.2 Commodities by Value by Freight Mode

Domestic Mode	Total Value (Million)	% of Total
Truck	$ 704,347	68%
Rail	$ 41,491	4%
Water	$ 28,508	3%
Air	$ 20,797	2%
Multiple modes & mail	$ 157,694	15%
Pipeline	$ 77,773	8%
Total	**$ 1,030,610**	**100%**

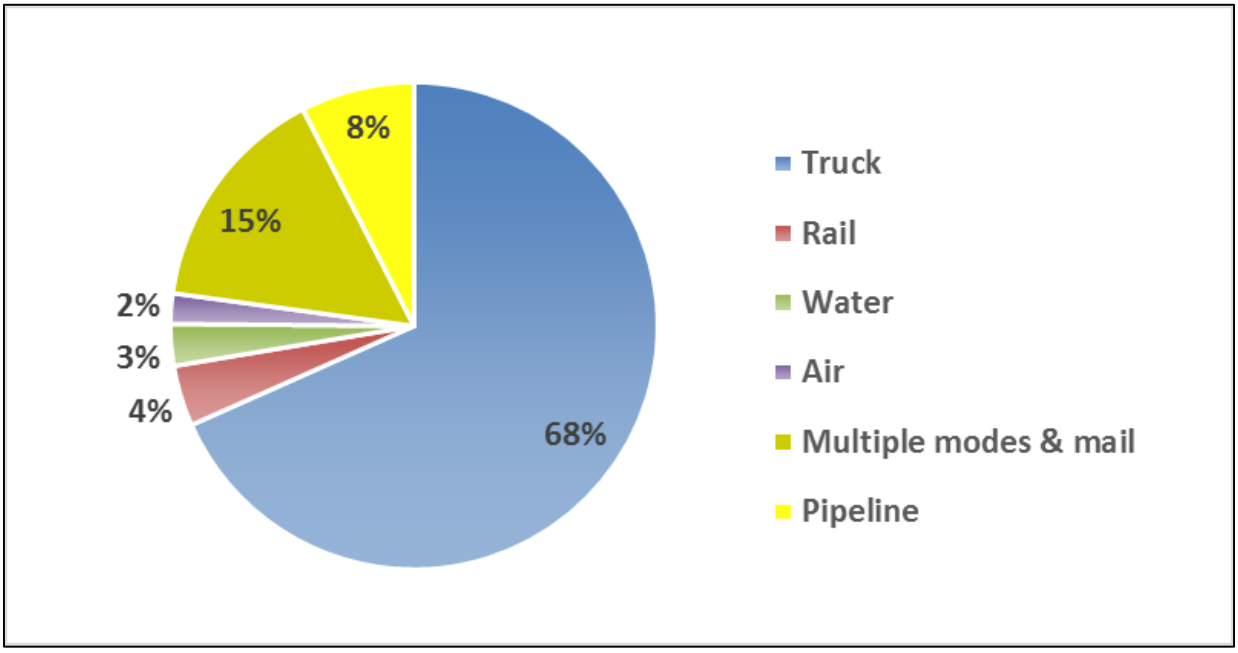
Source: Federal Highway Administration, FAF4.2

Figure 5-2: 2012 FAF4.2 Freight Mode Percentage by Weight



Source: Federal Highway Administration, FAF4.2

Figure 5-3: 2012 FAF4.2 Freight Mode Percentage by Value



Source: Federal Highway Administration, FAF4.2

Table 5-2 and Table 5-3 tell the same story as Figure 5-2 and Figure 5-3 because the pie charts contain the same data.

- Most commodities in the region are moved via truck, both by weight and value, carrying 57% of goods by weight and 68% by value.
- Rail is also a top performer in the region, carrying 12% of goods by weight and 4% by value. This difference illustrates that many goods moved by rail are bulk goods such as coal or lumber, having lower value per ton on average than goods hauled by truck.
- Pipeline mode, which is not directly relevant to the Lincoln Highway Logistics Corridor, is also a bulk mode with relatively low value as compared to tons carried.
- Air freight is typically the most valuable with 0.04% in weight carried by air but 2% in value.

5.3.1.2 2045 Regional Summaries by Freight Mode for Weight and Value

The future year Freight Analysis Framework provides a useful snapshot of the expected shift in freight modes in the future year. Table 5-4 and Table 5-5 and Figure 5-4 and Figure 5-5 present the forecast 2045 freight mode.

Table 5-4: 2045 FAF4.2 Commodities by Weight by Freight Mode

Domestic Mode	Total Tons (000s)	% of Total
Truck	630,366	56%
Rail	135,394	12%
Water	31,065	3%
Air	747	.07%
Multiple modes & mail	44,089	4%
Pipeline	293,420	26%
Total	**1,135,081**	**100%**

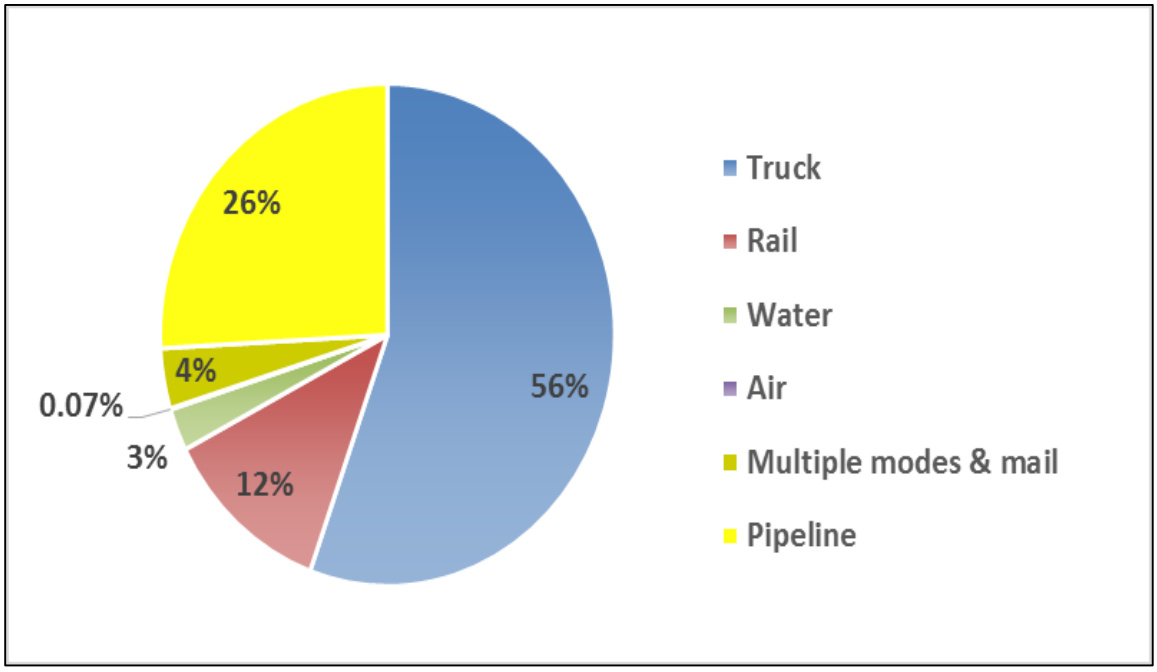
Source: Federal Highway Administration, FAF4.2

Table 5-5: 2045 FAF4.2 Commodities by Value by Freight Mode

Domestic Mode	Total Value (Million)	% of Total
Truck	$ 1,364,256	66%
Rail	$ 87,398	4%
Water	$ 95,021	5%
Air	$ 69,074	3%
Multiple modes & mail	$ 347,768	17%
Pipeline	$ 102,027	5%
Total	**$ 2,065,544**	**100%**

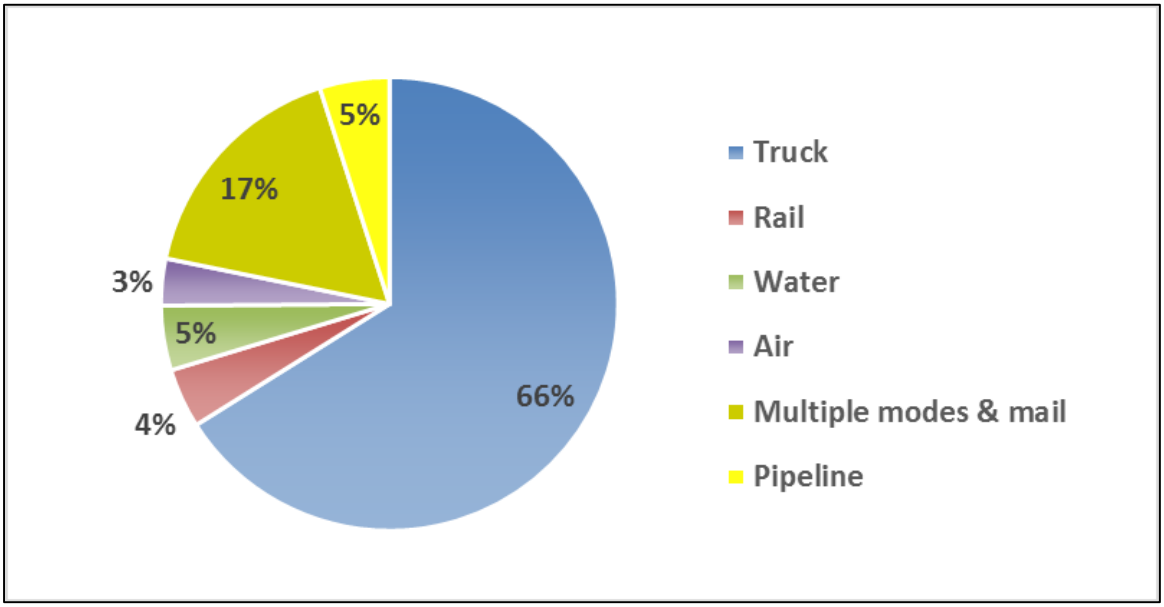
Source: Federal Highway Administration, FAF4.2

Figure 5-4: 2045 FAF4.2 Freight Mode Percentage by Weight



Source: Federal Highway Administration, FAF4.2

Figure 5-5: 2045 FAF4.2 Freight Mode Percentage by Value



Source: Federal Highway Administration, FAF4.2

Overall, 2045 freight flows by mode are similar to those in 2012:

- Trucks will continue to move most commodities in 2045, both by weight and value, carrying 56% of goods by weight and 66% by value, almost identical to 2012.
- Rail will carry 12% of goods by weight and 4% by value, very close to the 2012 results.
- Air freight will carry 0.07% in weight but 3% in value.
- Total commodities grow 61% in tons and over 100% in dollar value between 2012 and 2045.

Applicability to the Lincoln Highway Logistics Corridor: The Freight Analysis Framework estimates of commodity flows by freight mode shows that truck and rail is and will continue to be the two highest modes for moving commodities in northeastern Illinois and the Lincoln Highway Logistics Corridor. The similarity between the Lincoln Highway Logistics Corridor and the rest of Northeastern Illinois makes this inference highly plausible.

5.3.1.3 Top Commodities in the Region by Weight and Value

The Consultants conducted a second analysis using the Freight Analysis Framework commodities and all freight modes to rank the top fifteen commodities in the Chicago metropolitan area, by tons and value, and to review them by commodities traveling to, from, or within the region.

- **Within** – the commodity originates in the region and moves to a destination in the region. An example of this type of movement is gravel that is excavated in the region and delivered to a construction site also in the region.
- **Terminating** – the commodity originates anywhere outside the region, including overseas, and is transported into the region.
- **Originating** – the commodity starts in the region and is transported anywhere outside the region, including overseas.

The top-ranking commodities based on weight are generally bulk goods such as coal, petroleum, fuel oils, gravel, grain, basic chemicals, and fertilizer. Many of the top-ranking goods for the region by tons are the raw materials needed to build or fuel the manufacturing process. In contrast, the top-ranking commodities based on value are goods such as electronics, pharmaceuticals, machinery, motorized vehicles, and chemical products. Many of the top-ranking goods by value for the region are "value-added" items such as machinery. Table 5-6 and Table 5-7 also show the percentage of each commodity by the direction of freight flows.

Table 5-6: 2012 Top 15 Regional Commodities by Weight

Rank	Commodity	Within	Terminating	Originating	Total Tons (000)
1	Coal n.e.c.[47]	8%	38%	55%	131,089
2	Gasoline	72%	7%	21%	52,671
3	Crude Petroleum	61%	39%	0%	52,492
4	Base Metals	22%	31%	47%	46,634
5	Gravel	77%	14%	9%	49,347
6	Fuel Oils	78%	10%	12%	35,465
7	Other Foodstuffs	28%	37%	35%	31,012
8	Cereal Grains	5%	56%	39%	28,203
9	Waste/scrap	49%	16%	35%	23,708
10	Nonmetal min prods	62%	19%	19%	24,264
11	Basic chemicals	21%	35%	44%	20,500
12	Mixed Freight	42%	24%	34%	17,864
13	Coal	2%	98%	0%	17,419
14	Fertilizer	5%	18%	78%	18,054
15	Plastics/Rubber	22%	38%	40%	14,490

Source: Federal Highway Administration, FAF4.2

Table 5-7: 2012 Top 15 Regional Commodities by Value

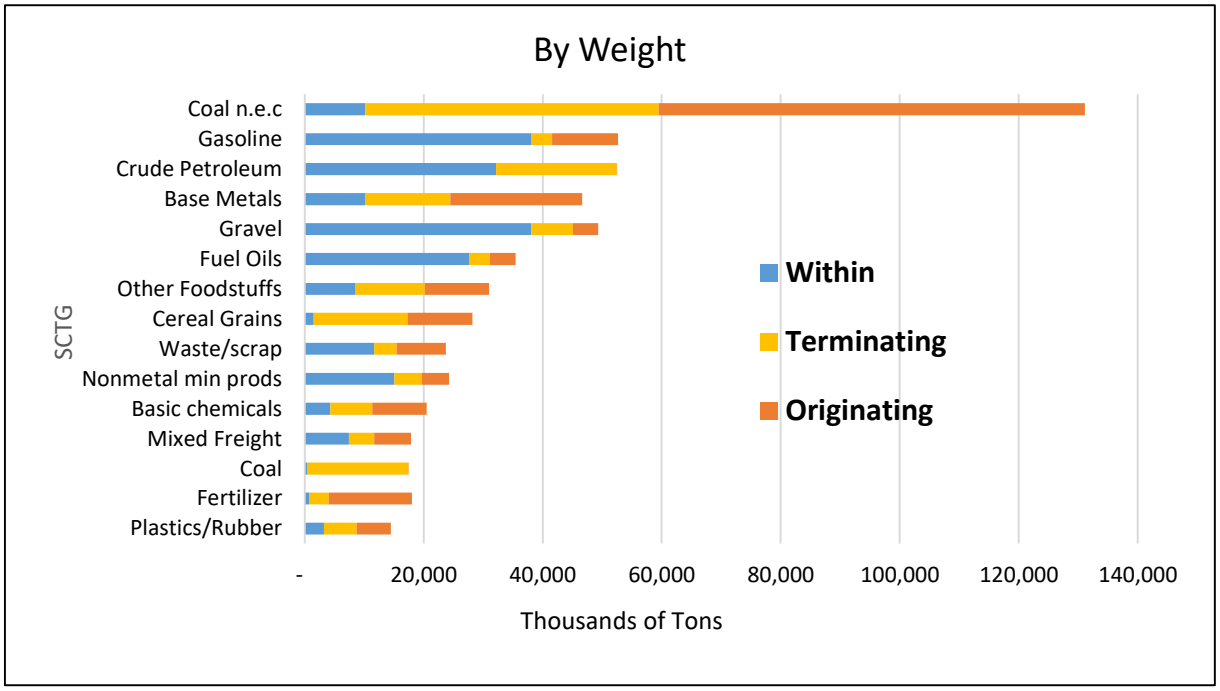
Rank	Commodity	Within	Terminating	Originating	Million Dollars
1	Electronics	30%	29%	40%	102,283
2	Pharmaceuticals	38%	21%	41%	75,635
3	Mixed freight	25%	24%	51%	73,213
4	Machinery	35%	25%	40%	72,700
5	Coal n.e.c.	9%	23%	68%	61,573
6	Base Metals	20%	29%	51%	58,336
7	Motorized vehicles	17%	38%	46%	56,903
8	Gasoline	75%	6%	19%	50,703
9	Plastics/Rubber	23%	33%	45%	46,191
10	Other Foodstuffs	21%	46%	33%	41,479
11	Misc. mfg. prods.	24%	31%	45%	38,659
12	Crude petroleum	61%	39%	0%	34,774
13	Fuel oils	80%	9%	11%	29,927
14	Articles-base metal	26%	27%	48%	29,359
15	Chemical prods.	17%	27%	56%	29,352

Source: Federal Highway Administration, FAF4.2

[47] *"Not elsewhere classified". These products include lubricating oils and greases, other refined petroleum oils obtained from bituminous products, liquefied natural gas, propane, butane, other liquefied gaseous hydrocarbons, coke and semi-coke, petroleum asphalt, and other coal products of petroleum refining.*

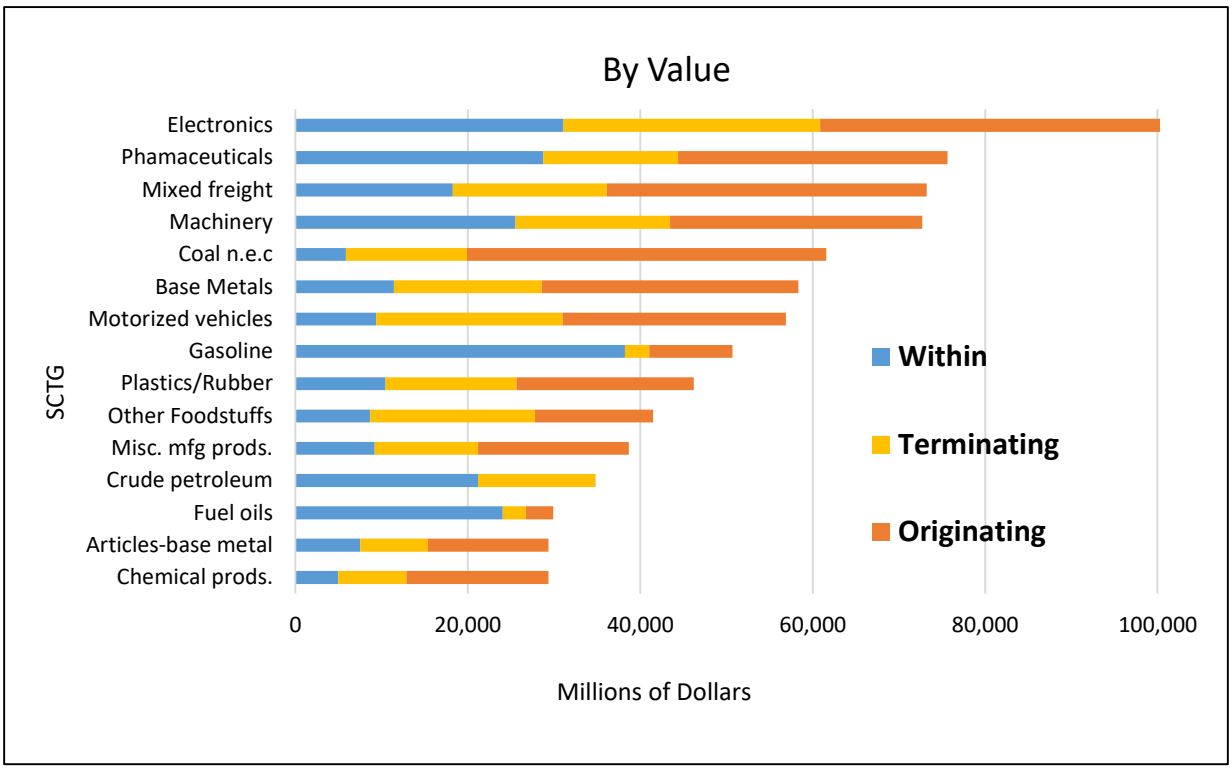
Note that Figure 5-6 shows coal is easily twice the magnitude of tons of any other single commodity. Most of the top fifteen are fuel, stone, and related bulk goods. The ranking of goods by value is more evenly balanced across the commodity classes. Electronics is the highest valued with pharmaceuticals ranking next in order. Mixed freight as a third highest value commodity is of interest; this commodity consists of less than carload (LCL) or less than train load (LTL) goods and can communicate a diverse manufacturing environment. Some goods, such as chemicals/chemical products and plastics/rubber, appear among the top 15 commodities as measured by both weight and value, showing their strength as both input and output to manufacturing.

Figure 5-6: 2012 Top 15 Regional Commodities by Weight



Source: Federal Highway Administration, FAF4.2

Figure 5-7: 2012 Top 15 Regional Commodities by Value



Source: Federal Highway Administration, FAF4.2

Applicability to the Lincoln Highway Logistics Corridor: The Consultants used the Freight Analysis Framework commodity flow database for 2012 to rank the top fifteen commodities across all freight modes by weight and by value. They further stratified the goods by whether the flow was within, terminating, or originating in the region. They found that bulk goods, in particular energy-related products such as coal, gasoline, and crude petroleum, dominate the tonnage tabulation. The dollar value ranking shows that value added goods such as electronics, pharmaceuticals, and mixed freight dominate. They generally balanced in and out originating and terminating commodity flows, thus communicating Chicago's central location.

5.3.1.4 Long-Term Trends (2012-2045) in the Value of Commodity Flows

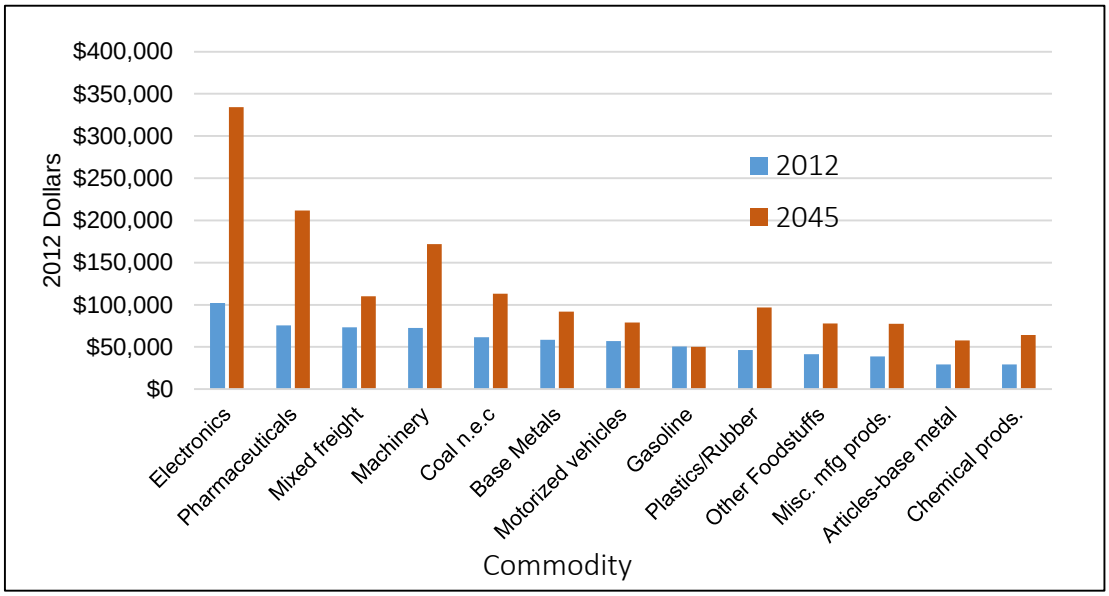
The Consultants conducted a Freight Analysis Framework commodity flow exercise to rank the highest value goods transported in the Chicago metropolitan region by rail and truck to determine key commodities for the region in 2012 and 2045, according to the Freight Analysis Framework. If a commodity is on the list for both 2012 and 2045, it is anticipated to be a resilient top performer in regional transported goods. The top commodity changes for 2012 and 2045 are shown in Table 5-8. Figure 5-8 shows the growth in dollars.

Table 5-8: 2012 and 2045 Regional Top Commodities by Value (Dollar Value in Millions)

2012		2045	
Commodity	**Dollars**	**Commodity**	**Dollars**
Electronics	$102,283	Electronics	$334,354
Pharmaceuticals	$75,635	Pharmaceuticals	$211,817
Mixed Freight	$73,213	Machinery	$171,977
Machinery	$72,700	Coal n.e.c.	$113,271
Coal n.e.c.	$61,573	Mixed Freight	$109,934
Base Metals	$58,336	Plastics/Rubber	$96,719
Motorized Vehicles	$56,903	Base Metals	$91,886
Gasoline	$50,703	Precision Instruments	$91,248
Plastics/Rubber	$46,191	Motorized Vehicles	$78,812
Other Foodstuffs	$41,479	Other Foodstuffs	$77,774
Misc. Mfg. Products	$38,659	Misc. Mfg. Products	$77,466
Crude Petroleum	$34,774	Chemical products	$64,076
Fuel Oils	$29,927	Articles-Base Metal	$57,619
Articles-Base Metal	$29,359	Gasoline	$50,274
Chemical Products.	$29,352	Meat/Seafood	$44,294

Source: Federal Highway Administration, FAF3.2 and 4.2

Figure 5-8: Growth in Value of Top Regional Commodities 2012-2045



Source: Federal Highway Administration, FAF3.2 and 4.

Table 5-8 and Figure 5-8 show the top fifteen commodities by value in 2012 and 2045; all are expected to grow locally according to the FAF commodity flow data. In many cases these commodities will double in output in the region. Many of the growth commodities are processed or moved in the Lincoln Highway Logistics Corridor. These include mixed freight, base metals, motorized vehicles, plastics/rubber, miscellaneous manufactured products and chemical products.

Applicability to the Lincoln Highway Logistics Corridor: The Consultants looked at the top fifteen commodities by value in the Chicago metropolitan area for 2012 and for 2045 in this section to see which commodities remained in the top fifteen commodities and which of those commodities are currently in and/or suitable for investment in the Lincoln Highway Logistics Corridor.

- **The Lincoln Highway Logistics Corridor already produces many of the top fifteen commodities.** The highlighted commodity categories of mixed freight, machinery, plastics/rubber, miscellaneous manufacturing products, articles base metal, and chemical products are found in the top fifteen commodities in 2012 and 2045. These commodities are prevalent in the Lincoln Highway Logistics Corridor.
- **Key Lincoln Highway Logistics Corridor commodities grow between 2012 and 2045.** Several commodities prevalent in the Lincoln Highway Logistics Corridor such as machinery, mixed freight, plastics/rubber, and chemical products show a strong dollar value growth between 2012 and 2045.

5.3.1.5 Top Commodities Shipped Out – National Ranking

The Consultants conducted a final Freight Analysis Framework-based analysis to compare the Chicago metropolitan area against its peers nationwide with respect to Freight Analysis Framework commodities shipped out in 2012. They used this tabulation to examine the strength and power of the Chicago metropolitan area when compared to other regions, by both weight and value, for commodities that are in the top fifteen (Table 5-9 and Table 5-10). Please note that most of these commodity flows are "value-added" products. This analysis of the region's competitive advantages provides context for the types of industrial sectors that might be recruited or retained in the Lincoln Highway Logistics Corridor.

Table 5-9: Chicago Ranking Nationally in Fifteen Key Commodities by Weight

STCC Category	Chicago Rank	Top Freight Analysis Framework Area
STCC_23 Chemical Products	1	Chicago IL-IN-WI
STCC_38 Precision Instruments	1	Chicago IL-IN-WI
STCC_22_Fertilizer	2	Rest of IL
STCC_35_Electronics	3	Los Angeles CA
STCC_41_Waste Scrap	3	Los Angeles CA
STCC_24_Plastics_Rubber	4	Houston TX
STCC_33_Articles_Base Metal	4	Houston TX
STCC_34_Machinery	4	Arkansas
STCC_40 Misc Manuf Products	4	Maine
STCC_43_Mixed Freight	4	Los Angeles CA
STCC_07_Other_Foodstuffs	6	Los Angeles CA
STCC_20_Basic_Chemicals	6	Houston TX
STCC_21 Pharmaceuticals	6	New York NY-NJ-CT-PA (NJ Part)
STCC_36 Motorized Vehicles	10	Detroit MI

Source: Federal Highway Administration, Freight Analysis Framework 4.2

Table 5-10: Chicago Ranking Nationally in Fifteen Key Commodities by Value

STCC Category	Chicago Rank	Top Freight Analysis Framework Area
STCC_21 Pharmaceuticals	1	Chicago IL-IN-WI
STCC_22_Fertilizer	1	Chicago IL-IN-WI
STCC_34_Machinery	2	Los Angeles CA
STCC_41_Waste Scrap	2	Los Angeles CA
STCC_23 Chemical Products	3	New York NY-NJ-CT-PA (NJ Part)
STCC_24_Plastics_Rubber	3	Houston TX
STCC_33_Articles_Base Metal	3	Houston TX
STCC_35_Electronics	3	Los Angeles CA
STCC_40 Misc Manuf Products	3	New York NY-NJ-CT-PA (NJ Part)
STCC_43_Mixed Freight	3	Los Angeles CA
STCC_20_Basic_Chemicals	4	Houston TX
STCC_07_Other_Foodstuffs	5	Los Angeles CA
STCC_36 Motorized Vehicles	5	Detroit MI
STCC_38 Precision Instruments	5	Los Angeles CA

Source: Federal Highway Administration, Freight Analysis Framework 4.2

Table 5-9 and Table 5-10 show that the region is a major player with respect to transported goods across many commodity groups on the same level with large production/shipping centers such as Los Angeles, Houston, and New York/New Jersey.

Applicability to the Lincoln Highway Logistics Corridor: The ranking of outgoing goods from the region by tons and dollars from the Freight Analysis Framework files show that:

- **Preponderance of Industrial Products with Top Ranking by Weight:** The Chicago metropolitan area ranks in the top three slots by weight for chemical products, fertilizer, and waste scrap.
- **Similar Profile of Industrial Products with Top Ranking by Value:** The region ranks in the top three slots by dollar value for pharmaceuticals, fertilizer, machinery, waste scrap, chemical products, plastic/rubber, articles of base metals, electronics, miscellaneous manufactured products, and mixed freight.
- **Opportunity:** The presence of known key Lincoln Highway Logistics Corridor products, such as chemical products, fertilizer, machinery, and plastics/rubber, on the top fifteen national contenders provides the verification of opportunities to increase production of these and related product lines. Foodstuffs is an area where the region already rates highly and which may offer opportunity in the Lincoln Highway Logistics Corridor. Waste/scrap is a viable out-product of the region which could take advantage of transport out using the freight rail service present in the Lincoln Highway Logistics Corridor.

