THE ECONOMIC IMPACT OF THE PRESERVATION AND ADAPTIVE REUSE OF RAIL TRACKS, THE HIGH LINE IN NEW YORK CITY: REGIONAL IMPACT ANALYSIS AND PROPERTY VALUE CHANGE ANALYSIS

ABSTRACT

Considered to be one of the most successful recent economic development projects in New York City, the transformation of a recent section of former New York Central Railroad elevated track to the now-famous High Line Park has been the envy of designers and preservationists in cities across the US.

The High Line project has been looked to as a model for a large number of cities with significant tracts of disused industrial infrastructure from the heyday of American railroads. Philadelphia is one example of a community that has been attempting to replicate the High Line's success. However, the significant capital investment required to adaptively reuse elevated railroad structures is challenging.

In a critical examination of the High Line's economic impact, this study attempts to balance the sticker shock of such capital investment with the ongoing development benefit. It considers the number of jobs created by the project, the increase in household income and property values within the neighborhoods adjacent to the line, and subsequent demands on other industries.

The study employs two quantitative methods to arrive at its conclusions: (1) Impact Analysis for Planning (IMPLAN) software for measuring the exact the dollar amount of economic benefits from historic preservation; (2) Geographic Information System (GIS) to present the changes of property values by collecting the data of property values along the High Line. This thesis concludes that there has been a significant positive economic impact from the High Line Park development.

INTRODUCTION

The purpose of this study is to raise the public's concern associated with the historic preservation of urban infrastructures, especially railroad infrastructure, which seems doomed to demolition. The aim of this study is not only to support preservation activities, but also to demonstrate the positive economic impacts of reusing railroad infrastructure. This study focuses primarily on the transformation of the West Side railroad tracks of the New York Central Railroad—abandoned for decades—into a successful economic booster as a park for the City of New York.

The High Line used to be a part of New York Central Railroad. In the history of the United States railway system, the New York Central Railroad (NYCRR) is noteworthy. It was one of the largest railroad systems in the United States, operating hundreds of trains every day on more than 11,000 miles of track through eleven states.[1]

The 1920s and 30s brought a large amount of demand to the urban areas of the United States to transport freight and passengers. New York, in particular wrestled with the conflicts between trains and other forms of transportation in an increasingly crowded downtown. The New York Central Railroad's 1934 West Side Improvement project, the High Line, addressed this. The High Line was built along the line of the Hudson River Railroad, one of New York's Central Railroad lines.[2] Due to a suffering economy in the 1960s, the New York Central Railroad was merged with Pennsylvania Railroad to form Penn Central in 1968.[3]

Because railroads are important in the history of the United States, their preservation and reuse are also significant. Other successful cases of railroad reuse show excellent prospects for the abandoned railroad right-of-way as a remarkable way to boost economic development.

This thesis examines the economic impact of historic preservation through the reuse of rail corridors on the community. The methodology for this thesis consists of two sections: (1) an economic impact analysis using Social Accounting Matrix (SAM) and SAM-based Multiplier Analysis, which is a methodology designed to analyze three criteria (jobs created, increase in household income, and demand created for other industries); and (2) a survey of the changes in the property values in the neighborhood of the refurbished railroad track used as a park.

---

[1] Solomon, Brian and Mike Schafer, *New York Central Railroad* (Osceola, WI: MBI Publishing Company, 1999), 11.
[2] Ibid., p. 21
[3] Ibid., p. 11

Various factors contributed to the success of the High Line—design, financial support, public-private collaboration, and its location in Manhattan, NY. This is not to suggest that every abandoned railroad corridor should be renovated into an open space or public park, but increased awareness of railroad preservation can be an economic booster and perhaps provide opportunities for adaptive reuse in the future.

