



West Lake Corridor and South Shore Line Strategic Planning Investments:

A Regional Benefits Analysis

*With Addendum: The Fiscal Impact of the Economic
Benefits*

Revised - January 27, 2014

Prepared by Policy Analytics, LLC

Foreword

The Chicago metropolitan statistical area is a tri-state regional economy encompassing 9.5 million persons, 14 counties, and ranks as the eighth largest economy by GDP in the world. In terms of US MSA's, only New York City and Los Angeles rank higher. There are 4.5 million jobs in the Chicago MSA, and 2.1 million of those are located within Cook, County alone.

In the development history of the Chicago regional economy, the locus of heavy industrial and construction jobs was south Chicago and northwest Indiana. Those areas for many decades after World War II prospered with good paying, family supporting employment. As a result, that part of the region grew and maintained a high quality of life. However since 1980, the movement of manufacturing away from its more traditional US centers and the growth of global competition for these industrial opportunities have changed the equation for the heavily industrial sections of the Chicago MSA. The growth in employment since 1980 has been entirely in the service focused sectors of the regional economy. It is for that reason that a strategic understanding of the importance of transportation assets is now so vital for decision makers in Northwest Indiana.

In mid 2013, the Northwest Indiana Regional Development Authority ["RDA"] joined with the Northern Indiana Commuter Transportation District ["NICTD"] to engage consulting firm URS to undertake a Strategic Business Planning Process for NICTD, [the "Planning Study"]. As part of that larger project, Policy Analytics was asked to investigate and analyze the benefits of the investments that would be recommended by the Planning Study. Although the Planning Study is not yet fully complete, many of the recommended capital improvements to the NICTD operation are well defined. Policy Analytics, using the overall planning work of URS, and its sub-consultants for the Planning Study, developed estimates of the economic benefits that will be provided by the recommended investments.

The improvements that are analyzed in this report begin with the extension of NICTD service south into central Lake County, Indiana, termed the West Lake Corridor Project. This southward extension brings the benefits of commuter rail to both new commuters and those who are currently driving north all the way into the City or to meet the rail line. The capital cost of this new commuter rail asset will be between \$571 million and \$615 million [in 2018 dollars], depending on where the terminus is determined to be based on further planning. Approximately 50% of this cost is expected to be borne by the Federal Transit Administration's "New Starts" grant process. Additionally the study recommends improvements along the current line – some to maintain the functioning of the system, totaling \$421 million, and some to improve service to local areas, totaling \$169 million. For most of these projects as well, the cost is expected to be split between federal grants and local funding.

This report, while preliminary, has been prepared utilizing a fundamental economic theoretical construct. A substantial improvement or increased efficiency afforded by investments in transportation assets within a region produces upward movement on wages, increased rates of return on invested dollars, and a higher quality of life. The investments discussed in this study will make decades long changes to the flow of goods and services between the center of the Chicago MSA and its sub-sector Northwest Indiana. The direction of those changes can only be positive; this report makes a preliminary estimate of their magnitude.

Introduction and Overview

Report Purpose

The Northern Indiana Commuter Transportation District (NICTD) operates the South Shore Commuter Railroad between South Bend, Indiana and downtown Chicago, Illinois. The South Shore is an integral component of the Northwest Indiana transportation network and provides accessibility to Chicago for thousands of Hoosiers. The purpose of this report is twofold; first, to quantify the economic benefits of current NICTD operations; and secondly, to quantify the benefits of the planned NICTD investments and expansion, including the proposed West Lake Corridor (WLC).

This report contains two sections. The first presents the regional economic context within which NICTD operates. The second describes the types of economic benefits generated by NICTD’s operations and new investments, and the results of the economic impact modeling.

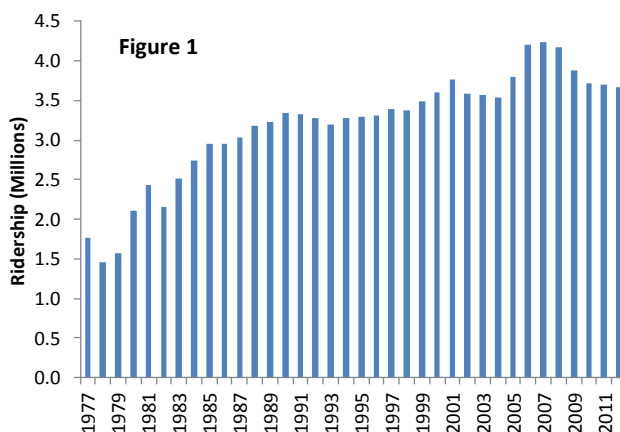
The economic modeling in this analysis was performed using REMI, a professionally accepted, and frequently cited dynamic policy modeling tool. Information on ridership and rail performance projections was provided by RSG, a subconsultant to URS. The Northwest Indiana traffic data used in this analysis is derived from the Indiana Department of Transportation’s Traffic Demand Model, with analysis by the Corradino Group.

Overview of NICTD

The South Shore railroad first began operations in 1903 as the “Chicago & Indiana Air Line Railway.” In 1977, NICTD, a multi-jurisdictional authority, was established by an act of the Indiana General Assembly to operate the South Shore in order to preserve passenger rail service to Chicago. In 1990, NICTD purchased and took full ownership of the South Shore railroad.