5.3.2 2013 STB Carload Waybill Sample for the Lincoln Highway Logistics Corridor

Moving from Freight Analysis Framework data to a look at observed rail freight commodity flows, the Consultants come to the Surface Transportation Board's rail carload waybill, which provides general information on commodity flows by rail using weight (in expanded tons) in and out of the Lincoln Highway Logistics Corridor. Data records of commodity flows by rail are subject to a set of rules regarding their publication in studies and reports. To anonymize the data, any data point published in a table or map needs to have two or more freight stations associated with it than the number of railroads involved, a criterion that is satisfied in this analysis. Other characteristics of the Carload Waybill Sample include the following:

- Of the eighteen or so Class I-served rail freight stations in the three municipalities, seven were sampled in the records in the Carload Waybill Sample. These freight nodes were sampled for both outgoing and incoming freight.
- A small set of attributes was collected, including the Freight Station Accounting Code (FSAC) originating point, Freight Station Accounting Code-destined point, originating and terminating railroad, commodity type, and expanded tons. Although the Carload Waybill Sample sampling scheme does not capture all the freight rail stations in the Corridor, the data collected has some value for verification purposes. The Surface Transportation Board estimated Carload Waybill Sample attribute expanded tons and the Consultants used them for reporting tonnage in and out of the Corridor.

- The framework for classification of goods is the two-digit Standard Transportation Commodity Code (STCC) that the Carload Waybill Sample uses. It is shown in Table 5-11[48].

Table 5-11: Rail Carload Waybill Standard Transportation Commodity Code

2-Digit STCC	Description
1	Agriculture
8	Forest Products
9	Fish
10	Metallic Ores
11	Coal
13	Crude Petroleum
14	Nonmetallic Minerals
19	Ordnance
20	Food
21	Tobacco
22	Textiles
23	Apparel
24	Lumber
25	Furniture
26	Paper
27	Printed Goods
28	Chemical Products
29	Refined Petroleum Products
30	Rubber/Plastics
31	Leather
32	Clay, Concrete, Glass
33	Metal
34	Metal Products
35	Machinery
36	Electrical Equipment
37	Transportation Equipment
38	Instruments
39	Misc Mfg Products
40	Waste
41	Misc Freight Shipments
42	Shipping Containers
43	Mail
44	Freight Forwarder Traffic
45	Shipper Association Traffic
46	Misc Mixed Shipments
47	Small Packaged Freight
48	Hazardous Materials
49	Hazardous Waste

Source: 2013 Surface Transportation Board Carload Waybill Data Documentation

[48] Note that the Rail Carload Waybill uses the Standard Transportation Commodity Code (Table 5-11) for commodity category classification while the Freight Analysis Framework uses SCTG (Table 5-1)

One definition to keep in mind is that of miscellaneous mixed shipments (STCC 46). This category is defined as rail carloads composed of two or more major groups, that is, commodities representing two or more major Standard Transportation Commodity Code groups where it is impossible to determine the predominant group.

5.3.2.1 Carload Waybill Sample Incoming Rail Freight

The following findings emerged from the Consultant's review of the Carload Waybill Sample in the Lincoln Highway Logistics Corridor area.

- Miscellaneous mixed shipments (STCC 46) dominate, with over 35% of the tons in the sampled Lincoln Highway Logistics Corridor stations carrying this category.
- Transportation equipment (STCC 37) is also strong, with 14% of the tons in the sampled Lincoln Highway Logistics Corridor stations carrying this category.
- In the 3-6% range are apparel (STCC 23), hazardous waste (STCC 49), furniture (STCC 25), food (STCC 20), chemical products (STCC 28), rubber/plastics (STCC 30), metal products (STCC 34), and small packaged freight (STCC 37).
- All other incoming commodities in tons summed to 13% of total sampled rail bills in the Lincoln Highway Logistics Corridor.

5.3.2.2 Carload Waybill Sample Outgoing Rail Freight

The following findings emerged from review of the Carload Waybill Sample in the Lincoln Highway Logistics Corridor area.

- Miscellaneous mixed shipments (STCC 46) dominate with over 46% of the tons in the sampled Lincoln Highway Logistics Corridor stations carrying this category.
- Hazardous waste (STCC 49) is also strong with 16% of the tons in the sampled Lincoln Highway Logistics Corridor stations carrying this category.
- In the 3-6% range are transportation equipment (STCC 37), small packaged freight (STCC 47), apparel (STCC 23), food (STCC 20), chemical products (STCC 28), and rubber/plastics (STCC 30).
- Smaller, but still important goods carried out of the Lincoln Highway Logistics Corridor by rail include paper, printed goods, lumber, clay, concrete, glass, metal products, machinery, electrical equipment and miscellaneous freight shipments.
- All other sampled outgoing commodities in tons summed to 2%.

Major findings using the 2013 Surface Transportation Board Carload Waybill Sample are miscellaneous mixed shipments (STCC 46) dominate both outgoing and incoming commodity flows and unit trains are not a significant share of shipments in the Lincoln Highway Logistics Corridor. For incoming goods, these miscellaneous mixed shipments can be understood to be the raw materials for many of the industries in the Lincoln Highway Logistics Corridor, including those needed to produce the outgoing products. The goods traveling in and out are generally clustered around industrial inputs and outputs, as opposed to those aimed at household uses.

Some preliminary mapping of the surveyed rail stations in the Lincoln Highway Logistics Corridor study area show that many of these are dual stations, likely serving more than one industrial site, sometimes by more than one railroad. The Carload Waybill Sample also showed that rail freight

stations in the Lincoln Highway Logistics Corridor often served as both a point of entry and exit for goods. Maps and tables also show the presence of UP as the main railroad used for outgoing and incoming goods in this sample. The Norfolk Southern Railway, Burlington Northern Santa Fe Railway, Canadian National Railway, Canadian Pacific Railroad and Other (not named) railroads are also present.

Applicability to the Lincoln Highway Logistics Corridor: The 2013 Surface Transportation Board's Rail Carload Waybill data is a stratified sample of carload waybills for all U.S. rail traffic submitted by rail carriers terminating 4,500 or more revenue carloads annually. The subset of sample rail stations in the Lincoln Highway Logistics Corridor was tabulated by ton of commodity carried to obtain a snapshot of goods flowing in and out of the corridor. Due to limited sample size, care must be taken not to overstate these findings. It can be noted that:

- **Top Inbound and Outbound Commodity:** miscellaneous mixed shipments (STCC 46) dominate both outgoing and incoming commodity flows. This finding generally points to the current state of industry in the Lincoln Highway Logistics Corridor as oriented to carload, not unit train production and using/making a wide variety of goods.
- **Other Commodities Offering Opportunity**: Hazardous waste makes up 16% of outgoing tons in the sample data. This finding likely represents the efficient disposals of byproducts of steel, metal, paint, and other production in the Lincoln Highway Logistics Corridor. One opportunity

5.3.3 American Transportation Research Institute Truck Flow Data

The Consultants obtained American Transportation Research Institute (ATRI) truck movement data from the Chicago Metropolitan Agency for Planning and processed it for 2014 movements. The data consists of Class 7 and Class 8 trucks, which encompass vehicles with a gross vehicle weight rating (GVWR) exceeding 26,000 pounds. It therefore includes the typical 5-axle tractor-trailer combination called a "semi" or "18-wheeler".

For each truck in the sample of Class 7 and Class 8 trucks, the American Transportation Research Institute file provides the truck's location and speed at five minute intervals. From this information, the Chicago Metropolitan Agency for Planning's staff could determine where trucks stopped during their tours and consequently determine the beginning and end zones of each tour's segment. Table 5-12 is a summary of that data for a set of Chicago Metropolitan Agency for Planning modeling zones roughly equivalent to zip code 60411, which encompasses the Lincoln Highway Logistics Corridor. Staff found that origins and destinations are roughly symmetrical by direction, so while the information below reports trucks originating in the study area, the Consultants would expect the same results if they looked at trucks destined for the Corridor.

Table 5-12: 2014 ATRI Movements from the LHLC Study Area – Zip Code 60411

Destination	Percent of Trucks with a Tour Leg Originating in Zip Code 60411		
Chicago	10.3%	Regional	55.2%
Suburban Cook County	33.6%		
Will County	8.6%		
Remainder of Collar Counties (DuPage, Kane, Kendall, Lake, and McHenry)	2.7%		
Kankakee County and Beyond	4.5%	South	4.5%
Other Illinois Counties West to Northwest, and Beyond	6.0%	West/North	7.4%
Southeastern Wisconsin, and Beyond	1.4%		
Indiana and Beyond	30.0%	E/SE	30.0%
Destination Can't Be Determined	2.8%	N/A	2.8%
Total	**100.0%**		**100.0%**

Source: Chicago Metropolitan Agency for Planning ATRI data, 2014

The Chicago Metropolitan Agency for Planning provided a top-level summary of the compass point destination of Class 7 and 8 trucks into and out of the Lincoln Highway Logistics Corridor. The findings are:

- **Regional:** Approximately 55% of the American Transportation Research Institute data that captured truck exchanges to/from the Lincoln Highway Logistics Corridor study area lie within the greater Chicago area. This includes Cook, DuPage, Kane, Kendall, Lake, McHenry, and Will Counties. Of these, suburban Cook County dominates with almost 34% of the captured truck exchanges.
- **South:** Truck exchanges that are oriented directly south (Kankakee County and beyond) carry 4.5% of Lincoln Highway Logistics Corridor trucks.
- **West/North:** Illinois counties west and northwest, southeast Wisconsin, and outside of the region make up about 7.4% of the Lincoln Highway Logistics Corridor truck movements.
- **East / Southeast:** National destinations generally east and southeast, starting with Indiana, make up 30% of the truck movements.
- **Percentage of Regional Traffic:** 0.8% of the American Transportation Research Institute October 2014 S file truck trips that originated in the 7-county Chicago metropolitan area, were comprised of Class 7 and Class 8 trucks that originated in the Lincoln Highway Logistics Corridor.

Applicability to the Lincoln Highway Logistics Corridor: The American Transportation Research Institute truck movement information shows the following:

- Regional truck movements dominate the Lincoln Highway Logistics Corridor, meaning that business-to-business, warehousing and just-in-time delivery of big loads are likely important truck movements in the Lincoln Highway Logistics Corridor.
- Since approximately half of the large truck exchanges are regional and half national, the Lincoln Highway Logistics Corridor is an industrial study area receiving and supplying goods to a wide array of markets nationally as well.
- Thirty percent of trips originating in the Lincoln Highway Logistics Corridor travel to Indiana and points beyond, and about 43 percent travel to suburban Cook County and the City of Chicago. These observations suggest the importance of highway connections from the Lincoln Highway Logistics Corridor to the north and east.

5.3.4 Regional Economic and Land Use Analysis

In this section, the Consultants review select datasets and reports from the Chicago Metropolitan Agency for Planning that address employment trends in the Lincoln Highway Logistics Corridor. Employment can be used as a surrogate for commodity flow with the understanding that manufacturing requires certain commodity inputs and produces related outputs. For example, steel output is possible only where steel production workers are located.

5.3.4.1 Manufacturing Cluster Employment Data

The Chicago Metropolitan Agency for Planning provided an employment report for zip codes 60411 and 60412, which cover the Lincoln Highway Logistics Corridor. This report included 399 North American Industry Clarification System (NAICS) categories including construction, manufacturing, freight transportation and logistics and covered the period between 2005 and 2015. This report represents a broad overview of employment in the Corridor; its highlights include the following:

- In 2016, there were 6,741 manufacturing jobs in the Lincoln Highway Logistics Corridor. Employment in these industries in the Corridor fell 5.4% between 2005 and 2015, compared to a 7.2% decline in the seven county Chicago Metropolitan Agency for Planning region and a 3.8% decline nationally. In 2016, the average earnings in this category in the region were $85,594 against a national average wage of $86,696.

- The top occupations that the manufacturing cluster industries employed were heavy truck and tractor-trailer drivers (26%), laborers and freight stock and material movers (7%), team assemblers (4%), machinists (2%), and light truck or delivery service drivers (2%).

The Chicago Metropolitan Agency for Planning also provided more focused employment trends database reports on zip codes 60411 and 60412 covering the Lincoln Highway Logistics Corridor between the years 2005 and 2015 and including only the North American Industry Classification

System category of manufacturing. This employment category is a "focused" summary which finds the following:

- In 2016, there were 3,489 manufacturing jobs in the Lincoln Highway Logistics Corridor. Employment in these industries in the Corridor fell 25.7% between 2005 and 2015, compared to a 17.5% decline in the seven county Chicago Metropolitan Area for Planning region and 13.4% decline nationally. The average earnings in this category in the region in 2016 were $98,654 against a national average wage of $78,902.
- The top occupations that the manufacturing cluster industries employed were team assemblers (8%); machinists (5%); first-line supervisors of production and operating workers (4%); laborers and freight, stock, and material movers (4%); and packaging and filling machine operators and tenders (4%).

Applicability to the Lincoln Highway Logistics Corridor: The Chicago Metropolitan Agency for Planning provided employment data for two sectors: Manufacturing Cluster and Manufacturing Core for zip codes 60411 and 60412, which cover the Lincoln Highway Logistics Corridor. Both sectors showed the following:

- **Trends in Employment:** the general trend in total employment for both sectors is downward. This negative growth in employment is mirrored nationally where losses also occurred between 2005 and 2015. Salaries, however, stayed as high as or higher in the Lincoln Highway Logistics Corridor than the national average for similar work.
- **Top Occupations:** the top occupations in the manufacturing sectors relate to steel, automotive, and freight trucking.
- **Truck and Freight Firms/Employees are Present in High Numbers:** Several large trucking firms are located in the Lincoln Highway Logistics Corridor.
- **Takeaway with Respect to Commodity Flow:** firms located in the Lincoln Highway Logistics Corridor include well-compensated occupational sectors. The Lincoln Highway Logistics Corridor has the freight transfer capability to serve these firms well and is located near other firms that may serve as suppliers and clients.

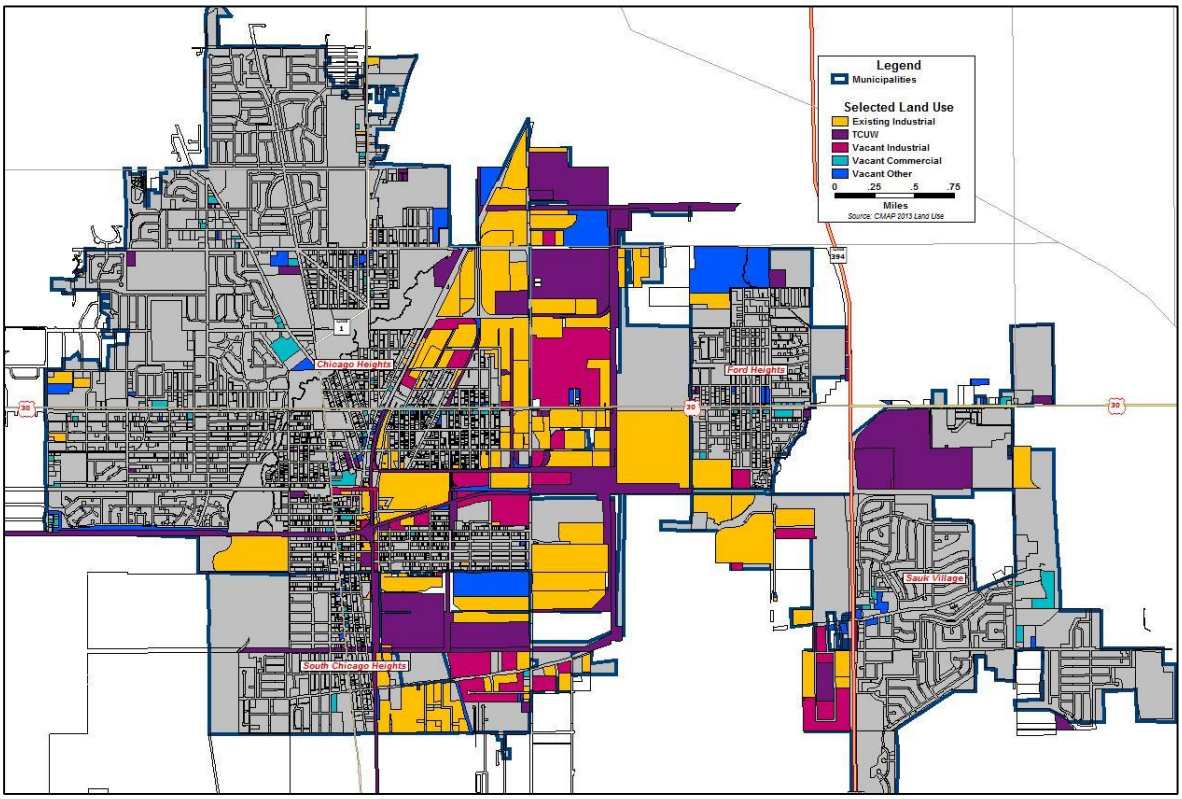
5.3.4.2 Land Use Data

Data from the Chicago Metropolitan Agency for Planning Land Use Inventory was used to map and tabulate the amount of industrial, TCUW[49], and vacant industrial land present in the Lincoln Highway Logistics Corridor (Chicago Heights, Ford Heights, and Sauk Village) in 2013. Industrial uses include properties where the manufacturing of goods is the sole on-site activity, as well as properties where the primary activity on the parcel is the storage and distribution of goods. Vacant industrial land is undeveloped land that the County Assessor classified as industrial. Other vacant undeveloped land is classified as agriculture (if less than 25% of the parcel is farmed), tax-exempt, or unknown.

[49] *TCUW is a land use category denoting Transportation, Communication, Utilities, and Waste Management.*

Figure 5-9 shows the municipalities in gray color with selected coloring of other relevant land uses. There is a strong industrial presence shown with the yellow shading in all municipalities. Vacant industrial and vacant other land use is scattered throughout the study area. A fair number of commercial properties are vacant as well. This figure communicates the opportunity of using vacant and adjacent properties to serve existing industrial uses or to build new industrial businesses. Table 5-13 shows a tabulation of the same land use data. Chicago Heights is the largest of the municipalities, with an extent of about 10 square miles. Sauk Village is 3.8 square miles, and Ford Heights is under two square miles in area.

Figure 5-9: 2013 Land Use in the Lincoln Highway Logistics Corridor



Source: Chicago Metropolitan Agency for Planning 2013 Land Use GIS file

In the Lincoln Highway Logistics Corridor's case, it is assumed that parcels with the classification "other vacant undeveloped" would be potential for building or expanding industrial uses and so are summed for this analysis. Finally, land without land use classification exists in the areas between and around the municipalities in Corridor. These properties, many of which are located in unincorporated Cook County, should be considered as potential industrial development sites.

- In Chicago Heights, 16% of all land is classified Industrial, with Vacant Industrial at 2% and Vacant Other at 1%. There are 217 acres of Vacant Industrial or Vacant Other land in Chicago Heights.
- In Ford Heights, 8% of all land is classified Industrial, with Vacant Industrial at 2% and Vacant Other at 1%. There are 32 acres of Vacant Industrial or Vacant Other land in Ford Heights.

- In Sauk Village, 9% of all land is classified Industrial, with Vacant Industrial at 3% and Vacant Other at 1%. There are 86 acres of Vacant Industrial or Vacant Other land in Sauk Village.

For comparison, the percent Vacant Industrial and Vacant Other in Cook County and in the six-county region were also tabulated.

- In Cook County, 0.65% of the land area is classified Vacant Industrial and 1.25% is classified Vacant Other[50].
- In the six-county region, 0.55% is classified Vacant Industrial and 1.27% is classified Vacant Other.

Note that the Vacant Industrial or Vacant Other acres is a land use not a real estate measure; it holds no information on the contiguous nature, viability, or availability of the available land.

Table 5-13: 2013 CMAP Land Use in the Lincoln Highway Logistics Corridor

Land Use Classification	Chicago Heights	Ford Heights	Sauk Village
	% of Total	% of Total	% of Total
Area	10.09 sq. miles	1.95 sq. miles	3.8 sq. miles
Residential	24%	24%	37%
Commercial	5%	1%	1%
Industrial	16%	8%	9%
Institutional	9%	6%	5%
Open Space	8%	0%	4%
Other and Agriculture	20%	28%	22%
TCUW	9%	3%	12%
Vacant Commercial	1%	2%	1%
Vacant Industrial	2%	2%	3%
Vacant Other	1%	1%	1%
Vacant Residential	3%	25%	4%
Total	100%	100%	100%
Area in Acres	6458	1248	2432
Acres of Vacant Industrial or Vacant Other	217	32	86

Source: Chicago Metropolitan Agency for Planning 2013 Land Use GIS file tabulation

[50] Note that some of the land coded as "Vacant Other" within the City of Chicago may actually be industrial land. In most counties a vacant industrial parcel was classed as "Industrial", but In Cook County all vacant properties are simply classified as "vacant.," As a result, the study team relied on zoning data to determine whether a vacant parcel was residential, commercial, industrial, or other. This approach was successful for the most part, except that the Chicago zoning layer included numerous "Planned Developments" (PDs), which did not indicate the intended use. These parcels were classified as Vacant Other.

Applicability to the Lincoln Highway Logistics Corridor: The land use file that the Chicago Metropolitan Agency for Planning provided showed the following:

- **Preponderance of Existing Industrial Uses:** The percentage of industrial land in the three municipalities tabulated, Chicago Heights, Ford Heights, and Sauk Village ranges from 8% to 16%.
- **Vacant Industrial Land:** Vacant industrial land is available in all municipalities and it is adjacent to the existing industrial land in current use.
- **Separation of Land Uses:** Residential uses are generally separated from industry as seen in the street grid. TCUW carries a high percentage of land use, demonstrating the presence of rail and roadway right-of-way in the Lincoln Highway Logistics Corridor. A wide swath of existing industrial and available land is found northeast to southwest across the three municipalities.

5.3.4.3 Regional Sectoral Analyses

The Chicago Metropolitan Agency for Planning's data on employment and land use provides a good transition to a 2010 study done for the City of Chicago. This study, called the Chicago Rail Economic Opportunities Plan (CREOP), sought to leverage Chicago's rail freight infrastructure and services to attract new industrial development. It recommended commodities that are compatible with rail freight. While it focused on the City of Chicago, its findings are relevant to the Lincoln Highway Logistics Corridor since many of the same industrial sector and rail infrastructure opportunities are found in both areas.

Using economic and forecast data developed in 2008 for the Chicago Rail Economic Opportunities Plan, the Consultants identified the following industries as having potential for rail based economic development in Cook County. The five points below are quoted from the Chicago Rail Economic Opportunities Plan:

1. **Food Processing**. Chicago has historically enjoyed a premier position in the food processing sector and will continue to see growth in this area over the next twenty years. Specialty and ethnic food processing, animal slaughtering and processing (which ranks second in regional sales and expected to become the leading food manufacturing segment by 2015), and vegetable/fruit preserving (projected to grow fastest) should all be further examined.

2. **Fabricated Metal, Primary Metal, and Machinery**. While the county's dominance in fabricated metals has slipped in recent years, it is still the largest employer and a heavy rail user. Local demand of primary metal and machinery is higher than Cook County's supply, signaling room for expansion of local production. Rail-based opportunities in this sector may exist, especially in specialty metal fabrication which takes advantage of the city's skilled labor pool.

3. **Chemical.** Cook County lost thirty-five chemical companies in the ten years of 2000 to 2010 while the collar counties gained twenty. However, two segments of this sector hold

particular promise for Cook County: soap, cleaning supplies, and toiletries; and pharmaceutical and medicine manufacturing. The former segment accounts for 46% of Cook County's chemical sales, while pharmaceutical and medicine manufacturing is projected to grow significantly above the U.S. average in the next twenty years. Both sectors are heavy rail users.

4. **Transportation Equipment**. This sector experienced the largest regional growth rates between 2000 and 2008 thanks to vehicle parts manufacturing. Transportation equipment is largely built using metal components and raw materials. This specific segment is expected to grow at rates significantly above the U.S., driven primarily by Ford Motor Company, Pullman Inc., Caterpillar Inc., and Deere. Transportation equipment is the largest sector in freight value leaving Cook County by rail and an appealing target for rail-based industrial development.

5. **Warehousing**. Much of the current warehouse and distribution development in Chicago occurs in its collar counties given this sector's large parcel requirements and need for proximity to a less-congested interstate highway system. However, niche and specialty warehouse markets can take advantage of Cook County's proximity to urban consumption and manufacturing markets and extensive rail network.

The Chicago Rail Economic Opportunities Plan came up with twelve North American Industry Classification System (NAICS) industries to target in support of rail-served industrial activity in the City of Chicago. These are Food Product Manufacturers (311), Beverage Manufacturers (312), Wood Products Manufacturers (321), Paper Products Manufacturers (322), Petroleum & Coal Products Manufacturers (324), Chemical Products Manufacturers (325), Plastics & Rubber Product Manufacturers (326), Non-metallic Minerals Manufacturers (327), Primary Metal Manufacturers (331), Fabricated Metals Manufacturers (332), Furniture Manufacturers (337), and Utilities - Power Generation (22). NAICS 336, transportation equipment manufacturing, which includes auto, truck, and rail components and assembly, was not cited in the Chicago Rail Economic Opportunities Plan primary targeted list.

Applicability to the Lincoln Highway Logistics Corridor: The Chicago Rail Economic Opportunities Plan report showed the following:

- **Several Strong Rail-Served Opportunities in Chicago Exist.** Warehousing, Food Processing, Fabricated Metal, Primary Metal & Machinery Manufacturing, Chemical Manufacturing, and Transportation Equipment Manufacturing are all sectors with opportunity in the Lincoln Highway Logistics Corridor.
- **Rail-Served Land has Value.** The Chicago Rail Economic Opportunities Plan found that vacant industrial land and legacy rail infrastructure provided valuable building blocks for economic growth. The study findings included a recommendation that rail-served industrial land should be preserved for industrial uses whenever possible.
- **Importance of Warehousing.** The Chicago Rail Economic Opportunities Plan discussed Cook County as part of its analysis. Warehousing, especially niche warehousing, was found to be a growth area. Since this study came out, the demand for warehousing has remained strong.

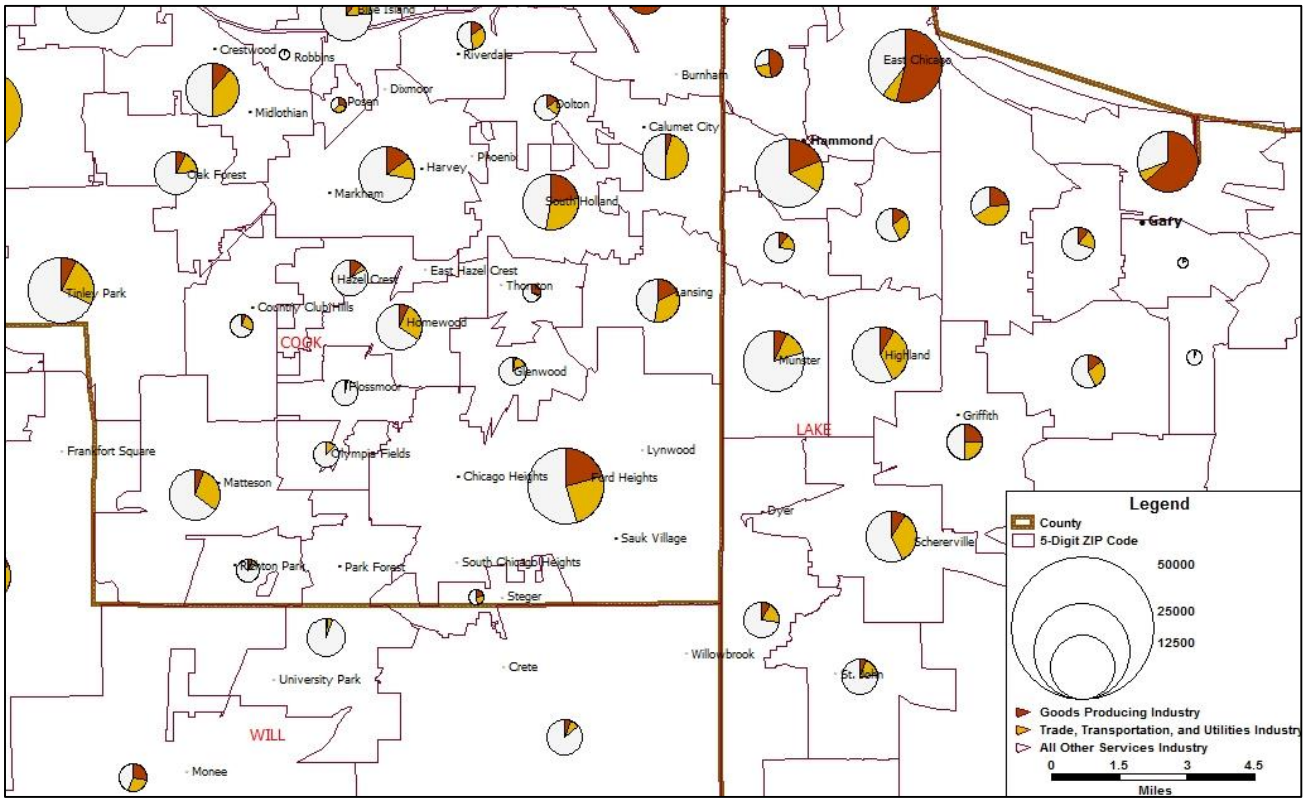
5.3.5 Longitudinal Employer-Household Dynamics (Longitudinal Employee-Household Dynamics) Data

The Consultants analyzed the 2012 Longitudinal Employer-Household Dynamics data by zip code for northeastern Illinois and northwestern Indiana, contextualizing the Lincoln Highway Logistics Corridor's employment profile in the broader region in which many of its firms' suppliers and clients are located. The Longitudinal Employer-Household Dynamics data is useful because it has employment information by the following three work type categories:

- Goods Producing Industry
- Trade, Transportation, and Utilities Industry
- All Other Services Industry

Figure 5-10 shows that goods-producing industries and trade, transportation, and utilities industries have strong employment in the zip code that covers Chicago Heights, Ford Heights, and Sauk Village. The high proportion of manufacturing and transportation employment sectors highlights the importance of those sectors to the Lincoln Highway Logistics Corridor today, corroborating the findings of other data analyses included in Section 5.

Figure 5-10: 2012 LEHD Employment by Sector in the Southland by Zip Code



Source: 2012 U.S. Census Longitudinal Employee-Household Dynamics Data

The Consultants also leveraged the Longitudinal Employee-Household Dynamics data to see how the Lincoln Highway Logistics Corridor stacks up against all of Cook, DuPage, Will, and Lake (IN) Counties as well as all of Illinois with respect to percent "Goods Producing Industry" of all employment. Table 5-14 shows these results. The Lincoln Highway Logistics Corridor has high shares of goods producing and trade, transportation, and utilities employment, pointing to its strong manufacturing profile and skilled workforce. The Lincoln Highway Logistics Corridor has a higher share of employment in these industries than the rest of Cook County or Illinois; in fact, by employment profiles the Lincoln Highway Logistics Corridor is more similar to Lake County, IN.