METHODOLOGY AND DATA

This chapter introduces the quantitative methodology and data used in this thesis. This study used two main methodologies to measure economic impact. Section 1 examines economic impact analysis, using IMPLAN (IMpact Analysis for PLANning) software, an economic impact modeling application. Section 1, the economic impact analysis includes three scenarios: (1) the economic impact of the High Line's first and second section in 2006, (2) the economic impact of the High Line's third section in 2010, and (3) the economic impact of the High Line's visitors and their time spent in New York City. This section will display the effect of the High Line's reuse on the total economic output of the New York City economy. Section 2 discusses the method by which data were collected on the property values along the High Line Park. For the two main methodologies, a variety of information was collected from several sources. Each section will explain the sources of the data and how the data were managed.

Section 1: Economic Impact Analysis using IMPLAN

It is worth discussing the basic principles and logic which define the input-output analytic framework in order to understand the Social Accounting Matrix (SAM) model which this thesis utilizes. Developed in the late 1930s by Wassily Leontief, the input-output modeling technique is used to analyze the interdependence of industries within an economy and predict how changes in demand influence industrial output levels.[4] Input-output framework quantifies the transmission of the dollar amount between economic agents such as firms and households. Firms are connected to other firms by selling and buying goods and services; households are connected to firms by selling their labor and buying goods and services. The input-output matrix is generated on basis of these linkages. The matrix, a collection of transactions table, represents the production flows in an economy during a particular year.[5]

Because the input-output transaction table is a data descriptive framework, which is not a model that can be used for impact analysis, several computations and matrix algebras

[4] Miller, Ronald and Blair, Peter, *Input-Output Analysis: Foundations and Extensions*, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1985. 1

[5] Armstrong, Harvey and Taylor, Jim, *Regional Economics and Policy*, Philip Allan Publishers Limited, Deddington, Oxford, 1985. 27

were performed on the figures used in the transaction tables in order to create economic models. In this study, Social Accounting Matrix (SAM) data—produced by IMPLAN and based on the notion of input-output framework—are used. Three SAM models were built based on the SAM transaction data. A SAM model provides more detailed information of disaggregated households and distinguished factors (e.g. employment compensation) from household incomes, which is beneficial to analyze the inequality of income distributions. By treating consumption and income distribution endogenously, SAM captures their circular flows.

For this study, two SAM datasets (the 2002 New York City data and the 2010 New York City data) were exported from IMPLAN software. The computation processes of transferring the tables to the models were performed using Microsoft Excel.

A SAM is a square matrix whose corresponding columns and rows represent the expenditure and receipt accounts of industries. In the SAM, industry sectors, household incomes, three factors (Employee Compensation, Proprietor Income, and Capital Income) were treated as endogenous variables and were used as columns and rows. The total receipts (income) and expenditures of each sector were identical; the sum of each column and corresponding row were identical.

In order to simplify the model, industry sectors were aggregated in accordance with North American Industry Classification System (NAICS), the system used by the statistical agencies of the United States.[6] The classified sectors are embedded in IMPLAN software to aggregate industries in the United States. The original sectors were aggregated into twenty categories based on two-digit NAICS, and then activities where changes originated, such as Construction, Accommodation and Food Services, and Transportation and Warehousing, were left disaggregated in the impact analysis.

In order to construct a SAM model, a SAM Coefficient "A matrix" was constructed by dividing the values in each cell by the column sum. Then, the identity matrix (I Matrix) was generated in order to calculate the SAM multiplier, $(I - A)^{-1}$. With the $(I - A)^{-1}$ matrix, the exogenous variables (in the "d" column) were inputted and the exogenous variables were calculated for each scenario this study set. Using the I-O multiplier framework ($X = (I - A)^{-1} \cdot d$), matrix multiplication was performed using the Excel MMULT function. This resulted in the economic output multipliers of each industry sector, household, and factor. The employment impact was also calculated. The result of the diagonal matrix "W" shows the coefficient between the number of workers and the total of labor resources for each industry sector.

$$W = L / X$$

[6] United States Census Bureau Official Website, *Development of NAICS,* http://www.census.gov/epcd/www/naicsdev.htm

This matrix was then linked with the Leontief inverse matrix, $(I - A)^{-1} \cdot d$.

$$\text{Employment Impact} = [(I - A)^{-1} \cdot d] \cdot W$$

The employment impact formula calculates the number of jobs generated by an increased demand for a sector.[7]

With the matrix algebra that was applied to the matrix of the New York City 2002 and 2010 data, two different SAM models (2002 NYC SAM model and 2010 NYC SAM model) were built with three different scenarios. The three scenarios are explained below.