The South Shore railroad currently serves 17 intermediate stations between the South Bend Airport and Millennium Station in Chicago. A majority of riders are from Lake County, while approximately 27% come from Porter, LaPorte and St. Joseph Counties. Between 1977 and 2012,

South Shore Annual Ridership Trends



NICTD annual ridership has increased at a rate of 2.1% annually. Ridership peaked in 2007 with 4.25 million riders. The job losses associated with the 2008 national recession resulted in a reduction in ridership between 2007 and 2012. However, that decline stabilized in 2011 and 2012. In 2012, NICTD had an annual total ridership of 3.7 million.

Introduction and Overview

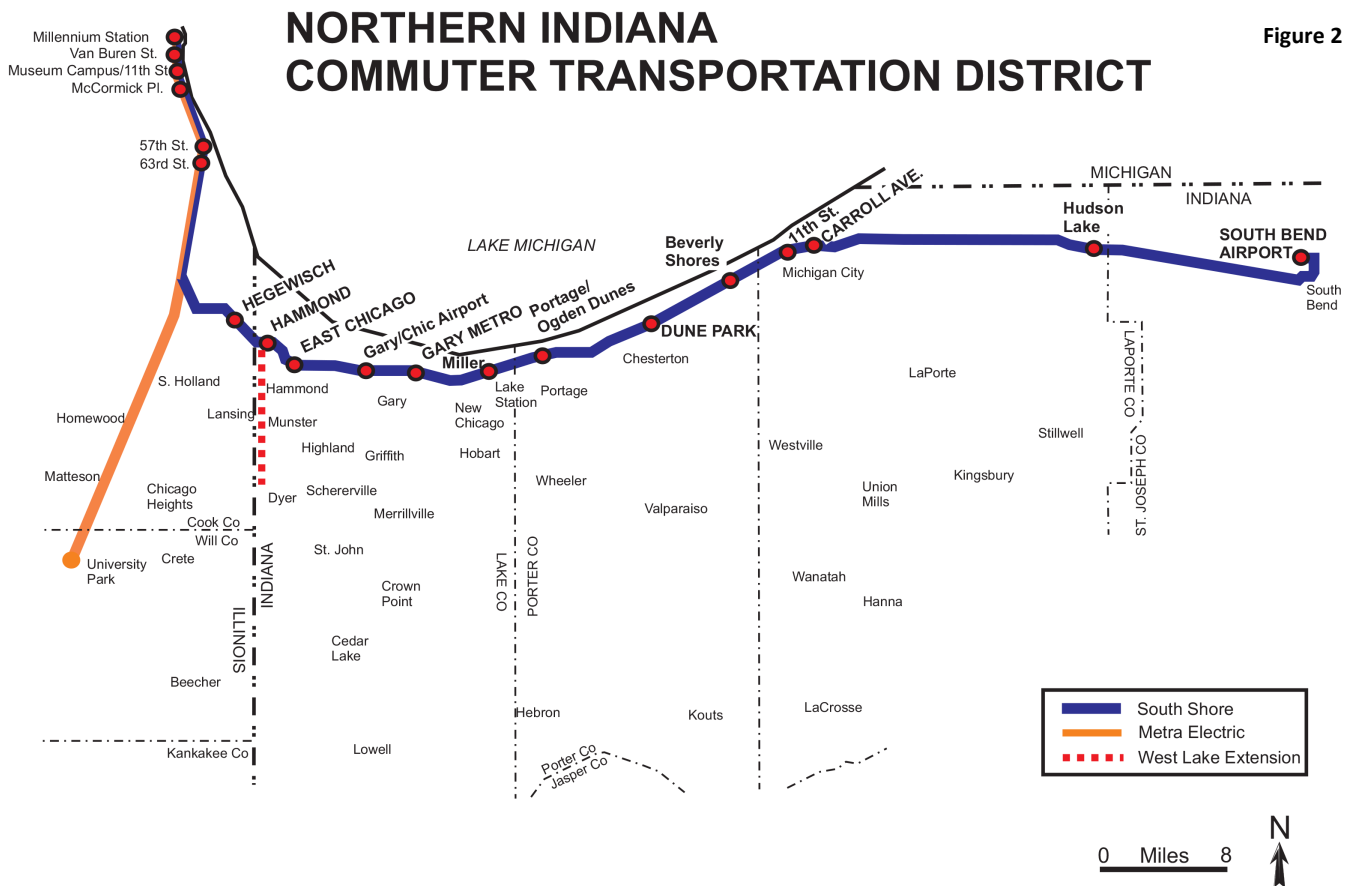
In order to improve and expand services to Northwest Indiana residents, NICTD is currently planning a number of capital improvement projects. The most significant is the West Lake Corridor expansion, which would extend NICTD service southward into central Lake County. Additionally, improvements are planned along the existing South Shore line to increase capacity and decrease commuting times.

The West Lake Corridor project is currently in the initial planning stages. This investment would provide commuter rail service to downtown Hammond, Munster, and Dyer (the final terminus of the line will be decided during the final planning process). The West Lake Corridor is projected to have a daily ridership of 5,600 people, and would reduce the travelling distances for south Lake County commuters to

board the train.