Table 5-14: 2012 LEHD Employment by Sector in Selected Geographies

Geographic Area	Goods Producing Industry	Trade, Transportation, and Utilities Industry	All Other Services Industry	Total
Cook County	10%	19%	71%	100%
Will County	14%	27%	59%	100%
DuPage County	13%	24%	64%	100%
Lake County, IN	20%	21%	60%	100%
Lincoln Highway Study Area	20%	25%	55%	100%
All Illinois	14%	20%	66%	100%

Source: 2012 U.S. Census Longitudinal Employee-Household Dynamics Data

Applicability to the Lincoln Highway Logistics Corridor: The Consultants processed the 2012 Longitudinal Employee-Household Dynamics employment data for Illinois and Indiana in zip code geography to analyze the magnitude of or employment in the Lincoln Highway Logistics Corridor from this data sources as well as the percentage of employment that is manufacturing related. Spatial analysis can also be conducted by looking at the Lincoln Highway Logistics Corridor to understand its relationship to the adjoining zip code employment values and percentages. It can be noted that:

- **Percentage Industrial:** employment in the Lincoln Highway Logistics Corridor is highly industrial, accounting for 45 percent of all employment. This share is higher than any nearby county or the State of Illinois overall.
- **Opportunity:** the Lincoln Highway Logistics Corridor is located near other areas similarly concentrated in industrial employment, suggesting opportunities for collaboration and low transportation costs to ship manufacturing inputs and outputs.

5.3.6 County Business Patterns (CBP) Employment Data

County Business Patterns employment data provides a second employment-based dataset that can focus on the Lincoln Highway Logistics Corridor. In this dataset, all employment is classified as one of twenty two-digit North American Industry Classification System (NAICS) categories as shown in Table 5-15. The value of the County Business Patterns data to the Lincoln Highway Logistics Corridor commodity flow data is to verify the importance of manufacturing and transportation-support businesses in the Corridor. As with the Longitudinal Employee-Household Dynamics data, the zip code is the smallest geography available that comes close to matching the Lincoln Highway Logistics Corridor. The Consultants chose zip code 60411, which covers the Lincoln Highway Logistics Corridor communities of Chicago Heights, Ford Heights, and Sauk

Village, along with Lynwood and South Chicago Heights, for this analysis. Unincorporated land, forest preserves, and recreational land are also in this zip code.

Table 5-15: Two-Digit North American Industry Classification System (NAICS) Code and Description of Census County Business Patterns

Sector	Description
11	Agriculture, Forestry, Fishing and Hunting
21	Mining, Quarrying, and Oil and Gas Extraction
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information
52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Food Services
81	Other Services (except Public Administration)
92	Public Administration

The Consultants tabulated estimated employment for each North American Industry Classification System group and gave attention to the manufacturing and transportation/warehousing categories to better understand the Lincoln Highway Logistics Corridor's profile. Table 5-16 shows that:

- Nearly half, 48%, of the employment in this zip code is manufacturing or trucking related, with 22% manufacturing, 18% trucking and warehousing related, and 8% merchant wholesalers of durable goods which includes sellers of items such as automobile and other motor vehicle merchant wholesalers and recyclable material merchant wholesalers.
- Construction related (4%), telecommunications (2%) and waste management and remediation Services (1%) offer related industrial opportunities consistent with manufacturing.

Table 5-16: 2012 Census County Business Pattern (CBP) in Zip Code 60411 (Top Summary)

NAICS Code	NAICS Description	Employment	Percentage of Total
23	Construction	740	4%
31-33	Manufacturing	4360	22%
423	Merchant Wholesalers, Durable Goods	1530	8%
424	Merchant Wholesalers, Nondurable Goods	310	2%
441-454	Various Retail	1680	8%
485-494	Trucking and Warehousing	3580	18%
517	Telecommunications	390	2%
522-561	Support Services (Household Oriented)	2020	10%
562	Waste Management and Remediation Services	120	1%
621-624	Medical	2620	13%
611,624,700 and 800	Education, Food Services, Other	2900	14%
Total		**20250**	**100%**
Zip Code 60411	Manufacturing, Warehousing and Trucking Related	9590	48%

Source: 2012 U.S. Census County Business Patterns

Table 5-17 is a detailed version of Table 5-16, showing a breakout of the manufacturing and transportation categories. The data emphasizes the importance of steel and fabricated metals manufacturing, transportation equipment manufacturing, and truck transportation to the Corridor. The manufacturing sectors (311 through 339) active in the Corridor are highlighted in yellow. The trucking and transport sectors (484 through 493) active in the Corridor are highlighted in blue.

Table 5-17: 2012 Census County Business Pattern (CBP) in Zip Code 60411 (Detailed Summary)

NAICS Code	NAICS Description	Employment	Percentage of Total
23	Construction	740	4%
311	Food Manufacturing	120	1%
314	Fabric Manufacturing	10	0%
321	Wood Manufacturing	40	0%
325	Chemical Manufacturing	590	3%
326	Plastics Manufacturing	480	2%
327	Glass, Clay and Concrete Manufacturing	390	2%
332	Steel & Fabricated Metals Manufacturing	1250	6%
333	Machinery Manufacturing	140	1%
336	Transportation Equipment Manufacturing	1280	6%
339	Other Manufacturing	60	0%
423	Merchant Wholesalers, Durable Goods	1530	8%
424	Merchant Wholesalers, Nondurable Goods	310	2%
441-454	Various Retail	1680	8%
484	Truck Transportation	2880	14%
485	Transit and Ground Passenger Transportation	320	2%
488	Support Activities for Transportation	190	1%
493	Warehousing and Storage	190	1%
517	Telecommunications	390	2%
522-561	Support Services (Household Oriented)	2020	10%
562	Waste Management and Remediation Services	120	1%
611	Educational Services	220	1%
621-624	Medical	2620	13%
624	Social Assistance	600	3%
722	Food Services and Drinking Places	1220	6%
811	Repair and Maintenance (Auto and Other)	270	1%
812	Personal and Laundry Services	140	1%
813	Religious, Grantmaking, Civic, Professional	450	2%
	Total	20250	100%

Source: 2012 U.S. Census County Business Patterns

Applicability to the Lincoln Highway Logistics Corridor: The 2012 Census Business Patterns employment data provides the following insights into key employment sectors in the 60411 zip code that covers the Lincoln Highway Logistics Corridor:

- **Preponderance of industrial-related employment**: Nearly half of the employment in this zip code is manufacturing or trucking related.
- **Specific manufacturing sectors:** Drilling into the specific manufacturing sectors provides some insight to specific industries that can be the focus of economic development strategies, such as steel and fabricated metals manufacturing, and transportation equipment manufacturing.
- **Transportation Opportunity:** The Lincoln Highway Logistics Corridor has the multimodal transportation network to efficiently serve these types of manufacturers.

5.4 Summary and Recommendations

In this report, the Consultants reviewed a set of commodity flow databases, employment and land use data, and existing freight-related reports to provide direction to the Lincoln Highway Logistics Corridor Strategic Plan. The findings from this analysis generally agree on the commodities and manufacturing sectors that are important to develop and expand in the Lincoln Highway Logistics Corridor. This summary lists the commodities that show particular promise in strengthening business in the Lincoln Highway Logistics Corridor and note the data and information sources that support that claim.

5.4.1 Top Commodities and Industries

Eleven commodities and industries emerge from the analysis in Section 5. Each is mentioned in one or more of the data sources as being significant in the Lincoln Highway Logistics Corridor for the truck or rail freight mode. These eleven are meant to serve as a first cut of commodities that emerged as the various datasets were processed, not as a prescriptive list. They include warehousing and freight transportation, which are not commodities but were identified in regional studies as key economic sectors.

Table 5-18: Top Commodity and Industry Sectors for Lincoln Highway Logistics Corridor Development

Commodity or Industry	FHWA FAF Data Top Commodities also present in the LHLC				STB Carload Waybill Sample	CREOP Study
	Significant Category (by Weight)	Significant Category (by Value)	Resiliency (Top Five, by weight or value, during 2007-2010 recession)	Growth Commodities 2012-2045, Top Fifteen by Value	Top Goods Incoming and Outgoing	Rail-Served Opportunities (Chicago-based study)
Chemical Products	X	X	X	X	X	X
Plastics and Rubber	X	X	X	X	X	
Mixed Freight/ Misc. Manufacturing	X	X	X	X	X	
Foodstuffs	X	X	X		X	X
Articles Base Metal	X	X		X		X
Machinery		X		X		X
Steel and Fabricated Metal	X	X				X
Transportation Equipment		X			X	X
Fertilizer	X		X			
Recyclables/Scrap	X				X	
Warehousing	n/a	n/a	n/a	n/a	n/a	X

1. **Chemical Products** – This commodity is among the top ranked in the Chicago metropolitan area in the Federal Highway Administration's Freight Analysis Framework database by both weight and value. The value of chemical products is forecasted to grow between 2012-2045. Currently, they are an important commodity in the Surface Transportation Board's Rail Carload Waybill Sample, making them consistent with rail-served industrial opportunity. The Chicago Rail Economic Opportunities Plan identified chemical products

as having potential for rail-based economic development in Cook County, and by extension in the Lincoln Highway Logistics Corridor. A suitable workforce and vacant industrial land in the Corridor are also available to serve the industries linked with this commodity.

2. **Plastics / Rubber** – This commodity is among the top ranked in the Chicago metropolitan area in the Federal Highway Administration's Freight Analysis Framework database by both weight and value. Plastics and rubber products show growth in the forecast interval 2012-2045 by value and also are an important commodity in the Surface Transportation Board's Rail Carload Waybill Sample, making them consistent with rail-served industrial opportunity. A suitable workforce and vacant industrial land in the Corridor are also available to serve the industries linked with this commodity.

3. **Mixed Freight / Miscellaneous Manufactured Products** – These commodities are among the top ranked in the Chicago metropolitan area that are represented in the Federal Highway Administration's Freight Analysis Framework database by both weight and value. Mixed manufacturing products show growth in the forecast interval 2012-2045 by value and also are an important commodity in the Surface Transportation Board's Rail Carload Waybill Sample, making them consistent with rail-served industrial opportunity. The strength of this category speaks to the opportunity in the Lincoln Highway Logistics Corridor to recognize and invest in firms that produce small lots, specialty products, and/or have a dedicated or niche clientele. As an example, the Chicago Rail Economic Opportunities Plan (Section 3.4.3) noted that the fabricated metal sector can be described as bottom-heavy: the largest fifty companies in the region hold only 20% of the market. Most companies in this sector, because of material and manufacturing complexity, make a limited range of products and are geared towards specific (business-to-business) industrial markets. This category of manufacturing may be a good fit in the Lincoln Highway Logistics Corridor. A suitable workforce and vacant industrial land in the Corridor are available to serve the industries linked with this type of commodity/manufacturing.

4. **Foodstuffs** – This commodity is among the top ranked in the Chicago metropolitan area in the Federal Highway Administration's Freight Analysis Framework database by both weight and value. Foodstuffs are an important commodity in the Surface Transportation Board's Rail Carload Waybill Sample making them consistent with rail-served industrial opportunity. The Chicago Rail Economic Opportunities Plan identified foodstuffs as having potential for rail-based economic development in Cook County, and by extension in the Lincoln Highway Logistics Corridor. A suitable workforce and vacant industrial land in the Corridor are available to serve the industries linked with this commodity.

5. **Articles Base Metal** – This commodity is among the top ranked in the Chicago metropolitan area in the Federal Highway Administration's Freight Analysis Framework database by both weight and value. Metal articles also show growth in the forecast interval 2012-2045 by value. The Chicago Rail Economic Opportunities Plan identified metal products as having potential for rail-based economic development in Cook County, and by extension in the Lincoln Highway Logistics Corridor. A suitable workforce and vacant industrial land in the Corridor are available to serve the industries linked with this commodity.

6. **Machinery** – This commodity is among the top ranked in the Chicago metropolitan area in the Federal Highway Administration's Freight Analysis Framework database by value. Machinery also shows growth in the forecast interval 2012-2045 by value. The Chicago Rail Economic Opportunities Plan identified machinery production as having potential for rail-based economic development in Cook County, and by extension in the Lincoln Highway Logistics Corridor. A suitable workforce and vacant industrial land in the Corridor are available to serve the industries linked with this commodity.

7. **Steel and Fabricated Metal** – This commodity is among the top ranked in the Chicago metropolitan area in the Federal Highway Administration's Freight Analysis Framework database by both weight and value. The Chicago Rail Economic Opportunities Plan identified steel and fabricated metal production as having potential for rail-based economic development in Cook County, and by extension in the Lincoln Highway Logistics Corridor. A suitable workforce and vacant industrial land in the Corridor are available to serve the industries linked with this commodity.

8. **Transportation Equipment** – This commodity is among the top ranked in the Chicago metropolitan area in the Federal Highway Administration's Freight Analysis Framework database by value. It is also an important commodity in the Surface Transportation Board's Rail Carload Waybill Sample making it consistent with rail-served industrial opportunity. The Chicago Rail Economic Opportunities Plan identified transportation equipment as having potential for rail-based economic development in Cook County, and by extension in the Lincoln Highway Logistics Corridor. A suitable workforce and vacant industrial land in the Corridor are also available to serve the industries linked with this commodity.

9. **Fertilizer** – This commodity is among the top ranked in the Chicago metropolitan area in the Federal Highway Administration's Freight Analysis Framework database by weight. A suitable workforce and vacant industrial land in the Corridor are also available to serve the industries linked with this commodity.

10. **Recyclables / Scrap** – This commodity is among the top ranked in the Chicago metropolitan area in the Federal Highway Administration's Freight Analysis Framework database by weight. It is also an important commodity in the Surface Transportation Board's Rail Carload Waybill Sample making it consistent with rail-served industrial opportunity. A suitable workforce and vacant industrial land in the Corridor are also available to serve the industries linked with this commodity.

11. **Warehousing and Freight Transportation** – Warehousing and freight transportation are not commodities and yet are mentioned in this summary because they serve an important function for industry. Manufacturers in the Lincoln Highway Logistics Corridor rely on affordable, efficient means of transportation to ship input materials, store products, and ship final goods to clients. The Chicago Rail Economic Opportunities Plan identified warehousing as having potential for rail-based economic development in Cook County, and by extension in the Lincoln Highway Logistics Corridor. Employment databases show that truck and rail freight transportation and warehousing are available and have a strong profile in the Lincoln Highway Logistics Corridor -- in fact, 18% of jobs in the 60411 zip

code are related to trucking and warehousing. A suitable workforce and vacant industrial land are also available to serve warehousing and freight transportation industries.

5.4.2 Commodity & Industry-Based Recommendations

Section 4.1 provided a list of the top observed commodities in the Lincoln Highway Logistics Corridor and their allied industries. Based on the data analysis in Section 5, the Consultants can make the following commodity and industry-based recommendations:

- **Align key industries and transportation infrastructure.** The Lincoln Highway Logistics Corridor is a constellation of successful heavy manufacturing sites, many requiring skilled workers. These sites require raw material input and produce output goods in many cases suited to rail transport. Chemical products, plastics and rubber, fertilizer, transportation equipment, fabricated metal, and recyclables/scrap all move efficiently by rail. The analysis of freight data sources underscores the importance of carload, rather than unit train, rail shipments to the Lincoln Highway Logistics Corridor.
  - **Recommendation:** Leverage the existing manufacturing landscape in the Lincoln Highway Logistics Corridor. Identify land for new firms or for expansion of existing firms, focusing on rail-served properties and industries that rely on the key commodities identified in Section 5.
  - **Recommendation:** Develop economic development policies specific to bulk production industries (e.g., chemicals, fertilizer) as well as the industries that produce smaller, higher-value goods (e.g., fabricated metals). Understand the unique transportation needs of these different types of manufacturers.
- **Workforce:** Existing employment from a variety of data sources shows a strong community of skilled manufacturing workers in and near the study area.
  - **Recommendation:** Invest in the attraction and retention of skilled manufacturing workers with Lincoln Highway Logistics Corridor study partners.
  - **Recommendation:** Work on the "pipeline" of skilled manufacturing education and training in the region.

In summary, Table 4-1 and the discussion immediately following show that a small set of existing commodities and products currently power the Lincoln Highway Logistics Corridor. These are chemical products, machinery, plastics and rubber, steel and fabricated metal, fertilizer, transportation equipment, foodstuffs, metal articles, recyclables/scrap, and miscellaneous manufacturing. While not a commodity, warehousing and freight transportation are allied industries that have an interface with the manufacturing sectors cited above as well as independent growth potential in the study area. This commodity flow analysis has prepared the Lincoln Highway Logistics Corridor team to move on to the remaining tasks with knowledge of the existing goods movement in the area.

This commodity flow report has processed and analyzed readily available databases and reports on commodity flows, employment, and land use, preparing the study team to move forward. The dominant existing commodity flows can be leveraged to grow rail-served industry in the Lincoln Highway Logistics Corridor.

Given that Section 1 through Section 5 have addressed the general site selection criteria and existing commodity flow, the Consultants will now conduct a drill down of specific sites, addressing infrastructure, financials and a strategic path forward.

6.0 Infrastructure and Site Analysis

6.1 Introduction

The Lincoln Highway Logistics Corridor Strategic Plan sought to identify the best opportunities for investing in Chicago Heights, Ford Heights, and Sauk Village's future by redeveloping existing vacant or underused industrial sites. After the work of collecting and analyzing national information on industrial site selection from numerous sources, interviewing current businesses and looking at commodity flows in place, the Consultants began to evaluate and rank target sites.

Section 6 evaluates and ranks target sites in the study area. It is useful as Section 6 progresses to refer to Section 2 which determined that the Corridor's key weaknesses are environmental risk related to brownfield remediation, total cost (chiefly the property tax rate for industrial properties in the study area), target site readiness, and the rail transportation network's current condition. The Corridor's key strengths are attractive land purchase cost, a good highway transportation grid, rail transportation opportunities, congruence with social goals including a return to the urban core, economic development and regional environmental benefits, suitable zoning and compatible land uses, and a seasoned workforce available for industrial jobs.

Figure 6-1 shows the 21 Lincoln Highway Logistics Corridor target sites. Site A has been divided into A-1 and A-2. The consultants selected the 21 sites based on their availability as industrial development sites in the study area. A large part of the current study is to screen them and select a small set for Cook County's investment. All sites lie in Chicago's south suburbs, within the study area that includes parts of Chicago Heights, Ford Heights, Sauk Village, and unincorporated Cook County. Most sites are in private hands, although a municipality owns three of them.
Section 2 had the following two key outcomes:

- Site selection criteria, as shown in Table 6-1, can be divided into:
  - Categories that can be measured against each other by site and
  - Categories that are less site specific.
- Some site selection criteria are common across all 21 sites and thus are a constant in the following screening process.

Table 6-1: Site Selection Category Types

Categories that can be measured against each other by site	
Major Screening Category	***Metric***
Environmental Risk	Presence of Recognized Environmental Condition (REC)s, their extent and remediation costs
Parcel Size and Ownership	Number of acres, current owner
Transportation of Goods in and Out	Rail access/potential, highway access
Readiness	Utilities presence and target property size
Regulatory/Tax Environment	Varying tax rates through the study area
Cost	Total cost to develop
Categories that are Less Site Specific	
Major Screening Category	***Metric***
Workforce	Availability generally the same for each site, weaknesses could be addressed at the sub-regional
Social Goals	Could be addressed at the sub-regional level (incentives and policy)
Land Use	Sites are relatively compatible and zoned for intended industrial uses
Synergy	Potential for agglomeration – some parcels may make sense to bundle; may not be site specific, qualitative

The consultants have entered the six primary, measurable screening categories shown in Table 6-1 into the master table. These categories represent the primary focus of this screening task and report. The four categories that are less site specific or that are common to all locations are mentioned after all the sites are discussed. Table 6-2 shows the 21 target sites, the major screening categories, and the resulting findings. Table 6-3 shows the 13 finalist Lincoln Highway Logistics Corridor sites.

Section 6 is organized into the following four main sections:

- **Section 6.2 – Identification of Sites** describes the original eight target sites as identified in Cook County Request for Proposals 1555-14428, and the other target sites that collectively make up the 21 evaluated sites.
- **Section 6.3 – Approach to Screening** describes the evaluation criteria used to explain how these measures implement the concepts generally discussed in Sections 1 and 2.
- **Section 6.4 – Evaluation of Findings** identifies sites with fatal flaws and explains their status. The consultants have then sorted the remaining sites into high, medium, or low categories and have described each category's general site characteristics. "High" sites, for example, may be greenfields, have no environmental concerns, and be relatively large. "Medium" sites might be various sizes, have brownfield concerns on parts of the property but not all, enjoy good rail access, and have manageable stormwater concerns. "Low" sites might be very small, have no reasonable rail access, and have extensive environmental concerns.

- **Detailed Appendices** are provided at the end of this document. They cover existing conditions including the following.
  - **Appendix 6A: Site Information** provides basic information on site acreage, ownership, tax rates, existing rail and highway access, utility rates and availability, condition of existing structures, and wetlands and floodplain coverage.
  - **Appendix 6B: Preliminary Environmental Site Assessment Summary and Report** provides findings on development history and potential environmental site contamination.
  - **Appendix 6C: Initial Site Needs** summarizes the infrastructure, tax environment, remediation, and other needs for each of the 13 sites advanced to Section 7, Financial Plan. Section 7 will identify the necessary improvements to make these 13 sites "shovel ready" for development.

Figure 6-1: Lincoln Highway Logistics Corridor Study Area and Target Sites

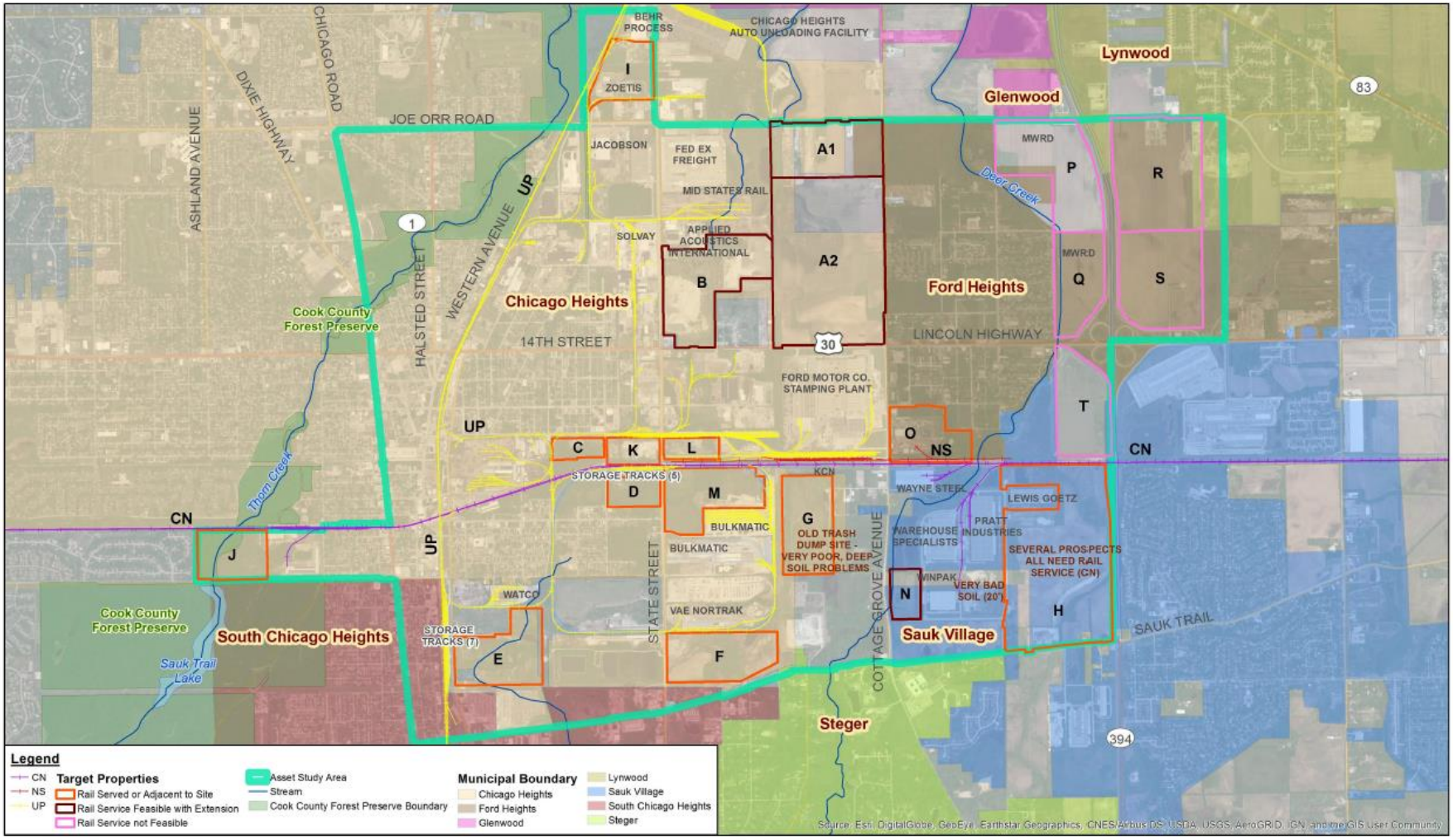


Table 6-2: Lincoln Highway Logistics Corridor Site Analysis Matrix

Best comparative performance
Moderate comparative performance
Worst comparative performance

Site	A-1	A-2	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
Environmental Risk - score 1 pt. for REC High Risk, 3 pt. for REC Moderate Risk, 5 pt. for REC Low Risk, 7 pt. for DeMinimis, 9 pt. for no RECs and no DeMinimis - max. 9 points																					
RECs Present	Yes	No	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	No	No	Yes	Yes	No	No	No	No
RECs Extent of Risk	Moderate	N/A	N/A	High	Low	High	N/A	High	Low	High	N/A	Moderate	Moderate	N/A	N/A	High	Low	N/A	N/A	N/A	N/A
DeMinimis Present	Yes	Yes	No	No	No	Yes	No	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No
Score	3	9	9	1	5	1	9	1	5	1	9	3	3	9	7	1	5	7	7	7	9
Parcel Size and Ownership - score 1 pt. for less than 20 AC, 2 pt. for 20-49 AC, 3 pt. for 50+ AC, 1 pt. for 5 or more owners per site, 2 pt. for 1-4 owners per site. max. 5 points																					
Municipality	Chicago Heights/ Ford Heights	Chicago Heights/ Ford Heights	Chicago Heights	Chicago Heights	Chicago Heights	Chicago Heights	Chicago Heights	Chicago Heights	Sauk Village	Chicago Heights	Chicago Heights	Chicago Heights	Chicago Heights	Chicago Heights	Sauk Village	Ford Heights	Ford Heights and Uninc.	Ford Heights and Uninc.	Ford Heights/ Lynwood	Ford Heights	Ford Heights
Area (Acres)	78.99	236.98	99.57	13.27	19.55	64.77	64.14	63.02	223.75	41.27	43.17	18.22	15.08	62.59	19.11	49.10	49.10	57.84	124.48	100.01	65.32
# Owners	9	7	2	2	1	3	1	1	7	4	3	4	1	1	1	8	4	1	8	3	2
Score	4	4	5	3	3	5	5	5	4	4	4	3	3	5	3	3	4	5	5	5	5
Transportation - score 4 pts for adjacent or on site rail access, 2 points for rail potential, 0 pts. For no rail potential, 4 pt. for access to IL-394 <2 miles, 2 pt for all others - max. 6 points																					
Rail Potential	0.25 miles	0.05 miles	0.10 miles	Adjacent	Adjacent	Adjacent	Adjacent	Adjacent	Adjacent	On-site	Adjacent	Adjacent	Adjacent	Adjacent	0.25 miles	On-site	No	No	No	No	0.25 miles
Rail Carrier	UP	UP	UP	UP	CN	UP	UP (CN, Bulkmatic)	UP (CN, Bulkmatic)	CN	UP	CN	UP	UP	UP (CN, Bulkmatic)	CN	NS (orphan track)	N/A	N/A	N/A	N/A	CN
IL-394 Access	2.4 miles	1.3 miles	2.5 miles	2.7 miles	2.6 miles	4.0 miles	1.8 miles	1.9 miles	0.9 miles	3.1 miles	4.9 miles	2.7 miles	2.3 miles	2.9 miles	1.2 miles	2.0 miles	1.9 miles	0.2 miles	1.8 miles	0.9 miles	0.3 miles
I-57 Access	8.1 miles	7.2 miles	7.0 miles	6.7 miles	7.1 miles	6.8 miles	8.0 miles	9.0 miles	9.0 miles	7.4 miles	5.6 miles	6.7 miles	6.9 miles	7.5 miles	8.3 miles	9.1 miles	9.2 miles	8.2 miles	9.7 miles	9.4 miles	8.5 miles
Score	4	6	4	6	5	5	8	8	8	6	6	6	6	6	6	6	4	4	4	4	6
Readiness - score 0 pt. for 40% or more Floodplain, 1pt. For 10%-40% Floodplain, 2pt. For less than 10% Floodplain, 1 pt. each for services on or near site - max. 5 points																					
% Floodplain & Wetland	4.2%	6.8%	60.4%	0.0%	2.7%	48.1%	3.8%	0.5%	47.3%	0.0%	28.8%	0.0%	10.7%	16.4%	98.1%	9.3%	0.2%	8.6%	0.0%	0.0%	95.2%
Water Service	None	Intersects w 12" (CH); Within 100' (FH)	12" - 16" within 100'	8" within 100'	Intersects w/24"	None	24" within 100'	None	8" - 12" on-site	10" within 100'	None	12" within 100'	Intersects w/24"	24" on-site	8" on-site	Unknown size on-site	Unknown size within 250'	Unknown size within 100'	None	None	None
Sanitary Sewer Service	None	15" Within 100' (CH); Within 100' (FH)	15" - 18" within 100'	6" on-site	8" within 100'	None	4" - 8" within 100'	None	8" - 12" on-site	8" within 100'	None	8" within 100'	18" within 100'	Intersects w/8"	None	Unknown size within 100'	Unknown size within 250'	Unknown size within 100'	None	None	None
Storm Sewer Service	None	None (CH); Within 100' (FH)	60" within 100'	10" - 36" within 100'; 2 inlets	None	None	None	None	12" within 100'	None	None	36" on-site; 4 inlets	36" within 100'	36" within 250'	None	Unknown size within 100'	None	Unknown size on-site	None	None	Unknown size within 100'
Score	2	5	3	5	4	0	4	2	3	4	1	5	4	4	1	5	4	5	2	2	1
Tax Environment - score 1 pt. for tax rate 30 or greater; 2 pts. for 20 to 30; 3 pts. for 10 to 20; 5 pts. for less than 10 - max. 5 points																					
Tax Rate	26.890 to 38.591	26.890 to 34.182	33.306	19.129	0.000	0.000 to 12.270	18.095	18.095	0.000 to 18.080	19.399	0.000 to 19.129	0.000 to 19.129	0.000	0.000	15.368	0.000 to 38.591	27.296	38.591	28.898 to 38.591	23.971	27.296
Score	1	1	1	3	5	3	3	3	3	3	3	3	5	5	3	1	3	1	1	3	3
Utility Cost - score 1 pt. for $10/1000 gal or greater; 3 pt. for $6-10/1000 gal; 5 pt, for less than $6/1000 gal water - max. 5 points																					
Water Rate	$5.50/1000 gal	$5.50/1000 gal	$5.50/1000 gal	$5.50/1000 gal	$5.50/1000 gal	$5.50/1000 gal	$5.50/1000 gal	$5.50/1000 gal	$7.50/1000 gal	$5.50/1000 gal	$5.50/1000 gal	$5.50/1000 gal	$5.50/1000 gal	$5.50/1000 gal	$7.50/1000 gal	$42.50/1000 gal	$42.50/1000 gal	$42.50/1000 gal	$42.50/1000 gal	$42.50/1000 gal	$42.50/1000 gal
Sewer Rate	MWRD*	MWRD*	MWRD*	TCBSD $1.38/cfw	TCBSD $1.38/cfw	TCBSD $1.38/cfw	MWRD*	MWRD*	MWRD*	TCBSD $1.38/cfw	TCBSD $1.38/cfw	TCBSD $1.38/cfw	MWRD*	TCBSD $1.38/cfw	MWRD*	MWRD*	MWRD*	MWRD*	MWRD*	MWRD*	MWRD*
Score	5	5	5	5	5	5	5	5	3	5	5	5	5	5	3	1	1	1	1	1	1
Zoning/Land Use (Not scored - Zoning and Land Use is generally compatible with proposed uses																					
Zoning	M-3 Heavy Industrial	M-3 Heavy Industrial	M-3 Heavy Industrial	M-3 Heavy Industrial	M-3 Heavy Industrial	M-2 General Manufacturing	M-3 Heavy Industrial	M-3 Heavy Industrial	M-2 Genl Mfg	M-3 Heavy Industrial	M-3 Heavy Industrial	M-3 Heavy Industrial	M-3 Heavy Industrial	M-3 Heavy Industrial	M-2 Genl Mfg	M-1 Manufacturing	General Residence (County)	A-1 Agricultural	Missing Zone (County)	A-1 Agricultural	General Residence (County)
Worker Access (Not scored - all sites thave similar access to public transportation and roads																					
Pace Route	1.8 miles	0.0 miles	0.1 miles	0.4 miles	0.6 miles	0.4 miles	0.2 miles	1.1 miles	0.4 miles	1.2 miles	0.6 miles	0.4 miles	0.6 miles	0.5 miles	0.5 miles	0.5 miles	1.3 miles	0.3 miles	0.9 miles	0.8 miles	0.3 miles
Total Site Score	19	30	27	23	27	19	34	24	26	23	28	25	26	34	23	17	21	23	20	22	25