Scenario 1 is the Economic Impact of the Construction Project of the first and second sections of the High Line in 2006. Exogenous shocks for the 2002 NYC SAM model are estimated to $238.5 million, consisting of $152.3 million for constructing Section 1 and 2 as well as $86.2 million for design and construction of portions of the tracks.[8] The estimated $238.5 million was treated as an exogenous shock (dY) to "maintenance and repair of highways, streets, bridges, and tunnels" industry.

The "maintenance and repair of highways, streets, bridges, and tunnels" industry is one of the original IMPLAN sub-sectors under the "construction" sector. The IMPLAN original data contained 13 different "construction" activities ranging from residential structure to maintenance construction. All other sectors were aggregated based on two-digit NAICS.

Through matrix multiplication, the output column dX was generated. Further, the number of employees and the total output of each sector, which were obtained from IMPLAN, were used to calculate employment impact.

Scenario 2 shows the economic impact of the High Line's third section, a project completed in 2011. The process and calculation methodology of Scenario 2 are identical to those of Scenario 1. Scenario 2 adopted the 2010 NYC IMPLAN data. The cost of section 3 was estimated as 90 million dollars.[9] This was injected into a sub-sector of "construction" called "maintenance and repair construction of nonresidential structures".

Scenario 3 is the economic impact that the High Line has on visitors' spending in New York City. Since the number of visitors to the High Line has increased dramatically, spending on various NYC industries may be significant and the indirect effects of expenditures may be estimated with significant dollar amounts in a number of sectors.

---

[7] For the detailed computation, see Appendix B in my Master's Thesis, "The Economic Impact of the Preservation and Adaptive Reuse of Rail Tracks, the High Line in New York City: Regional Impact Analysis and Property Value Change Analysis."

[8] Funding Sources: Federal Government ($20,300,000), State Government ($400,000), City Government ($112,200,000), Raised Funds by Friends of the High Line ($44,000,000) (Data Source: the New York City Economic Development Corporation)

[9] Funding Sources: City Government ($10,000,000), Raised Funds by Friends of the High Line ($20,000,000), Related Companies and Oxford Property Group ($27,800,000) (Data Source: the New York City Economic Development Corporation)

To integrate the exogenous shocks into the SAM model, data were collected from the NYC & Company Office website[10]: (1) the total number of visitors to New York City in 2010, (2) visitors' total spending in 2010, and (3) the proportion of the travelers' spending by industry. The number of visitors to the High Line in 2010 was obtained from the Friends of the High Line website.[11]

In order to measure the average spending of one visitor in NYC in 2010, the total spending of NYC's visitors in 2010 ($31,500,000,000) was divided by the total number of 2010 NYC visitors (48,800,000). This calculation showed that one NYC visitor spent an average $645 per day in 2010. This dollar amount was multiplied by the number of visitors to the High Line in 2010(2,000,000), yielding an estimated $1,290,983,606 in spending by High Line visitors in 2010.

The total spending of tourists can be divided into the following most affected industries: $361.5 million (28%) for lodging, $296.9 million (23%) for food service, $258.2 million (20%) for transportation, $245.3 million (19%) for retail and service, and $129.1 million (10%) for recreation.[12]

Aggregation and disaggregation processes were performed in order to analyze more specific industry sectors affected by tourists. Particularly, "accommodation & food services" and "transportation and warehousing" sectors were disaggregated. After five exogenous shocks were estimated, the estimated dollar amounts were inserted into the computation for the model.

