

Downtown New Castle Redevelopment



Downtown New Castle Redevelopment Report

Prepared in Spring 2013 by

Mandy Dyer

Jeni Clawson

Jeff Neulieb

Brandon Bard

Kait Forbes

Drew Weinzapfel

PLAN 303 Studio

Dr. Bruce Frankel

Table of Contents

Executive Summary.....	5
Regional Analysis.....	7
Economic Analysis.....	7
Economic Base.....	7
Performance.....	7
Multiplier Effect Industries.....	7
Overview of the Economy.....	7
Decision Tree.....	8
Implications for Development.....	8
Demographics.....	8
Site Selection.....	10
Site Information.....	10
SWOT Analysis.....	10
Developer Ray Willey.....	11
Economic Development Strategy.....	11
Clustering Strategy.....	11
Education/Medical Affiliation.....	11
Ivy Tech.....	11
Creative Class.....	12
Site Control.....	12
Site Capacity.....	13
Net Buildable Area.....	13
Development Yield.....	13
Parking Program.....	13
Existing Zoning.....	14
Site Suitability.....	14
Market Feasibility.....	15
Target Market.....	15

Demographics.....	15
Market Preferences.....	15
Housing Capacity.....	16
Financial Feasibility.....	16
Acquisition Costs.....	16
Market Pricing.....	17
Development Costs & Revenues.....	17
Need Gap Analysis.....	18
Development Proforma Analysis.....	18
Asset Management Plan.....	18
Transportation Impact.....	19
Access Road Analysis.....	19
Transportation Implications.....	19
Trolley Line.....	20
Private Economic Impact.....	21
Public Economic Impact.....	22
Environmental Impact.....	22
Carbon Emissions.....	22
Changes in Emissions.....	23
Fuel Consumption.....	23
Conclusion.....	24
References.....	25
Appendices.....	27

Executive Summary

Raintree Development's Beginning

This economic development project began with an analysis of three local economies in the East Central Indiana region: Henry County, New Castle, and downtown. When we discovered the importance of the Golden Raintree to the history of Henry County and New Castle, we decided upon our name – Raintree Development. After various site visits and numerous qualitative and quantitative analyses, we became very interested in these economies, particularly in historic downtown. As future professional urban planners and designers, we are very interested in the restoration of downtowns, retrofitting historic buildings, and seeking creative ways to spur economic growth in cities. Our combined interests and analyses led to the production of this economic development plan to revitalize downtown New Castle.

Findings

New Castle lacks high-paying and highly skilled employment opportunities. In addition, downtown currently lacks activity and destinations. According to demographic analysis, the average resident of New Castle has a high school education and makes approximately \$23,000 in annual income. In the last ten years, the area has lost approximately 2000 jobs and the average annual income has decreased by \$8000. According to economic analysis, the retail industry is a strong performer, along with accommodation and food services. Market analysis indicates a demand for specific types of retail, including food or eating and drinking establishments, department store retail, and automotive dealers. Market analysis also indicates a demand for rental dwelling units, particularly one-bedroom units.

Suitability analyses, which studied existing soil, environmental systems and hazards, public and private facilities, transportation networks, and utilities, indicated that the selected downtown site is quite suitable for redevelopment. After determining a preliminary program and design for the site, we conducted an extensive financial feasibility study based on researched figures and funding sources. One key finding is that the proposed development is quite feasible. Upon researching transportation alternatives for downtown, we also found that a trolley system would be financially feasible.

Our final analyses involved public and private impacts of the development. On the public side, our development does not generate a need for additional public services as New Castle's current level of public service is more than sufficient. On the private side, the proposed development will generate 387 direct and indirect jobs and approximately \$7.5 million in direct income and just under \$500,000 in tax revenues.

Recommendations

Based on these key findings, Raintree devised a mixed-use economic development plan for three blocks in downtown New Castle. We propose retrofitting and redeveloping existing buildings and adding new construction as needed. The program includes approximately 62,000 square feet of retail, 34 residential units, 18,000 square feet of office, and 38,000 square feet of institutional use, all of which will create activity and destinations in downtown. In particular, we propose a department store in the historic Jennings building and many new restaurant establishments to address the market demand. Proposing a new downtown branch of Ivy Tech Community College, modeled after downtown Muncie, will help address New Castle's need for higher education and skills and further strengthen the educational and medical economic clustering within the county and city. In addition, this development will attract students and other adults to the area, creating a demand for more retail and residential usage. To address the needs of new students, workers, shoppers, and residents, we recommend a financially feasible trolley line that connects downtown to the S.R. 3 corridor.

Because this program is financially feasible, we recommend a holding period of seven to ten years to earn a desirable profit. To generate the retail and residential demand, we will phase the project and develop the Ivy Tech structure first. We recommend following this plan and using it as a prototype strategy to encourage economic revitalization throughout the remainder of downtown, New Castle, and possibly in smaller cities and towns throughout Henry County.

Regional Analysis

Raintree Development began this economic development plan by analyzing three local economies: Henry County, New Castle, and most importantly, downtown New Castle. After conducting economic, demographic, and market analysis, supplemented with our own qualitative observations, we decided to revitalize all three economies by redeveloping three blocks in downtown New Castle. We began by performing a regional analysis, which follows below, that led to the selection of the downtown economy. Then we identified our site and planned our economic development strategies.

Economic Analysis

Economic Base

The first step in the economic analysis was to determine the economic base of Henry County using the location quotient which compares the rate of change of growth in industries in two different economies. In this instance, Henry County is being compared to Indiana as shown in the figure in Appendix A. According to the diagram in Appendix A, the county overall performed better than the state, with the exception of the construction industry. The following industries were exporting goods and services: utilities, finance and insurance, administrative support and waste management, accommodation and food services, retail trade, other services, and construction.

Performance

Next we examined performance of the industries within Henry County by completing a shift-share analysis using Indiana as the reference economy. The shift-share analysis examines how much of the change in growth can be explained by the growth of a specific industry at the state level, the total growth of the Indiana economy, and the growth of the region itself. The general trend of growth in the county in relationship to Indiana is negative as demonstrated in Appendix B. However, there are a few exceptions. Industry mix was responsible for growth in utilities, transportation and warehousing, real estate and rental and leasing, administration, support, and waste management, accommodation and food services, and other services. Local factors contributed to growth in transportation and warehousing, finance and insurance, real estate and rental and leasing, administration, support, and waste management, and

accommodation and food services. This indicates the county contributes to a climate of growth for these industries. Most significantly, Henry County grew in administration, support, and waste management and accommodation and food services due to local factors. Because the county has been successful in fostering growth in these businesses, these may be industries for the county to try to capitalize on and encourage growth.

Multiplier Effect Industries

Within Henry County several multiplier industries produce jobs both directly and indirectly. Indirect jobs are created when industries purchase goods from other industries and create a demand for more employees. Figure 1 below highlights the top highest employment multipliers in Henry County (see Appendix C for a complete list of multipliers). Most of the income multiplier values are similar without any standout industry. Focusing on industries with a high multiplier effect that produce more jobs would be an efficient method for improving the job market in the county.

Industry	Employment multiplier	Income multiplier
Forestry, fishing, hunting, agric.	1.56	1.29
Utilities	1.69	1.01
Manufacturing	1.57	1.26
Information	1.74	1.37
Finance & insurance	1.64	1.29
Professional, sci. & tech. services.	1.56	1.39
Management. of companies	1.58	1.42

Figure 1, Top multiplier industries, Courtesy www.cberdata.org

Overview of the Economy

This section provides an overview of the economy of Henry County (data on the city and downtown district were not available). The overview covers how each industry contributes to the economic base, its performance based on the location quotient, the condition of its employment, and whether it is gaining or losing competitive share. Each industry is summarized in the table in Appendix D that simplifies and the information. Within the table, RS stands for Reference Share, IM for Industry Mix, and LF for Local Factors.