Sites recommended to be removed from consideration: C, E, G, I and O (high risk REC); J (FPDCC site); N and T (floodplains and wetlands)

Remaining Target Sites

*MWRD Industrial Sewer Rates include Volume: $264.28 per million gallons; 5-day BOD: $223.03 per 1000# of BOD; $136.48 per 1000# of suspended solids; tax levy of $0.4158 per $100 assessed valuation for properties served by District

Table 6-3: Lincoln Highway Logistics Corridor Site Analysis Matrix - 13 Finalist Sites

Site	A-1	A-2	B	D	F	H	K	L	M	P	Q	R	S
Environmental Risk (9 points maximum)													
Score	3	9	9	5	9	5	3	3	9	5	7	7	7
Parcel Size and Ownership (5 points maximum)													
Municipality	Chicago Heights/ Ford Heights	Chicago Heights/ Ford Heights	Chicago Heights	Chicago Heights	Chicago Heights	Sauk Village	Chicago Heights	Chicago Heights	Chicago Heights	Ford Heights and Uninc.	Ford Heights and Uninc.	Ford Heights/ Lynwood	Ford Heights
Score	4	4	5	3	5	4	3	3	5	4	5	5	5
Transportation (8 points maximum)													
Score	4	6	4	5	8	8	6	6	6	4	4	4	4
Readiness (5 points maximum)													
Score	2	5	3	4	4	3	5	4	4	4	5	2	2
Tax Environment (5 points maximum)													
Score	1	1	1	5	3	3	3	5	5	3	1	1	3
Utility Cost (5 points maximum)													
Score	5	5	5	5	5	3	5	5	5	1	1	1	1
Site Score (from 21 Site Analysis)	19	30	27	27	34	26	25	26	34	21	23	20	22
Low/Medium/High Priority	M	H	H	M	H	H	L	L	H	M	M+	M+	M+

Note: Higher individual or total site scores in the rating system of the Site Analysis Matrix better meet developability criteria. In the environmental risk category, for example, Sites A-2, B, F, and M have the least risk at nine points each. For total site scores, Sites F and M best meet the overall developability criteria at 34 points, while Site A-1 meets less criteria than the other 12 sites in this Table at 19 points.

6.2 Identification of Sites

The Chicago Southland Economic Development Corporation (CSEDC) and the Cook County Department of Transportation and Highways identified eight sites in the County's Request for Proposals and subsequent contract 1555-14228 with WSP USA. These sites are identified as Sites A through H in this report.

On January 19, 2017, representatives of Cook County, the consultant team, and the Chicago Southland Economic Development Corporation conducted a field survey of the Corridor and identified additional locations for analysis.

Subsequently, the subconsultant GMT, LLC met with the Chicago Southland Economic Development Corporation and representatives from the City of Chicago Heights and the Villages of Ford Heights and Sauk Village. They discussed the expanded list of potential development/redevelopment sites based on private sector activity, the City of Chicago Heights' acquisitions, and local planning goals and objectives. As a result, twelve additional target sites corresponding to Sites I through T were added to the original eight sites in November 2017.

Finally, Site A was subdivided into two separate sites, A-1 and A-2, after consultation with GSG Consultants; this was done during preparation of this task to create a relatively large site, A-2, that did not contain any recognized environmental conditions and could potentially be developed faster and with less environmental assessment and remediation than its companion site, A-1, directly to the north.

6.3 Approach to Screening

Table 6-2 drives the site evaluation and ranking task. It reflects knowledge gained in the first two tasks as well as information from this study's participants and the Preliminary Environmental Site Assessment Report. There are 21 target sites presented and reviewed. The consultants have organized the site ranking steps by:

- Establishing criteria for removing sites from consideration ("fatal flaw").
- Setting forth eight major criteria categories, each with one to four sub-categories.
    - Putting the major categories in order from most important to least important in the decision process.
    - Establishing a high-level scoring system for best, moderate, and worst comparative performance in each criteria category across the sites.

6.3.1 Fatal Flaw Analysis

The consultants thoroughly reviewed research criteria and the Lincoln Highway Logistics Corridor's inventory of target sites to establish the three criteria used for this study's fatal flaw analysis. The consultants removed target sites from consideration if they contained recognized high-risk environmental conditions, were classified as publicly-owned sites unavailable for development, or mostly contained floodplains and/or wetlands.

The following eight target sites were dropped due to fatal flaws: C, E, G, I, J, N, O, and T. Sites C, E, G, I, and O have high-risk recognized environmental conditions. Part of Site J is a Forest Preserve District of Cook County (FPDCC) holding. Sites N and T have high coverage of floodplains and wetlands (i.e., over 95% of the site). The remaining thirteen sites received more detailed screening.

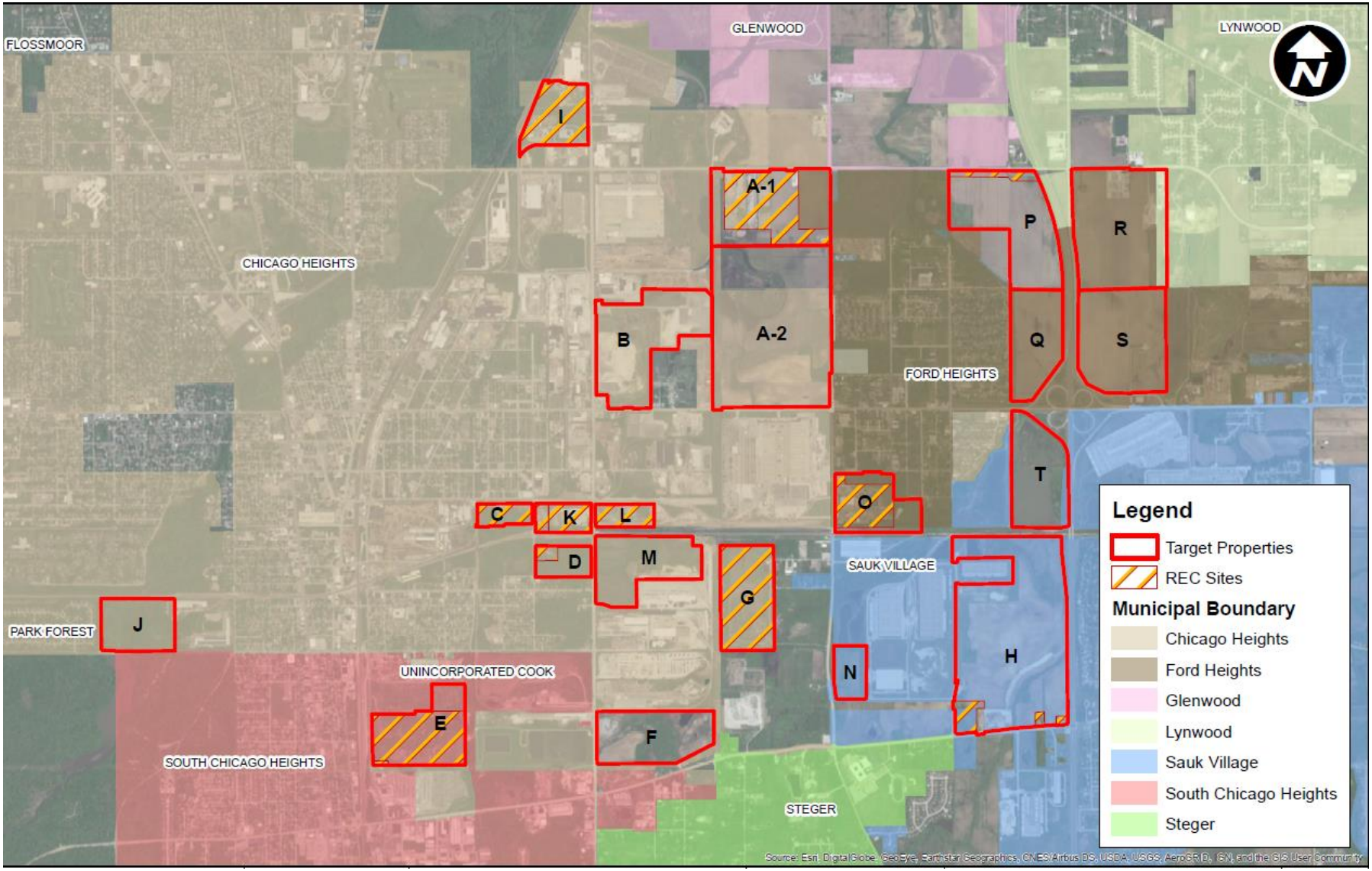
6.3.2 Major Criteria Categories

The consultants used a scoring approach to screen the remaining 13 target sites. The major criteria categories are ranked in order of importance below and are scored using a quantitative "low", "medium", and "high" system to make a first-cut screening. The consultants developed a Medium+ (M+) score to represent a group of target properties near IL 394. While the M+ sites lack rail access and do not have full utility service and/or have high property tax or utility rates, they also have high scores on environmental conditions and relatively large developable areas, offering an advantage for development.

Environmental Risk – Previous work in the Lincoln Highway Logistics Corridor pointed to this category as a critical one, with respect to both cost and risk. The Preliminary Environmental Site Assessment confirmed that this Corridor has significant environmental remediation concerns. The consultants used information from the Preliminary Environmental Site Assessment Report to evaluate the degree of risk, including the type and presence of hazardous materials and the likelihood that cleanup would be substantial and time-consuming. They ranked the target sites for environmental risk using the following criteria:

- Recognized environmental conditions present: yes or no (see Figure 6-2)
- Extent of risk from recognized environmental conditions: low, moderate, high, or N/A
    - The consultants weighted environmental risk with 9 points for no recognized environmental conditions present (i.e., N/A), 5 points for recognized environmental conditions with low risk, 3 points for recognized environmental conditions with medium risk, and 1 point for recognized environmental conditions with high risk.
- De minimis issue present: yes or no
    - "De minimis" was the term used in the Preliminary Environmental Site Assessment Report, and is carried into this task to indicate that a minor environmental issue is present.
    - If a property has no recognized environmental conditions but has a de minimis condition, it scored 7 points; less than a property with low-risk recognized environmental conditions and more than a property with no recognized environmental or de minimis conditions.

Figure 6-2: Recognized environmental conditions (REC) sites in Lincoln Highway Logistics Corridor Study Area



Parcel Size and Ownership was used to gauge parcel size and the complexity of assembling an appropriately sized site for development. Larger target sites received higher scores because they provide more acreage for firms to build what they want, whether on part or all of the acreage.

The consultants determined the total number of property index numbers (PINs) for the target sites, collected these numbers, and determined the number of owners for each target site. The presence of many PINs on a target site is not a barrier if there is a single owner; however, if there are multiple owners across PINs, the risk of complex or unsuccessful negotiations for site assembly increases. Encumbrances on title include adverse liens, property taxes in arrears, or other items that would complicate site assembly. The Cook County Department of Planning and Development identified these encumbrances from their research, but the consultants did not include them in the scoring to meet privacy concerns. The consultants ranked the target sites for parcel size and ownership and applied the following weights:

- Total site area in acres: 50+ acres, 3 points; 20 to 49 acres, 2 points; and less than 20 acres, 1 point.
- Number of owners: 1-4 owners, 2 points; 5 or more owners, 1 point.

Transportation Access –The consultants quantified highway and rail access for target site ranking. In general, the highway network is uniformly accessible in the Lincoln Highway Logistics Corridor. Access to rail in the Corridor depends on whether the property has a Class I railroad providing an existing or potential freight transportation option for the target site. Rail access as a second means of transportation offers significant benefits to many manufacturers, particularly those moving bulk or oversize/heavy goods. The consultants ranked the target sites for goods transportation by rail potential and IL 394 access:

- Rail potential: Rail service is evaluated by whether it is on-site, adjacent to the property, or potentially rail-served. If the sites are potentially rail-served, the distance to the rail service is entered in miles, keeping in mind the additional complexity of crossing land that is not part of the target site to enter the site. The Class I railroad(s) that could serve the target site are identified; sites where rail service is infeasible are also identified. Sites with rail access on-site or adjacent to the property were awarded 4 points; sites with no rail access, but where potential service is feasible by a short rail extension 2 points; and sites where rail service is infeasible 0 points.

- IL 394 access: IL 394 is the major north-south roadway that serves the Lincoln Highway Logistics Corridor, and is fully access-controlled north of Sauk Trail. Sites less than two driving miles of the US 30 or Sauk Trail access points to IL 394 were awarded 4 points, with those that lie at a longer distance awarded 2 points. All sites are relatively accessible to IL 394 for most uses[51]. The consultants obtained distances from online web tools calculated from the main entrance of each target site to IL 394's nearest access point. The consultants did not use I-57 access in the ranking; all sites lie within 5-8 miles of the nearest I-57 interchange.

[51] Section 1 site location factors for desired highway proximity ranged from 20 miles (General Manufacturing) to 1 mile (Modal Facility). Logistics businesses tend toward locations 1 mile or less from a major highway.

Readiness – The consultants used criteria related to the target site's developable area and to the availability of municipal utilities on the target site to rank its readiness. They included subcategories such as the percent of the property that is floodplain or wetland, water service, sanitary sewer service, and storm sewer service.

The consultants used the following weights to rank the target sites for readiness:

- Percent flood plain/wetland: Less than 10% coverage, 2 points; 10-40% coverage, 1 point; and 40% or more 0 points.
- The three utility services (water, sanitary sewer, and storm sewer) are scored individually, with availability within 250 feet of the site awarded 1 point for each utility meeting the criterion, and 0 points for each utility that is more than 250 feet from the site.

Tax Environment – The tax environment is critical to target site ranking. The sole criterion is the property tax rate for each site, encompassing the individual tax rates for all taxing bodies in the area. The property tax rate is expressed either as a single number where the tax rates are the same for each PIN or as a range where the rates differ among the PINs within a site. The non-zero rates in the Lincoln Highway Logistics Corridor range from approximately $12 to $38 annual property tax burden per $1,000 assessed value of the property. When Table 6-1 reports a zero value for the tax rate, a municipality or other public agency owns the property or is otherwise exempt from taxation under its current use and may offer flexibility in incentivizing development. It is acknowledged that the municipalities are not bound to offer incentives and may wish to tax at current rates (which are higher than the region's tax rates overall and are a disincentive to development) if the exempt property is developed. The target sites are ranked for tax environment by awarding escalating points for lower tax rates.

The consultants used the following weights to rank the target sites for readiness:

- 5 points for less than $10 per $1,000 assessed value of the property; 3 points for $10 to $20 per $1,000 assessed value, 2 points for $20 to $30 per $1,000 assessed value; and 1 point for $30 or more per $1,000 assessed value.[52]

Utility Cost – The utility cost category is composed of the costs for water and sewer services at the target site. The range of water costs fall neatly into three categories: $5.50, $7.50, or $42.50 per 1000 gallons, and are scored 1, 3, and 5 points respectively. Sewer rates were difficult to compare between municipalities that the Thorn Creek Basin Sanitary District (principally Chicago Heights) and the Metropolitan Water Reclamation District of Greater Chicago (MWRD) serve given their differing rate structures. They are thus not scored or used in the ranking. Both sewer districts state that their rates are lower than the U.S. or Illinois average[53]; however, overall sewer rates include additional municipal sewer service costs, and in the case of the Metropolitan Water Reclamation District, a 41.58 cents per $100 of assessed property value tax levy on properties the District serves.[54]

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[52] Note: For comparative purposes, most tax rates in the remainder of Cook County, as well as neighboring Will County IL and Lake County IL, are typically lower than found in the three Lincoln Highway Logistics Corridor municipalities. For instance, tax rates in the Bensenville-Franklin Park area near O'Hare Airport range from approximately $9-13 per $1,000 assessed value.

[53] Metropolitan Water Reclamation District of Greater Chicago, 2016 President's Annual Message; FY 2017 Annual Report, Thorn Creek Basin Sanitary District, Figure 1

[54] Metropolitan Water Reclamation District of Greater Chicago, 2018 Budget in Brief

Zoning/Land Use belongs to the group of elements that are relatively equal across the Lincoln Highway Logistics Corridor target sites and thus are not scored. All sites except for P, Q, R, S, and T are municipally zoned for manufacturing or industrial uses. Sites P and T are largely unincorporated and zoned residential under county zoning. Deer Creek and some small wooded areas from nearby residential areas buffer them. The Village of Ford Heights has zoned Sites Q and S agricultural, even though they are located near IL 394, US 30, and urban land uses. Site R is identified as a "missing zone" in the County's GIS mapping system. It is situated in Ford Heights, although it is not identified in their zoning.

Worker Access belongs to the group of elements that are equal across the Lincoln Highway Logistics Corridor target sites and thus are not scored. The consultants calculated Pace bus access using online web tools to estimates miles from each target site's main entrance to the nearest Pace bus route. Those sites with a "0-mile" access value lie directly on a Pace bus route. Driving access and free parking availability are also considered uniformly available across the Lincoln Highway Logistics Corridor sites.

Other screening criteria in the corridor are constant across the candidate sites. These are:

- **Social Goals** – this criterion includes a focus on a return to the urban core and adaptive reuse, community support, local economic development, and regional "green" environmental benefits.
- **Workforce Availability** – this criterion, access to competitive labor markets, is constant across the corridor.
- **Synergy** – Synergy in a proposed industrial investment area is identified by the presence of available developable land, industrial product similarity, and people dedicated to change in the region. The target sites within the Lincoln Highway Logistics Corridor have similar synergy due to their mostly vacant status, zoning compatibility, and local interest in advancing development. Where two or more candidate sites are adjacent or connectable by rail, the potential added synergy afforded by its connectivity is called out in the text.

6.4 Evaluation of Findings

Table 6-2 shows the detailed evaluation and scoring of each of the 21 sites, including the eight sites that had fatal flaws.

6.4.1 Rank the Remaining 13 Target Sites

The ranking protocol for the 13 remaining sites is a combined quantitative/qualitative assessment based on the following key screening criteria:

1. Environmental risk
2. Parcel size and ownership
3. Transportation access
4. Readiness
5. Tax environment
6. Utility cost

Each site is rated high, medium, or low priority for development based on adherence to these six criteria, with justification offered for each site's rating.

Site A-1: RATING – MEDIUM. Site A-1 lies partly in Chicago Heights and partly in Ford Heights. It has recognized environmental conditions that are evaluated as medium risk and several that are de minimis. This site is 79 acres, which allows potential industrial developers some choice on their desired development size and is adjacent to A-2. Nine owners control this site, possibly making site assembly more difficult. With potential rail access from the UP only 0.25 miles away from this site's boundary, it has moderate rail potential. At 2.4 miles from IL 394, it also has moderate highway access.

Readiness offers a mixed picture, with relatively low coverage of floodplain/wetlands (occupying 4.2% of this site) but currently no water, sanitary sewer, and storm sewer service. If Chicago Heights extended water services and charged current rates, the water rates would be $5.50/1,000 gallons, the lowest rate, thus delivering the highest grade in this category.

The tax rate is among the highest at $26.890 to $38.591 per $1,000 assessed value, putting this site at the lowest grade for this category.

WHY MEDIUM?

Site A-1's size (79 acres) and proximity to UP rail service makes it attractive for development. One important element of A-1 is its proximity to the FedEx facility on Joe Orr Road.

- The presence of recognized environmental conditions and the tax rate (highest of the sites in the study area) are clear disincentives.

Site A-2: RATING – HIGH. Site A-2 lies partly in Chicago Heights and partly in Ford Heights. It has no recognized environmental conditions present, but several de minimis conditions. Its size at 237 acres, allows potential industrial developers many choices on their desired development size. It has seven owners, which possibly makes site assembly more difficult. With potential rail access from the UP only 0.05 miles away from this site's boundary, it has moderate rail potential. At 1.3 miles from IL 394, it has a high grade for highway access.

Readiness offers a good picture, with the coverage of floodplain/wetlands at 6.8% of this site and all utilities currently available (i.e. water, sanitary sewer service, and storm sewer service). Water utilities are offered at the $5.50/1,000 gallons, the lowest rate, thus delivering the highest grade in this category.

The tax rate is among the highest at $26.890 to $34.182 per $1,000 assessed value, putting the site at the lowest score for this category.

WHY HIGH?
Site A-2 has no recognized environmental conditions present, making it eligible for a "High" score. Its large size (237 acres) makes it very attractive, as does it proximity to potential UP service. Readiness is key with a 6.8% floodplain/ wetlands percentage and all utilities available.

- The tax rate (highest rate scale in the study area) is a disincentive.
- Synergy: Adjacent to Sites A-1 and B.
- Synergy: Adjacent to Site "B".

Site B: RATING – HIGH. Site B lies entirely in Chicago Heights. It does not have recognized environmental or de minimis conditions. Its 100 acres provides choices on development size to potential industrial developers. This site is adjacent to Site A-1. However, the relatively high coverage of floodplain/wetlands (60%) restricts the usable acreage unless compensatory water storage is created. Nevertheless, it is possible, given its clean contaminant status, that a wetland mitigation or regional stormwater detention site could be established on this land and leave up to 50 acres for development. There are only two owners within this site, an advantage for site assembly. With potential rail access from the UP only 0.10 miles away from this site's boundary, it is moderate for rail potential. At 2.5 miles from IL 394, Site B is also moderate for highway access.

Readiness, apart from the floodplain issue, offers a good picture. Water, sanitary sewer, and storm sewer service are available. Water utilities are offered at the $5.50/1,000 gallons, the lowest rate, thus delivering the highest grade in this category.

The tax rate is among the highest at $33.306 per $1,000 assessed value, putting this site at the lowest score for this category.

WHY HIGH?
Site B has no recognized environmental conditions, making it eligible for a "High" score. Its size at 100 acres makes it very attractive as does it proximity to UP service. Readiness is key with all utilities available. The 60% floodplain/wetlands coverage is a challenge which potential industrial developers may address by dividing the property into sections with the lower elevation established for stormwater management.

- The tax rate (highest rate scale in the study area) is a clear disincentive.
- Synergy: Adjacent to Site A-2.

Site D: RATING – MEDIUM. Site D lies entirely in Chicago Heights. It has recognized, low-risk environmental and no de minimis conditions. Its 19 acres allows potential industrial developers less choice on their desired development size than would a larger property. This site is adjacent to Site M and connectable to Site F via rail loop. There is one owner within this site, an advantage for site assembly. With CN and UP access adjacent to this site, it has a high grade for rail potential. At 2.6 miles from IL 394, it has a middle grade for highway access.

Readiness offers a good picture. Floodplain/wetlands cover only 2.7% of this site, and water and sanitary sewer services are available, but not storm sewer service. Water utilities are offered at the $5.50/1,000 gallons, the lowest rate delivering the highest grade in this category.

Since Chicago Heights currently owns this site, it is currently exempt from taxation.

WHY MEDIUM?

Site D has low recognized environmental conditions present. Its 19 acres makes it unattractive given its constraints on the type of development possible. Proximity to adjacent rail service is an asset. Site D is adjacent to Site M allowing the potential for a synergy of uses.

- Small site size is a disincentive.
- The tax rate is currently 0% since Chicago Heights owns it.
- Synergy: Adjacent to Site M and connectable via rail loop to Site F.

Site F: RATING – HIGH. Site F lies entirely in Chicago Heights. It does not have recognized environmental or de minimis conditions. Its 64 acres provides flexibility to potential industrial developers. It is located near Sites D and M. There is one owner on this site, which provides an advantage for site assembly. With rail potential from CN and the adjacent Bulkmatic rail spur, it has a high grade for rail potential. At 1.8 miles from IL 394, it also has a high grade for highway access.

Readiness offers a good picture. Floodplain/wetlands cover only 3.8% of this site, and water and sanitary sewer services are available. However, storm sewer service is not currently available. Water utilities are offered at $5.50/1,000 gallons, the lowest rate, thus delivering the highest grade in this category.

The tax rate is among the lowest at $18.095 per $1,000 assessed value, putting it at the middle grade for this category.

WHY HIGH?

Site F has no recognized environmental conditions making it eligible for a "High" score. Its 64 acres and its proximity to CN service and the Bulkmatic rail spur makes it attractive to potential industrial rail developers. Readiness is key with two of the three utilities available and a 3.8% floodplain/wetlands status.

- The tax rate of $18 (the lowest non-zero tax rate in the Lincoln Highway Logistics Corridor) is a potential incentive, though still high in comparison to regional tax rates.
- Synergy: Near Sites D and M, which the UP Railroad loop also serves.

Site H: RATING – HIGH. Site H lies in Sauk Village and is the sole candidate property in that municipality. It has recognized low-risk, environmental and no de minimis conditions. Its 224 acres allows flexibility on site sizes for potential industrial developers. Although floodplain/wetlands cover 47% of this site, these could be developed around or mitigated, with low-lying areas potentially developed for stormwater mitigation. There are seven owners within this site; the ownership of two parcels by the Village and one by a developer would help alleviate the difficulty of assembling the parcels making up this site. With the CN Railway adjacent to the site, it has a high grade for rail potential. At 0.9 miles from IL 394, it also has a high grade for highway access.

Readiness offers a good picture. Water, sanitary sewer service, and storm sewer service are available. Water utilities are offered at the $7.50/1,000 gallons, the middle rate delivering the middle grade in this category.

The tax rate is among the lowest in the Lincoln Highway Logistics Corridor at $0.000 to $18.080 per $1,000 assessed value, putting it at the middle grade for this category.

WHY HIGH?

Site H has low recognized environmental conditions that make it eligible for a "High" score. It is the sole candidate property located in Sauk Village. Its 224 acres and proximity to CN service make it attractive to potential industrial developers. Readiness is key with all utilities available. This site's 47% floodplain/ wetlands coverage is a known issue given its numerous water features, which could be developed around. This site could also provide needed expansion capability to Sauk Village manufacturers.

- The tax rate of $0-$18 (low within the study area) is a potential incentive.

Site K: RATING – LOW. Site K lies entirely in Chicago Heights. It has recognized, moderate environmental and no de minimis conditions. Its 18 acres provides less flexibility on site size for potential industrial developers than larger sites. There are four owners within this site; a relatively moderate number for site assembly. With UP access adjacent to this site, it has a high grade for rail potential. At 2.7 miles from IL 394, it has a middle grade for highway access.

Readiness offers a good picture. There are no floodplains or wetlands and water, sanitary sewer, and storm sewer services are available. Water utilities are offered at the $5.50/1,000 gallons, the best rate, thus delivering the best grade in this category.

The tax rate is among the lowest in the Lincoln Highway Logistics Corridor at $0.000 to $19.129 per $1,000 assessed value, putting this site at the highest grade for this category.

WHY LOW?
Site K has moderate recognized environmental conditions, making it ineligible for a "High" score. Its 18 acres make it unattractive given constraints on the type of development possible.

- Small parcel size and the presence of recognized environmental conditions are disincentives.
- The tax rate of $0-$19 (the lowest non-zero rates in the Lincoln Highway Logistics Corridor) is a potential incentive.

Site L: RATING – LOW. Site L lies entirely in Chicago Heights. It has recognized, moderate environmental and no de minimis conditions. Its 15 acres provides little flexibility for potential industrial developers. There is one owner on this site. With access to the UP adjacent to this site, it receives a high grade for rail potential. At 2.3 miles from IL 394, it receives a middle grade for highway access.

Readiness offers a good picture. Floodplain/wetlands cover 10.7% of this site. Water, sanitary sewer, and storm sewer services are available. Water utilities are offered at $5.50/1,000 gallons, the best rate delivering the best grade in this category.

Since Chicago Heights currently owns this property, this site is currently exempt from taxation.

WHY LOW?
Site L has moderate recognized environmental conditions that make it ineligible for a "High" score. Its 15 acres restrict the types of potential development.

- Small parcel size and the presence of recognized environmental conditions are disincentives.