Section 2: Property Value Change Analysis

This section examines the economic impact of the High Line to determine the extent of increased property values. A number of articles and journals have revealed that numerous new development projects have begun since the High Line project started.

To demonstrate the urban spatial development patterns along the High Line, this study used Geographic Information System (GIS), showing the changes of the property values over time (2007-2011). In order to show these changes, a spreadsheet was generated to include a collection of land values and total market values collected from NYC's Finance Department in the neighborhoods surrounding the High Line from 2007 to 2011. The spreadsheet was joined to the NYC GIS map for 2011, obtained from Olin Library Media Center at Cornell University.

[10] http://www.nycgo.com/articles/nyc-statistics-page
[11] http://www.thehighline.org/blog/2010/04/02/the-high-line-celebrates-its-2000000th-visitor
[12] NYC Statistics in 2010, NYC & Company (New York City's official marketing, tourism and partnership organization)

The first step for the property value change analysis was to set the boundary of the neighborhood. The distance of the rail track corridor is 1.45 miles, linking the Hudson Yards, West Chelsea, and the Meatpacking District. The tracks are situated one and a half blocks east of the Hudson River. Thus, the boundary of the High Line neighborhood to the west is set at the edge of the Hudson River shore.

After setting the survey boundary, the spreadsheet was generated. Information for 2,074 parcels in 51 blocks within the boundary was extracted. Creating the database of property value change involves two matching processes. The first process was to match different numbers of parcels for different years. The second was to match the block and lot number in the spreadsheet with block and lot number in the GIS map.

For these two matching processes, this study investigated every instance of lot merging and lot boundary change by searching the “Library of Tax Maps” and the “History of Tax Map Changes” in the NYC Finance Department. Due to the High Line project and zoning modification, the parcels in the High Line neighborhood have changed considerably: the lot boundaries changed in 31 cases. After matching the number of rows in the spreadsheet with the number of features in the attribute table of the 2011 NYC map, the spreadsheet containing the land values and market values of properties in the five years (2007-2011) was incorporated into the NYC 2011 map.

This chapter discussed the methodologies and data for measuring the economic impact of the High Line. The two methods required a variety of approaches for estimating the economic benefits of the project in the city as well as the nearby areas. Section 1 examined the three scenarios, the economic impact of sections one and two of the High Line in 2006, the economic impact of section three in 2010, and the economic impact of High Line visitors’ spending in 2010. This section also introduced the notion of both the Input-Output framework and the SAM model. Section 2 discussed how the changes in property values along the High Line were calculated. This chapter also included the data sources and the process of managing the data.

RESULTS: THE ECONOMIC IMPACT OF THE HIGH LINE IN NEW YORK CITY

This chapter examines the results of the economic impact of the High Line using two methodologies.

Scenario 1 measured the economic impact of the High Line project (the first and the second section) in 2006. The investment of $238.5 million into the “maintenance and repair of highways, streets, bridges, and tunnels” industry resulted in a considerable economic impact on each industry, household income, and employee factor in New York City. This

total investment created a total of 2,251 new jobs and an increased multiplier of $943.25 million.

The number of employees also increased in 2006 through impacts of the project. Most new jobs were in the industry of “maintenance and repair of highways, streets, bridges, and tunnels” (1,211 people) and “other services” (179 people).

Scenario 2 quantified the economic impact of the construction of the third section of the High Line in 2011. The initial investment of 90 million dollars in the High Line’s third section resulted in an increase of $359.8 million in NYC’s economy. The most-affected household income class from the investment in 2010 is “Households 150k+.” Even though the initial investments in scenarios 1 and 2 went to the construction industry, the most-affected industries differ between these two scenarios. In Scenario 2, the three industries that increased the most in output were Construction, Real Estate and Rental, and Health and Social Services. The results differ because the economic activities in the city in 2010 were different from those in 2006.

The number of jobs also increased in 2011 through the project, which totaled 706. The most- affected industries in terms of the increase in employment were “maintenance and repair construction of nonresidential structures,”“retail trade,” and “health and social services.”