The improvements on the existing South Shore line are intended to increase efficiency on the existing rail line. Trip times from South Bend to Chicago would be reduced by 39 minutes, while trips from Gary and Hammond would be reduced by 16 minutes and 14 minutes, respectively. These improvements will increase averaged daily ridership on the NICTD system by 38%, and would also greatly facilitate and enhance transit-oriented development and strengthen neighborhood redevelopment along the route.

The economic benefits modeled in this analysis include both the new West Lake Corridor project and the investments on the existing South Shore line.



Chicago Employment Base

Understanding the regional economic context is central to evaluating NICTD’s transportation role and benefit. The Chicago region, which includes Northwest Indiana, is the third largest metropolitan statistical area (MSA) in the nation. The focused economic activity within the city of Chicago is the driver of the regional economy. Accessibility to jobs in Chicago is now, and will be in the future, a very important factor for economic growth in Northwest Indiana. It is up to State and local leaders, on behalf of the citizens they represent, to facilitate access to the regional economic core.

Jobs in the Chicago Core

The implications of intra-regional accessibility were explored more extensively in a 2006 report commissioned by NICTD and undertaken by Policy Analytics. That report found, **“The fundamental conclusion of this study is that the existence of this well paying, highly specialized, and well diversified economic engine just 25 miles to the**

northwest argues more strongly for improving transportation access along the West Lake Corridor than anything else.”

This finding, in part, is based on the difference in scale of the employment base in Cook County, Illinois versus Northwest Indiana. In 2012, Cook County employment was 8.5 times greater than employment in Lake, Porter and LaPorte counties combined. This difference is more pronounced for the knowledge industry jobs occurring in finance, information services and healthcare. Cook County has 20 times the number of jobs as Lake County in these industries. This data demonstrates the importance of connecting workers, especially knowledge industry workers, to jobs located in Chicago.

Comparison of the Employment Base in Cook County to Northwest Indiana

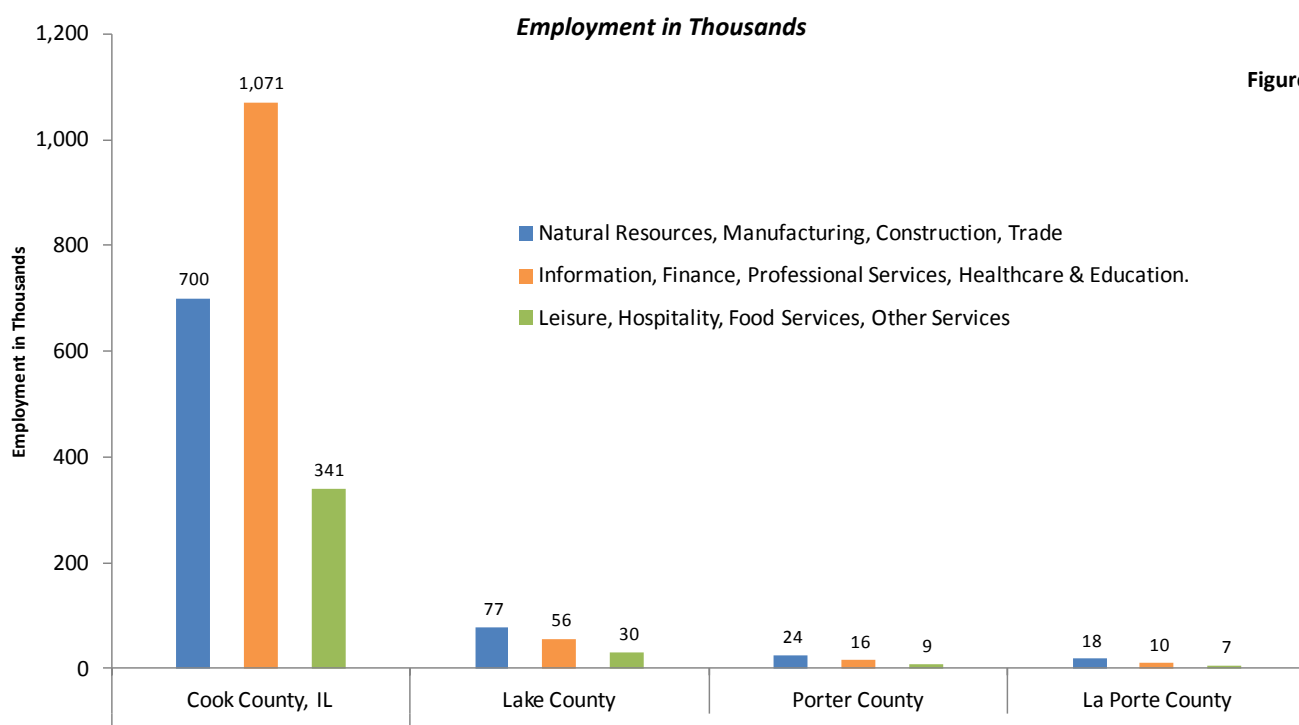


Figure 3

Commuter Wage Premium

The difference in the number of jobs is not the whole story. There is also a substantial wage premium for jobs located in Chicago. Cook County jobs pay more on average than Lake County jobs in every industry except for construction and manufacturing. On average, even including the manufacturing and construction industries, there is a 40% wage premium for Cook County jobs.