Site M: RATING – HIGH. Site M lies entirely in Chicago Heights. It does not have recognized environmental conditions or de minimis features. Its 63 acres gives potential industrial developers flexibility on development size. This site is located near Sites D and F. There is one owner for this site; an advantage for site assembly. With potential rail access to the UP and Bulkmatic rail spur, it has a high grade for rail potential. At 2.9 miles from IL 394, it has a middle grade for highway access.

Apart from 16% coverage by floodplain/wetlands, this site has good readiness for development. Water and sanitary sewer service are available, although storm sewer service is not currently available. Water utilities are offered at $5.50/1,000 gallons, a rate delivering the highest score in this category.

Since Chicago Heights currently owns this site, it is currently exempt from taxation.

WHY HIGH?
Site M has no recognized environmental conditions or de minimis features, making it eligible for a "High" score. Its 63 acres make it reasonably attractive as does its proximity to UP service and the Bulkmatic spur. Readiness is key with water and sanitary sewer services currently available.

- The current tax exemption is a potential incentive.
- Synergy: Near sites D and F, which the UP Railroad loop also serves.

Site P: RATING – MEDIUM. Site P lies in Ford Heights and unincorporated Cook County and is adjacent to Site Q. It is one of four sites located near the IL 394-US 30 interchange in Ford Heights. It has recognized environmental conditions from potential fill materials and demolition debris, but does not have any de minimis conditions. This site is 49 acres, which gives potential industrial developers flexibility on development size. It has four owners, a relatively moderate number for site assembly. This site does not have potential rail access, but is less than two miles from full truck access to IL 394, giving it a high grade for highway access.

Readiness offers a good picture. Floodplain/wetland coverage is only 0.2% of the site. Water, sanitary sewer and storm sewer services are available nearby. The tax rate is moderate for the Lincoln Highway Logistics Corridor at $27.296 per $1,000 assessed value, giving it a medium grade for this category. Water utilities are provided at the highest cost to this property at $42.50/1,000 gallons, delivering the lowest grade in this category.

WHY MEDIUM?
Site P has recognized environmental conditions present making it ineligible for a "High" score, but there is low risk. Its 49 acres and its proximity to the IL 394 interchange make it reasonably attractive to potential industrial developers. Readiness is key with a low floodplain/wetlands percentage and nearby utilities.

- The tax rate is a disincentive.
- The water utility rate, the highest in the study area, is also a disincentive.
- Synergy: Adjacent to Site Q.

Sites Q, R, and S fall into a special category of target sites in the Lincoln Highway Logistics Corridor. They are situated on IL 394 and have no recognized environmental conditions, but do have rail access or potential for rail access. They do, however, provide a "blank slate" for highway-oriented development such as warehousing and shipping. Each of the three additionally has some acreage in Ford Heights, a key study partner, and none has contamination above the de minimis level. Because of their special position, these three similar sites receive a score of Medium+.

Site Q: RATING – MEDIUM+. Site Q lies in Ford Heights. It is one of four candidate sites located near the IL 394-US 30 interchange in Ford Heights and is adjacent to Site P. It has no recognized environmental conditions, but may have de minimis conditions. This site's 58 acres allow potential industrial developers flexibility on development size. It has one owner. This site does not have potential rail access, but is located only 0.2 miles from IL 394, giving it a high grade for highway access.

Readiness offers a good picture. This site's floodplain/wetlands coverage is low at 8.6%. Water, sanitary sewer and storm sewer services are available. Water utilities are available at the highest cost to this site at $42.50/1,000 gallons, delivering the lowest grade in this category.

The tax rate is among the highest in the Lincoln Highway Logistics Corridor at $38.591 per $1,000 assessed value, putting this site at the worst grade for this category.

WHY MEDIUM+?

Site Q has no recognized environmental conditions, making it eligible for a "High" score, but the lack of rail access indicates a Medium+ rating. Its 58 acres make it reasonably attractive as does its proximity to IL 394. Utilities are present.

- The tax and water utility rates are disincentives since they are at the highest rates in the study area.
- Synergy: Adjacent to Site P.

Site R: RATING – MEDIUM+. Site R lies mostly in Ford Heights, with a small portion in Lynwood. It is one of four candidate sites located near the IL 394-US 30 interchange in Ford Heights and is adjacent to Site S. It has no recognized environmental conditions, but has potential de minimis conditions. Its 124 acres provide flexibility for potential industrial developers on development size. This site has eight owners with reported development options that would alleviate the difficulty of assembling this site's individual parcels. It has no potential for rail service, but is located within 1.8 miles of IL 394, giving it a high grade for highway access.

Readiness offers a mixed picture. This site has no floodplain/wetlands but it also does not have water, sanitary sewer, or storm sewer services readily available from Ford Heights. Water utilities, if Ford Heights provided them at the current rates, would be at the highest cost to this property at $42.50/1,000 gallons, delivering the lowest grade in this category.

The tax rate is among the highest in the Lincoln Highway Logistics Corridor at $28.898 to $38.591 per $1,000 assessed value, putting the site at the worst grade for this category.

WHY MEDIUM+?

Site R has no recognized environmental conditions, making it eligible for a "High" score, but the lack of rail access indicates a Medium+ rating. Its 124 acres and its proximity to IL 394 make it attractive for potential industrial developers. Utilities are not currently available.

- The tax rate, the highest rate scale in the study area, is a disincentive.
- Water, sewer, and storm water utilities are not currently available.
- Synergy: Adjacent to Site S.

Site S: RATING – MEDIUM+. Site S lies entirely in Ford Heights. It is one of four candidate sites located in Ford Heights near the IL 394-US 30 interchange and is adjacent to Site R. It has no recognized environmental conditions but has potential de minimis features. Its 100 acres, allows potential industrial developers broad choice on their desired development size. This site has three owners with reported developer options, so site assembly is anticipated to be relatively easy. This site does not have potential for rail access, but is only 0.9-mile from IL 394, giving it a high grade for highway access.

Readiness offers a mixed picture. This site does not have any floodplains or wetlands and does not have water, sanitary sewer, and storm sewer services. Sauk Village would be the nearest utility service provider, however, the site is in Ford Heights. Water utilities, if Ford Heights provided them at the current rates, would be at the highest cost to this property at $42.50/1,000 gallons, delivering the lowest grade in this category.

The tax rate is moderate in the Lincoln Highway Logistics Corridor at $23.971 per $1,000 assessed value, putting this site at the middle grade for this category.

WHY MEDIUM+?
Site S has no recognized environmental conditions, making it eligible for a "High" score. Its lack of a rail alternative indicates a Medium+ rating. Its 100 acres makes it attractive, as does its proximity to IL 394. Utilities are not present. The tax rate is at the middle level.
Water, sewer, and storm water utilities are not available.
Synergy: Adjacent to Site R.

With an understanding of the infrastructure and environmental issues in each target property, it is important to develop conceptual level financial screening for each site. In the next section these costs will be presented for each of the selected sites.

7.0 Financial Plan

7.1 Introduction

The main objectives of the Lincoln Highway Logistics Corridor Strategic Plan were to identify candidate sites for industrial redevelopment, the necessary transportation access and/or required infrastructure improvements, and the funding or financing resources to complete these improvements. This study began with 21 sites located across three jurisdictions: Chicago Heights, Ford Heights, and Sauk Village. In Section 6, the number of sites was reduced to 13 by a fatal flaw analysis, and the remaining sites are brought into Section 7 to be further evaluated to determine the final priority sites. Ten sites are recommended to prioritizing for development based on additional analysis in this section, with the remaining three sites being potential long-term development sites if they can be successfully remediated.

The sites have a variety of challenges including environmental contamination, coverage by floodplains and wetlands, lack of required infrastructure and varying service levels by a series of Class 1 railroads. Nevertheless, the Lincoln Highway Logistics Corridor enjoys a high level of private interest in industrial development, either by current owners or outside parties. This private interest is a critical element in the analysis, given that most of the available financial assistance programs are geared to help private developers with acquisition, construction, and financing of furnishings, fixtures, and equipment as well as tax exemptions or credit.

In this section, conceptual level financial screening is performed on the final ten priority sites. Next, the sites are matched with appropriate financial programs.

Section 7.2 Evaluation of Site Costs reviews the findings from Section 6, sets aside an additional three sites, and selects the final ten priority sites. It then assigns costs to bring these ten sites to a state of development readiness.

Section 7.3 Financial Analysis examines the various grant, loan, tax abatement/incentive programs and other incentives available to municipalities and private developers, and matches the appropriate programs with the final ten Lincoln Highway Logistics Corridor sites.

7.2 Evaluation of Site Costs

7.2.1 Final Selection of Candidate Sites

In Section 6 (Infrastructure and Site Analysis), the consultants evaluated 21 sites in a process of elimination (as shown in Figure 7-1**).** They recommended dropping eight target sites from consideration based on a "fatal flaw" analysis. The "fatal flaws" fell into the following three categories:

- Serious environmental risk (high risk, recognized environmental condition) with a "High" rating for the extent of risk. Sites C, E, G, I, and O fell into this category.

- Floodplains and wetlands making up over 95% of the total acreage. Sites N and T fell into this category.
- The Forest Preserve District of Cook County owned part of the site. Site J fell into this category.

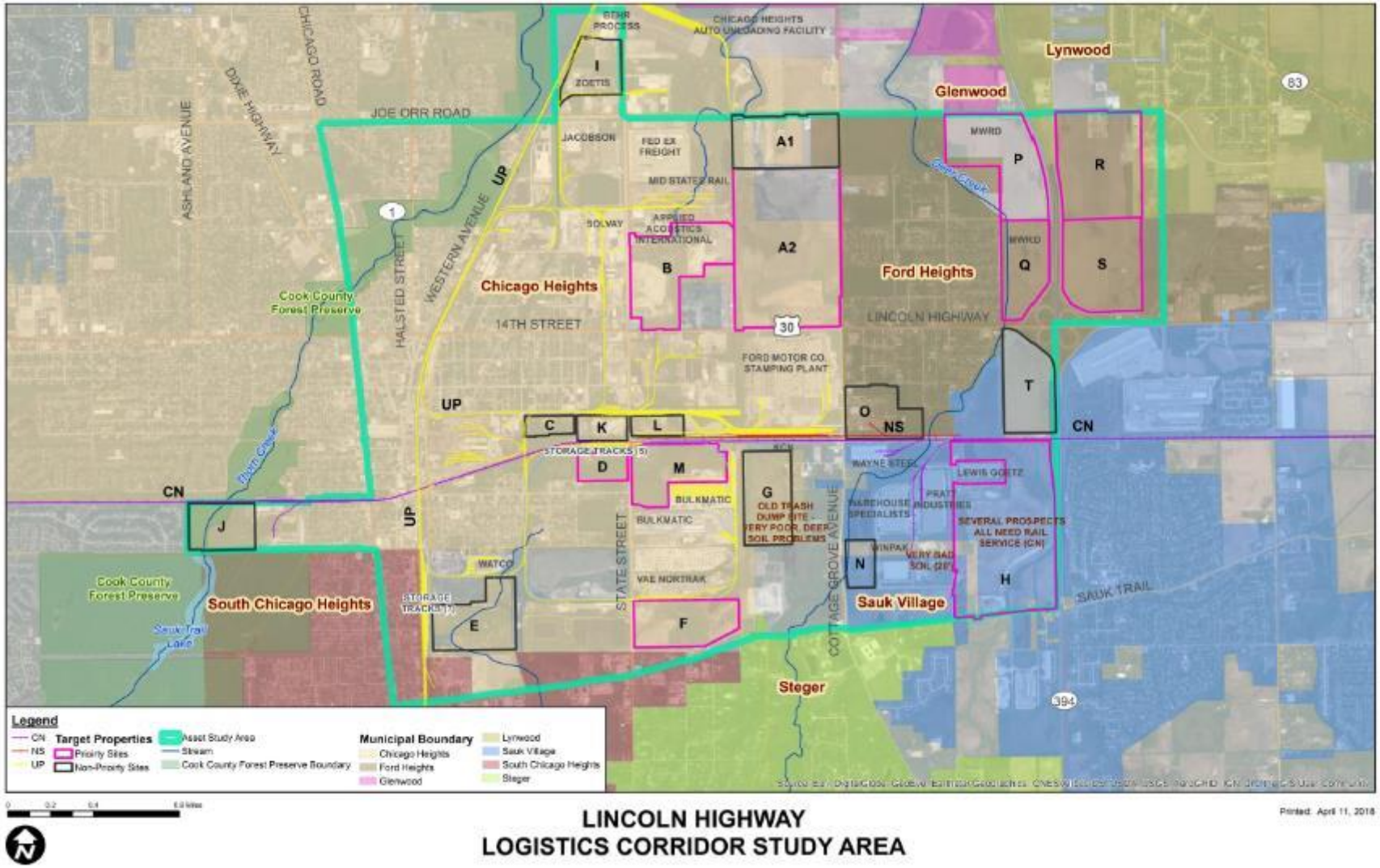
In Section 6, each site was previously categorized as high, medium, or low priority for development based on the six key screening criteria: environmental risk, parcel size and ownership, goods transportation of in and out of the site, readiness, tax environment, and utility cost. The consultants developed a Medium+ (M+) score to represent target properties whose tax rate and utilities availability were unattractive but easily reversed. While these sites lacked current or potential rail access, the properties with M+ also had high scores on environmental conditions, offering a special advantage for development.

Having eliminated the above eight sites in Section 6, the next step is to determine how to prioritize the remaining 13 parcels with development potential. These sites fall in the following series of categories:

- Sites with owner expansion interest
- Sites with outside developer/investor interest
- Sites with no or low-risk environmental contamination
- Sites with immediate or feasible rail and/or truck access
- Sites where available incentive programs could fund limited cleanup and required rail and/or truck access
- Sites where municipal or county cooperation would motivate private matching funds
- Sites where owner activity would justify UP or CN spurs to the sites

In this task, the previous prioritization is reviewed and sites are either recommended for further study or for setting aside, with a rationale stated for each recommendation. The sites not recommended for prioritization are not necessarily undevelopable, but would require further investigation and more long-term strategies and investment to bring them into a state of development readiness.

Figure 7-1. Lincoln Highway Logistics Corridor Study Area and Priority Sites



Site A-1 (MEDIUM). Site A-1 has moderate recognized environmental conditions, making it ineligible for a "High" score. Its 79 acres and its proximity to UP rail service and the FedEx facility on Joe Orr Road make it attractive to potential industrial developers.

The presence of moderate recognized environmental conditions may make development more of a long-term proposition. Utilities are also not available nearby. Although there is potential for recent U.S. Environmental Protection Agency grant-funded assessment and remediation, the estimated costs are relatively high. No identified owner or developer expressed an interest in business expansion or other activity that would justify a rail extension.

Recommendation: Consider for remediation of recognized environmental conditions and long-term development.

Site A-2 (HIGH). Site A-2 has no recognized environmental conditions present making it eligible for a "High" score. Its 237 acres and its proximity to UP rail service make it very attractive to potential industrial developers. Readiness is key with only 6.8% floodplain/ wetlands coverage and all utilities available.

The UP Railroad identified this site as a site of interest given its large size and adaptability to rail access. However, no identified owner or developer expressed an interest in expanding their business or conducting another activity that would justify a rail extension. No recognized environmental conditions are a plus for this site.

Recommendation: Prioritize for development.

Site B (HIGH). Site B has no recognized environmental conditions, making it eligible for a "High" score. Its 100 acres and its proximity to UP service make it very attractive. Readiness is key with all utilities available. Providing a wetland or regional detention basin on this site's lower-elevation may address this site's 60% floodplain/wetlands coverage.

This site's owner has done some grading and placement of gravel to make the site ready for development and is interested in finding a buyer/developer. Otherwise, no identified owner or developer expressed an interest in expanding their business or conducting another activity that would justify a rail extension. No recognized environmental conditions are a plus for this site.

Recommendation: Prioritize for development.

Site D (MEDIUM). Site D has recognized low risk environmental conditions, making it ineligible for a "High" score (i.e., fill and demolition debris from removal of a building). Its 19 acres make it unattractive for development since it constrains what could be built there. However, it is adjacent to Site M, which allows for a potential synergy of uses across sites. Proximity to adjacent rail service is an asset.

This site's small size and the presence of recognized environmental conditions are disincentives. However, Site D is the highest-rated small site from the Section 6 screening, is adjacent to rail, and is close to Site M (just to the east across State Street) which could provide development flexibility. U.S. Environmental Protection Agency-funded grants for assessment and remediation may be possible, given the relatively low costs for this site's recognized environmental conditions. A rail loop expansion could benefit this site and could be a locally-led project. No identified owner or

developer expressed an interest in expanding their business or conducting another activity that would justify a rail extension.

Recommendation: Prioritize for development.

Site F (HIGH). Site F has no recognized environmental conditions, making it eligible for a "High" score. Its 64 acres and its proximity to CN rail service and the Bulkmatic spur make it attractive for potential industrial developers. Readiness is key with two of the three utilities available and only 3.8% floodplain/wetlands coverage.

Site F was the highest overall rated parcel in Section 6, especially given its lack of recognized environmental conditions, its adjacency to rail, and its good access to IL 394 via Sauk Trail. U.S. Environmental Protection Agency-funded grants for assessment and remediation may be possible, given the relatively low costs for this site's recognized environmental conditions. No identified owner or developer expressed an interest in expanding their business or conducting another activity that would justify a rail extension.

Recommendation: Prioritize for Development.

Site H (HIGH). Site H has recognized low risk environmental conditions. However, it is the sole candidate property located in Sauk Village. Its 224 acres and proximity to CN service make it very attractive for potential industrial developers. Readiness is key with all utilities available. The 47% floodplain/wetlands coverage is a known issue, and a future site layout could be developed around this site's water features. Site H could also provide needed expansion capability to Sauk Village manufacturers.

Site H is the best target site in Sauk Village; industries have shown an interest in locating here, especially if rail access is obtained. U.S. Environmental Protection Agency-funded grants for assessment and remediation may be possible, given the relatively low costs for this site's recognized environmental conditions. A rail loop expansion could benefit this site and could be a locally-led project.

Recommendation: Prioritize for Development.

Site K (LOW). Site K has moderate recognized environmental conditions, making it ineligible for a "High" score. Its 18 acres also make it unattractive for industrial development, given its due to constraints on the type of development.

Small parcel size and recognized environmental conditions make this site less desirable in comparison to other sites. U.S. Environmental Protection Agency-funded grants for assessment and remediation may be possible, but remediation costs would be relatively high. No identified owner or developer expressed an interest in expanding their business or conducting another activity that would justify a rail extension.

Recommendation: Consider for remediation of recognized environmental conditions and long-term development.

Site L (LOW). Site L has moderate recognized environmental conditions, making it ineligible for a "High" score. Its 15 acres make it unattractive for industrial development given constraints on the type of development possible.

Site L's small parcel size and recognized environmental conditions make this site less desirable compared to other sites. U.S. Environmental Protection Agency-funded grants for assessment and remediation may be possible, but remediation costs would be relatively high. No identified owner or developer expressed an interest in expanding their business or conducting another activity that would justify a rail extension.

Recommendation: Consider for remediation of recognized environmental conditions and long-term development.

Site M (HIGH). Site M has no recognized environmental conditions, making it eligible for a "High" score. Its 63 acres and its proximity to UP service and the Bulkmatic spur makes it reasonably attractive for potential industrial developers. Readiness is key with all utilities available.

Site M was the second highest overall rated parcel in Section 6, especially since it has no recognized environmental conditions. Bulkmatic interests have apparent ownership of this site, which makes site expansion of existing transload or other compatible Bulkmatic businesses most feasible. A rail loop expansion could benefit this site and could be a locally-led project.

Recommendation: Prioritize for development.

Site P (MEDIUM). Site P has recognized low-risk environmental conditions, making it ineligible for a "High" score (i.e., fill and demolition debris from building removal). Its 49 acres and its proximity to the IL 394 interchange make it reasonably attractive for industrial development.

The Metropolitan Water Reclamation District has notified the Lincoln Highway Logistics Corridor Study that it is modifying its previous plan to construct a berm on Deer Creek's west bank. This berm sought to address residential flooding in Ford Heights, which would result in additional flooding to Site P. The District instead intends to change the berm design, widen the creek bed to improve flow, and create a water detention facility south of Joe Orr Road on Metropolitan Water Reclamation District-owned land. The new plan would preserve this site's land development potential. (Please see, comments on Site Q about sensitivity to flood-prone residential areas to the west.) Readiness is key with low floodplain/wetlands coverage and utilities nearby.

This site's size, recognized low-risk environmental conditions, and proximity to IL 394 and three other large sites in Ford Heights make this site attractive for industrial development. U.S. Environmental Protection Agency-funded grants for assessment and remediation may be possible, given the relatively low costs for this site's recognized environmental conditions. A developer option is reportedly available for Sites P, Q, R, and S.

Recommendation: Prioritize for development.

Site Q (MEDIUM+). Site Q has no recognized environmental conditions, making it eligible for a "High" score. Although rail service is not feasible, it is very accessible to IL 394 and therefore carries a Medium+ rating. Its 58 acres also make it reasonably attractive.

Site Q is more flood prone than Site P since the floodplain covers nearly 9% of this site. Residences west of this site in Ford Heights have had flooding problems. Proper water detention and flood design should be highlighted and coordinated with the Metropolitan Water Reclamation District as part of this site's development. Utilities are available.

This site's size, lack of recognized environmental conditions, proximity to IL 394 and three other sites in Ford Heights make this site attractive for industrial development. A developer option is reportedly available for Sites P, Q, R, and S.

Recommendation: Prioritize for development.

Site R (MEDIUM+). Site R's 124 acres, lack of recognized environmental conditions, and proximity to IL 394 make it an attractive site for industrial development. However, it only receives a Medium+ score because rail service is not feasible and utilities are not currently available.

Site R's large size, lack of recognized environmental conditions, and proximity to IL 394 and three other large sites in Ford Heights recommend this site as a priority for development. Stony Island Avenue is a county-maintained road that acts as a frontage road for this site, and improvements could be considered to accommodate development. A developer option is reportedly available for Sites P, Q, R, and S.

Recommendation: Prioritize for development.

Site S (MEDIUM+). Site S has no recognized environmental conditions, making it eligible for a "High" score. Although rail service is not feasible and utilities are currently unavailable, this site's 100 acres and proximity to IL 394, make it attractive for development and earn this site a Medium+ rating. The tax rate is at the middle level.

Site S' large size, lack of recognized environmental conditions, and proximity to IL 394 and three other large sites in Ford Heights recommend this site as a priority for development. Stony Island Avenue is a county-maintained road that acts as a frontage road for this site, and improvements could be considered to accommodate development. A developer option is reportedly available for Sites P, Q, R, and S.

Recommendation: Prioritize for Development.

Summary: Of the 13 sites identified in Section 6 for further analysis, the consultants have identified the following ten sites as having the greatest potential for development: **A-2, B, D, F, H, M, P, Q, R,** and **S.** In the next section, they will apply conceptual level costs to each of these ten priority sites. Sites **A-1, K,** and **L** have less near-term potential, but could be considered for a longer-term development strategy with remediation of recognized environmental conditions.

7.2.2 Major Barriers to Development and Costs to Make Sites Development Ready

For each of the ten sites with the best development potential, the consultants review the site needs identified in Appendix 6C and estimate costs to overcome these development barriers. They also introduce an innovative rail plan, which could serve Site D, F, H, and M's rail infrastructure needs as well as improve access to existing industries and other potential sites not included in the original 21 target sites. The per-site costs do not include the potential Chicago Heights rail loop

upgrade and eastward rail extension to Sauk Village, nor the separate Sauk Village rail loop, both of which are discussed separately.

Costs included in this section are conceptual in nature. The consultants made assumptions including those below that would need to be further investigated in a detailed site analysis outside this study's scope. For example:

- Where rail extensions are proposed, the length includes an extension from the nearest rail connection point to the site boundary, plus an additional length of 500 feet into the site's interior, using a single turnout and track extension. The site user may have more extensive track needs such as installation of additional track, turnouts, or other items which are not included.
- Where road extensions are proposed, a basic roadway entrance and 2-lane extension 500 feet into the property are included. Site user needs for additional roadways, parking areas, turn lanes or signals from the main access route, and other items are unknown and not included.
- Utilities are assumed to be extendable from the nearest available location to the site boundary, and then extended an additional 500 feet into the site's interior. However, the existing system's capacity may need to be upgraded or a more suitable connection further from the nearest connection found, if the site user's needs exceed the utilities' ability to serve it. Utility costs include typical pipe, manhole, and hydrant installation, and a 25% additional contingency item cost. The need for special facilities like lift or pumping stations is unknown and not included; however, a directional bore under IL 394 for all three utilities, and a water main casing, is assumed for sites R and S so that existing Ford Heights utilities can serve them.
- Where storm water management needs are proposed, detention ponds and associated excavation and nominal drainage work are included. Maintenance costs are not included.
- For environmental remediation, a more detailed site investigation would be required to find the actual extent of contamination and remediation costs.

Following is a summary of the needs and costs associated with each of the ten sites. The total costs provided are site specific. A cost per developable acre for each site is presented in Table 7-11, allowing direct comparison of the ten priority sites.

Site A-2: A UP industrial track is located approximately 0.05 miles from the site boundary and could be extended across a Commonwealth Edison utility corridor to provide rail access. The site is vacant and has no existing buildings. The consultants anticipate that someone will provide grading and storm water site detention for this site that meet municipal and county ordinances. Utilities are available near this site. De minimis assessment and remediation of herbicides and pesticides is estimated.

Table 7-1: Target Site A-2 Costs

Site A-2	Unit	Quantity	Unit Price	Item Subtotal
Rail Track	Linear Foot	800	$166	$132,800
Rail Turnout	Each	1	$58,000	$58,000
Roadway Entrance	Linear Foot	500	$400	$200,000
Environmental Assessment	Lump Sum	1	$30,000	$30,000
Environmental Remediation	Lump Sum	1	$50,000	$50,000
Storm Detention	Acre	221	$3,000	$663,000
Clear/Grub	Acre	221	$1,000	$221,000
Water	Linear Foot	4,700	$83	$390,100
Storm	Linear Foot	4,700	$96	$451,200
Sanitary	Linear Foot	4,700	$75	$352,500
Utility Crossing	Lump Sum	0	-	-
Total				$**2,548,600**

Site B: A UP industrial track is located approximately 0.10 miles from the site boundary, and could be extended southeasterly to the site, potentially with a rail extension to Site A-2. The property is vacant with a prepared gravel surface over part of its acreage. Utilities are available near the site. The consultants anticipate that someone will provide grading and storm water site detention for this site that meet municipal and county ordinances. No environmental cleanup is estimated.

Table 7-2: Target Site B Costs

Site B	Unit	Quantity	Unit Price	Item Subtotal
Rail Track	Linear Foot	1,000	$166	$166,000
Rail Turnout	Each	1	$58,000	$58,000
Roadway Entrance	Linear Foot	500	$400	$200,000
Environmental Assessment	Lump Sum	0	-	-
Environmental Remediation	Lump Sum	0	-	-
Storm Detention	Acre	40	$3,000	$120,000
Clear/Grub	Acre	40	$1,000	$40,000
Water	Linear Foot	600	$83	$49,800
Storm	Linear Foot	600	$96	$57,600
Sanitary	Linear Foot	600	$75	$45,000
Utility Crossing	Lump Sum	0	-	-
Total				**$736,400**

Site D: A UP rail yard that connects to the CN mainline is directly north of this site. A spur track extension from the UP rail yard to this site could accommodate rail service. This site is vacant with no buildings, but an environmental assessment and potential cleanup is needed to address the presence of fill materials and demolition debris from buildings formerly located on the property. This site is also heavily wooded, so clearing would be more expensive than other properties. The consultants anticipate that someone will provide grading and storm water site detention for this site that meet municipal and county ordinances. A Chicago Heights storm sewer extension appears feasible from an existing line near 22nd Street and Wentworth Avenue. All other utilities are currently located near this site.

Table 7-3: Target Site D Costs

Site D	Unit	Quantity	Unit Price	Item Subtotal
Rail Track	Linear Foot	500	$166	$83,000
Rail Turnout	Each	1	$58,000	$58,000
Roadway Entrance	Linear Foot	500	$400	$200,000
Environmental Assessment	Lump Sum	1	$20,000	$20,000
Environmental Remediation	Lump Sum	1	$50,000	$50,000
Storm Detention	Acre	19	$3,000	$57,000
Clear/Grub	Acre	19	$4,000	$76,000
Water	Linear Foot	500	$83	$41,500
Storm	Linear Foot	800	$96	$76,800
Sanitary	Linear Foot	600	$75	$45,000
Utility Crossing	Lump Sum	0	-	-
Total				**$707,300**

Site F: A UP loop track is directly adjacent to the site's northern boundary and rail service could easily be extended into this site. This site is vacant with no existing buildings. However, it has a gravel parking lot and native prairie vegetation. No environmental cleanup is therefore estimated.

Utilities are available near the site, except for a storm sewer, which may be feasibly extended from either of two locations to the north along State Street. The consultants anticipate that someone will provide grading and storm water site detention for this site that meets municipal and county ordinances.

Table 7-4: Target Site F Costs

Site F	Unit	Quantity	Unit Price	Item Subtotal
Rail Track	Linear Foot	500	$166	$83,000
Rail Turnout	Each	1	$58,000	$58,000
Roadway Entrance	Linear Foot	500	$400	$200,000
Environmental Assessment	Lump Sum	0	-	-
Environmental Remediation	Lump Sum	0	-	-
Storm Detention	Acre	61	$3,000	$183,000
Clear/Grub	Acre	61	$1,000	$61,000
Water	Linear Foot	600	$83	$49,800
Storm	Linear Foot	3,500	$96	$336,000
Sanitary	Linear Foot	600	$75	$45,000
Utility Crossing	Lump Sum	0	-	-
Total				**$1,015,800**

Site H: This site has no rail service, but the CN mainline abuts this site's northern boundary. A rail loop that the CN has approved in concept for this site could bring rail service here. This site has an existing residence, which does not appear adaptable for large-scale industrial use and will likely need to be torn down. Environmental assessment and potential cleanup is needed to address the presence of fill materials and demolition debris from other buildings formerly located on the property.

Utilities are available near the site. The consultants anticipate that someone will provide grading and storm water site detention here that meet municipal and county ordinances. Approximately 47% of this site is unavailable for development given wetland/floodplain coverage. If a developer wished to use compensatory storage or purchase credits from a wetland bank to reclaim some of this land, there would be additional costs not included in the table below.