Scenario 3 explored the economic impact of High Line visitors’ spending on New York City. By injecting money into five industry sectors (Accommodation, Food Services, Transportation, Retail Trade, and Arts, Entertainment and Recreation), the economy of NYC experienced a significant increase in economic output of each industry and household income. The industry sectors most affected from the multiplier effect are Retail Trade, Food Services and Drinking Places, Accommodation, Transportation, and Arts, Entertainment and Recreation. It is noteworthy that even though the Real Estate and Rental industry did not experience a direct impact from the shocks, the indirect impact through the multiplier effect is significant at nearly $148 million in 2011.

The High Line visitors’ spending in four industry sectors results in an increase in other industries indirectly. A total of 15,848 jobs were created through the activities of the High Line visitors in 2011. The number of jobs increases significantly more in Scenario 3 than in Scenarios 1 and 2. The attractive raised open space increases visitors; if the High Line had been demolished and new residential buildings had been constructed on the site, the visitors’ extra payment on each industry related to tourism would not have been spent.

Section 2 examined the economic impact of the High Line on the surrounding neighborhood in terms of changes in assessed land and market values. All properties in the research boundary are within five minutes walking distances to the High Line.

The results of property changes are presented in both the average calculation table and the GIS spatial analysis.[13] The calculation output table was generated in two ways: a total average change of values in 606 parcels in 51 blocks excluding all condominium developments and a total average change of values in 625 parcels in 51 blocks including condominium developments. Both cases resulted from the calculation of total average percentages of land/market values of properties within five minutes walking distance to the High Line. The total average land/market values in the High Line neighborhood have continuously increased since 2007. The largest increase occurred between 2007 and 2008. Depending on whether condominium development cases are included or excluded, the change in land values from 2007 to 2011 ranges from 79% to 95%, and the change in total market values from 2007 to 2011 ranges from 41% to 108%.

The GIS Maps were generated on the basis of the property values. The lower parts of the Special West Chelsea District and the Meatpacking District show a high household income distribution, more than $150K. However, there are low income households between West 18th Street and West 14th Street as well as between West 26th Street and West 30th Street.

In order to compare the measured property value changes in the site with other areas in NYC, the average change in land value per square foot in the city was calculated from the spreadsheet developed based upon the Property Assessment Roll Archives. The total average change in value laid in NYC was estimated to be $226 per square foot from 2007 to 2011. On the map (Figure 1) blue circles represent that the changes in land values between those years are higher than the total average changes in NYC. This shows how much the land value per square foot has been increased in comparison to the other areas in NYC.

The economic impact of the High Line is considerable, as shown and discussed in this chapter. The economic impact analyses with three scenarios, presented that reusing the railroad track created significant amounts of revenue to a variety of industry sectors and increased jobs in the city. Although the direct investments were injected into the construction industry in Scenarios 1 and 2, the indirect effects were considerable in the economic outputs, the household incomes, and employment. As Scenario 3 examined, the 3.7 million High Line visitors per year generate considerable economic benefits for various industries in the city. Their expenditures in lodging, food service, transport, retail and service, and recreation bring about increases in economic outputs in other industries indirectly. The High Line has positively affected the neighborhood's economy. Section 2 examined which areas have

[13] GIS maps are shown in my Master's Thesis, "The Economic Impact of the Preservation and Adaptive Reuse of Rail Tracks, the High Line in New York City: Regional Impact Analysis and Property Value Change Analysis."

benefitted and how much property values had increased over the five years measured. Surrounding areas have been developed and changed considerably. In general, the neighborhoods surrounding the High Line have higher percentages of changes in land value per square foot than the average of Manhattan.