Other significant industries in Henry County include the health, education and agriculture industries, but no data was available for the specific frame of reference. Because of its nature as a regional hospital, Henry County Hospital, the major player in the health industry, is most likely a basic industry. Agriculture is probably a basic industry as well since the plethora of farms provide for more than the needs of the county's residents. Data on the management, mining, and professional science and technology services was also unavailable, but from observation, these are small industries within the county.

Decision Tree

As an extension of the economic data table in Appendix D, the decision tree provides a means of interpreting the data. By answering a series of questions about each industry, their individual performance can be divided into four categories: strong performers, lagging performers, constrained performers, and poor performers (see Appendix E). The four questions are listed below.

1. Is the industry part of the economic base $LQ > 1.25$?
2. Is the industry experiencing employment growth?
3. Is the industry gaining or losing competitive share?
4. Is the local industry outperforming the reference economy industry?

Implications for Development

The location quotient, or LQ, is a comparison of the industry's performance in Henry County to that of Indiana's economy. If the LQ is a number above 1.25 after being compared, then the industry is performing efficiently and is able to sustain itself as an exporting base. Within Henry County, there are a number of export-based industries that are identified in the previous charts. These industries include utilities, construction, manufacturing, retail trade, finance and insurance, administrative support and waste management, accommodation and food services, and other services. Of these, retail trade is the largest exporting industry with a LQ of 1.65 when compared to the retail trade of Indiana's economy. With future development, we hope to retain this strong industry in Henry County and use it as a retention target. It is important to try and not harm any of the economies with strong LQs above 1.25. These industries are currently providing sufficient amounts of goods and services and any form of future economic development that

would harm this would be counterproductive. This can be done by making sure that future economic development will encourage expansion of these industries, such as creating even more retail so the industry will grow. In Raintree Development's retention goals, we have discussed the possibility of creating mixed-use development to promote both retail and residential use within the same area. In addition, we have also discussed bringing in new businesses and services such as satellite schools, a business incubator, and local cafés and restaurants to maintain these exporting bases.

Demographics

In addition to an economic analysis, we looked at demographics to understand the different types of people that make up each economy. The three economies were compared to Indiana to determine how they rank among state averages. Analyzing recent demographic information from 2006 to 2010 revealed existing conditions of each economy. We also analyzed historic demographics to see the changes in the economy and predicted future demographics using existing trends to see what is in store for each economy. This analysis covers population, income, and education, but more demographic information can be found in Appendix F.

Population

The current population of Henry County is 49,462 people, 18,114 of whom live in New Castle, the county's largest city. The most noticeable statistic in this chart is that most residents (64%) live outside the largest city. Most of these people reside in smaller, more rural towns and on farmland. This information is useful, because it shows that a future development located outside of the central city of New Castle could have a significant effect on the region.

Economy	Number of People
Downtown New Castle	774
New Castle	18,114
Henry County	49,462
Indiana	6,483,802

Figure 2, Population by economy

Median Household Income

In the following table, downtown New Castle brings in the most money with \$41,583 per household. All three of the economies are under the state average, but the lowest in terms of household income is that of New Castle. This

information shows that the biggest opportunity to make the most profit is in New Castle's downtown area because this particular economy earns the most amount of money in the region and is also at the center of the region.

Economy	Amount in Dollars
Downtown N.C.	\$41,583
New Castle	\$39,329
Henry Co.	\$41,087
Indiana	\$44,613

Figure 3, Income by economy

Median Household Income By Age

Median household income by age is relevant because it shows which age group has the most money and where it is located. Figure 4 shows the 45-64 year age group earns the most money in all three economies. Another interesting finding is that the 25-44 year age group has median household income similar to the Indiana state average, except in the city of New Castle. People aged less than 25 living in Henry County and New Castle on average earn more than people of the same age living in Indiana. These stats show what age groups should be targeted when creating a new economic development because the information shows what age group in each region has the most money. Our development should tailor to households who are aged 25-44 in either downtown New Castle or in Henry County because they earn the most amount of money in the region.

	Less than 25 years	25-44 years	45-64 years	65+ years
Downtown N.C.	No data	\$46,196	\$23,438	\$6,810
New Castle	\$24,298	\$35,668	\$37,298	\$24,984
Henry Co.	\$28,500	\$46,727	\$51,228	\$28,911
Indiana	\$20,579	\$49,337	\$55,184	\$32,172

Figure 4, Income by age

Education

Figure 5 is extremely informative because it shows education levels for people in each of the economies. Interestingly, 44% of people living in New Castle and Henry County have received only a high school equivalent degree, which is almost 10% above the state average. This shows that both Henry County and New Castle have a more educated population than that of the state of Indiana in terms of high school

education. However, Henry County and New Castle are slightly below the state average when it comes to college education, as both economies are about three percent under the state average. This information shows that these three economies are low to moderately educated and suggests the need for a higher education facility to increase education levels.

	Total 25 yrs and Over	Less Than High School	High School or GED
Downtown New Castle	No data	No data	No data
Henry Co.	12,338	2,445 19.82%	2,445 19.82%
Indiana	34,189	5,626 16.46%	15,183 44.41%
	4,229,798	548,278 12.96%	1,521,860 35.98%

Figure 5, Education level by economy

Historic Demographics

Appendix G shows the number of employers over the past 10 years along with the number of jobs and the average wage per job. In Henry County, values have decreased in all three categories over the last ten years. There are almost 2,000 less jobs, almost 50 fewer business establishments, and people are earning almost \$8,000 less than what they use to make. With the costs of living rising and wages dropping, the economic conditions are not looking promising for economic development in the area.

Population change has been occurring over the last 30 years, as seen in Appendix G. Henry County has seen a 7.6 percent population decrease since the 1980s. Appendix G shows that many people are deciding to leave the county and find better opportunities for work elsewhere. This figure is important because it shows that something economically significant needs to be done in the area to restore the population.

Future Demographics

After analyzing current and historic demographics for all three economies, the future is uncertain. Appendix G shows the county has been declining for the last 10 years but has shown signs of recovery in the last two years. Future wages will most likely continue to fall, especially with the rising costs of living. With more people moving out of Henry County, population rates will likely continue to fall, and businesses may want to relocate to find better-skilled workers. This event

could cause median incomes to fall and poverty levels to rise.

Henry County has the space to house some major businesses, especially with its close proximity to Indianapolis, Interstate 70, and S.R. 3. In particular, downtown New Castle has plenty of vacant space for new business. If new businesses find it economically suitable to relocate to Henry County, then the future demographics could look slightly different. Better-paying jobs moving into the economy could increase population growth, median incomes, and grow the labor force. A new economic development could greatly alter the demographics of all three economies.

Implications for the Downtown Economy

Downtown New Castle is home to 774 people and has a median household income of \$41,583. Most people living in the area are aged 20-64, although the people who bring in the most money in this area are aged 25-44 and earn an average of \$46,196 each year. Also, 15 families in the area live in poverty, which is 9.8% of the entire downtown population. The downtown region shows great opportunity for development. This economy also has a higher income level than the rest of New Castle, which shows we could charge a good rate for the housing. A development in this economy should be tailored to the 20-64 range of people to attract them into the area and create spending opportunities.