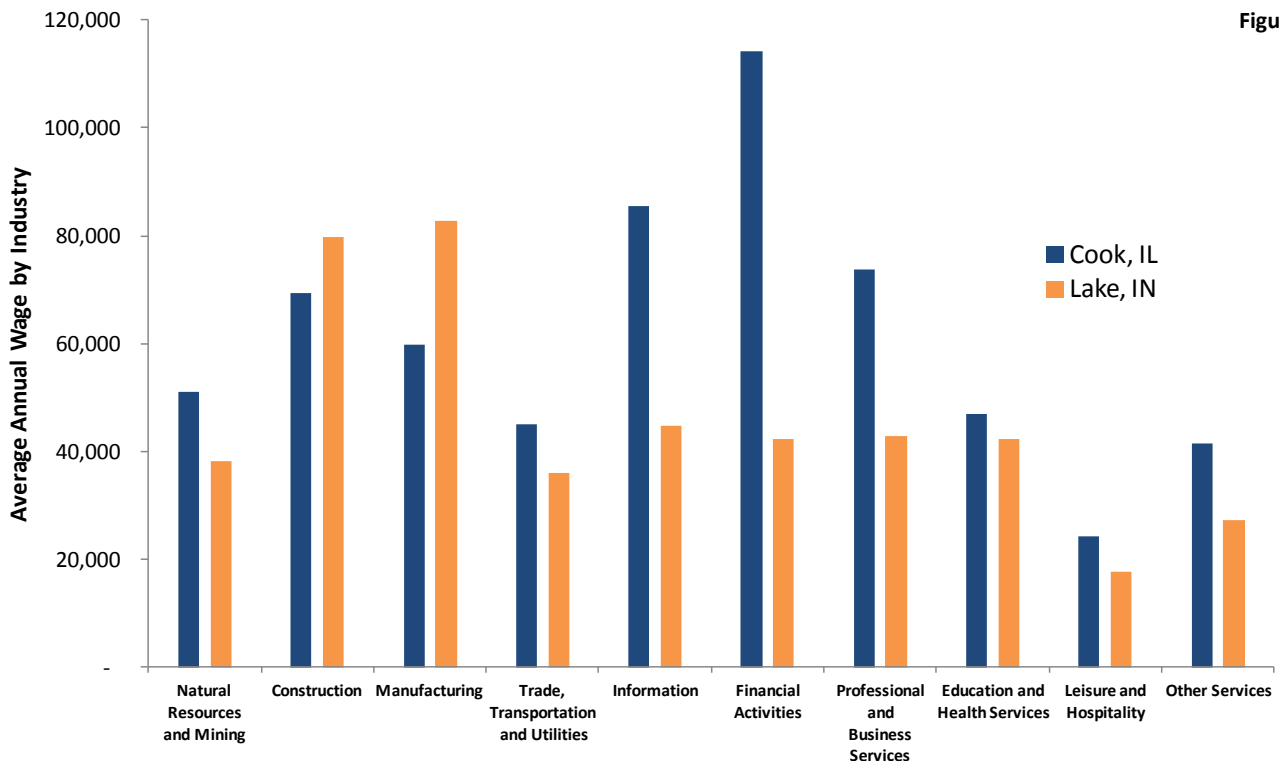
Connecting Northwest Indiana residents to the high wage jobs in Chicago generates substantial economic benefits for the region. Though residents may work in Chicago, wages return to Northwest Indiana and are used to purchase homes, enroll in school, and buy goods and services. Allowing residents to take advantage of Chicago wage premiums while also benefiting from Indiana’s lower cost of living presents very desirable economic opportunities for Northwest Indiana. However, in order to capitalize on these

opportunities, individuals must be able to commute as efficiently from Northwest Indiana as residents do from the Illinois suburbs.

Encouraging commuting does not come at the expense of the Northwest Indiana economy, but in fact enhances it. As Figure 3 shows, most individuals commute for jobs that do not yet exist in Northwest Indiana. However, as commuter income flows into the region, and the concentration of workers grows, Northwest Indiana can expect to see local gains in knowledge industry employment and general economic activity.