CONCLUSION

The High Line project was inspired by an elevated rail track used to preserve open space, the Promenade Plantée in Paris; likewise other cities in the United States have been inspired by the High Line. Advocates in Chicago, the borough of Queens (NYC), St. Louis, Philadelphia, and Jersey City have undertaken similar projects with abandoned railroad corridors. They are trying to reuse elevated rail tracks as an open space, a park, or a trail, in ways that are similar to the High Line but with specific visions suited to their own cities.[14]

Among these cases, the Philadelphia example was investigated through an interview with the Board of Directors of the Friends of the Rail Park. Mr. Aaron Goldblatt, the main advocate as well as one of the organization's directors, agreed that the High Line is an important model for their project. However, the vision this organization pursues is based more on their own community. Advocates see the Rail Park as primarily serving the residents of the city as well as people who come to the convention center right next to the rail track. Mr. Goldblatt reported that the idea of the project is viewed favorably by government officials and people in the city, and that the key for the project is funding sources and feasibility studies.[15] This thesis, which demonstrates the economic values of reusing elevated rail tracks, could be helpful in forecasting the economic impact of these similar projects. Particularly, the methodologies and the process of obtaining data to measure the benefits are applicable.

Historic preservation has greater positive economic impact than new construction.[16] The value of historic preservation and adaptive reuse should be included when considering the value of projects undertaken in a city. The worth of previously abandoned infrastructure needs to be reconsidered since it also holds intrinsic value as an historic cultural resource to be preserved. This thesis found that the reuse of disused rail tracks for the High Line Park generated significant economic value.

---

[14] See Appendix A in my Master's Thesis, "The Economic Impact of the Preservation and Adaptive Reuse of Rail Tracks, the High Line in New York City: Regional Impact Analysis and Property Value Change Analysis."

[15] Aaron Goldblatt. Personal interview. 04/24/2013

[16] Rypkema, Donovan D. *Economics of Historic Preservation: A Community Leader's Guide*.(Washington, D.C.: National Trust for Historic Preservation, 1994.)