Table 7-5: Target Site H Costs

Site H	Unit	Quantity	Unit Price	Item Subtotal
Rail Track	Linear Foot	500	$166	$83,000
Rail Turnout	Each	1	$58,000	$58,000
Roadway Entrance	Linear Foot	500	$400	$200,000
Environmental Assessment	Lump Sum	1	$50,000	$50,000
Environmental Remediation	Lump Sum	1	$150,000	$150,000
Storm Detention	Acre	119	$3,000	$357,000
Clear/Grub	Acre	119	$1,000	$119,000
Water	Linear Foot	500	$83	$41,500
Storm	Linear Foot	600	$96	$57,600
Sanitary	Linear Foot	500	$75	$37,500
Utility Crossing	Lump Sum	0	-	-
Total				**$1,153,600**

Site M: This site does not have existing rail service, but Bulkmatic serves a UP railyard east of this site and the CN mainline abuts this site's north side. Rail service would be feasible from either the existing UP railyard, the CN, or the proposed West Rail Loop and Extension. Service from the CN (if the rail loop and extension were not built) would require scheduled switching movements from the CN's mainline to avoid interfering with through train movements.

This site is vacant and has no existing buildings, although utilities are near the site. The consultants anticipate someone will provide grading and storm water site detention that meet municipal and county ordinances. No environmental cleanup is estimated.

Table 7-6: Target Site M Costs

Site M	Unit	Quantity	Unit Price	Item Subtotal
Rail Track	Linear Foot	500	$166	$83,000
Rail Turnout	Each	1	$58,000	$58,000
Roadway Entrance	Linear Foot	500	$400	$200,000
Environmental Assessment	Lump Sum	0	-	-
Environmental Remediation	Lump Sum	0	-	-
Storm Detention	Acre	52	$3,000	$156,000
Clear/Grub	Acre	52	$1,000	$52,000
Water	Linear Foot	500	$83	$41,500
Storm	Linear Foot	750	$96	$72,000
Sanitary	Linear Foot	500	$75	$37,500
Utility Crossing	Lump Sum	0	-	-
Total				**$700,000**

Site P: Rail service is infeasible for this site, so no rail extension is proposed. This site is vacant and has no existing buildings. Environmental assessment and potential cleanup is needed to address the presence of fill materials and demolition debris from buildings formerly located on the property, as well as de minimis herbicide and pesticide assessment and remediation.

The consultants anticipate someone will provide grading and storm water site detention that meet municipal and county ordinances. Coordination with the Metropolitan Water Reclamation District is needed to align the site's storm water detention and flood control planning with the Metropolitan Water Reclamation District's proposed flood protection project for the Kennedy Street area of Ford Heights, proposed berm placement along both sides of Deer Creek, and the modified detention area south of Joe Orr Road and adjacent to Site P. The storm sewer may be feasibly extended from Ford Heights. All other utilities are near this site.

Table 7-7: Target Site P Costs

Site P	Unit	Quantity	Unit Price	Item Subtotal
Rail Track	Linear Foot	0	$166	-
Rail Turnout	Each	0	$58,000	-
Roadway Entrance	Linear Foot	500	$400	$200,000
Environmental Assessment	Lump Sum	1	$50,000	$50,000
Environmental Remediation	Lump Sum	1	$100,000	$100,000
Storm Detention	Acre	49	$3,000	$147,000
Clear/Grub	Acre	49	$1,000	$49,000
Water	Linear Foot	750	$83	$62,250
Storm	Linear Foot	1,000	$96	$96,000
Sanitary	Linear Foot	750	$75	$56,250
Utility Crossing	Lump Sum	0	-	-
Total				**$760,500**

Site Q: Rail service is infeasible for this site, so no rail extension is proposed. The site is vacant and has no existing buildings.

The consultants anticipate someone will provide grading and storm water site detention that meet municipal and county ordinances. Coordination with the Metropolitan Water Reclamation District is needed to align the site's storm water detention and flood control planning with the Metropolitan Water Reclamation District's proposed flood protection project for the Kennedy Street area of Ford Heights, proposed berm placement along both sides of Deer Creek, and the modified detention area south of Joe Orr Road and adjacent to Site P. Site Q is more flood prone than Site P to the north. Utilities are available near the site. The consultants estimated de minimis assessment and remediation of herbicides and pesticides.

Table 7-8: Target Site Q Costs

Site Q	Unit	Quantity	Unit Price	Item Subtotal
Rail Track	Linear Foot	0	$166	-
Rail Turnout	Each	0	$58,000	-
Roadway Entrance	Linear Foot	500	$400	$200,000
Environmental Assessment	Lump Sum	1	$20,000	$20,000
Environmental Remediation	Lump Sum	1	$50,000	$50,000
Storm Detention	Acre	52	$3,000	$156,000
Clear/Grub	Acre	52	$1,000	$52,000
Water	Linear Foot	600	$83	$49,800
Storm	Linear Foot	500	$96	$48,000
Sanitary	Linear Foot	600	$75	$45,000
Utility Crossing	Lump Sum	0	-	-
Total				**$620,800**

Site R: Rail service is infeasible for this site, so no rail extension is proposed. This site only contains two greenhouses and a gravel and recycled concrete storage yard. Unless the greenhouse business remained or expanded, it is unlikely these structures would be adaptable to an industrial use. The consultants anticipate that someone would remove the greenhouses, grade the property, and provide a storm water detention site that meets municipal and county ordinances. No other utilities are near the site. Ford Heights would need to cross IL 394 with utility extensions. Lynwood or Sauk Village could supply utilities but the consultants assumed that Ford Heights would provide the utilities in their cost estimate. The consultants also estimated de minimis assessment and remediation of herbicides and pesticides.

Table 7-9: Target Site R Costs

Site R	Unit	Quantity	Unit Price	Item Subtotal
Rail Track	Linear Foot	0	$166	-
Rail Turnout	Each	0	$58,000	-
Roadway Entrance	Linear Foot	500	$400	$200,000
Environmental Assessment	Lump Sum	1	$50,000	$50,000
Environmental Remediation	Lump Sum	1	$100,000	$100,000
Storm Detention	Acre	124	$3,000	$372,000
Clear/Grub	Acre	124	$1,000	$124,000
Water	Linear Foot	2,100	$83	$173,300
Storm	Linear Foot	3,100	$96	$297,600
Sanitary	Linear Foot	2,100	$75	$157,500
Utility Crossing	Lump Sum	1	$150,000	$150,000
Total				**$1,625,400**

Site S: Rail service is infeasible for this site, so no rail extension is proposed. The site is vacant except for a Federal Aviation Administration (FAA) radio tower. Removal or relocation of the radio tower would need to be negotiated with the FAA, or a use designed (such as limiting building height to avoid interfering with this tower's use) that would accommodate it in its current location.

The consultants anticipate that someone would grade the property and provide a storm water detention site that meets municipal and county ordinances. No other utilities are near the site. Ford Heights would need to cross IL 394 with utility extensions. Lynwood or Sauk Village could supply utilities but the consultants assumed that Ford Heights would provide the utilities in their cost estimate. The consultants also estimated de minimis assessment and remediation of herbicides and pesticides.

Table 7-10: Target Site S Costs

Site S	Unit	Quantity	Unit Price	Item Subtotal
Rail Track	Linear Foot	0	$166	-
Rail Turnout	Each	0	$58,000	-
Roadway Entrance	Linear Foot	500	$400	$200,000
Environmental Assessment	Lump Sum	1	$30,000	$30,000
Environmental Remediation	Lump Sum	1	$50,000	500,000
Storm Detention	Acre	100	$3,000	$300,000
Clear/Grub	Acre	100	$1,000	$100,000
Water	Linear Foot	2,100	$83	$173,300
Storm	Linear Foot	3,100	$96	$297,600
Sanitary	Linear Foot	2,100	$75	$157,500
Utility Crossing	Lump Sum	1	$150,000	$150,000
Total				**$1,459,400**

West Rail Loop and Rail Extension:

In researching available rail infrastructure and trends in the transloading business, the consultants arrived at a concept that would benefit current and future businesses in Chicago Heights along an existing UP rail loop in the study area's western part that is adjacent to Sites D, F, and M. This concept would upgrade the existing loop, and extend a new parallel track from the loop eastward along the CN mainline's south side to an area adjacent to Site H near IL 394 in Sauk Village. The unused NS rail yard and mainline, which parallels CN to the north, could also be put back in service and connected to the CN where a connection does not currently exist. These improvements would serve the following purposes:

- Allow railcar switching movements and assembly for existing and future businesses, particularly those in Sauk Village, without occupying the CN mainline.
- Improve the existing loop track to accommodate modern 6-axle road locomotives and railcar gross weights.
- Allow CN and UP service to industries in Chicago Heights and Sauk Village along the rail loop and east rail extension, thus allowing shippers more flexibility in routing inbound and outbound traffic.
- Potentially allowing a short line rail operator access to the network to provide additional flexibility. Bulkmatic currently delivers cars in and out of its facility and can access the UP and CN. The consultants believe that it is the only company to currently have direct access to both railroads. A third-party such as Bulkmatic or another company could assemble carloads for other industries.
- Potential attraction of additional transload business to the Lincoln Highway Logistics Corridor. Bulkmatic and Watco, for example, both have existing transload facilities on or near the existing rail loop. Improvements would help them more efficiently carry out movements in and out of their facilities, open up additional potential for business expansion, and/or attract other transload businesses to the area. Bulkmatic owns vacant land on the existing rail loop which they could use to expand their business.

Given the extent of improvements needed, a prospective user or users would likely need to commit to locating on the west rail loop or east extension before it would become economically viable. Also, different parts of the improvement would be more beneficial to some sites than others; for instance, the loop improvements wouldn't improve service to the Sauk Village sites, and the extension would only have marginal benefits to the Chicago Heights sites, so that an equitable way of funding the improvement among the beneficiaries would need to be identified. The west rail loop and extension is estimated at approximately $6 million, which includes track, turnouts, signaling, grade crossing improvements, re-grading, installation of an additional railroad bridge across Deer Creek (approximate 60' length), and right-of-way acquisition of approximately five acres. It is primarily a strip of land along the CN's south side from east of State Street to west of IL 394 and a few small acquisitions to accommodate the loop curve improvements.

Figure 7-2 shows the proposed layout of the loop rail with east extension. Existing industries located along this improvement include Bulkmatic, Wayne Steel, Pratt Industries, Winpak, Sugar Steel, and Voestalpine Nortrak.

Figure 7-2. Proposed West Rail Loop and Rail Extension

Sauk Village Road, Rail, and Drainage Improvements:

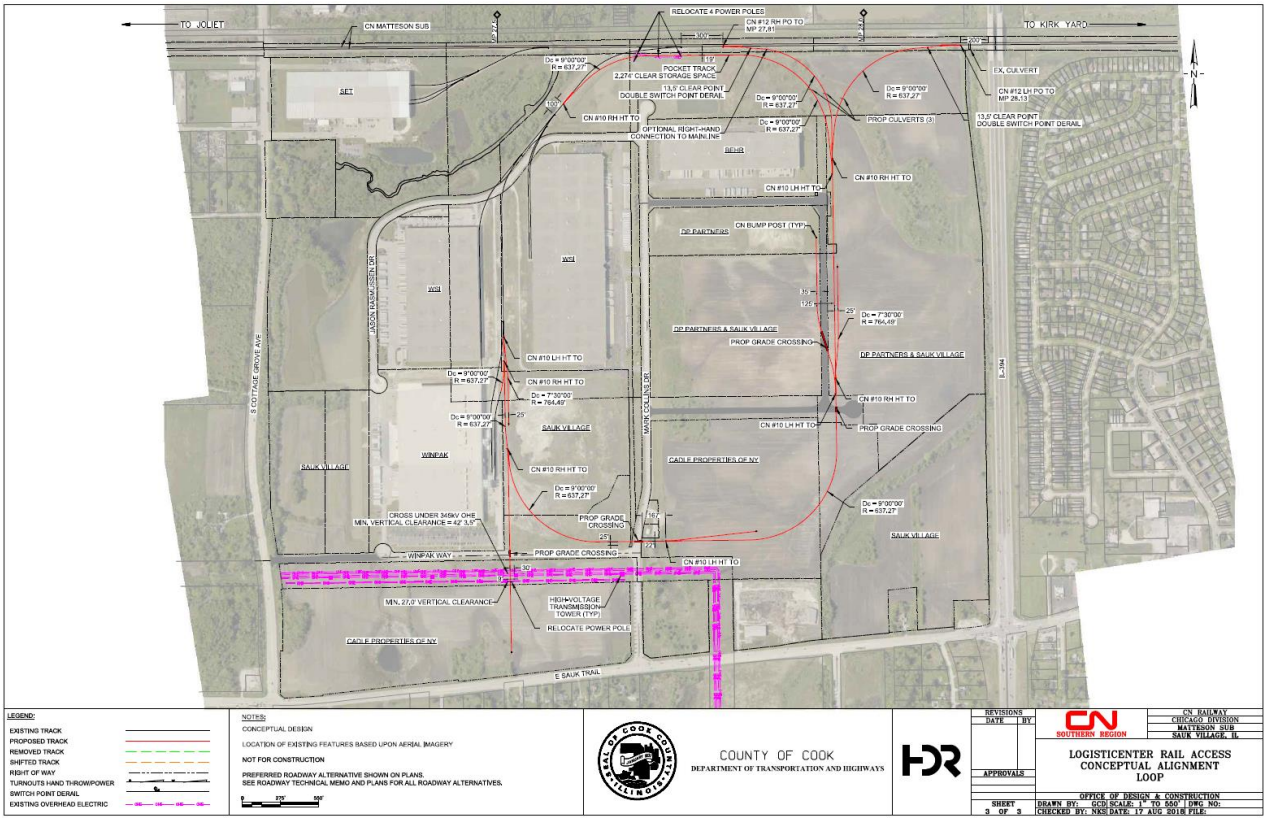
Through a separate, concurrent research project, the Cook County Department of Transportation and Highways is investigating conceptual alignments for extended road and rail access to the Sauk Village LogistiCenter. The most promising conceptual rail alignment in that study would extend the existing rail spur from the CN serving Winpak, Pratt Industries, and WSI to form a new East Rail Loop, accessing currently undeveloped parcels in Site H located east of Mark Collins Drive and undeveloped parcels on both sides of Winpak Way. This loop would have five new spurs that access multiple parcels within the Sauk Village LogistiCenter and a pocket track at its northern end.

This concept has operational benefits for the railroads. It would allow both left-hand and right-hand turn outs from the existing CN mainline and the proposed UP east rail extension discussed above, providing operational flexibility. The loop design would let trains pull off the CN or UP lines entirely while serving the Sauk Village LogistiCenter, and therefore avoid blocking operations on the rail mainline to the north. The inclusion of a pocket track would allow for railcar storage or staging off the mainline. The East Rail Loop concept is compatible with the West Rail Loop and Extension concept, but could be developed independently.

Similar to the West Rail Loop and Rail Extension, the East Rail Loop concept would also require commitments from prospective users to be economically viable. It would require long-term ownership and operational agreements to be made since Class I railroads rarely own or operate industrial spur lines.

The East Rail Loop concept is preliminarily estimated to cost $15,123,000, including construction costs (e.g., track, drainage, road crossings, and utilities), engineering phases, and a contingency fund. The cost of the spurs to the individual tenants represents approximately 28 percent of the total cost, with the cost of the rail loop itself and connections to the CN mainline representing the remaining 72 percent of total cost.

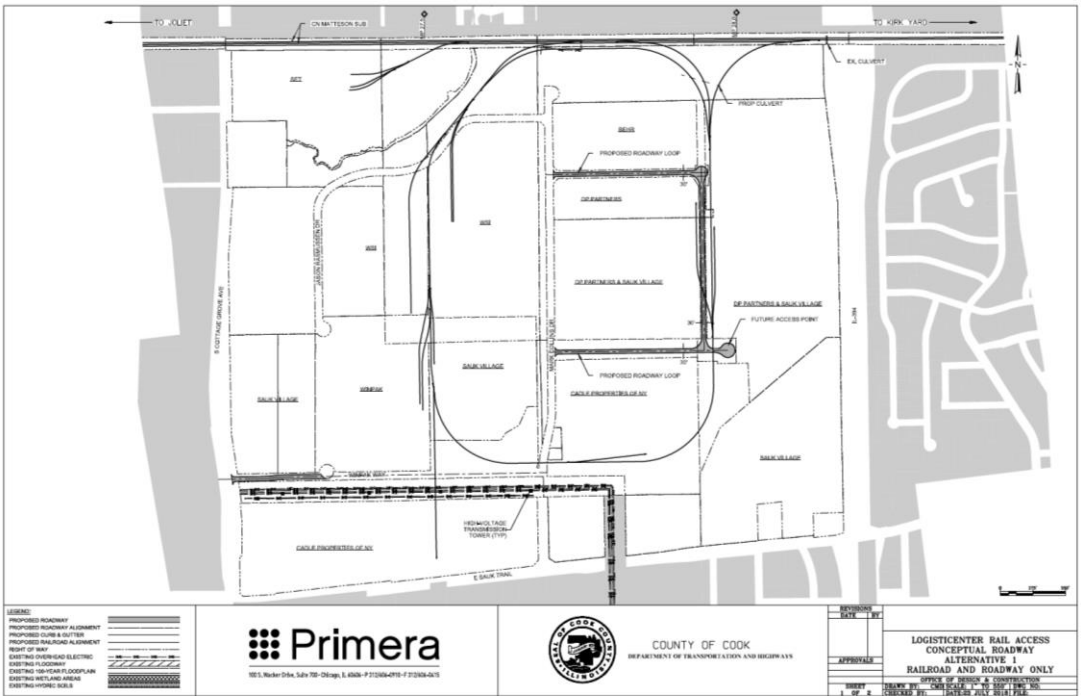
Figure 7-3. Conceptual Rail Loop within the Sauk Village LogistiCenter



The most promising road alternative would extend Winpak Way west to Cottage Grove Avenue and also create a new loop road east of Mark Collins Drive. These improvements would provide new access to the parcels located in the eastern half of the Sauk Village LogistiCenter, and also improved access to the LogistiCenter overall. The design for the road improvements includes hot mix asphalt material, curb and gutter drainage, and stop-controlled intersections. The estimated construction for the roadway is cost is $3.4 million.

The current geometry of Cottage Grove Avenue, specifically the bridge over Deer Creek, does not permit a new southbound left turn lane into Winpak Way; additional analysis would be needed to determine if one of the existing general purpose lanes could be safely converted to a left turn lane.

Figure 7-4. Conceptual Road Improvements within the Sauk Village LogistiCenter

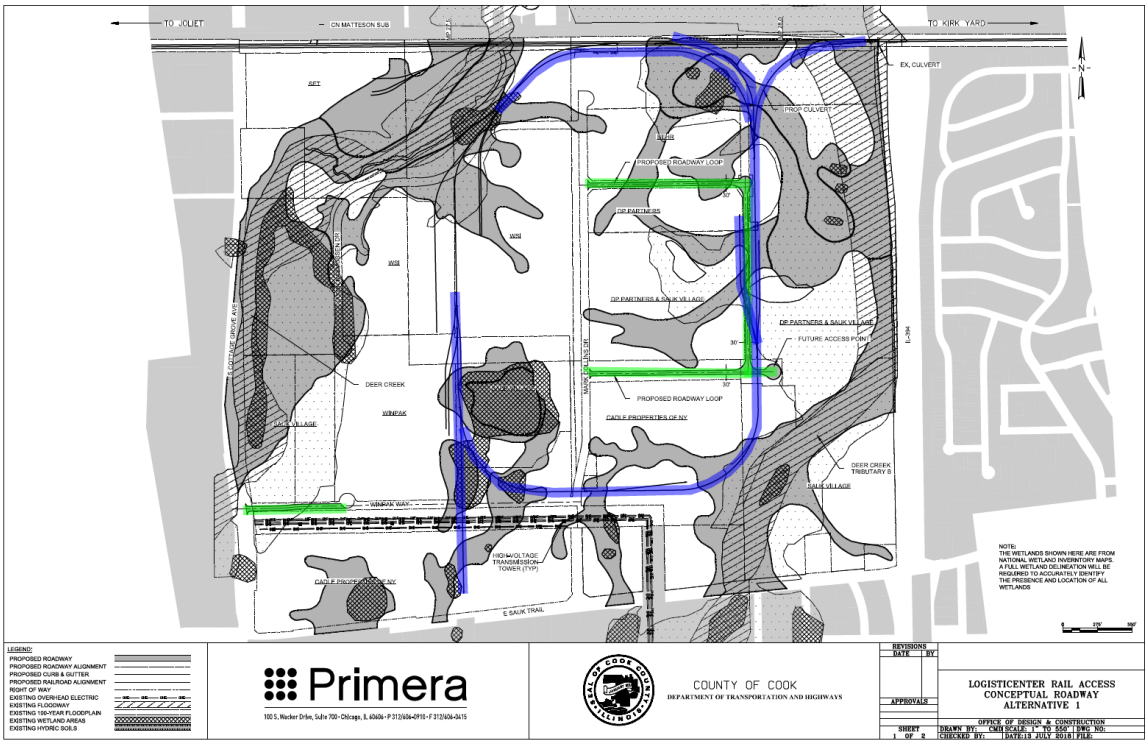


It is noted that new road and rail alignments within Site H would affect an estimated 2.7 acres of floodplain, reducing floodplain storage by 5.4 acre-feet and requiring compensatory stormwater storage on the site. Further, the road and rail alignments, as well as future development on the site, are collectively estimated to impact 5 acres of wetlands, which requires mitigation.

The Village of Sauk Village owns a 13-acre parcel within Site H located at the northwest corner of Mark Collins Drive and Winpak Way. The site is a former pond that was filled in sometime after 2009 within unknown fill material. This material represents a Recognized Environmental Condition, and is also unsuitable for development, given the risk of long-term settlement of any structures. The fill appears to have been completed without securing necessary permits, which could carry an estimated penalty of a 3:1 mitigation ratio.

The total cost of accommodating drainage requirements—including floodplain impacts, floodway impacts, wetland impacts, and stormwater impacts—on Site H due to the impacts of the preferred road and rail alignments, as well as forecasted future development, totals $6,746,400. The majority of those costs, $5,855,280, would be due to development, with the remainder divided between the new roadway ($378,480) and rail ($512,640) facilities.

Figure 7-5. Drainage Features within the Sauk Village LogistiCenter



Overall Pre-Development Improvement Needs for Lincoln Highway Logistics Corridor Sites:

Table 7-11 below shows the pre-development costs associated with each of the priority sites, as well as these costs on a per-acre basis of developable land (not including the wetland/floodplain acreages).

Table 7-11: Site Costs Overall and Per Acre of Developable Property

Site	A-2	B	D	F	H	M	P	Q	R	S	Item Total
Rail track	$ 132,800	$ 166,000	$ 83,000	$ 83,000	$ 83,000	$ 83,000	$ -	$ -	$ -	$ -	**$ 630,800**
Rail turnout	$ 200,000	$ 58,000	$ 58,000	$ 58,000	$ 58,000	$ 58,000	$ -	$ -	$ -	$ -	**$ 490,000**
Roadway Entrance	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	**$ 2,000,000**
Environmental Assesment	$ 30,000	$ -	$ 20,000	$ -	$ 50,000	$ -	$ 50,000	$ 20,000	$ 50,000	$ 30,000	**$ 250,000**
Environmental Remediation	$ 50,000	$ -	$ 50,000	$ -	$ 150,000	$ -	$ 100,000	$ 50,000	$ 100,000	$ 50,000	**$ 550,000**
Storm Detention	$ 663,000	$ 120,000	$ 57,000	$ 183,000	$ 357,000	$ 156,000	$ 147,000	$ 156,000	$ 372,000	$ 300,000	**$ 2,511,000**
Clear/Grub	$ 221,000	$ 40,000	$ 76,000	$ 61,000	$ 119,000	$ 52,000	$ 49,000	$ 52,000	$ 124,000	$ 100,000	**$ 894,000**
Water	$ 390,100	$ 49,800	$ 41,500	$ 49,800	$ 41,500	$ 41,500	$ 62,250	$ 49,800	$ 174,300	$ 174,300	**$ 1,074,850**
Storm Sewer	$ 451,200	$ 57,600	$ 76,800	$ 336,000	$ 57,600	$ 72,000	$ 96,000	$ 48,000	$ 297,600	$ 297,600	**$ 1,790,400**
Sanitary Sewer	$ 352,500	$ 45,000	$ 45,000	$ 45,000	$ 37,500	$ 37,500	$ 56,250	$ 45,000	$ 157,500	$ 157,500	**$ 978,750**
Utility Crossing	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 150,000	$ 150,000	**$ 300,000**
TOTAL COST	**$ 2,548,600**	**$ 736,400**	**$ 707,300**	**$ 1,015,800**	**$ 1,153,600**	**$ 700,000**	**$ 760,500**	**$ 620,800**	**$ 1,625,400**	**$ 1,459,400**	**$ 11,327,800**
COST/DEV. ACRE	**$ 11,532**	**$ 18,410**	**$ 37,226**	**$ 16,652**	**$ 9,694**	**$ 13,462**	**$ 15,520**	**$ 11,938**	**$ 13,108**	**$ 11,769**	**$ 15,931**

Assumptions:
Design Engineering costs not included.
All rail access, roadway entrances and utilities are assumed to be extended from point of access to 500 feet into the site.

Water, storm and sanitary from "Subdivision Development Costs" Section UIP 16, State of Michigan 2003; inflated 1.35x 2003-2018 from CPI inflation calculator and 25% contingency added
Assumes sufficient connection can be made at nearest utility (from utility atlases of Chicago Heights, Ford Heights and Sauk Village)
Sites R and S assumed to be served from Ford Heights via underground bore of IL 394. Installation costs divided between both sites. Water main in casing.
Linear Foot costs of utilities:
8" Water and hydrants $66.09 > $66/LF * 1.25 = $83/LF
12" Storm and manholes $76.87 > $77/LF * 1.25 = $96/LF
12" Sanitary and manholes $59.62 > $60/LF * 1.25 = $75/LF

Track extensions and costs (in addition to rail loop proposal) to provide direct rail access to site taken from WSP estimate for rail loop 3-13-18
Railroad costs:
$166/LF for track installation; $58k/EA for rail turnout

Storm Detention Costs: taken from USEPA per-acre estimate and inflated 1.5x 1997-2018.from CPI inflation calculator
USEPA reference https://www3.epa.gov/npdes/pubs/usw_d.pdf

Roadway and Clearing/Grubbing Costs: Estimated using review of IDOT unit prices for 2017 letting awards.

Environmental Assessment and Remediation Costs: From GSG Memorandum May 2018 "Conceptual Remediadion Cost Estimate (Preliminary)"

7.3 Financial Plan

7.3.1 Funding Sources

Many public and private programs could be used to raise the necessary capital to bring the Lincoln Highway Logistics Corridor priority sites to market readiness. Some sources are developer-oriented while others require a public-sector partner to either sponsor the project or act as a pass-through agency. Developers are free to use traditional private-sector financing resources to bring a site to readiness; however, there are many publicly-funded programs that, when combined with private financing, can make the site a much more attractive business opportunity. The following programs are among those that could be considered to address the various deficiencies in the ten priority sites that need to be addressed before development.

Private Financing

- Private financing offers the greatest flexibility but the greatest cost and risk for developers. Capital is available to any qualified borrower, but terms for private financing are geared toward making a profit for the lender rather than meeting a public purpose. The consequences of late payments or default may incur more risk for the developer than public-sector based programs. Construction loans for new development are usually offered at a higher interest rate than a secured mortgage on already-developed property. Other private capital sources include private grants and programs such as the NASE Growth Grants Program and the MillerCoors Urban Entrepreneur Series. Opportunities for private-sector grants are usually limited to "start-up" level costs and are very competitive.

Environmental Remediation

- **USEPA Assessment Grant Program:** The United States Environmental Protection Agency administers the USEPA Assessment Grant Program. This program funds Phase I and Phase II environmental assessments and development of reuse plans. In April 2018, the United States Environmental Protection Agency awarded the Cook County Department of Environment and Sustainability (DES) an assessment grant for $600,000, including $458,500 for hazardous substances and $141,500 for petroleum, with sites eligible in Chicago Heights, Sauk Village and Ford Heights. Thirty Phase I and 15 Phase II environmental site assessments are proposed under this grant. https://cfpub.epa.gov/bf_factsheets/gfs/index.cfm?xpg_id=10970&display_type=HTML
- **USEPA Revolving Loan Fund:** The United States Environmental Protection Agency administers the USEPA Revolving Loan Fund. The Cook County Department of Environment and Sustainability has successfully applied for these funds in the past. This program seeks to provide low-cost loans for environmental remediation over a 5-year period, with options to extend when receiving Supplemental Funding. In April 2018, the Cook County Department of Environmental Services (DES) received a loan capitalization grant from the United States Environmental Protection Agency for $751,000, including $446,750 for hazardous substances and $304,250 for petroleum, with sites eligible in Chicago Heights, Sauk Village and Ford Heights as well as several western suburbs. https://cfpub.epa.gov/bf_factsheets/gfs/index.cfm?xpg_id=10970&display_type=HTML

- **USEPA Revolving Loan Fund that the Illinois Environmental Protection Agency administers:** The Illinois Environmental Protection Agency receives statewide funding under the same USEPA Revolving Loan Fund program that had awarded a grant to Cook County in April 2018. The Illinois Environmental Protection Agency administers additional competitive funding that could supplement Cook County's existing grant.

- **Illinois Environmental Remediation Tax Credit:** The Illinois Environmental Protection Agency administers this program. It gives taxpayers who pay for brownfield cleanups under the Site Remediation Program a credit towards their Illinois income tax. The applicant must not be the party that caused the contamination. This program will credit remediation costs paid for investigating and cleaning up the site under a Site Remediation Plan (SRP). This tax credit equals 25 percent of remediation costs of more than $100,000 per site unless the site is in an Enterprise Zone (EZ), in which case there is no cost threshold.

  This provision is advantageous to the Lincoln Highway Logistics Corridor since all target sites are in the Lincoln & 394 Enterprise Zone. There is a maximum annual credit of $40,000 per site, with a maximum total credit of $150,000 per site. The Illinois Environmental Protection Agency must approve remediation costs for this credit, and the credit must be claimed in the same taxable year the approval is granted. www.epa.illinois.gov/topics/cleanup-programs/brownfields/faqs-brownfields/index

Tax Abatement/Value Capture Programs

Tax abatement programs typically lower the tax that a private property owner pays. Value capture programs typically do not lower private tax bills, but provide for financing of public infrastructure that benefits both the property owner (by providing needed services for development) and the public agency responsible for infrastructure (by increasing the value and condition of public infrastructure assets). All programs described below are tax abatement programs except for Tax Increment Funding Districts, Special Service Areas, and Business Improvement Districts which are identified as value capture programs.