Site Selection

Site Information

The particular site we chose in downtown consists of four blocks around the intersection of Broad St. and N. 14th Street. This is the center of action in downtown New Castle. The boundaries of the site are Fleming St. (north), N 15th St. (East), Race St. (south), and N. Main St. (west). This site contains 4.37 acres of developable land. Figure 6 shows an aerial view of the site with both natural and built environmental features.

The downtown site consists of 27 historical buildings ranging from one to three stories. Only three of these blocks were considered for redevelopment. Block B (the northeastern block) was not considered because the city received funds to redevelop the block and has already completed the revitalization of the western portion of the block. Many of the buildings on the site are in fair condition, although 17 are entirely or partially vacant (see Figure 7). This site has the advantage of containing unique historical structures, some



Figure 6, Downtown aerial, Courtesy Google Maps

of which host locally owned shops which give the district character. Nearby institutional buildings, such as the Henry County Courthouse and library, act as landmarks and provide destinations for the downtown district. The Castle Theatre and the Arts Center, both only a few blocks away from the development site, add to the culture of downtown.

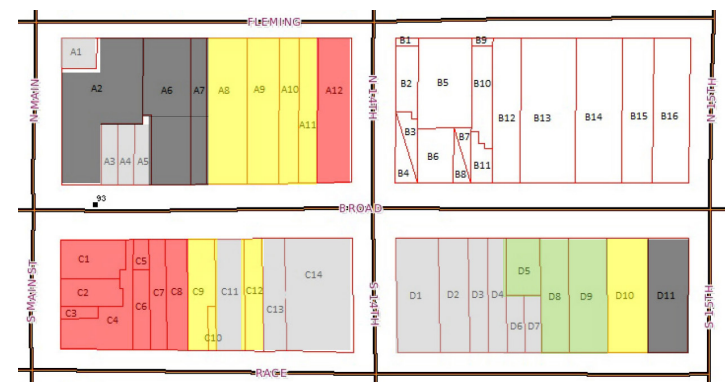


Figure 7, Downtown parcel status, Courtesy Google Maps

Legend

 Occupied	 Parking
 Vacant above	 Open space
 Entirely vacant	

SWOT Analysis

A SWOT analysis seeks to determine physical and social strengths, weaknesses, opportunities, and threats to better propose or influence future developments. For the purposes of this evaluation, a strength is defined as a positive attribute already found in the site, while a weakness is something the site currently has or faces that should be addressed in the near future to improve the site. An opportunity is similar to a strength but does not yet exist. Opportunities tend to branch

off of something that has not quite fully developed into a positive attribute but can be achieved with some effort. A threat is a time-sensitive weakness. By not addressing certain issues, threats have the opportunity to disrupt a site and cause future problems. Threats may not be currently pressing issues but could affect future developments if not resolved. Our SWOT (see Appendix H) examined the area bound by Vine St. (north), the railroad tracks (east), Indiana Ave. (south), and 11th St. (west).

Developer Ray Willey

Ray Willey, a developer from California, has expressed interest in a number of sites downtown and plans to bring several new establishments to the area along with hundreds of jobs. His plans include revitalizing the historic Jennings Building, at the corner of Broad Street and 14th Street, and redeveloping the block to the east. Willey's \$5.3 million dollar mixed-use project will bring an Irish pub, pizza parlor, burger restaurant, and coffee shop to the site, adding 115 new jobs (Mauger, Bethany, 2011). Residential units are being proposed above the first floor retail.

Economic Development Strategy

Clustering Strategy

Downtown New Castle offers several opportunities to improve clustering or agglomeration between businesses. The two ways to achieve clustering are through horizontal or vertical integration, and both opportunities are available in the downtown. This could be possible through existing or new businesses that are located or could locate to the area.

According to the economic analysis, the downtown economy has two opportunities for clustering: accommodation/food services and finance/insurance. The analysis shows that investing in the downtown's accommodation/food services sector will create a strategic horizontal opportunity to bring development to the downtown. The second industry in downtown New Castle with clustering potential is the finance/insurance industry. Current statistics for this industry state that it provides five percent of jobs within Henry County and has a shift-share rating of 19, compared to Indiana's rating of -19. The income multiplier for finance and insurance is 1.24. Many current downtown businesses are finance or insurance-related. This creates a needed foundation and helps make this industry strong within New Castle. All

of these different types of businesses located downtown currently include banks, insurance companies, and consulting firms. Horizontal integration allows them to create zones where they can work together to provide services for their customers.

Education/Medical Affiliation

The "ed/med" affiliation refers to two industries--education and medical care--that have traditionally been high-growth and clustered. Henry County and New Castle, show a strong affiliation between these industries. The two highest employers within Henry County include Henry County Hospital and the school system. This also holds true for neighboring Delaware County, except that its educational sector is comparably stronger due to Ball State University's presence. A stronger higher education presence in New Castle, particularly downtown, would make any of these economies more competitive with Delaware County's education and medical industry cluster.

Currently, Henry County, has many businesses and facilities horizontally clustered within the medical industry. A quick look at the yellow pages for Henry County reveals numerous medical clinics, pharmacies (including many non-chain neighborhood pharmacies), and fitness centers. This industry seems well established in the local economies, more so at the regional and municipal levels.

Henry County and New Castle could benefit from a stronger relationship between these two industries, perhaps by introducing new or expanding upon existing higher educational opportunities. Following Muncie and Delaware County as precedent, introducing a new branch of Ivy Tech in downtown and filling vacant buildings could strengthen the educational industry by increasing enrollment and local employment. Catering higher education toward the medical or wellness field and producing more nurses, pharmacy technicians, and fitness experts would, in turn, strengthen the medical care sector. Clinics and students could work together, providing internship and immersive learning opportunities, allowing local students and students from other regions to share their skills with the community. These are just a few ways the education and medical affiliation could benefit the economy.

Ivy Tech

Although Californian developer Ray Willey has very specific hopes and plans for this area, Raintree Development

suggests a slightly different export strategy for downtown New Castle. Because the city has already expressed hopes that Ivy Tech (soon to be partnered with Indiana University) would extend into downtown, developing the block east of the Jennings building to house Ivy Tech could be a catalyst for development in the area. This would create a need for student housing or apartments, attracting people from the region and perhaps neighboring counties. New rental units would also benefit the real estate, rental, and leasing industry, a strong performer. With the new presence of the institution and college students, restaurants and retail would be attracted to the area. Downtown New Castle could become a new destination for residents to live, play, work, shop, and learn. It could also attract tourists, essentially exporting services, rather than goods.

Creative Class

According to Richard Florida (2002), the creative class is “a fast-growing, highly educated, and well-paid segment of the workforce on whose efforts corporate profits and economic growth increasingly depend.” These individuals can span many disciplines and industries, including the planning field, but these people all value creativity, individuality, difference, and merit. Attracting this class of people is an essential part of establishing a prosperous economy. Cities lacking tolerance and diversity can actually lose their creative class, causing future economic development efforts to suffer without the skills of this important group. Creative problem-solving skills are becoming increasingly important, causing the creative class to grow. Currently, the creative class comprises over 35% of the national workforce (Florida, 2002).

Interestingly, Florida refers to “Creativity Rankings,” which indicate how cities compare to each other. Fort Wayne, Indiana, is actually in the bottom ten for medium-sized cities. Fort Wayne is not too far from New Castle, and it suggests that perhaps Indiana communities are lacking a strong creative class. The key is to establish an environment that attracts these individuals, and with their skills, they can contribute to successful entrepreneurial and economically beneficial opportunities for downtown. According to Florida (2002), cities must be open and accepting toward different types of newcomers and firms. These cities are places “where anyone can fit in quickly” (Florida, 2002). They have higher diversity, a high quality of place, and a variety of lifestyle interests and amenities available.