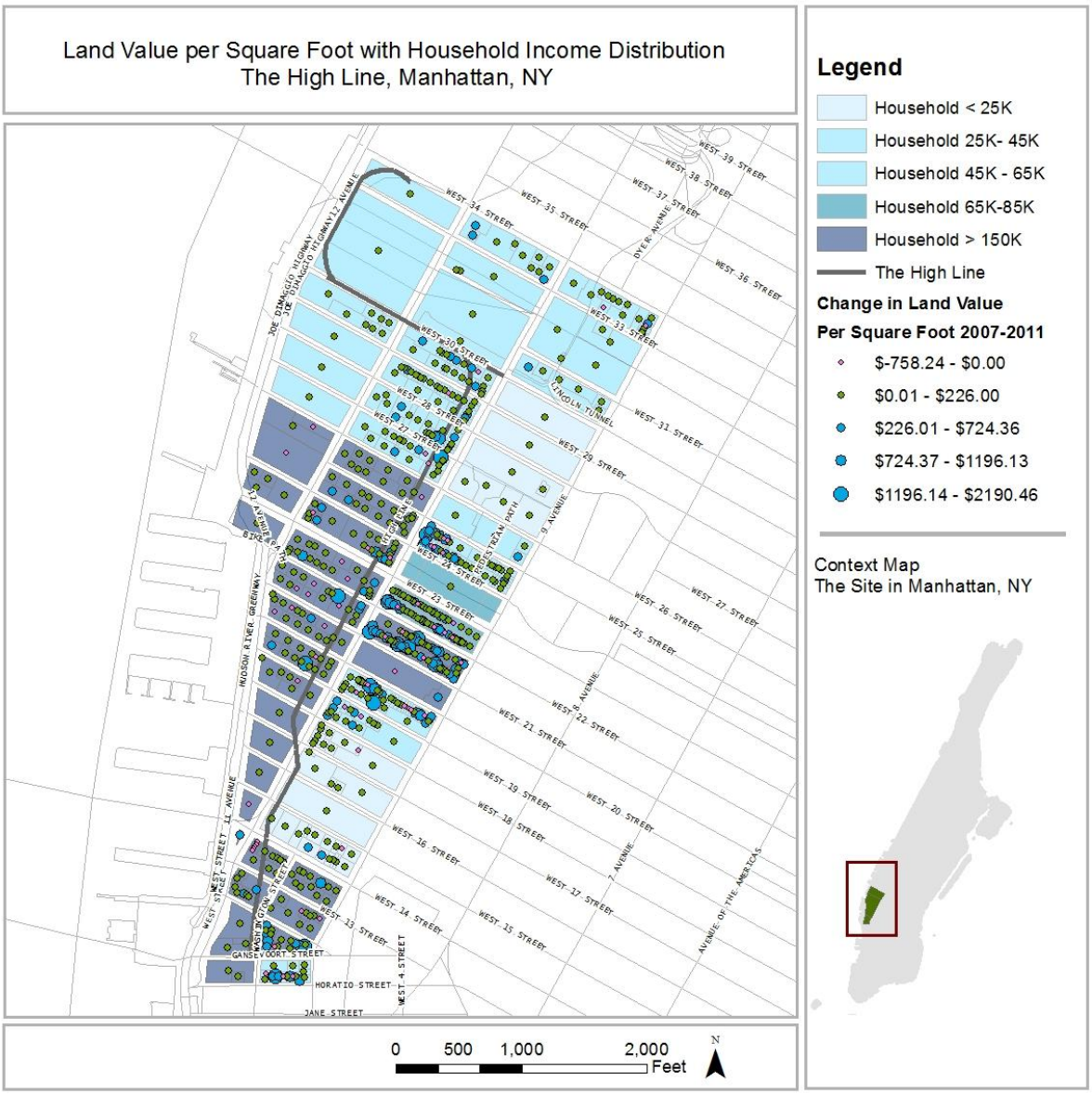
It will be beneficial for future studies to examine the impact of the historic structure with different scenarios but similar methodologies. For example, setting two different scenarios and comparing two impacts will show more clearly the economic value of historic preservation. One scenario can be the demolition of a historic resource, and the other can be its preservation, and IMPLAN software can be useful for measuring economic impact. This will be a valuable process for making decisions about historic preservation, urban development, and city/community planning.

This thesis examined the benefits of the High Line by measuring its economic impact. The idea of appreciating historical infrastructure is important; however, reusing the corridor as a park was not the only option. It could have supported tourism trains or been used for museums. Mr. Nathaniel Guest J.D., a train enthusiast and the Preservation Initiatives Director and National Railway Heritage Grants Program Director for the National Railway Historical Society, argued that transforming the rail tracks into parks is “the last good option” because it prevents use of this property for railroads in the future if it is needed, due to the issue of ownership and the challenges of transforming the use back to railway transport again.[17]

Based on a community’s specific conditions and its feasibility study, the future of abandoned rail tracks can vary widely. Measuring the economic impact of abandoned rail tracks as a transportation use would be an important study for preserving railroad tracks in the United States.

[17] Nathaniel Guest, personal interview. 04/29/2013

Figure 1 – Land Values per Square Foot with Household Income Distribution along the High Line



(Data Source: Department of City Planning, City of New York / GIS Map created by Jiyoon Song)

BIBLIOGRAPHY

Ames, Gregory P. *Recreational Reuse of Abandoned Railroad Rights-of-way: A Bibliography and Technical Resource Guide for Planners.* Chicago, IL: CPL Bibliographies, 1981.

Armstrong, Harvey and Taylor, Jim. *Regional Economics and Policy.* Deddington, Oxford: Philip Allan Publishers Limited, 1985.

Birnbaum, Charles. *"The Real High Line Effect-- A Transformational Triumph of Preservation and Design."* Huffington Post 19 Jun. 2012.

Brazee, Christopher and Jennifer Most. *West Chelsea Historic District Designation Report.* New York, NY: New York City Landmarks Preservation Commission, 2008.