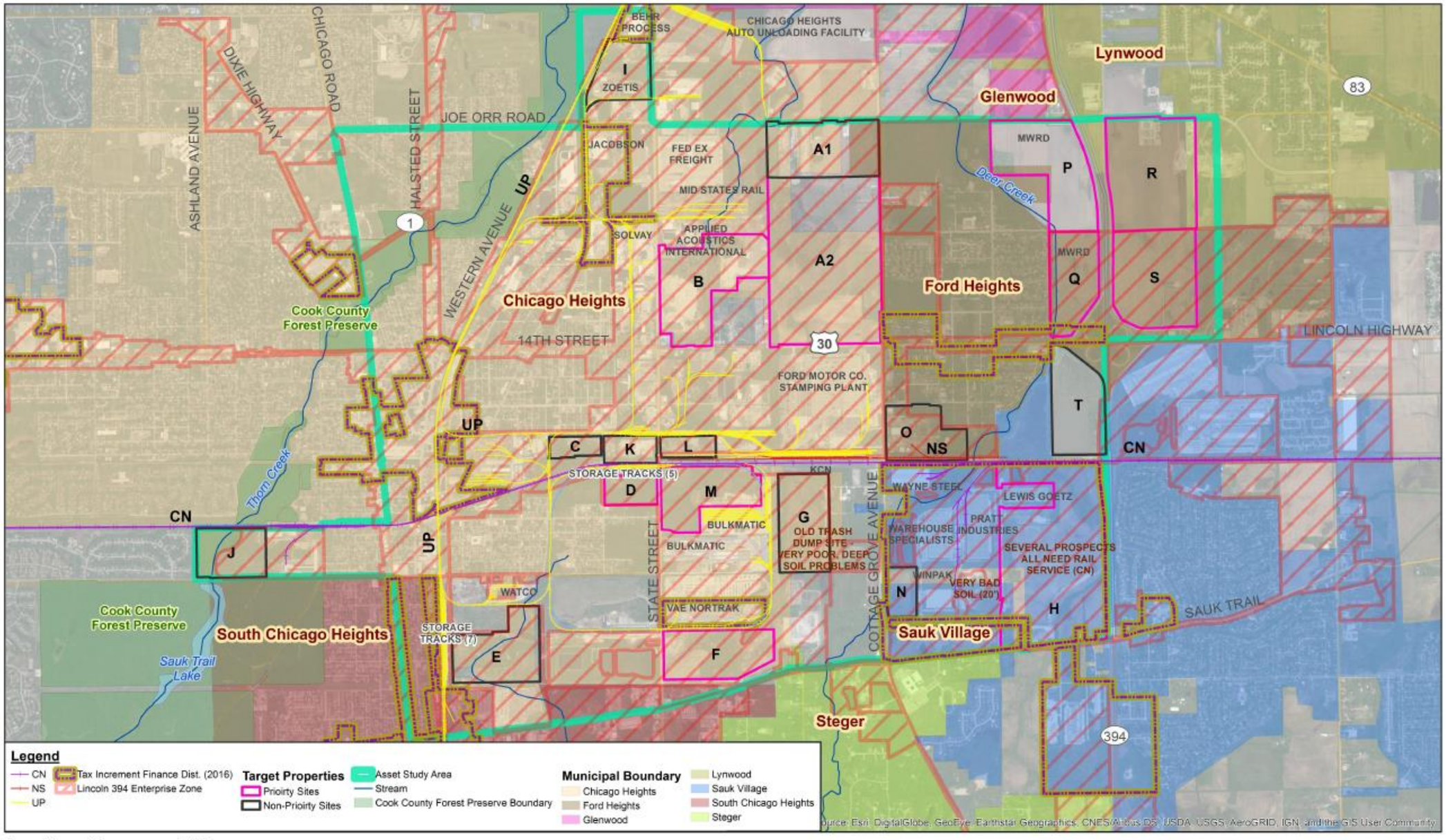
- **Lincoln & 394 Enterprise Zone:** The Illinois Department of Commerce and Economic Opportunity (DCEO) administers the Illinois Enterprise Zone Act. The Act seeks to stimulate economic growth and neighborhood revitalization in Illinois' economically depressed areas. Businesses located or expanding in an Illinois enterprise zone may be eligible for the following incentives: a 6.25% sales tax exemption on building materials or manufacturing and assembly processing equipment when the investment exceeds $5 million in property and creates 200 full-time jobs; a state utility tax exemption on gas, electricity, and telecommunication; a state investment tax credit of 0.5% that may be carried forward for up to five years; and the ability for businesses to deduct double the value of a cash or in-kind contribution to an approved project from taxable income. Additional credits are available for various expenses, dependent on the number of jobs that the business created or retained. All 10 Lincoln Highway Logistics Corridor priority sites are within the Lincoln & 394 Enterprise Zone. See Figure 7-4 for Enterprise Zones and Tax Increment Funding Districts in the Study Area. http://ssmma.org/program-areas/enterprise-zones/

- **Tax Increment Financing (TIF):** Tax Increment Funding Districts are a special value capture tool that municipalities can use to generate money for economic development in a specific geographic area. Tax Increment Funding Districts allow a municipality to re-invest all new, incremental property tax dollars above the base year threshold in the district from which they were generated for a 23-year period. These "new" revenues arise if new development takes place in the Tax Increment Financing District, or if existing property values rise, resulting in increased property tax revenues. These funds can be spent on public works projects or given as subsidies to encourage private development. The following priority sites are in a Tax Increment Funding District:

  - Site H – Sauk Village 3 (full site).
  - Site Q – Ford Heights - Cottage Grove/Route 20 (partial site).
  - There is a Tax Increment Funding District just north of Site F and south of Site M (Chicago Heights 3) that could be expanded to include both sites.
  - Site N, a non-priority site, is also in Sauk Village 3 Tax Increment Funding District.

  In addition to the existing Tax Increment Funding Districts, new or expanded Tax Increment Funding Districts could be created to allow additional infrastructure improvements to be made or development subsidies to be given. See Figure 7-6 for Enterprise Zones and Tax Increment Funding Districts in the Study Area.

Figure 7-6. Enterprise Zones and Tax Increment Funding Districts in the Study Area



- **Special Service Areas (Special Service Areas) or Business Improvement Districts (Business Improvement Districts):** These value capture tools are local tax districts that fund expanded services and programs through a localized property tax levy within contiguous areas, which enhance the services that the basic tax levy provides. The Special Service Area or Business Improvement District-funded projects typically include roadway improvements; district marketing and advertising; business retention/attraction, special events and promotional activities; auto and bike transit; security; façade improvements; and other commercial and economic development initiatives.

Cook County Tax Incentives. The following four programs provide relief from regular property tax rates for a set period of initial development for qualified property owners. Even with the rate reductions these incentives provide, the effective tax rates for Lincoln Highway Logistics Corridor sites are so high that the County property tax reductions still do not make the sites competitive with sites in northwest Indiana, Will County, or other Cook County locations outside the south suburbs. The property tax incentives also work at cross-purposes with Tax Increment Funding Districts because the tax incentives lower the taxes collected and reduce the tax increment.

- **Class 6b Designation** is a Cook County incentive for property used for industrial purposes. Qualified properties are assessed at 10% for 10 years, 15% for the eleventh year, and 20% for the twelfth year, rather than the 25% of market valuation normally used. This incentive may be renewed in the tenth year for an additional 10 years. https://www.cookcountyil.gov/service/economic-development-division

- **Class 8 Designation** is a Cook County incentive that assesses qualifying commercial or industrial property at a reduced assessment level for a period of twelve years from the date that new construction or substantial rehabilitation is completed and initially reassessed. Class 8 assessment levels are 10% of market value for ten years, 15% in the eleventh year, and 20% in the twelfth year, rather than the 25% of market valuation at which industrial properties are normally assessed. The incentive may be renewed in the tenth year for an additional 10 years. Bloom Township, which is located in the study area, is one of the townships that this program specifically targets. https://www.cookcountyil.gov/service/economic-development-division

- **Class 6b and Class 8 Temporary Emergency Economic Recovery Modification (TEERM)** is a Cook County incentive for properties that have been vacant for 12 months with no change in ownership. Qualified properties are assessed at 10% for 10 years, 15% for the eleventh year, and 20% for the twelfth year, rather than the normal 25%. This incentive may not be renewed. https://www.cookcountyil.gov/service/economic-development-division

- **Class C Designation** is a Cook County program to encourage development of properties that have received an environmental cleanup. To qualify for the Class C classification, an application must be made within one year of the receipt of the "No Further Remediation (NFR) Letter" from the Illinois Environmental Protection Agency. Industrial and commercial properties receiving the initial Class C will be assessed at 10% of market value for the first 10 years, 15% in the eleventh year and 20% in the twelfth year. This compares

to the 25% of market valuation for commercial and industrial properties not under Class C. Per the Preliminary Environmental Site Assessment Report, Sites A-1, C, I, and K have received or have pending No Further Remediation letters. These sites, while not in the current priority, could take advantage of the program if they are not already doing so. https://www.cookcountyil.gov/service/economic-development-division

Utility and Infrastructure Improvements

- **US Army Corps of Engineers Section 219 Program:** Since 1992, Congress has authorized and provided for the US Army Corps of Engineers to help design and construct municipal drinking water and wastewater infrastructure projects. The US Army Corps of Engineers broadly label this help as "environmental infrastructure". Congress regularly includes Corps environmental infrastructure funds in appropriations bills, primarily under Section 219 of the Water Resources Development Act. These funds usually have a 75% federal/25% local cost split. Congress allotted $55 million nationwide for Section 219 projects in FFY 2017[55].

- **Housing and Urban Development (HUD) Community Development Block Grant (CDBG):** The US Department of Housing and Urban Development administers the Community Development Block Grant Program, which is a flexible program that provides communities with resources to address a wide range of unique community development needs. Of the many programs available through the Community Development Block Grant Program, the following two programs are applicable to the Lincoln Highway Logistics Corridor:

  - The Community Development Block Grant Entitlement Program uses a formula to provide annual grants to entitled cities and counties so they can develop viable urban communities. These grants seek to provide decent housing, a suitable living environment, and expanded economic opportunities, primarily for low- and moderate-income people.
  - The Section 108 Loan Guarantee Program provides communities with a source of financing for economic development, housing rehabilitation, public facilities, and large-scale physical development projects. Communities can borrow and repay funds to allow larger projects to be accelerated faster than would be possible under traditional Community Development Block Grants. In Cook County, the Section 108 Program is referred to as "BUILT in Cook", which is described in more detail below.

  Chicago Heights was allocated $527,000 in FFY17, but neither Ford Heights nor Sauk Village were directly awarded Community Development Block Grant funds since they were not entitlement cities under this program. Cook County received Chicago Heights' Community Development Block Grant funding, which it then administered to Chicago Heights.

[55] *Army Corps of Engineers: Water Resource Authorizations, Appropriations, and Activities May 26, 2010-October 17, 2017* https://www.everycrsreport.com/reports/R41243.html#_Toc496011472

Cook County also received $9.3 million and Illinois received $26.5 million (not allocated to a specific unit of local government) in FFY17. Detailed information on these programs is available at: https://www.hud.gov/program_offices/comm_planning/communitydevelopment/programs

Rail/Highway Infrastructure Programs

- **Invest in Cook:** This Cook County Department of Transportation and Highways program has annual funding of $8.5 million and covers the cost of planning and feasibility studies, engineering, right-of-way acquisition, and construction associated with transportation improvements that local and regional governments sponsor. A public agency must apply for these funds, although partnerships with the private sector are encouraged. This program can be used for primary or matching funding. In 2017, the $7.2 million in awards leveraged an additional $7.6 million in federal funds. Individual awards in 2017 typically ranged from $50,000 to $500,000. https://www.cookcountyil.gov/investincook

- **Illinois Rail Freight Loan Program:** This IDOT program provides capital assistance to communities, railroads, and shippers that preserve and improve rail freight service in Illinois. It generally provides low-interest loans to finance rail improvements. Under special circumstances grants may be considered, but the program is not accepting grant applications as of April 2018. Projects with the greatest potential for improving access to markets and maintaining transportation cost savings are prioritized, and applications are screened using metrics for economic development potential. No information on annual funding, maximum award size, or average award size is available at the IDOT website. http://www.idot.illinois.gov/transportation-system/local-transportation-partners/county-engineers-and-local-public-agencies/funding-opportunities/rail-freight-loan-program

- **Illinois Economic Development Programs.** IDOT's Economic Development Program (EDP) and Truck Access Route Program (TARP) are transportation improvement programs that support economic development. The Economic Development Program offers matching grants for highway access improvements to new or expanding industrial and distribution developments. It provides 100% state funding on state owned routes and up to 50% state funding for eligible locally owned roadways. The maximum amount provided for one individual project is $2 million and there is a job creation/retention requirement for eligibility. http://www.idot.illinois.gov/transportation-system/local-transportation-partners/county-engineers-and-local-public-agencies/funding-opportunities/economic-development-program

  The Truck Access Route Program offers 50% funding grants for upgrading local routes to truck weight standards; up to $45,000 per lane mile and $22,000 per eligible intersection for selected projects, with a project limit of $900,000. http://www.idot.illinois.gov/transportation-system/local-transportation-partners/county-engineers-and-local-public-agencies/funding-opportunities/truck-access-route-program

- **Illinois Capital Improvement Program:** Illinois has a history of funding periodic capital improvement programs for transportation and other infrastructure projects, including the $1.4 billion Build Illinois in 1985 and the $12 billion Illinois FIRST in 1999. The $31 billion

Illinois Jobs Now program, enacted in 2009, was the last such program enacted in Illinois. The introduction or increase of various taxes and fees have historically raised revenues. It is uncertain when another capital program will be enacted or what sectors will be targeted, but improvements to state highways, public transit, and rail projects have been performed in prior programs.

- **Illinois Competitive Freight Program:** This Illinois Department of Transportation (IDOT) program is a new program that will provide $225 million through 2022. This program's primary goals are reducing bottlenecks, improving freight related safety, improving intermodal accessibility to/from freight corridors, and technology deployment. Although this program is geared toward highway improvements, up to 10% of the funds can be used for intermodal projects such as rail. Local, state, or federal governmental agencies are eligible to apply for this program. Project proposals involving a private entity must have a public sponsor. All phases of project development (preliminary engineering, land acquisition, final design, and construction) are eligible, and all project applications are graded on meeting the program criteria. The 2018 call for projects is closed. IDOT programmed five years' worth of its federal freight funds through this call, and the timing and number of additional calls for projects is not known. http://www.idot.illinois.gov/transportation-system/transportation-management/planning/illinois-competitive-freight-program

- **Consolidated Rail Infrastructure and Safety Improvement (CRISI):** The Federal Railroad Administration runs this program. It is a $73 million annual program that the federal Fixing America's Surface Transportation (FAST) Act established for projects that can strengthen intercity passenger rail, support capital projects, and boost safety initiatives, including implementing positive train control, improving highway-rail grade crossings and mitigating congestion. https://www.fra.dot.gov/eLib/details/L19363

- **State, County and Local Transportation Programs:** The Illinois Department of Transportation, the Cook County Department of Transportation and Highways, and the municipalities maintain roads within the Lincoln Highway Logistics Corridor. The Illinois Department of Transportation maintains highways such as IL 394 and US 30. The Cook County Department of Transportation and Highways maintains roads such as Joe Orr Road, Sauk Trail, Cottage Grove Avenue, State Street, and Stony Island Avenue. The municipalities manage all of the roads that are not State or county maintained.

  Targeted public investment, such as improving Stony Island Avenue which fronts Sites R and S, could help spur development. Keeping the existing system in a state of good repair can also help attract and retain industry. IDOT's FY 2019-2024 Multi-Year Plan lists $4.2 million to resurface 4.3 miles of U.S. 30 from the Indiana State Line to Cottage Grove Avenue and another $1.5 million to resurface 1.8 miles between Cottage Grove and East End Avenues.

Loans and Private Activity Bonds (PABs) for General Development:

- **The BUILT in Cook Loan Program:** The Cook County Bureau of Economic Development administers the BUILT in Cook Loan Program, which is used to finance developments including cargo-oriented development near freight rail lines and terminals, as well as infrastructure improvements and business development loans. Cook County's Capital Development Block Grant Section 108 Funds support the BUILT in Cook Loan Program. Applicant businesses must be in business at least three years and/or show creditworthiness and must create and retain jobs and/or improve blighted areas. Municipalities may borrow from BUILT in Cook Loan Funds but require a revenue stream to repay the loan.

  Loans may finance acquisition, site preparation, construction/rehabilitation, machinery and equipment, infrastructure improvements, and related costs. The minimum transaction amount is $500,000 and the maximum amount is $5,000,000 or $35,000 per job created or retained, whichever is less. Maximum loan to value including the senior loan is 90%. The maximum Cook County Bureau of Economic Development loan for any project cannot exceed 30% of total project costs. https://www.cookcountyil.gov/service/economic-development-division

  - **Emerging Business Development Loan Program (EBDL):** The Cook County Bureau of Economic Development administers this program and also part of the BUILT in Cook Program. This program is open to firms that Cook County has certified as a minority and/or woman owned business or enterprise. Loans will typically be used to finance assets needed to provide construction, procurement, or public services to public or institutional users. Loan amounts per transaction range from $35,000 to $500,000. Financing cannot exceed 50% of the total project costs. Technical assistance (accounting, legal, and/or business mentoring) may be required as a part of the approval. https://www.cookcountyil.gov/service/economic-development-division

  - **BUILT 50-40 Loan Program:** The Cook County Bureau of Economic Development administers this program and part of the BUILT in Cook program. The 50-40 Loan Program is targeted to small businesses in suburban Cook County. The company must be in business at least three years and have proof of credit via a formal bank commitment.

    Loans may finance acquisition, site preparation, construction/ rehabilitation, machinery and equipment, infrastructure improvements and project-related costs. Loan amount per transaction ranges from $70,000 to $500,000, or $35,000 per full-time equivalent job created or retained, whichever is less. The program may only be used to finance up to 40% of total project costs. An equity contribution of 10% is required. Loan terms and amortization schedules must be matched with the assets that the program is financing. Only one Cook County Bureau of Economic Development loan can be outstanding to the company and/or ownership group at any given time. Technical assistance (accounting, legal, and/or business mentoring) to support the loan may be required as a part of the approval. https://www.cookcountyil.gov/service/economic-development-division

- **Private Activity Bonds (PAB) Program:** The Cook County Bureau of Economic Development can issue tax-exempt Private Activity Bonds on the behalf of companies located or planning to locate in Cook County. Companies can use Private Activity Bonds to finance qualified capital expenditures. This program seeks to support job creation, retention, and affordable housing activities in Cook County. The recommended minimum Private Activity Bond amount is $1,500,000. The program requirements vary slightly based on funding use. Project specific requirements are discussed on a case-by-case basis, and require applicants to meet with the Cook County Bureau of Economic Development for an initial assessment. https://www.cookcountyil.gov/service/economic-development-division

7.3.2 Matching Funding Sources with Needs

The funding matrix in Table 7-12 below indicates potential funding sources for various elements of need for the ten Lincoln Highway Logistics Corridor priority sites.

Overall Financing Programs. All sites seem to be a good fit for some degree of private financing, and there are no obvious exclusions for any of the four Cook County programs listed.

- **Environmental Remediation.** In this section, Sites D, H, and P have low-risk recognized environmental conditions. However, due diligence requires that de minimis sites as well as Recognized Environmental Condition sites be assessed to ensure no hazards have been overlooked. Other sites that may be considered long-term remediation projects would need to be assessed and remediated. For the Illinois Environmental Remediation Tax Credit to be given, site cleanup must be performed before claiming the credit, perhaps using one of the other funding sources.

- **Tax Abatement.** Most of the tax abatement programs seem to be a good fit for most of the sites. Tax abatement would not be an issue for the proposed rail loop upgrade and east rail extension. The Tax Increment Funding Districts, unless expanded, would only apply to Site H and part of Site Q.

- **Utilities/Infrastructure.** The Housing and Urban Development block grant programs would be applicable to most sites. It is unlikely that this funding would stretch to more than a few sites in any given year, given the study area needs and the amount of funding available.

- **Rail/Highway Infrastructure.** Opportunities exist for freight or cargo-oriented highway projects, and freight rail projects to a lesser extent. Given the Consolidated Rail Infrastructure Safety Improvement Program's benchmarks, the rail loop/east rail extension appears to be best suited as a potential project, although rail spurs at other sites could be in the running for Consolidate Rail Infrastructure Safety Improvement Program grants if a benefit/cost case could be made. The sites with no rail potential in Ford Heights are excluded from rail-oriented programs. Development of roadways internal to sites is usually the developer's responsibility, but may be justified with public investment as part of an economic development initiative. Highway improvements, such as improving county-maintained Stony Island Avenue to make it more attractive to development of Sites R and S, and the resurfacing of US 30, are examples of public investments that serve the dual purpose of maintaining existing infrastructure and improving the marketability of Lincoln Highway Logistics Corridor sites.

Table 7-12: Proposed Eligibility of Site Activities with Funding and Incentive Programs

Program	A-2	B	D	F	H	M	P	Q	R	S	Rail Loop
Overall Financing											
Private Financing	•	•	•	•	•	•	•	•	•	•	•
BUILT in Cook Loan Program	•	•	•	•	•	•	•	•	•	•	•
Emerging Business Development Loan Program (EBDL)	•	•	•	•	•	•	•	•	•	•	•
BUILT 50-40 Loan Program	•	•	•	•	•	•	•	•	•	•	•
Private Activity Bonds (PAB) Program	•	•	•	•	•	•	•	•	•	•	•
Environmental Remediation											
Illinois Environmental Remediation Tax Credit	•(A)		•(A)		•(A)		•(A)	•(A)	•(A)	•(A)	•(A)
USEPA Assessment Grant	•		•		•		•	•	•	•	•
USEPA Revolving Loan Fund	•		•		•		•	•	•	•	•
Tax Abatement											
Lincoln-394 Enterprise Zone	•	•	•	•	•	•	•	•	•	•	
Tax Increment Financing (TIF) (B)	o	o	o	o	•	o	o	•	o	o	o
SSA/BID (Potential) (B)	o	o	o	o	o	o	o	o	o	o	o
Class 6b Designation	•	•	•	•	•	•	•	•	•	•	
Class 8 Designation	•	•	•	•	•	•	•	•	•	•	
Class 6b and 8 Temporary Emergency Economic Recovery Modification (TEERM)	•	•	•	•	•	•	•	•	•	•	
Class C Designation	•	•	•	•	•	•	•	•	•	•	
Utilities/Infrastructure											
CDBG Entitlement Program	•	•	•	•	•	•	•	•	•	•	
USACE Section 219	•	•	•	•	•	•	•	•	•	•	
Section 108 Loan Guarantee Program	•	•	•	•	•	•	•	•	•	•	
Rail/Highway Infrastructure											
Illinois Competitive Freight Program	•	•	•	•	•	•	•	•	•	•	•
IDOT EDP/TARP	•	•	•	•	•	•	•	•	•	•	•
Invest in Cook	•	•	•	•	•	•	•	•	•	•	•
Illinois Rail Freight Loan Program	•	•	•	•	•	•					•
Illinois Capital Bill	•	•	•	•	•	•	•	•	•	•	•
CRISI	•	•	•	•	•	•					•
State, County and Local Transportation Programs	•	•	•	•	•	•	•	•	•	•	•

Notes:

(A) Need remediation before eligible for tax credit

(B) "o" represents new or expanded TIF Districts or SSAs/BIDs that could be formed to benefit sites that are currently ineligible or don't have such programs

7.4 Summary

In this section, the consultants conducted a financial analysis of the previously identified thirteen priority target sites. They summarized the potential barriers to redevelopment of these sites, estimated the costs of preparing the sites for development, and gave each site a recommended priority ranking. They recommended ten of these sites for near-term development and three of them for potential remediation of recognized environmental conditions and long-term development. All sites, however, require further investigation and more long-term strategies and investment to bring them into a state of development readiness.

The consultants also proposed and estimated costs for an improved West Rail Loop and Extension, as well as a separate but potentially complementary East Rail Loop, both of which could serve several of the properties in the study area. Finally, they discussed various private and public grant, loan, tax abatement/incentive programs, and other programs that are available to municipalities and private developers and matched them to the targeted sites.

The consultants provide a road map for action in Section 8: the LHLC Strategic Development Plan by moving from the conceptual to the tactical. It is anticipated that the actions and responsibilities set forth, when translated to action, will provide a path to success in the LHLC.

8.0 Strategic Development Plan

8.1 Introduction

This report presents a strategic plan for economic development in the Lincoln Highway Logistics Corridor in southern Cook County, Illinois. It is the culmination of a study that encompassed a literature review for industrial and logistics site location, assessment of the strengths and weaknesses of the Corridor in light of the criteria for business attraction, comparisons to competing locations in the Chicago metropolitan region, industry interviews, freight commodity flow analysis, evaluation and ranking of Corridor sites, and a financial plan.

The strategic plan begins with a review of the Corridor's competitive position, outlines the fundamental features of a responsive strategy, and recommends a set of target markets. Removal of obstacles to development is a crucial component of the strategy, and this is presented next. The top properties from the evaluation and ranking of sites then are organized into clusters to facilitate development, and are divided into a high priority group for the near-term and a second tier for the longer term. Additional considerations for protecting the Corridor's long-term position are introduced after this. Finally, execution of the plan is set forth through a series of action steps and responsible parties, including management and marketing of the development program, and the steps and responsibilities are summarized in a matrix with an accompanying timeline as an aid to implementation.

8.2 Competitive Position

The Lincoln Highway Logistics Corridor (LHLC) lies in the southeast of the Chicago metropolitan market, which is one of the principal manufacturing, distribution, and logistics hubs of the United States. The Chicago region possesses important strategic advantages for supply chain logistics location that the LHLC enjoys: a naturally powerful geographic position for reaching American markets, amplified by an extensive and, in many ways, superb multimodal freight system; a skilled labor force with good transportation access to work in the midst of a major population center; and an industrial ecosystem of producers, suppliers, and academics that supports a broad range of commercial activity.

Industrial site selection follows a winnowing process that begins with a list of candidate regions and gradually narrows down to finalists. The top criteria can be summarized as access to markets and suppliers; interaction with the transportation system, labor, and workforce; and the total cost environment. Candidate regions typically are competitive on all of these factors and certainly are as the list grows shorter. The later stages of evaluation then turn to secondary and more local criteria which include specific cost components; among the criteria are availability and cost of suitable facilities or sites, utilities and regulation, taxes and incentives, and environmental and climate hazards. While metropolitan Chicago certainly has rivals, its strategic advantages imply that it scores well on the top criteria and usually passes the initial evaluation stage in site selection. For the LHLC, this means that it starts from a position of strength and it is the local factors which

become decisive – factors such as tax rates, incentives, parcel sizes, and readiness for construction. This also means that the main competitors for the LHLC will tend to be other sites in the region, including some in the lower tax environments of Will County and northwest Indiana.
The comparative Strengths/Weaknesses/Opportunity/Threat (SWOT) analyses conducted for this study affirm this outlook. The LHLC meets most site selection criteria, as is attested by the presence of a diverse business base encompassing the spectrum of manufacturing, distribution, and logistics activity that is characteristic of Chicago. Aligned against Chicagoland competitors at Buffington Harbor, University Park, Pullman Crossing, and Rochelle, the LHLC enjoys some key advantages:

- The quantity of available land is large for a location relatively close to downtown Chicago, provided parcels can be assembled and made market-ready. Rochelle offers "greenfield" properties, yet is further away from the urban concentrations of population and labor. The chief superiority of the other Chicagoland sites lies in the organized readiness of property.
- LHLC local roads are not highly congested and connect well to the interstate system. Rail does not reach into sites, yet sidings are viable in a number of cases, several carriers are present, and intermodal service is nearby. The LHLC study area is competitive in both mileage and drive time to O'Hare International Airport, being similar to Pullman Crossing and closer than the other three sites in mileage and drive time via the quickest route. Buffington Harbor has water access on Lake Michigan, which is an advantage for bulk cargoes within the Great Lakes. However, this water access is unlikely to provide an advantage for long distance shipping due to the slow travel times to reach the Atlantic Ocean and the Mississippi River.
- The immediate workforce is comparable to other areas, and the location inside Cook County brings a large labor pool with good transit options.
- The cluster of local industries with their skills and services contains multiple sectors to appeal to prospective businesses.

The critical issues for LHLC development are high local taxes, environmental remediation, effective parcel assembly, and a management and incentives structure. In these areas, the competing Chicagoland locations play with a stronger hand:

- Indiana has lower taxes, and even within Illinois, LHLC tax rates are high.
- Competitors have fewer environmental deficiencies, either because they are uncontaminated greenfield sites or because they have spent more time addressing these deficiencies.
- Rival locations have prepared their properties for market in a methodical fashion. Contiguous acres can be accessed by developers under a management umbrella that markets, brands, and incentivizes them. These factors simplify and expedite the transaction, improve its attractiveness, and raise the profile of the area.

The crucial consideration for the LHLC is that its deficiencies can be overcome, and its competitors for the most part are just further down the path.

8.3 Overview of Development Strategy

The challenges for siting in the LHLC can be traced to turnover in the manufacturing sector over recent decades, as happened across much of the industrial Midwest. Job losses led to population losses, driving up tax and some utility rates because there are fewer rate payers to share the burden. Bygone industries left behind environmental hazards and multiple small property owners for some vacant acreage. Because businesses seeking sites have many alternatives and little appetite for delay, obstacles to development need to be reduced or removed. The pernicious cycle by which losses raise costs and breed more losses must be stopped. Sites must be assembled, remediated where necessary, and prepared for construction so that growth can return.

The main development strategy for the LHLC should be to advance the most marketable properties initially, in order to reestablish growth in the district and to communicate to the real estate market that the LHLC is a competitive choice. As momentum builds, the strategy is to advance the remaining priority sites. This requires removal of the obstacles to development for the most market-ready properties, followed by a systematic and sustained effort to eliminate them for top sites across the corridor. Assembly, taxation, and environmental assessment and remediation are the primary requirements. Site preparation normally is a private industry responsibility; however, the County should not rule out a government role to assure that enough acreage is brought to market early to attract development and create momentum.

The evaluation process in this study identified ten sites totaling 1,038 acres as the leading LHLC locations, with a combined high-level development cost of $10.2 million exclusive of remediation. Six properties spanning Chicago Heights, Ford Heights, and Sauk Village are at the front of the list. Of these, site M in Chicago Heights offers a good illustration of what constitutes market readiness: there is a single (municipal) owner for its 63 acres, which provide enough space for target markets in manufacturing and distribution. The taxation profile is among the best, no remediation is needed, and the total site cost is among the lowest. The location is feasible for rail and adjacent to a bulk transfer terminal, adding to its advantages for some manufacturing operations.

Longer term, as public revenue from development grows and favorable market perceptions spread, additional efforts come into play. These include additional environmental remediation at lower-priority sites, rail improvements, roadway upgrades as traffic increases, and job training.

Execution of the development strategy depends on an interconnected series of actions and responsibilities, starting with those necessary for the removal of obstacles and continuing into such areas as management, incentives, financing, and marketing.