Comparison of Average Annual Wage between Cook County and Lake County

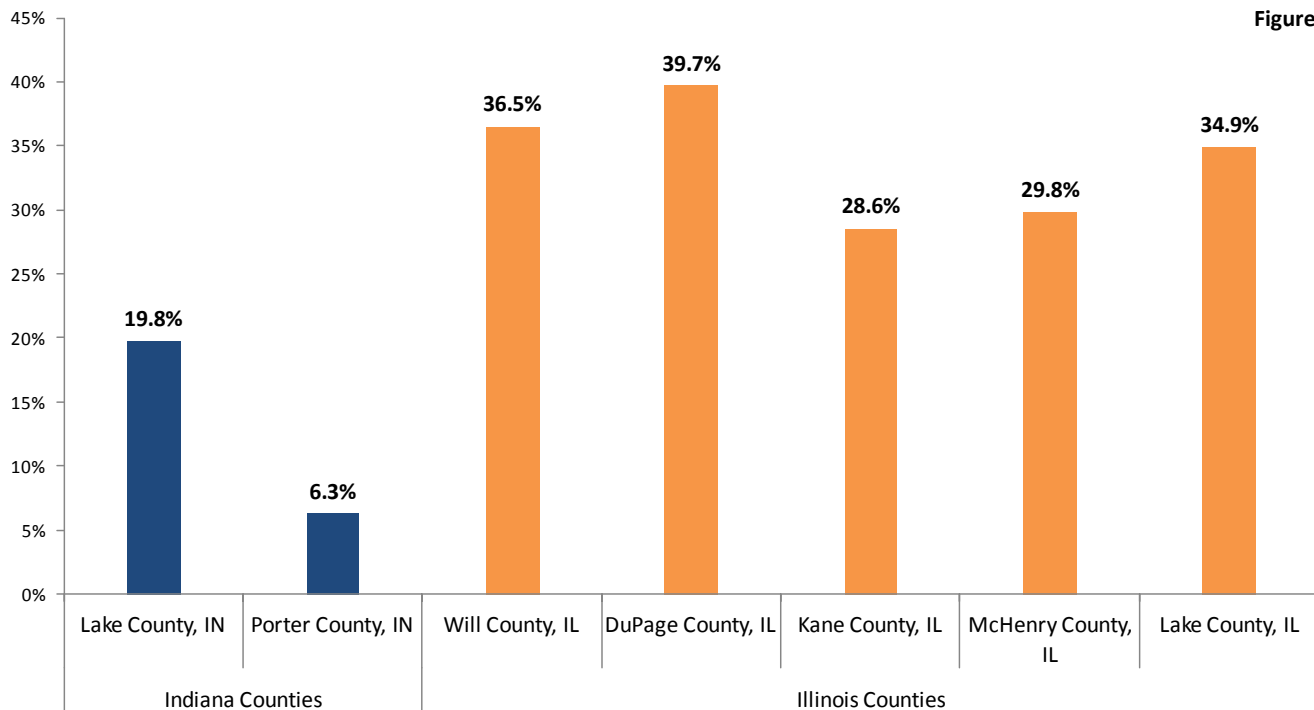
Figure 4



Regional Commuting Trends

Percentage of Workforce Commuting to Cook County, Illinois

Figure 5



Recent U.S. Census data shows that Northwest Indiana residents do not commute into Cook County at nearly the same rates as their Illinois suburb counterparts. Approximately, 20% of Lake County residents and 6% of Porter County residents commute into Cook County. In comparison, between 29% and 40% of residents in Illinois collar counties commute into Cook County. This is despite the fact that travel distances between the geographies are similar.

There are numerous historical and socio-economic reasons for this difference, but it is clear that Northwest Indiana does not currently participate in commuter income benefits to the same level as Illinois collar counties.

Increasing access to Chicago’s high wage jobs is key to Northwest Indiana’s economic future. The principal thoroughfares between Northwest Indiana and Chicago are already congested and have very limited potential for expansion. Current forecasts project regional population growth and corresponding traffic congestion over the next 30 years.

In order to improve accessibility, regional authorities must implement creative strategies that extend beyond adding lane miles. Increasing the capacity and decreasing travel times on the NICTD rail network is a vital and necessary step in making high paying jobs in Chicago more accessible to Northwest Indiana residents.

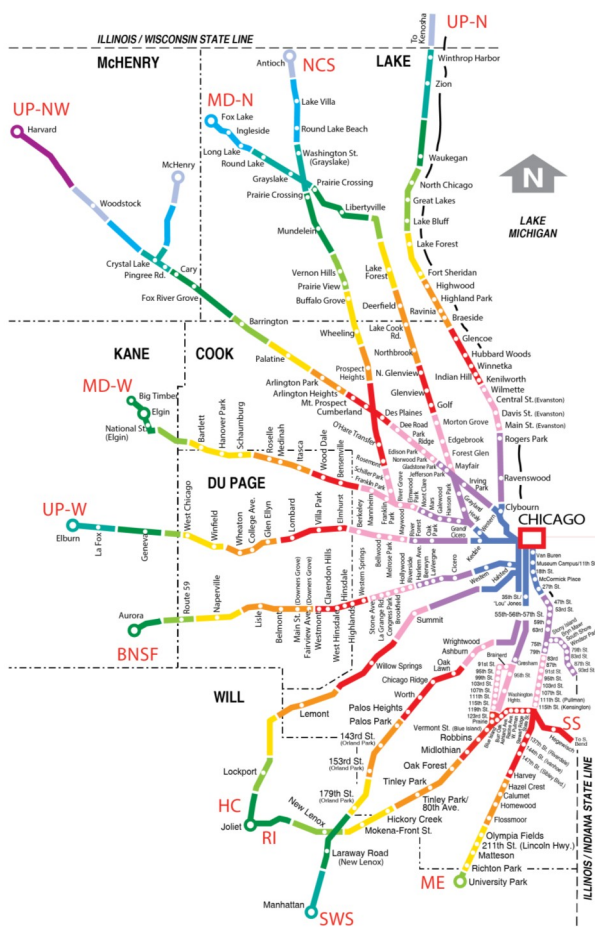
Public Transit Infrastructure

The route maps for both the Metra Commuter rail system, which services the Illinois portion of the Chicago metro area, and the NICTD system, which services the Indiana portion are shown below. Comparing the two system maps shows clear differences between levels of commuter rail investment and ease of commuting accessibility between Northwest Indiana and Illinois suburban communities.