David, Joshua. *Reclaiming the High Line*: A Project of the Design Trust for Public Space with Friends of the High Line. New York, NY: Design Trust for Public Space, 2002.

David, Joshua, and Robert Hammond. *High Line: The Inside Story of New York City's Park in the Sky*. New York, NY: Farrar, Straus and Giroux, 2011.

Dkeen, Content Manager. *A Short History of U.S. Freight Railroad.* Washington DC: Policy and Economics Department, Association of American Railroads, 2013.

Economic Impacts of Historic Preservation in Nebraska. New Brunswick, NJ: Edward J. Bloustein School of Planning and Public Policy, Rutgers University, 2007.

Economic Benefits of Preserving Old Buildings. Washington, D.C.: Preservation Press, 1982.

Faddegon, Thomas. *"Hudson Yards: The High Line's Final Phase."* Elegran Real Estate & Development 6 Mar, 2013.

Finn, Robin. *"His Last Battle for Chelsea, or So He Says."* New York Times 6 Sept. 2012.

Goldberger, Paul. *"New York's High Line."* National Geographic April 2011.

Greenblatt, A. *"Downtown Renaissance: Are Center Cities Finally Returning to Health?*" Congressional Quarterly Researcher, vol. 16, no. 24 (2006): 553-576.

Gregor, Alison. *"As a Park Runs Above, Deals Stir Below."* New York Times 10 Aug, 2010.

Heritage Works: *The Use of Historic Buildings in Regeneration: A Toolkit of Good Practice.* England: British Property Federation, Deloitte, English Heritage, and Royal Institution of Chartered Surveyors (RICS), 2006.

Humm, Andy. *"High Line: Too Much of a Good Thing?"* Chelsea Now [New York, NY] vol. 4, no. 48. (2012): 1-20.

La Farge, Annik, et al. *On the High Line: Exploring America's Most Original Urban Park.* New York, NY: Thames & Hudson, 2012.

Laska, Shirley Bradway and Daphne Spain, eds. *Back to the City: Issues in Neighborhood Renovation.* New York, NY: Pergamon Press, 1980.

Leinberger, Christopher B. *Turning around Downtown: Twelve Steps to Revitalization.* Washington, D.C.: Brookings Institution Center on Urban Metropolitan Policy, 2005.

Lindberg,James*."Rural Development Trends and Opportunities for Historic Preservation."* Forum Journal, vol. 20, no. 4 (Summer 2006): 6-14.

Mallach, Allan*. Bringing Buildings Back: From Abandoned Properties to Community Assets: A Guidebook for Policymakers and Practitioners*. New Brunswick, NJ: Rutgers University Press, 2006.

Miller, Ronald and Peter Blair*. Input-Output Analysis: Foundations and Extensions*. Englewood Cliffs, NJ: Prentice-Hall, Inc., 1985.

Mills, Nicolaus*. "The High Line."* Dissent, vol. 56, no. 4 (Fall 2009): 132.

Robinson, Michael C and Suellen M. Hoy. *History of Public Works in the United States,* 1776-1976 .Chicago: American Public Works Association, 1976.

Rypkema, Donovan D. *Economics of Historic Preservation: A Community Leader's Guide.* Washington, D.C.: National Trust for Historic Preservation, 1994.

Rypkema, Donovan D. *Feasibility Analysis of Historic Buildings.* Washington, D.C.: National Trust for Historic Preservation, 2007.

Schwieterman, Joseph. *When the Railroad Leaves Town: American Communities in the Age of Rail Line Abandonment*. Kirksville, MO: Truman State University Press, 2001.

Shockley, Jay. *Gansevoort Market Historic District Designation Report.* NY, NY: New York City Landmarks Preservation Commission, 2003.

Solomon, Brian and Mike Schafer. *New York Central Railroad.* Osceola, WI: MBI Publishing Company, 1999.

Wagner, Fritz W., et al, eds. *Revitalizing the City: Strategies to Contain Sprawl and Revive the Core.* Armonk, NY: M. E. Sharpe, 2005.