Following Florida’s model, downtown New Castle can help attract this creative class of people by establishing more

participatory and outdoor recreation opportunities, building a “night life,” and starting more cafes, galleries, bistros, and small street-level entertainment. Establishing bike lanes and recreation trails downtown and throughout the city might also attract this group. Any future redevelopment efforts should refrain from simply removing older “authentic” structures with newer ones that lack character (Florida, 2002). These and similar efforts can help downtown New Castle grow its creative class and increase its innovation potential.

Site Control

Since downtown New Castle has been declining in recent years, the number of available lots is sizeable. The plan is to control several downtown plot of land within three separate blocks and combine them into a cohesive development. Figure 8 designates the available plots within the project site with dark gray plots showing those chosen for development.

Before any development of the three remaining blocks can begin, specific plots of land must be acquired. Most of the lots on the A, C, and D blocks being proposed for

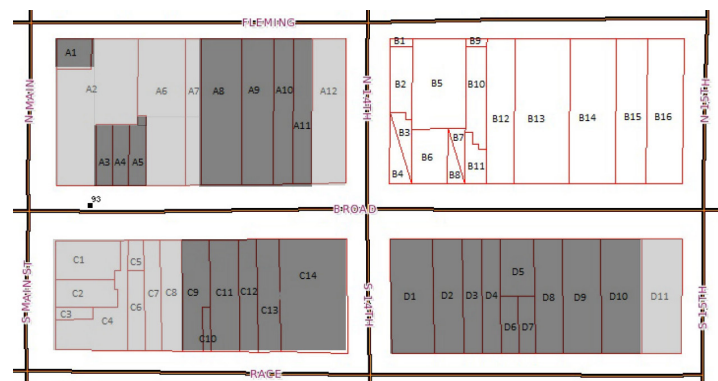


Figure 8, Downtown parcel acquisition, Courtesy Henry County GIS

Legend

■ Chosen □ Not chosen

development are owned by business owners or individuals, with a few lots owned by the city of New Castle. In this situation, the most viable option is to purchase all the vacant lower and upper floors of structures on the three blocks. Buildings already occupied on the ground floor but vacant above will be condominiumized to allow Raintree to develop the upper floor(s) into residential or office space. A condominium association will be set up to manage maintenance for these buildings, with owners of the upper and lower floors all contributing to maintenance costs. Lots participating in condominiumization will include A8-A11,

C9, C12, and D10. Pursuing this site control plan for the downtown will cost an estimated \$859,700, although this figure will probably be higher due to the added expense of acquiring a large number of separate lots.

Site Capacity

Net Buildable Area

To determine the net buildable acreage on the downtown site, Raintree conducted a site capacity analysis, which examined how much land is available for development. Figure 9 shows the net buildable area for each block. Parcels factored into the calculations include those which Raintree would either purchase entirely or which have upper floors that Raintree would purchase.

	Acres	Square Footage
Block A	0.59	25,700
Block C	1.13	49,400
Block D	1.50	65,400
Total	3.22	140,500

Figure 9, Buildable area

Development Yield

Figure 10 breaks down how the development would be divided between uses. Almost half the development is devoted to retail with the remainder split between residential, office, and institutional (see Appendix Y). The number of residential units could be less than that shown in the table since the calculations do not take into account hallway space and individual building characteristics.

Use	Usable Floor Area	Units
Residential (1 bed, 600 sq. ft.)	18,300	28
Residential (2 bed, 750 sq. ft.)	4,500	6
Retail (unit areas depends on structure)	62,000	10 + department store
Office (45' x 45')	18,000	9
Institutional	37,800	N/A
Total	104,600	N/A

Figure 10

Parking Program

With this new development plan, it is important to remember the required parking. Parking requirements were first found by using the designated requirements under the zoning ordinance. After this, the numbers required using the shared parking concept were found using a shared parking calculator. The total number of parking spaces required using the designated parking ordinance requirements was 615 spaces. Once the data was inputted into the shared parking calculator, the number of required spaces was decreased by 26% and 162 spaces to a total of 453. The shared parking concept takes into consideration that not all land use users will be at the development site at the same time and will not require all the parking spaces at the same time. Thus, the shared parking requirement total is better at predicting the maximum total number of parking spaces that would need to be utilized at a given time throughout the day. These totals and numbers are in the shared parking calculator chart in Appendix I.

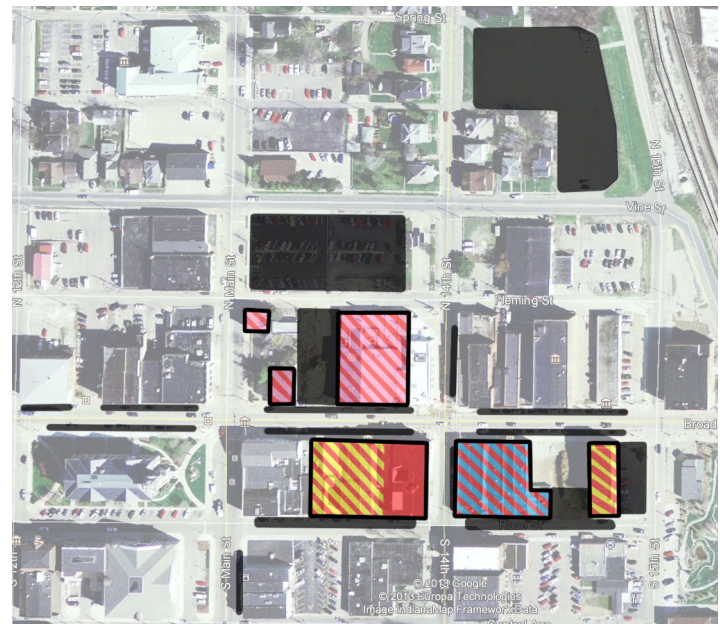


Figure 11, Parking plan,

We used mostly existing parking spaces within downtown New Castle to serve the parking requirements for our proposed development (Figure 11). However, we did create a new row of diagonal street side parking south of our development along Race St. This new strip of diagonal parking would provide more parking than the current parallel street parking along the street. Through the spaces here as well as the parking lot with Block A, the parking requirements for the residential properties on Block C will be covered. Both large parking lots north of the development will be

used to serve the requirement specifications for the office and institutional land uses. Although these lots are further away from the development, a new trolley line will serve the

students for transportation. The current on street parking located all along Broad Street as well as Main and 14th Street will meet the required parking for the new retail businesses in our development plan. Lastly, the small lot currently located on Block D, plus the newly created diagonal parking along Race St. south of Block D will serve as faculty and handicap parking for the institutional building. Overall, this map identifies 461 parking spaces we plan to utilize for our development. This exceeds our shared parking.

Existing Zoning

Existing Henry County Zoning Code

The zoning code chart (see Appendix X) details uses permitted in the Henry County Development Code in the General Business (GB) district, the zoning for Raintree's proposed downtown development site.

Setback Exceptions

For improved blocks where 25% or more of the lots in the block frontage are occupied by buildings, the average setback of those buildings determines the dimensions of the front for any new building, provided that the structure does not encroach into the right-of-way. This exception applies to the downtown site.