The more expansive Metra rail system is correlated with higher commuting rates into Cook County, which in turn is correlated with higher wage jobs. NICTD’s planned investments in South Shore improvements and the West Lake Corridor expansion are aimed at providing transit options to Indiana residents that begin to approach the service levels afforded to their Illinois counterparts.

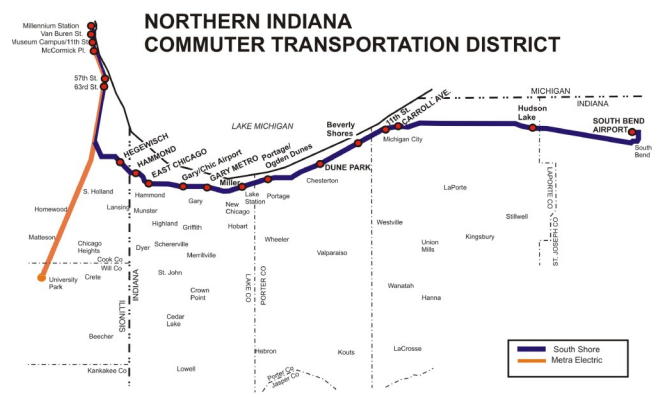
Chicago Metra Commuter Rail Map

Figure 6



NICTD South Shore Commuter Rail Map

Figure 7



Description of Economic Benefits

This analysis quantifies the economic benefits of the existing South Shore operations, and the proposed system improvements to the Northwest Indiana region. For the purpose of this analysis, the study region is defined as Lake and Porter County. Although the South Shore extends to LaPorte and St. Joseph counties, most daily commuters originate in Lake and Porter counties.

The economic impacts were modeled using REMI PI+, a dynamic policy econometric model developed by Regional Economic Models Incorporated (REMI). REMI is a professionally accepted modeling tool that is widely cited in academic studies and for large scale projects. Because the investments modeled are in the planning stages, and full engineering analyses have not yet been completed, the results produced by this modeling exercise should be considered preliminary.

This analysis of NICTD operations models the benefits of two major variables, commuter income and labor accessibility, on the Northwest Indiana economy. The results include not only direct impacts of these variables, but also the secondary spin-off effects.

This analysis does not capture all of the possible benefits of commuter rail access. Environmental benefits and safety benefits are beyond the scope of the current analysis. Additionally, because a full traffic impact analysis has not been performed, this analysis does not include the impact of congestion relief beyond changes in labor accessibility.

Commuter Income

Within the economic literature, commuter income is the income that residents earn in jobs located outside of the region, that is then imported back into the region. As a commuter railroad, one of NICTD’s most prominent benefits is importing commuter income back into Northwest Indiana. As demonstrated in the previous section, because there is a wage premium in Chicago, workers in Chicago typically earn higher wages, and have access to a greater

Figure 8

Estimated Annual NICTD Commuter Income

2012 Dollars in Millions

	Estimated Commuter Income	Estimated Wage Premium
Existing South Shore Line		
Lake County	193.7	48.4
Porter County	43.8	10.2
Total	237.5	58.7
Proposed West Lake Corridor and S.S. Investments		
Lake County	112.5	28.1
Porter County	34.8	8.1
Total	147.3	36.3

number of jobs than workers employed in Northwest Indiana. Figure 8 shows the estimated commuter income, and income premium for South Shore and projected West Lake Corridor riders.

The “estimated commuter income” is the total wage of individuals who commute from Northwest Indiana to Chicago on the South Shore railroad. This value is estimated using industry specific average annual wage data for Chicago from the U.S. Bureau of Labor Statistics. The “estimated wage premium” reflects the fact that on average, Chicago jobs pay a higher wage than Lake County jobs. The wage premium is the difference between the average wage earned in Chicago and the average wage of the same job in Northwest Indiana.

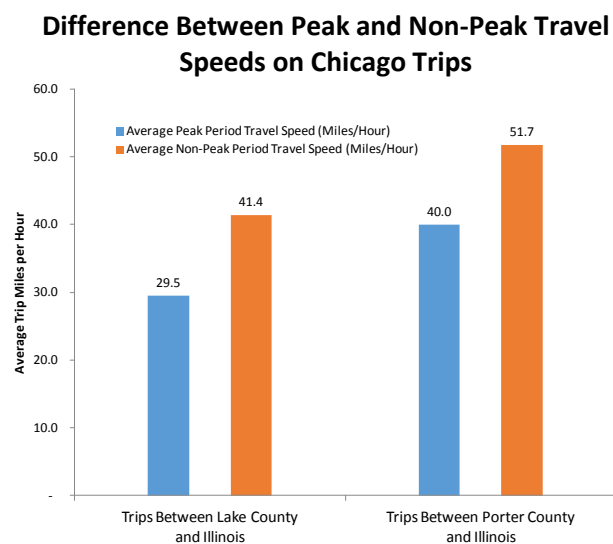
It can be argued that in the absence of commuter rail, a worker will either drive to Chicago or take an alternative job closer to home. However, the wage data shows that the Indiana job will pay less than the Chicago job, and it is likely that instead, the worker will migrate to a location with better commuter mobility. For these reasons, the wage premiums earned by commuters on the current rail line, and the entire commuter income resulting from the West Lake Corridor can be attributed as benefits from NICTD, and the proposed investments.