8.4 Target Markets

Identification of target markets establishes the business sectors the LCHC is suited to, will prepare for, and market to. As noted earlier in this study, clusters of like manufacturing, processing and shipping have proven to be successful in many of the top industrial parks in the Chicago region. This reflects the industrial advantages of an ecosystem: an array of skilled labor and managers working in firms that are among each other's vendors and customers, supported by common and

efficient transportation and logistics services, and often backed by education and research at regional academic institutions.

Industry Groups and Growth Markets: Key industry groups in the LHLC include chemical products, plastics, transportation equipment, and machinery. All of them are in the top seven growth sectors cited in the 2017 Illinois State Freight Plan, as measured by the value of products shipped through 2045. Cook County is the state's number one location for increasing value of shipments according to that plan. The implication is that industries present in the LHLC offer strong roots for growth into larger clusters. In addition to manufacturing operations are distribution and logistics facilities such as warehouses and truck terminals. Again citing the Illinois State Freight Plan, the average number of distribution centers employed by U.S. supply chains has tripled in the past four years, indicating a robust and rising demand for sites. Research referenced earlier in this study found that the minimum size of site required by any of these manufacturing, distribution, or logistics facilities fell between 10 and 25 acres—requirements that the LHLC can satisfy.

The opportunities for targeted growth in manufacturing and distribution are illustrated by two prominent examples in plastics production and warehousing:

- The shale oil boom that began in the previous decade freed enormous stores of natural gas to produce low cost ethylene feedstocks. These feedstocks are used to make an expansive range of products from pipes and paint to beverage containers and diapers. Plastic resins derived from ethylene move from the shale fields of North Dakota, Ohio, Pennsylvania and Texas, and are well served by rail over long distances. The plastics industry is present in the LHLC today and offers a salient target market for business attraction and growth. Ten contiguous acres is the minimum size for a site, and while greater acreage may be preferable, the top sites in the LHLC will be viable for this kind of development, and those with direct rail service will be even more desirable for specific businesses. Water, sewer, and power requirements are moderate.

- The first multi-story distribution facility in the U.S. will open in 2018 in Seattle. Offering almost 600,000 square feet in just under 14 acres, this Prologis property is 5 miles from the central business district and is designed for fulfillment operations in retail home delivery. The fact that this much square footage ordinarily requires 47 acres and the facility can be economically placed so deep in the urban area demonstrates the transformative power of this new configuration. Described as "urban infill", this class of facility caters to a growing retail segment where delivery service is the top priority. The high cost land near the port in Seattle and the proximity of the site are primary factors in locating a similar facility. Many of the LHLC sites fit the sizing criteria for multi-story distribution, but ultimately it will be an economic and logistic decision on whether such a facility makes sense in this area.

  The same day and next day service offerings in home delivery require logistics staging points much closer to the points of consumption than the sprawling distribution centers (DCs) of recent years can provide. The LHLC is some 30 miles from the Loop on congested highways, yet the south side of the Chicago metropolitan area is a large market the LHLC can serve well. Shipments to the Chicago region must be staged from several points to

satisfy delivery time requirements. Home delivery is a clear growth market involving not only retailers but also the manufacturers supplying them, who may ship orders directly to consumers as well as to retail DCs. With multiple rail intermodal terminals for inbound product nearby and good highway access, the LHLC is well suited to these operations and home delivery should be a target market for development.

Figure 8-1. Prologis 3-Story Distribution Center in Seattle

Role of Rail: The role of rail can be divided into three potential segments – direct rail service (where the customer takes delivery of a product or raw material by rail for on-site processing or ships it out by rail); intermodal (where containers or truck trailers are shifted from one mode to another such as rail-to-highway as part of their delivery to the end user); or transload (where bulk non-containerized materials are unloaded from one mode and loaded to another as part of their delivery to the end user).

Direct Rail. Direct rail via on-site sidings caters to a limited market that depends on its service. Interviews conducted for this study revealed little interest in rail as a site requirement, which is accurate for much of industry. However, in manufacturing sectors such as chemicals, plastics, and metals—as well as shipping of goods such as grain, coal, and minerals that are less relevant to the LHLC—rail can be a critical carrier for inbound supplies and some outbound products. Developers who specialize in them view rail-served facilities as a productive niche. The implication for the LHLC is that direct rail is not a prerequisite for sites across the board and should not be constructed on speculation. Nevertheless, for the right industrial prospects, the rail option can be a material differentiator and should be a factor in selecting target markets.

Intermodal. Indirect rail via intermodal service is a separate proposition. Its appeal is broader, especially for containerized shipments of consumer goods inbound to retail distribution. The LHLC is less competitive as a viable site for warehousing and distribution businesses that are heavy users of intermodal transfer facilities. Although the LHLC is located near intermodal sites in

Chicago, Markham, Elwood, Joliet, and Crete (proposed), other facilities already serve those markets. Further, the LHLC has limited availability of land compared to the largest intermodal sites. FedEx Freight is relocating their Chicago Heights intermodal operations to new facilities near Midway and in Joliet near the UP and BNSF terminals; however, they retained their LTL business at the Chicago Heights facility, which handles 150 to 20,000 lb. loads and is a growing market.

Transloading. For years, Chicago Heights has played a role as a location where commodities flow into and out of, and through transloading between rail and truck modes, a vital provider of these commodities to many Chicago area businesses that are heavily reliant on reliable and inexpensive rail transportation. The proximity of these services is a local advantage, shared by competing sites in the region yet important for business attraction, and of particularly high quality because of Chicago's function as a national intermodal hub. Examples of transloaded goods include liquid and dry bulks (such as food products or fertilizer), heavy or dimensional goods (such as steel and concrete structures), and machinery (such as transformers and earth moving equipment). Steel products, in particular, may receive a boost from federal government tariff actions, supporting more domestic activity and transloading of goods for businesses without rail sidings.

Truck Parking: Electronic logging devices became mandatory for truck drivers in 2018, enforcing strict adherence to hours of service regulations and accentuating the need for truck parking. While large fleets have used the devices for a number of years, the industry-wide requirement is new and significant. Spaces for drivers to rest or to wait between appointments are therefore useful additions to services in a logistics districts like the LHLC. Private companies establishing truck yards and bare bones rest areas are active in the Chicago region and can make use of brownfield sites. Unlike a full-service truck stop, they provide few jobs after construction, yet they can be a productive use of otherwise vacant land and might offer an ancillary advantage when industries are considering properties in the area for other uses.

Target markets for the LHLC summarize as manufacturers of chemicals, plastics, transportation equipment, and machinery; distribution facilities for retailers and manufacturers; and logistics facilities such as truck terminals. Other industrial sectors should not be ruled out (although water rates in Ford Heights are a problem for some food producers). The purpose of targeting is to focus development efforts on promising markets, not to exclude other prospects if they arise. In addition, selective secondary use of some land for truck parking, including land that is otherwise problematic for development due to brownfield or utility issues, may be desirable.

8.5 Removal of Obstacles to Development

There are three major types of obstacle to address for the leading properties and ultimately for others: tax rates, environmental assessment and remediation, and parcel assembly. As impediments are removed, specific sites will require improvements for road and potential rail access, and all of this should be tackled within an organizational structure that manages the effort:

- **Tax Rate Improvement** is a critical concern because the high rates in the LHLC can dissuade prospective companies from considering the area. The two main ways to proceed are legislative action and provision of offsetting incentives. The first requires a lobbying initiative by the County and municipalities, and the recruitment of political allies. The

second calls for financial resources beyond those of the LHLC communities, whose taxes are high due to a combination of factors including relatively low assessed valuation combined with revenue needs for local services. County programs must be brought to bear instead.

- **Brownfield Assessment and Remediation** is a necessity because a prospective developer will not want to assume environmental risks and can find competing sites where such risk is not a concern. The top LHLC properties have been screened to the point where remediation requirements either are not present or appear minor. For the three sites in the latter category, definitive evaluation should be promptly undertaken for the 224-acre site H in Sauk Village, and remediation should begin if the requirements are confirmed to be modest. The 68 acres in the smaller sites D and P should be deferred until later. The Cook County Department of Environment and Sustainability has received EPA grant funds that could be used to move this forward.
- **Parcel Assembly** is essential to produce contiguous acreage of sufficient size for development. Four of the top ten sites have a single owner; the rest have more, and three sites have seven or eight owners. Governments sometimes acquire land to create contiguity, and agencies such as the Cook County Land Bank Authority and South Suburban Land Bank Authority sometimes acquire tax delinquent or foreclosed properties to make them available for development. However, it is generally preferable for private developers to assemble the parcels needed for contiguous development. Bringing owners together to act in concert therefore is necessary. Since the sites are vacant, there is an intrinsic motivation for parties to cooperate, although this must be affirmed. If some parties demur, the question becomes how much of the remaining acreage is contiguous and accessible, and whether that quantity is sufficient to attract interest.

Road and Rail Access: As individual sites are made market ready, improvement to the roads entering the properties will need to be made, possibly including signage and signaling. Actions taken and public-private responsibilities should be coordinated with the developer. Beyond site access, the roadways in the LHLC are in good repair and upgrades are planned for and around Joe Orr Road. However, as the LHLC succeeds in generating growth, freight and passenger traffic volumes will climb, maintenance needs will rise, and new improvements will become necessary. Ongoing transportation planning should anticipate this longer term need, yet should recognize the risk to continued development if it does not take place. In addition, new technologies in the way of connected and automated vehicles should be allowed for. While driverless trucks are improbable any time soon, safer trucks able to interact with infrastructure and trucks geared to move in platoons on highways are reasonable to expect. As motor carriers adopt these technologies, industrial and logistics districts will be expected to accommodate them, and the ability to do so could become a competitive factor. These considerations are not unique to the LHLC and should be a facet of the County's plans.

Railways in the LHLC are private infrastructure. They are currently functional if not in the best repair, and sidings could be constructed into a number of properties to establish adequate service if new industry requires. Going beyond such basics, this study identified potential improvements to the Union Pacific loop track in Chicago Heights, with an eastward extension toward and

possible connection to the Canadian National (the West Rail Loop and Rail Extension). This initiative would upgrade service to the Chicago Heights-Sauk Village cluster at an estimated cost of $6 million. Another rail project being developed independently by Sauk Village and Cook County would provide a rail loop or spur tracks to serve properties along the Canadian National near IL 394 (the East Rail Loop) and is estimated at $18.2 million for the highest cost option. Whether these projects should be undertaken depends first on demand for rail service at new developments in the cluster, and it is thus a longer-term proposition. Thereafter, there are complexities in negotiating with Class I railroads that could stand in the way, but the initiative should be considered if conditions warrant.

Management/Marketing: Implementation of a successful development program requires dedicated management sustained over a period of years. Personnel must be committed to a management team responsible for an array of activities, chief among them the organization of a coalition of interests able to move the program, timelines, and milestones forward to execution. The requisite parties include the municipalities, other elected officials, property owners, economic development agencies and financiers. An appropriate brand should be created that the coalition supports, and used to headline a marketing campaign directed to target industries and developers through multiple channels. Involvement of an experienced advertising and public relations firm could be advisable. The County intends initially to devote personnel from the Department of Transportation and Highways to this purpose, and in time transition to a newly formed Development Authority. Crucial to accomplishing this effectively is that the dedicated personnel be mandated to treat the program as their principal work assignment, until an Authority can be established. Action steps and responsibilities for program management and the removal of impediments are presented further below.

8.6 Development Clusters

The ten top sites fall into three clusters according to physical and municipal location. Each cluster contains approximately one-third of the land area in the top properties:

- Two in north Chicago Heights totaling 337 acres: the adjacent sites A-2 and B, both with rail potential, and respectively with seven and two owners. There are no remediation requirements.
- Four in Chicago Heights and Sauk Village totaling 370 acres: the rail-served sites D, F, H and M; site H has seven owners (with three owners holding most of the site) but the rest have one. Two sites, including the largest, have remediation requirements.
- Four in Ford Heights totaling 331 acres: the adjacent or opposing sites P, Q, R and S, all of them near IL 394 although none near rail, and respectively with four, one, eight and three owners. The smallest site has remediation requirements. A developer reportedly has an option on all of these sites, implying that parcel assembly among the various owners already has been accomplished.

The value of approaching development in clusters is that it enables a series of efficiencies:

- Adjacent properties have the possibility of being developed together;
- Road or rail improvements can benefit several sites – for example, the locations of sites in the Chicago Heights/Sauk Village cluster could support a potential rail loop serving them all (as described above);
- Municipal actions can be coordinated and justified based on a larger total opportunity;
- Utilities might be extended in common, and so forth.

Within the clusters, there are four properties whose development should fall into a second tier: sites B, D, P and Q. These are the smallest properties in each group, they tend to have the highest development costs per acre, and they include two of the three locations requiring remediation.

Near-Term Priority: This leaves a top tier of six properties that should form the priority for development over the next two years: sites A-2, F, H, M, R and S. This group contains all of the largest sites and most of the clean ones, capturing 812 acres or nearly 80 percent of the top properties' land area. Two of the optioned sites (R and S) are part of this group. Development costs including utilities total $7.99 million exclusive of environmental assessment and remediation, which is required for four sites. The group offers strong possibilities for rail and the good highway access that is characteristic of the LHLC. However, there are clear challenges for parcel assembly, in that the two largest unoptioned sites represent over half of the group's acreage and have seven owners each. Property taxes are an issue as well, with two of the three biggest sites scoring at the bottom for taxes and only one smaller site scoring at the top. In short, the high priority group of sites offers a substantial expanse of mainly clean property and multimodal freight service, yet the development obstacles faced across the LHLC are present here and must be addressed. The 63-acre Site M highlighted earlier would be most logically developed by site owner Bulkmatic, since they are operating close to capacity at their present adjacent operation. If Bulkmatic would rather sell the site, it can and should be brought to market quickly so that interested developers have an immediate opportunity. Nevertheless, this has limited impact on perceptions in the real estate market until the majority of the best land is clear of impediments and competitive for development.

Figure 8-2. Development Clusters and High Priority Sites

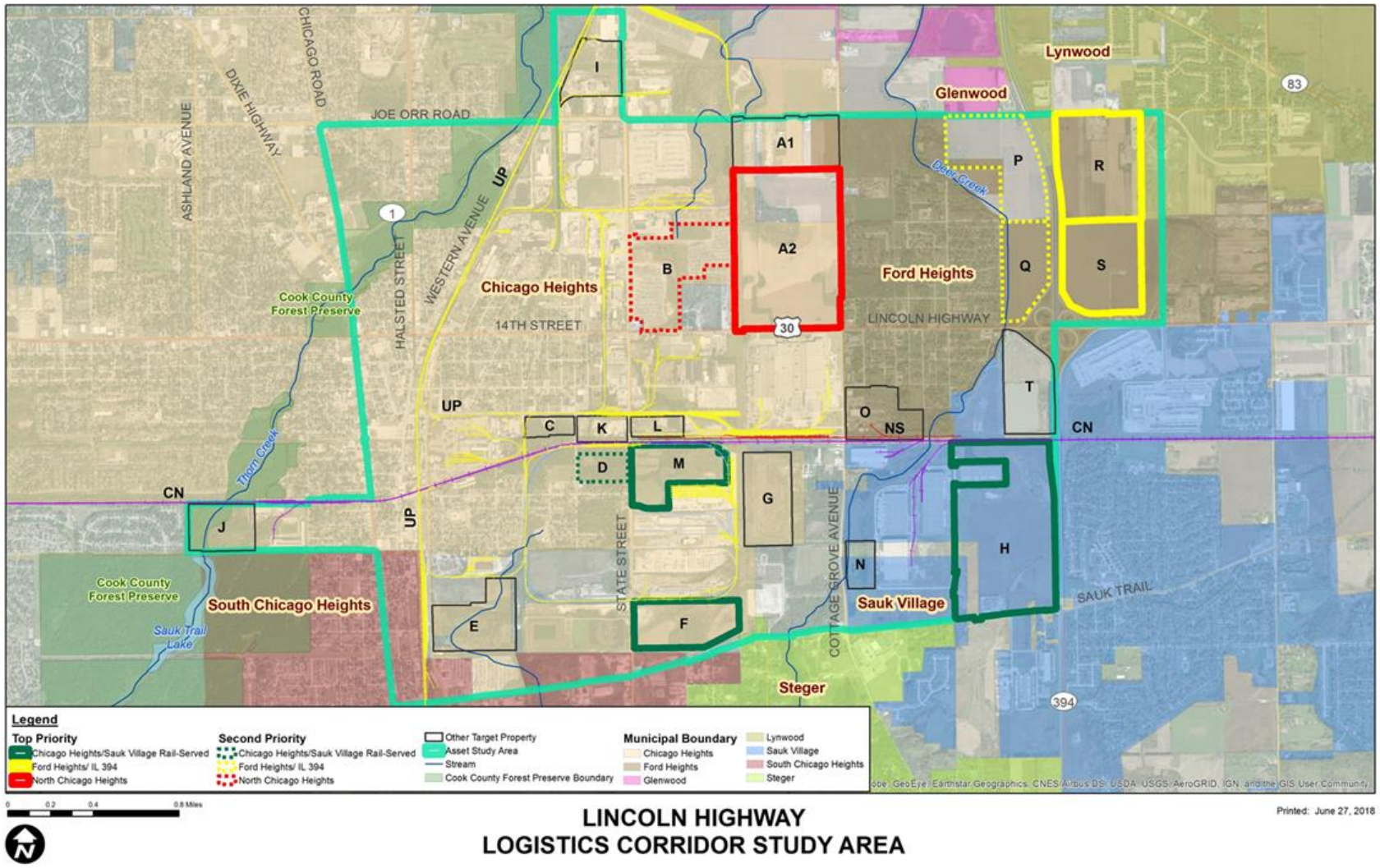


Table 8-1. Clusters and Priority Sites

Cluster	Sites	Acres	# Owners	Remediation	Tax Scores*	Rail Potential	Cost (000)
N. Chicago Heights	Top: A-2	237	7	De minimis	1 (worst)	Yes	$2,548
	2nd: B	100	2	None	1 (worst)	Yes	$736
Chicago Heights -Sauk Village	Top: F, H, M	350	1, 7, 1	None: F, M REC: H	3, 3, 5 (medium, best)	Yes	$2,869
	2nd: D	20	1	REC	5 (best)	Yes	$707
Ford Heights	Top: R♦, S♦	224	8, 3	De minimis	1, 3 (worst, medium)	No	$3,085
	2nd: P♦, Q♦	107	4, 1	REC: P De minimis: Q	3, 1 (medium, worst)	No	$1,381

** Tax scores range from Highest (worst) = 1 to Lowest (best) = 5 ♦ Optioned sites*

Longer-Term Development: The second priority tier of smaller sites in the clusters should receive attention once development takes hold in the top priority group. The actions necessary to prepare the high priority group will benefit the second tier too, which is part of the purpose of clustering. If certain clusters have attracted more development than others, this should influence which sites should be treated first.

Evaluation of remediation requirements is required for two second tier properties. Neither should prove extensive or costly. Even so, the process of remediation unlocks substantially more of the acreage present in the LHLC, and taking on the more expensive sites is an appropriate longer term objective as development progresses and associated revenues rise. Sites A-1, E, K and L are the most likely, with A-1 offering the greatest quantity of land (79 acres), the lowest cost per acre, and the least estimated environmental risk. While the order in which this is done again should be influenced by the level of market demand for the three clusters as well as the expected cost of remediation, the removal of contaminants is positive for the market image of the LHLC overall and good for the community.

Other steps in longer term development are the subject of the next section.

8.7 Protecting Position

Advantages must be protected, or they erode over time. Two key advantages for metropolitan Chicago in attracting and keeping industrial business are its skilled workforce and its industrial and logistics ecosystem. Preservation of these assets is an important long-term objective for the LHLC, and for Cook County as a whole. Preservation is more than conservation; it requires updating of assets as conditions and technology change.

- Job training should be a continual workforce focus in the years ahead. High school programs in some cities offer instruction in supply chain skills, ranging from mechanics and electronics to logistics and management. At this level, an important outcome is simply student awareness of career paths they might otherwise overlook. The community college level is often where the critical training takes place, and overlaps with vocational schools. Businesses frequently cooperate with educational institutions through internships and job

placements, and sometimes influence the curriculum. The institutions encourage this, and working adults seeking career advancement are part of their student bodies. Local community colleges are immediate candidates for this type of support, but there are no hard boundaries in this and the LHLC benefits from and contributes to the region. Federal and state resources are available to aid these activities, in addition to County programs.

- Industrial ecosystems are a blend of producers, suppliers, and support services that together keep their economic sector efficient and competitive. Economic development that works for expansion of industrial clusters will foster this, just as the presence of these clusters helps to attract related companies. Support services include academic institutions, who conduct independent research useful to business, or contract research with expert personnel that businesses do not need to hire full time. Job training and research can be part of a continuum: whether a single school does both, or several schools specialize in certain aspects, the effect is that support is rendered across a spectrum of workforce, technology, and industrial processes.

8.8 Action Steps and Responsibilities

The sections above provide the development context for the LHLC, which requires specific implementation actions, responsible entities, and a timeline to be realized. Appendix 8A contains a list and description of the potential responsible agencies and entities in implementing the LHLC Strategic Development Plan.

The LHLC Strategic Development Plan prioritizes the sites into three tiers: top or first priority (sites A-2, F, H, M, R, and S), second priority (B, D, P and Q), and third priority (A-1, E, and others as appropriate), with top tier sites representing the bulk of implementation activities in the first two years. Tax rate reductions are the most urgent implementation action required in the LHLC, followed by remediation of sites that are known or suspected of environmental contamination, but are otherwise economically viable. The LHLC Strategic Development Plan also identifies primary and supporting agencies to lead implementation.

Table 8-1 includes a matrix of proposed development actions and the primary and supporting agencies, organizations, or entities proposed to carry out the actions.

Table 8-3 includes a proposed timeline of actions laid out in a 5-year Gantt chart timeline format. The timeline was based on logical sequencing of tasks and a desire to accelerate top priority parcels.

Paramount among all these tasks and sequencing is finding an equitable resolution to the high property tax rates that characterize redevelopment sites in all three municipalities. This plan highlights the issue as it relates to vacant sites within the LHLC, but the reality is that existing businesses are also grappling with effective tax rates that compromise profitability and the ability to expand in place. Equitable treatment of existing businesses requires tax rate solutions that are not seen as favoring new businesses at the expense of existing businesses that would bear the brunt of carrying the remaining tax burden. Legislation similar to Illinois Public Act 100-0510, which allows certain properties designated as “keystone” properties in the Village of Park Forest to apply for abated taxes for a 12-year period, could be used as a template to offer either existing or new businesses targeted tax rate relief.

Table 8-2. Actions and Responsibilities Matrix

Primary Agency

Supporting Agency

Action Items	Responsible Agency/Entity														
	Cook County Dept. of Highways & Transportation	Cook County Dept. of Environment and Sustainability	Southland Dev. Authority*	Municipalities	Private Developer	MWRD/Thorn Creek Basin San.	South Sub./Cook Co. Land Bank Authorities	Cook County President - State Leg Director	Cook County Bur. of Econ. Dev.	Cook County Dept. of Plan. and Dev.	SSMMA	Chicago-Cook Workforce Part.	Community Coll.	CSEDC	CMAP
Top Priority (Overall Tax Rate Reduction, Marketing + Sites A-2, F, H, M, R and S)															
Tax Rate Reduction for LHLC Study Area															
Implement state legislation providing property tax relief industrial properties in south Cook															
Implement existing tax relief programs such as 6b															
Potentially reform existing programs to extend years, provide greater reductions in assessments, and other strategies															
Responsibilities: Legislative effort – County led															
Environmental Assessment and Remediation															
Site Assessments - verify no assessment needed for F, M; Phase II site assessments for A-2, H, R and S															
Site Remediation Plan, RLF Funding, Remediation															
Responsibilities: Utilize recent EPA grants															
Marketing - All Priority Sites															
Develop marketing program for 3 clusters, including:															
Economic development agencies responsible for promotion															
Target industries and methods to reach them															
Branding, web site and collateral materials															
Responsibilities: newly-created Development Authority															
Parcel Assembly															
Negotiate with owners of parcels in top 6 sites with multi-party ownership to:															
Bring many or all to formally act in concert															
Reduce the claimed contiguous acreage for sites with uncooperative parcel owners															
No efforts to make property market-ready should be undertaken for uncooperative owners															
Assume parcel acquisition by government is off the table															
Responsibilities: Negotiation and sale to prospective developer															
Land Preparation															
Specific evaluation of requirements for demolition, clearing, grading etc. to make sites shovel-ready															
Followed by funding and financing, and implementation															
Responsibilities: Usually by Developer															
Utilities															
Determine specific costs to provide connections, but funding is responsibility of developer															
If government funds, it constitutes an incentive															
Responsibilities: Municipalities with grant and logistic support															

Primary Agency

Supporting Agency

Action Items	Responsible Agency/Entity														
	Cook County Dept. of Highways & Transportation	Cook County Dept. of Environment and Sustainability	Southland Dev. Authority*	Municipalities	Private Developer	MWRD/Thorn Creek Basin San.	South Sub./Cook Co. Land Bank Authorities	Cook County President - State Leg Director	Cook County Bur. of Econ. Dev.	Cook County Dept. of Plan. and Dev.	SSMMA	Chicago-Cook Workforce Part.	Community Coll.	CSEDC	CMAP
Incentives															
Establish package of incentives from various government sources available for each cluster, and eligibility for particular forms of financing															
Responsibilities: newly-created Development Authority, CCDOTH and/or municipal			■		■						■			■	
Road Access															
Determine costs to construct access to sites and define funding to provide it.															
Implementation should await commitment by developer															
Responsibilities: Usually responsibility of Developer. Investigate applicability of TARP, Invest in Cook and other programs per location	■			■	■										
Rail Access - Sites A-2, F, H, M															
Determine costs to construct access to relevant sites and define funding to provide it.															
Implementation should await commitment by developer															
Development of Loop concepts should be advanced to stage where costs and timeline are known, railroad support is firm, and financing identified.															
Concepts initially are a marketing feature. Implementation should await commitments by developers for the specific sites – that is, do not spend money until demand for rail is concrete, and position sites for rail-oriented prospects without limiting development to rail-dependent uses															
Responsibilities: newly-created Development Authority, CCDOTH and/or municipal	■		■	■											
Funding and Financing															
Define funds currently available and timing to obtain															
Define and form partnerships able to supply additional funds, as feasible															
Prepare application for various grants and financing															
Responsibilities: newly-created Development Authority, various County and municipal agencies	■		■								■			■	■
Management															
Commit personnel to overall management of a sustained development effort															
Develop coalition of agencies required to move the program forward, with timelines and milestones															
Responsibilities: CCDOTH working in concert with newly-created Development Authority	■		■												

Primary Agency

Supporting Agency

Action Items	Responsible Agency/Entity														
	Cook County Dept. of Highways & Transportation	Cook County Dept. of Environment and Sustainability	Southland Dev. Authority*	Municipalities	Private Developer	MWRD/Thorn Creek Basin San.	South Sub./Cook Co. Land Bank Authorities	Cook County President - State Leg Director	Cook County Bur. of Econ. Dev.	Cook County Dept. of Plan. and Dev.	SSMMA	Chicago-Cook Workforce Part.	Community Coll.	CSEDC	CMAP
2nd Priority (Sites B, D, P and Q)															
Environmental Assessment and Remediation															
Site Assessments - verify no assessments needed for B; Phase II site assessments for D, P and Q															
Site Remediation Plan, RLF Funding, Remediation															
Responsibilities: Utilize recent EPA grants		■													
Parcel Assembly															
Responsibilities: negotiation and sale to prospective developer			■	■	■		■								
Land Preparation															
Responsibilities: Usually by Developer					■	■	■								
Utilities															
Responsibilities: Municipalities with grant and logistic support			■	■	■	■				■					
Incentives															
Responsibilities: newly-created Development Authority, CCDOTH and/or municipal			■		■										
Road Access															
Responsibilities: Usually responsibility of Developer. Investigate applicability of TARP, Invest in Cook and other programs per location	■			■	■										
Rail Access - Sites B and D															
Responsibilities: newly-created Development Authority, CCDOTH and/or municipal	■		■	■											
Funding and Financing															
Define funds currently available and timing to obtain															
Define and form partnerships able to supply additional funds, as feasible															
Prepare application for various grants and financing															
Responsibilities: newly-created Development Authority, various County and municipal agencies	■		■								■			■	■
Management															
Commit personnel to overall management of a sustained development effort															
Develop coalition of agencies required to move the program forward, with timelines and milestones															
Responsibilities: CCDOTH working in concert with newly-created Development Authority	■		■												

Primary Agency

Supporting Agency

Action Items	Responsible Agency/Entity														
	Cook County Dept. of Highways & Transportation	Cook County Dept. of Environment and Sustainability	Southland Dev. Authority*	Municipalities	Private Developer	MWRD/Thorn Creek Basin San.	South Sub./Cook Co. Land Bank Authorities	Cook County President - State Leg Director	Cook County Bur. of Econ. Dev.	Cook County Dept. of Plan. and Dev.	SSMMA	Chicago-Cook Workforce Part.	Community Coll.	CSEDC	CMAP
3rd Priority (Training + Certification + Sites A-1, E, others)															
Environmental Assessment and Remediation for Brownfield Site															
Site Assessments - Candidate site(s) A-1, E, others															
Site Remediation Plan, RLF Funding, Remediation															
Responsibilities: Utilize recent EPA grants, potential IEPA statewide RLF		■		■											
Training															
Work with businesses, community colleges and vocational schools to assure training of labor force suited to job descriptions in target industries															
Identify and exploit federal and other programs that support training programs and supply financial aid															
Responsibilities: Development Authority, working in concert with area Community Colleges			■									■	■		■
Certification															
Pre-certify site clusters for specific types of development (RR certification model)															
Include certification by railroads where relevant															
Responsibilities: newly-created Development Authority	■	■	■	■											

Table 8-3. Proposed Timeline of Actions

Lincoln Highway Logistics Corridor - Conceptual 5-year Implementation Schedule	Year 1				Year 2				Year 3				Year 4				Year 5			
Task	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Top Priority (Overall Tax Rate Reduction, Marketing + Sites A-2, F, H, M, R and S)																				
o Tax Rate Reduction for LHLC Study Area																				
o Environmental Assessment and Remediation																				
o Marketing - All Priority Sites																				
o Parcel Assembly																				
o Land Preparation																				
o Utilities																				
o Incentives																				
o Road Access																				
o Rail Access - Sites A-2, F, H, M																				
o Funding and Financing																				
o Management																				
2nd Priority (Sites B, D, P and Q)																				
o Environmental Assessment and Remediation																				
o Parcel Assembly																				
o Land Preparation																				
o Utilities																				
o Incentives																				
o Road Access																				
o Rail Access - Sites B and D																				
o Funding and Financing																				
o Management																				
3rd Priority (Training + Certification + Sites A-1, E, others)																				
o Environmental Assessment and Remediation for Brownfield Site																				
o Training																				
o Certification																				