Shared Parking

a. Cooperative provisions for off-street parking may be made by contract between two (2) or more adjacent property owners. The parking area provided on any one (1) lot may be reduced to not less than fifty (50) percent of the number of required parking spaces for the use occupying such lot.

b. To the extent Developments that wish to make joint use of the same parking spaces operate at different times, up to fifty (50) percent of the parking spaces may be credited to both uses if one use is a church, theater or assembly hall whose peak hours of attendance will be at night or on weekends and the other use or uses are ones that will be closed on nights or weekends.

Downtown Apartments

Apartments located within the same building as a business

may be permitted as set forth in Section 8.2, Table 10, provided:

1. That the use of said apartment is limited to persons employed on the premises; and
2. That the business use complies with the property development standards set forth for one- (1-) family residences in R3 Districts. (Title 1, Page 58)

Variances Required

Raintree Development would need to secure a use variance to allow those not working in downtown businesses to rent the apartments above. For full details on this procedure, see the chart in Appendix X.

Site Suitability

Based on site analysis, Raintree determined the downtown site is suitable for development (see Appendices J-L for analysis maps). The site is zoned for General Business, soil on the site is well drained and good for development, and the site is located near a wide variety of public and private amenities. One downfall revealed through the spatial analysis is the absence of alternative transportation access to the site aside from motor vehicles. This poses a challenge for people trying to enter without a car. Overall, based on the analysis, the downtown site is highly suitable for redevelopment.

Utility Analysis

Fortunately, the buildings are already fitted with utilities. Public water, sewage, electricity, gas and telephone lines already reach the site, although they may need to be updated to meet code. The recently and partially collapsed structures in Block D will also need new utility hook-ups.

When planning for future development planners must do a wastewater capacity analysis to estimate the number of people the current and future systems can sustain. These figures are based on the Planner's Estimating Guide: Projecting Land-Use and Facility Needs. The information retrieved from the New Castle Wastewater treatment director states that the current plant has a capacity of 16 million gallons of wastewater per day, and the average daily use of the plant is around 10 million gallons per day, leaving an excess of six millions gallons. Currently the downtown produces 15,490 gallons per day. The proposed development will create an average of 17,000 gallons per day, far less than

the available capacity. Therefore our proposed development will not demand improvements to the water treatment facility. For more detailed information see Appendix M.

Market Feasibility

Since New Castle is the largest commercial center for Henry County, we have determined the Primary Trade Area (PTA) for our development to include the entire county. Conveniently, the county line is also the approximate halfway distance between downtown New Castle and other regional commercial districts such as Muncie and Anderson. This allows us to estimate the number of users of the site based on the location of their residence. Figure 12 refers to the determined PTA.

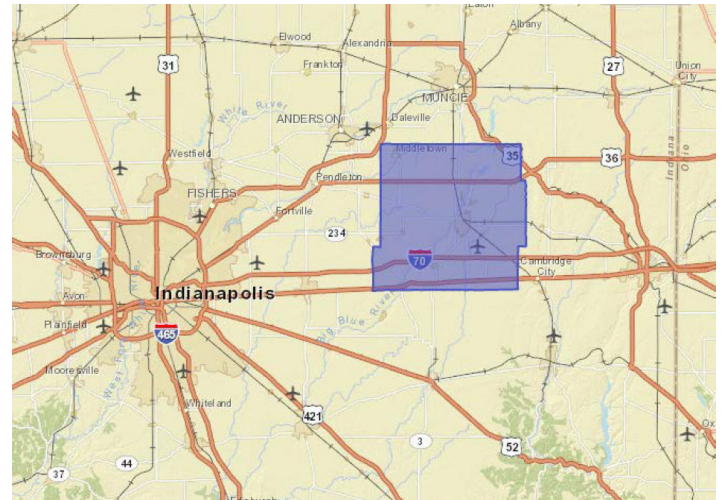


Figure 12, Henry County PTA, Courtesy Esri Tapestry

Target Market

Within the development plans for the site, we decided to include vertical and horizontal mixed-uses based on the current characteristics of the downtown district. The proposed development will include additional retail sites and the implementation of residential and office units plus space for institutional uses. The following segments describe target demographics, market requirements, and proposed pricing.

Demographics

According to the Esri Tapestry output, the downtown site is comprised of four main demographic categories: Home Town, Simple Living, Rustbelt Traditions, and Midlife Junction. Based on the characteristics of these segments, future retail developments should be casual and geared towards the middle and lower-middle classes. The population that falls into these four categories tends to be adults ranging from age thirty to retirement age. With this in mind, retail developments should cater to such demographics through establishments such as boutiques and local restaurants. Residential units should also be aimed towards those without children and older population. Due to smaller unit size, the development has potential to attract young adults looking to live downtown near the proposed Ivy Tech Community College development extension. By attracting a younger population to the site, the development will become consistently active while brining diversity to the district. To cater to the projected market, cafés and other “third places” should be developed with unique character. The following segmentation outputs further explain the four existing groups and the desired group: the metro renters.

Market Preferences

Appendix N depicts the demand for certain industries by showing the unmet square footage allotments for each retail category. A higher unmet square footage indicates a higher demand for such a category or industry. In Appendix N, the first table includes the entire Primary Trade Area of Henry County and not just the downtown site. However, as previously stated, New Castle is the center of all retail activity in Henry County, so these numbers indicate what New Castle itself and the downtown site are capable of sustaining. The chart clearly shows the greatest demand is for automotive dealers and food and drinking establishments. To comply with the demands, our development is proposing the addition of 10 retail units. With the conversion of the Jennings buildings into a three-story department store, there is a total proposal of 61,968 additional square feet of retail, most of which fits into existing buildings with a retrofitting model.

To further examine the downtown site, the second table in Appendix N shows the results of the same spread sheet with a much smaller Primary Trade Area of a half-mile radius from the site. This figure shows similar results with more demand for gasoline services and continued demand for automotive dealers and restaurants. After discussing the character of our development, Raintree decided to accept the loss of gasoline stations to the larger S.R. 3 corridor. This preserves the historic character of our site and maintains a more continuous urban fabric downtown. We were, however, intrigued by the possibility of a high-end showroom for car dealers. While there may not be an outdoor lot, car dealers could own an indoor room with high visibility within the downtown.

In addition to this unique project proposal, Raintree is seeking to attract locally owned businesses such as cafes, restaurants, boutiques and gift shops. A food co-op or local grocer could come to the site in one of the larger units. By offering unique shops within the district and discouraging franchises and chain stores, the downtown district will be able to attract customers looking for specialty items. Transforming downtown will provide the residents of Henry County, New Castle, and downtown with a place within their community to live, learn, shop, and play.

Housing Capacity

Based on current vacancies and future developments, we are proposing the construction of 28 one-bedroom units and 6 two-bedroom units. This figure is based on a one-bedroom module of 600 square feet and two-bedroom module of 750 square feet. These calculations lend to a rental rate of one dollar per square foot. Comparable rental rates were studied throughout the city of New Castle at complexes such as Jamestown Village Apartments and Grand Avenue Apartments. Each of these complexes offers one and two-bedroom units with prices ranging from \$225-\$500 and \$400-\$600 respectively.

New units will be developed above ground floor retail and will be located on the second and third stories. Because the target market of renters includes single adults attending the university and older adults with no children, one bedroom units are predicted to be the most desirable, with two people in each unit. The data supporting single-bedroom units is based on non-family household figures and can be seen in Appendix O.