Description of Economic Benefits

Labor Accessibility

Labor accessibility is a concept that relates to transportation efficiency. As travel becomes more efficient, the “economic distance” is reduced, providing access to a wider selection of inputs, capital and labor. Increased labor access means that firms have greater access to potential employees and employees to firms.

Figure 9



In the case of public transit, labor accessibility manifests in two ways. First, and most simply, transit provides access to workers without cars. This can include low income individuals that may not be able to afford a car, and individuals who choose to forgo a car because of accessibility to transit. Secondly, transit increases labor access by increasing the capacity and throughput of the transportation network.

The highway connections between Northwest Indiana and Chicago are congested, especially during peak times. Figure 9 shows the average variance in highway travel speeds between Northwest Indiana and Chicago during peak travel periods.

Figure 10

Estimated Daily Vehicle Miles Avoided From Station Boarded

	Current South Shore
Porter County	
Beverly Shores	2,389
Dune Park	46,712
Portage/Ogden Dunes	25,256
Porter County Total	74,358
Lake County	
Miller	30,260
Gary Metro Center	30,660
Gary/Chicago Airport	7,288
East Chicago	70,092
Hammond	41,142
Lake County Total	179,443
Total Porter and Lake	253,800

Once a network is congested, adding more traffic slows the throughput further. However, offloading some commuters from highways to commuter rail either increases speeds for remaining highway users, or allows more people to commute at the same speeds (or a combination of the two).

The South Shore offloads a significant number of commuters from Northwest Indiana highways, most notably the Borman Expressway. The South Shore currently carries approximately 9% of all Lake County to Chicago commuters, and approximately 12% of all Porter County to Chicago commuters. By utilizing commuter rail, these passengers not only free up space on highways for other Chicago commuters, but for people travelling within Lake and Porter Counties as well. Although not evaluated in this report, the reduction in vehicle miles traveled provides an environmental benefit that will be significant to the region.

Figure 10 above shows the estimated vehicle miles avoided by current South Shore users. This accounts for 7.8% of peak hour Lake County to Chicago vehicle miles traveled, and 3.7% of Porter County to Chicago vehicle miles traveled.

Estimates of Economic Benefit

Current South Shore Riders

The regional economic benefit of current NICTD operations is included in the Figure 11 below. Because the South Shore is currently an active component of the regional economy, these impact estimates were produced by modeling the cessation of NICTD operations. The impacts shown are for the year 2033, which is the end of the Planning Study’s planning period. Dollars are shown as constant 2012 dollars.

Economic impacts accrue to Northwest Indiana as commuters import wages, and as the transportation network becomes more efficient. Commuter income that returns to the region is spent on durable goods, services, and recreation, supporting local jobs. Improved accessibility increases efficiencies for local businesses, which have greater access to labor and customers. This adds to the local economy in the form of increased employment, wages, and regional production.

Figure 11

Economic Benefit of Current NICTD Operations in 2033
Benefit to Lake and Porter Counties

Economic Measure - One Year	Value
Employment (Jobs)	5,283
Economic Output (millions of 2012 dollars)	\$5,028
Gross Regional Product (millions of 2012 dollars)	\$2,567
Personal Income (millions of 2012 dollars)	\$427

Ridership on the South Shore contributes an estimated 5,283 long-term jobs to the Northwest Indiana economy (this estimate does not include direct jobs involved in the operation and administration of NICTD, or temporary jobs created during the construction periods). The efficiencies created by NICTD generate an estimated \$5.0B in total economic output, which includes \$2.6B in gross regional product and \$427M in personal income.

West Lake Corridor and South Shore Improvements

The proposed improvements modeled in this analysis include both investments on the existing South Shore line and the West Lake Corridor expansion. Ridership estimates were produced by RSG, a sub-consultant to the URS Planning Study.

The proposed West Lake Corridor expansion provides a substantial increase in overall ridership on the NICTD system. However, an additional significant benefit is reducing the distance passengers travel in order to board the train. This reduces the overall door to door commute time for West Lake riders, and also reduces congestion on north/south interstate and arterial roads. This substitutionary effect is included in the underlying ridership assumptions. The impacts presented here are for the year 2033. Dollars are shown in 2012 dollars.

Figure 12

Economic Benefit of WLC and NICTD Improvements in 2033
Benefit to Lake and Porter Counties

Economic Measure - One Year	Value
Employment (Jobs)	1,984
Economic Output (millions of 2012 dollars)	\$2,537
Gross Regional Product (millions of 2012 dollars)	\$1,306
Personal Income (millions of 2012 dollars)	\$231

The West Lake Corridor, and related improvements are projected to add 1,984 jobs to the Northwest Indiana economy. Efficiencies are projected to generate \$2.5B in economic output and \$1.3B in gross regional product.