Research shows that the median rent for the target area is \$391 per month. After calculating the affordable base rent, we have determined that market rate units will rent for approximately \$600 for one-bedroom units and \$750 for two bedroom units. These rates were determined by finding the maximum affordable rent based on thirty percent of potential renters annual income. The maximum rental rate determined for the average one-bedroom unit was \$864.50 (see Figure 13). We sought to keep the rate at a lower price than the maximum but as these are brand new development and have an ideal location, the rate is higher than the comparable developments found. Provisions for affordable housing units were also calculated. Residents applying for affordable housing must make less than eighty percent of the median household income in the applicable city or metropolitan region. According to figures 14 and 15 residents must make

less than \$30,864 annually for a one-bedroom and \$38,572 for a two-bedroom unit.

Due to the nature of the site, this development will have no detached, semi-detached, or town home style units and will strictly have upper story apartments that rent on a full-year lease. Incentives for longer term leases will be available in the way of small subsidies. Developers interested in the project will make a net annual profit of \$255,600 based on rental rates.

Affordable rent per month	
Average household income/ month	X (.30) - Utilities = Affordable rent
\$3,215	X (.30) - 100 + \$864.50 max.

Figure 13

HH Size	1	2	3	4	5
AMI	\$19,273	\$38,580	\$48,216	\$53,034	\$55,000
50%	\$9,636	\$19,290	\$24,108	\$26,517	\$27,500
80%	\$15,418	\$30,864	\$38,572	\$42,427	\$44,000

Figure 14

Bedroom configuration	HH Size	50%	80%
0	1	\$9,636	\$15,418
1	2	\$19,290	\$30,864
2	3	\$24,108	\$38,572
3	4	\$26,517	\$42,427

Figure 15

Financial Feasibility

Acquisition Costs

For the acquisition cost (see Appendix P), we began by identifying the specific parcels within our downtown site that we wanted to develop in our plan. Due to the occupancy and connectivity of the downtown building environment, our selection of parcels was scattered throughout the site. Completely vacant lots in our downtown site were our first priority for development selection. For these lots, the total

value of the lot was used in determining the buyout value.

Specific parcels with current occupancy on the ground level and vacant floors above were our next greatest priority for future development. For these lots, we decided to condominiumize the property. Since the ground level of the buildings are owned and occupied, we plan to buy out only the upper levels of the existing building to use in our future development. The amounts for this were determined by using 40% of the total improvement values of the property. Our vision was to create a mixed-use development with retail on the ground level and residential housing on the upper levels.

To do this, we needed to assess the acquisition cost of these vacant parcels. The chart in Appendix P identifies our parcel selection and the parcel value associated with it. The map on page 12 shows the location of the chosen parcels within the site. As seen previously in this report, the parcels in light grey are entirely vacant and chosen for development, and the parcels in yellow are the partially occupied parcels chosen for additional development above. We have also bought all parking lots and open space within blocks A, C, and D that can be seen in dark grey and light green on the map. All lots highlighted in red are fully occupied and remain completely untouched in the acquisition of our development project.

Market Pricing

Because our development site covers four city blocks, the size of our project is large enough to make a moderate impact on the overall market economy within New Castle. In contrast, if our development site were simply one building downtown, the impact on the market would not be sufficient. A higher impact development plan decreases the risk of having an unsuccessful outcome. With an impact to the market, our development would be able to sustain a higher market cost for the rental of retail and residential. For example, with the current market price of retail in New Castle being \$10/sq. ft., we hope to provide a large enough impact to the downtown market to raise the market pricing by 30% to around \$13/sq. ft. By developing a large area with better quality and new construction, we would expect a higher rental rate. Providing new businesses and residential apartment units at this higher rate would have a slight increase of the overall market rates for New Castle.

Development Costs & Revenues

To determine the costs and revenues of the development (see Appendix Q), we divided the city blocks into different

scenarios and their land uses. For example, scenario one refers to the downtown buildings of retail usage within the A block of the site map previously shown. Additional scenarios include block A residential, block C retail, block C residential, and block D institutional. All of these labels can be found at the bottom of the columns on the development costs and revenues table.

Next, the annual base contract rent per square foot was calculated for each land use by finding the current average market pricing for the uses within New Castle boundaries. After some research, we found that the average rental rate per square foot for retail use was \$10/sq.ft. In addition, we found that the average rent per square foot for residential apartments was .80/sq.ft. However, due to it being a new development and bettering the market, our residential rent rates were increased to \$1/sq. ft. Lastly, we used the current rent charge that Ivy Tech is paying to occupy the downtown building location here in Muncie to estimate what to charge per square foot in the New Castle location proposed in our plan. The rental charge per square foot in Muncie for institutional was \$15. Because downtown Muncie is already more established than that of New Castle, the rate stayed the same, even with the increased market values.

After the base rent was found, we determined the landlord operating costs per square foot for each use. Because our plan is mixed-use development, we used the information from the Urban Land Development Mixed-Use Development handbook to find the operating expense numbers. According to the chart, the operating expense for retail is \$5.50/sq.ft. (Pg. 55) This figure was used for an estimate of the new retail development proposed in our plan. The handbook also identifies the operating costs for rental residential. The chart illustrated includes all utilities provided for the tenants by the landlord. With these amenities provided in the lease, the total operating expense is \$6.50/sq. ft. (pg. 49). However, with our proposal, Raintree Development plans to lease the space without providing utilities. So the only operating expenses will be the maintenance of the property. These costs are minimal to ensure maximum profit for the development. When calculated, the annual costs of these minimal operating expenses will be .25/sq. ft.

The total land cost calculation was figured by adding the acquisition costs figured in the previous section with the results of the soft calculator costs. The acquisition land costs for each use were found by figuring the cost of the individual floors being used in each land use scenario. For example, a

two-story building with retail on ground level only included the ground level value in finding the land cost for retail usage within that building. Overall, the soft calculator costs added a rough additional 25% to the total land costs. These totals are found in Appendix Q.

The development costs were found online using the REED construction data. This data system, associated with RS Means, can be found at <http://www.reedconstructiondata.com/rsmeans/models/college-classroom>. The data system includes the development costs for new construction and retrofitting construction. Since our proposed development plan takes place within the current historic downtown New Castle buildings, the retrofitting costs per square foot were used in the analysis.

The last factor needed to figure the analysis is the cap rate. These percentages were found using the capitalization rates by land use and market chart according to the 2008 findings of Peter Linneman. Because of New Castle's lagging economy, some of these rates were slightly decreased.

Need Gap Analysis

The need gap analysis shows the financing needs of the individual projects and land uses to complete development. This calculator requires the input of the gross potential revenue from the dinner napkin analysis, plus the bank information received from the mortgage information and financing the project. The end need for equity is found at the bottom of the chart in Appendix R. If the number is negative, then that means there is no need for extra financing, and moreover, that it is making that much money in addition. However, the numbers found on this line of the chart that are positive, such as the Block C residential and Block D residential, exemplify the amount of money needed to fund the project and gain equity. The total need for equity from the Block C and D residential is \$4,481,339. However, the total surplus of equity from the other uses within the development is \$49,677,713.

Development Proforma Analysis

The development proforma illustrates the costs of the project and the expected funding for the development. As described and calculated before, the development preform chart (see Appendix S) shows the total land cost for each site's land use. In addition, the chart shows the development cost for the given land use on that site. All of these costs combined created the total projected costs for the projects. The source

of funding was more than the costs of application in every development option besides Block C Development, Block D Retail, and Block D Institutional. Luckily, the excess funds from the other block land uses exceeded the amount of the under financed portion of these three expensive projects. Overall, the amount of funds exceeded our requirement of application of funds by over \$200,000, making this project initially feasible, and capable of generating profit for years to come after development.

Asset Management Plan

Raintree intends to stage our downtown economic development and revitalization plan in two phases:

1. Ivy Tech mixed-use development on block D
2. Condominiumized office and residential units, plus lower floor retail on blocks A and C

We will begin with the Ivy Tech development to create a downtown demand for more residential and retail by introducing a student population to the area. We believe it will be easier to rent new residential units once the downtown Ivy Tech is established.

First, we shall acquire the necessary lots on the D block, including condominiumizing the upper floor on parcel D10. We will develop the Ivy Tech "Wright" building, combining a small amount of redevelopment of the existing buildings with demolition and new development. We hope to save as much as we can from this block. After one year, we expect this mixed-use retail and institutional structure to be complete and ready for rental occupancy by small local business and Ivy Tech Community College. We will wait to redevelop the upper floor of D10 until after the Ivy Tech development is complete.

In the second year of the plan, we will borrow the remaining funds required for condominiumizing and purchasing land for redevelopment on blocks A and C. We will also redevelop the upper floor of D10 in this phase. By the end of year two, we hope to be nearing completion of phase two and earning revenue on the Wright building. By the end of year three, we hope to be earning revenue from all of our redeveloped property. See Appendix Z for a chart that explains our mortgage costs and net operating income for each year, assuming a four percent interest rate, no additional costs, and maximal pay off on the loan. The data is based on the financial analysis figures.

Assuming we pay off our mortgage as quickly as possible, we will be making a profit by the sixth year. To maximize profit and to account for additional unforeseen costs, loss of grant money, or development delays, we will establish a holding period of approximately seven to ten years. Then, we will attempt to sell each parcel to a new owner. We hope that lower floor business owners (or the owners of the lower floor retail, since some businesses only rent the space) will be interested in purchasing the condominiumized units above. This could be an opportunity for “live-work” housing. Perhaps Ivy Tech will be interested in purchasing the new Wright building.

We hope that New Castle will use this redevelopment as a prototype strategy for other areas of New Castle or even the rest of downtown. As a means to revitalize the area and bring life to downtown, the condominiumization strategy can be used to purchase upper floors throughout downtown for redevelopment. A new residential population will support additional retail, nightlife or entertainment establishments, and even professional offices.

Transportation Impact

Access Road Analysis

North/ South	12th St.	Main St.	14th St.
Class	Minor collector	Minor arterial	Minor arterial
Width	30 ft.	40 ft.	35 ft.
Travel lanes	2	2 with on-street parallel parking	2

Figure 16, North/south access roads

East/ West	Race St.	Central Ave.	Broad St.	Vine St.
Class	Major collector	Major collector	Major arterial	Minor arterial
Width	45 ft.	25 ft.	45 ft.	25 ft.
Travel lanes	2 with on-street parallel parking	2 with on-street parallel parking	2 with on-street parallel parking	2

Figure 17, East/west access roads

The three most significant access roads are Broad St., running east and west through the heart of the site; Main St., which runs north and south on the western border of the site; and 14th St., which runs north and south through the middle of the site. These roads will impact our development most. Figures 16 and 17 show information on the site’s major access roads. Additionally, Figure 18 shows grades given to the three most important access roads to rate their current level of service (CLOS) for automobiles, bicycles, pedestrians and buses. This information will help Raintree determine if the transportation infrastructure needs to be improved to support the downtown development. See Appendix T for more detail CLOS information.

CLOS	Broad St.	Main St.	14th St.
Automobile	C	C	C
Bicycle	E	E	F
Pedestrian	A	B	B
Bus	F	F	F

Figure 18, Current level of service by transportation type

Transportation Implications

After analyzing the three most important thoroughfares through the downtown New Castle site, we determined that the access roads are adequate. Two aspects that are forgotten when looking at these roads were space for bus transit and bicycle transit. These two areas received an F because there was no bus or bike infrastructure present in the downtown area. The impact from our development scenario will raise the level of service with a rise in the number of ADT’s. With new shops and services coming into the area, more people are expected to make the trip downtown. The impact from our proposed development could make a case to widen Broad Street to make room for two more additional car lanes, one lane running east and the other lane running west. This road widening would be able to support double the amount of trips that area already sees on a daily basis. The only issue dealing with the widening of this street is that there is no space for a possible expansion of the road. One way to widen the road is to use the already present on street parking and turn it into two new thoroughfares, but the on-street parking is needed to facilitate the parking requirement that is necessary for the new development.

The Level of Service analysis for our site shows improving scores is critical for our project to succeed. One way to accommodate a better level of bus service is to create a

trolley or bus line and have a bus stop in the center of our site. To maximize bicycle level of service (LOS), a series of bike paths would be placed around the site to accommodate the cycling population in New Castle. Appendix U shows an image of the proposed bike routes which provide access to the site. The first path runs along 12th St., providing local residents access to the site. The next path runs along Race St. from 12th and goes one way to provide access to the south border of the site and the Arts Garden. The next path runs along 15th St. and runs south, with access to the Arts Garden, the library, and the old high school. The last route runs one way along Vine St., providing access to residential areas. Installing the proposed bike path would increase our LOS rating from an F to a B. Providing a space for cyclists brings more people into our site and helps reduce the automobile traffic the area would normally see.

Trolley Line

Overview

A hypothetical trolley line has been proposed for the benefit of Raintree's development. This line will connect sites vital to New Castle and the downtown district, including places as far north as Broad St. and as far south as the intersection of S.R. 3 and S.R. 300, where the shuttle would turn around at the current Ivy Tech development. Other major stops would include the IU East campus, various big box stores along S.R. 3 such as Wal-Mart, and sites to the north, like the library and Arts Garden. The construction of the line will mainly serve as a connection of the southern Ivy Tech and IU East campuses to the proposed downtown Ivy Tech campus. The goal of the line is to connect students in the south to the retail district in the northern downtown.

A trolley system was chosen based on the low density of the surrounding site (> 5 du/acre). The total catchment area of the transit line includes all sites and people within a ¼ mile of the line (See Appendix V). According to ESRI Tapestry 7,291 people live within the ¼ mile buffer zone and 464 businesses and 5,448 employees are located within the limits as well. According to the study, the line will replace 50% of employee daily trips and 10% of resident daily trips. Since there are currently 52,540 daily trips along SR3 and 26,220 along Broad Street, the trolley would demand roughly 4,000 trips a day and 1.2 million trips annually.

The Effects

Currently, the site is running at a C grade level of service (LOS) for automobiles, and an F grade LOS for bus service.

By instituting a trolley line that runs six days a week (Mon-Sat), 13 hours a day (7am-8pm), Raintree is hoping to increase the LOS for bus service to an A/B grade LOS with four bus loops per hour during off peak times and six bus loops per hour during peak times. Each loop is approximately eight miles round trip and will take a maximum of 30 minutes per trip. This allows for travel time, stops, and traffic. With two buses running during off-peak hours (7-9 am) and (5-8pm) and three buses running during peak hours (9am-5pm) there are a total number of 20 loops completed during off-peak times and 48 loops completed during peak hours. This calculation provides for a total number 68 loops a day. Each trolley has the potential to hold 32 passengers and provide a maximum number of 2,176 rides a day. Taking into consideration the previous numbers (50% of employees and 10% of residents) there is a demand for a maximum of 3,924 riders each day.