Conclusion

Large public investments always have big price tags associated with them. It is difficult to evaluate the benefits versus the costs in any disciplined way without employing some standard analytical tools. This report uses economic modeling to translate the effects of Northwest Indiana commuters bringing their wages and salaries from Chicago jobs back to their home communities – for both the present NICTD line and its riders and the new commuters created by the West Lake Corridor project. It also measures the impact of making the transportation network in Northwest Indiana more efficient, reducing congestion and producing a higher return on the jobs and investments of Northwest Indiana workers and businesses.

The West Lake Corridor project and the improvements to the South Shore commuter line will be expensive investments – significant price tags – even though the FTA is expected to cover approximately 50% of the cost. The investments, including the West Lake Corridor are expected to be made in a period from 2018 through 2031.

To give an indication of how the cost of these investments compares to the benefits that they will provide, this analysis used a discounted benefit / cost model to understand the relationships when time has been accounted for. The West Lake Corridor and the South Shore investments total \$1,161 million in current dollars [the dollars inflated to the year in which the expenditure is expected to be made]. However, since some of those investments are projected for as much as two decades into the future, discounting reduces the total cost of the investments in CY 2012 dollars to \$403.7 million.

The West Lake Corridor and South Shore investments create a stream of benefits which occur as the investments come online. When the total impact of this stream of benefits is summed over the period to 2033, the discounted economic output generated is \$7,656.9 million, and results in a benefit to cost ratio of 19.66. Although the estimation of these impacts is an approximation, it seems clear that the expansion of the South Shore into the West Lake Corridor and the necessary improvements to the current line will provide substantial benefits long into the future that far outweigh the costs of making those investments.



West Lake Corridor and South Shore Line Strategic Planning Investments:

*Addendum: The Fiscal Impact of the Economic
Benefits*

January 27, 2014

Prepared by Policy Analytics, LLC

Fiscal Impacts

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The recommended investments that are analyzed in this report begin with the extension of NICTD service south into central Lake County, Indiana, termed the West Lake Corridor Project. This southward extension brings the benefits of commuter rail to both new commuters and those who are currently driving north all the way into the City or part way to meet the rail line. The capital cost of this new commuter rail asset will be between \$571 million and \$615 million [in 2018 dollars], depending on where the terminus is determined to be based on further planning. Approximately 50% of this cost is expected to be borne by the Federal Transit Administration's "New Starts" grant process. Additionally the study recommends improvements along the current line – some to maintain the functioning of the system [e.g., replacing 40-year old rail cars], totaling \$421 million, and some to improve service to local areas, totaling \$169 million. For most of these projects as well, the cost is expected to be split between federal grants and local funding.

The economic benefits derived from the existing South Shore Line result from two long-term sources, and a temporary one. First, the commuters going from Northwest Indiana to jobs in Chicago receive salaries which on average pay 40% more for each job than the average for that same job in Northwest Indiana. This differential is termed the "wage premium." Those wages come back to Indiana and are spent on homes, autos, other durable goods, entertainment and other services. That flow of funds is estimated to be \$237.5 million in 2012 dollars, with the actual wage premium equating \$58.7 million.

When the West Lake Corridor is added in, this figure jumps by \$147.3 million with the wage premium portion totaling \$36.3. So, in 2033 which is the end of the planning period when all of these investments are to be in place, the current line with the West Lake Corridor added to it will be producing approximately \$384.8 million annually in wages and salaries, just from those commuters and their spending in Northwest Indiana.

The second long-term source of economic impact is the increased efficiency provided to the transportation network in Northwest Indiana. In Policy Analytics modeling, the South Shore rail lines offload approximately 253,800 vehicle miles from the regions transportation network. This reduces congestion, saving those who use the roads both time and money. This efficiency effect results in approximately \$427 million in added personal income from the current South Shore operation and another \$231 million in personal income from the West Lake Corridor.

The third source of economic impact is temporary in nature. As the West Lake Corridor and the other South Shore improvements are being made, workers and businesses from Northwest Indiana will participate in the design and construction process. In the years from 2015 through 2022 when the majority of the West Lake and other rail projects are being built, the personal income resulting from these projects is estimated to total \$685.2 million [in current dollars].

Fiscal Impacts

To estimate the fiscal effects of these economic impacts, Policy Analytics applied appropriate adjusted tax rates to the wages and salaries portions of the income streams. The estimate only takes into account the State of Indiana’s portion of income taxes resulting from this activity as well as the sales tax revenue, all of which goes to the State. Since the investments planned for in this Planning Study will not be in place and fully operational for more than 15 years, these estimates are made for the beginning and ending points of the Study – 2014 and 2033.

In CY 2014 the South Shore’s current line contributes approximately \$14.0 million in sales and income tax revenue to the State of Indiana – in annual terms. Since the West Lake Corridor is still a planned investment, there is no current fiscal impact for it. At the end of the planning period, after all of the investments have been made and the West Lake Corridor has been in operation for approximately a decade, the current South Shore line will provide \$35.6 million in sales and income tax revenues to the State and the West Lake Corridor will generate \$19.3 million annually.