In order to keep the trolleys running, it was calculated that there are 34 hours of operation each day that need to be filled by employees. Since operating trolleys requires a special license, drivers can demand approximately \$8/ hour. This would suggest that operating costs in salary alone would cost \$272 dollars/ day or \$84,864/ year. Other annual expenses include gasoline, maintenance, and insurance. The engines inside of the trolleys allow for two loops to be completed per gallon of gas. Assuming this, the total of 68 loops per day, and an average of \$3.70 per gallon of gas, the trolleys would require a total of \$125 of gas/day or \$39,000/year. Raintree has also allowed for a \$10,000 annual maintenance cost and \$5,000 worth of insurance each year. The annual cost to run the trolley line is \$138,864 after factoring in salaries, gas, maintenance, and insurance costs.

Startup costs include the initial purchase of three trolleys, 14 shelter stops, road improvements, a shelter to store the trolleys overnight, and the installation of a gas pump at the storage site. Raintree has allowed for the purchase of three new trolleys at the price of \$140,000 each (National Bus). All trolleys are handicap accessible and have wheelchair lifts. Fourteen shelters will be strategically placed (see Appendix Z) and will cost approximately \$2,000 each including installation. Road changes include filling in major potholes and designating spots inside the parking lanes downtown for the trolleys to pull into. The designation will only require painting the asphalt and blocking out a site 30' in length. The trolleys will be stored in a garage along SR-3 to the south, near the southern end of the line. Calculating the size of the three trolleys and room for an office determines that the shelter

will need to be 65'x50'. According to Reed Construction, a garage of this type will cost \$60 per square foot. to build, making the final price of the new structure, \$195,000. Obtaining a permit for an onsite gasoline pump will also need to be obtained adding to the initial total cost. The initial cost of getting the trolley line running will be \$646,000.

Because of the minimal size of the trolley system, there are few effects regarding parking requirements. Rather than replacing transit methods entirely, the trolley will serve as a supplement for convenience once within the site. In addition, no changes need to be made to access roads since there will only be a maximum of four trolleys running at a time.

Feasibility

While these costs are substantial, Indiana provides grant money under the Rural Transit Program designed for communities that have less than 50,000 residents. New Castle falls under consideration for this grant with just 18,000 residents. The grant covers 50% of net operating costs and 80% of total capital costs including initial costs such as the purchase of vehicles and shelters. Additionally, 50 % of the cost of a feasibility study is provided for. This takes the total cost of implementation from \$784,864 to \$198,432 (Rural Transit Program).

With 68 total loops running each day and trolleys that can carry up to 32 people each, a maximum of 2,176 riders can use the trolleys per day. This is significantly less than the expected number of 3,924 demanded rides according to the 50% ridership by employees, 50% ridership by students, and 10% ridership by residents. Raintree lowered the number of rides provided due to a lower actual expected demand. Assuming the trolley line will initially be financed by the aforementioned grant money and a 15 year loan with a 4% interest rate, the trolleys will cost \$6,741.68 per month to operate until the end of the loan period. This given, the trolleys will need to make approximately \$225/day. With an expected 1,326 paid passengers (this is the total less the number of students who will ride for free), the trolley would need to charge \$0.168 per ride (extra decimal for data purposes). Raintree plans to charge \$1 per ride, giving the trolley line a gross profit of \$343,380 per year during the first 15 years and \$405,437 per year after the loan is paid off.

Build Out

Assuming a total build out of the site, the demand for transit would increase, leading to the need for an additional trolley during peak hours (9am-5pm). The calculations for the build

out of the site assumes an average of 14% commercial vacancy rate, meaning that 762 new employees would be added to the site and 381 of them would use the trolley daily (Zeigler 2012). In addition, there is a 10% residential vacancy rate in the site. By building this out, there would be an increase of approximately 700 residents, 70 of which would ride the trolley daily. Based on these calculations, there would be a total demand for 451 additional rides, or 14 total new loops based on a 32 person trolley. The addition of a trolley would increase the post grant initial start-up cost to \$158,200. Borrowing against this on the same 15 year loan and 4 % interest rate would bring the monthly operating cost to \$1170 + \$7,674.75 for annual operating costs making the monthly operating cost \$8,844.75 or \$294.82 per day. In order to make the trolley line profitable at this rate, each rider should be charged \$0.17 per ride. Raintree would continue to charge \$1 per ride at maximum build out making the annual profit \$446,964.96 during the loan period and \$463,120.32 after the loan is paid off. Based on these calculations, Raintree recommends pursuing the implementation of a trolley line servicing both the students of Ivy Tech, Indiana University East, and the general public.

Private Economic Impact

An analysis of the private economic impacts reveals data on the number of direct and indirect jobs created by the development, as well as the direct and indirect income it produces. Figure 19 shows the total income and jobs created by each block. In addition to the explanations below, tables in Appendix W provide a breakdown of the impact of the project. The tables were populated with data derived from Ball State's Center for Business and Economic Research (CBER) Economic Impact Calculator.

Block	Direct Income	Tax Income	Jobs
A	\$3,315,700	\$143,600	136
C	\$1,518,300	\$219,300	83
D	\$2,673,000	\$121,100	168
Total	\$7,507,000	\$484,000	387

Figure 19, Private impact by block

Public Economic Impact

In addition to a tax revenue assessment, it is important to calculate the expenditures caused by the project that will fall on the local government. Although this analysis considers both capital expenditures and non-capital expenditures, it was found that no capital expenditures were required for the project. Of the areas analyzed, including education, parks and fire and safety, none of these areas would require extra public funding to offset the impact of the development. Already the city of New Castle has sufficient facilities and personnel to meet the needs of the development without incurring further public expenditures. This means that after tax income, New Castle will experience a net positive fiscal impact and will not need to increase taxes to counteract the impact of the development. Appendix W provides details of New Castle's current capacity education, parks, and fire and safety.

Environmental Impact

Carbon Emissions

Transportation Emissions

To determine the approximate annual carbon emissions generated by the development annually, we assume that the site generates trip distances equal to the roundtrip mileage from the site to the center of New Castle and the center of Muncie. The current "center" of New Castle is a tie between S.R. 3 retail activities and downtown. The distance between these two is one mile. Assuming some people travel to

downtown and others travel to S.R. 3 for their daily needs, the roundtrip distance would be, on average, one mile. The roundtrip distance to downtown Muncie is approximately 38 miles roundtrip. We will assume New Castle's center accounts for 75 percent of daily trips and Muncie's center accounts for the remaining 25 percent. We used these numbers to determine the journey distance needed to input into the carbon dioxide emissions calculator:

$$\text{Journey Distance} = .75 (1 \text{ mile}) + .25 (38 \text{ miles}) = 10.25 \text{ miles}$$

See Figure 20 for a diagram detailing emissions for each transportation type. Appendix AA gives calculations explaining average transportation emissions. Figure 21 explains the total average emissions by each transportation type.

	Small car	Large Car	Train	Bus
Emissions (annual metric tons)	3,609	7,218	1,547	3,781

Figure 21, Emissions by transportation type

Given that automobiles are the only existing transportation in downtown New Castle, the average transportation emissions are around 5,414 metric tons per year.

Buildings Emissions

To configure annual building emissions estimates, Raintree calculated the approximate carbon dioxide emissions per square foot of nonresidential land use, based on electricity and heat consumption, using the Renewable Choice Energy calculator, shown in Figure 22 (Renewable Choice Energy, 2011). Residential use was calculated using an EPA calculator, based on two people per unit, using average energy and electricity costs and omitting transportation (U.S. EPA, 2012). Both calculators consider location (zip code 47362) and the type of electricity generated in each area. A comparison chart (Figure 23) follows.

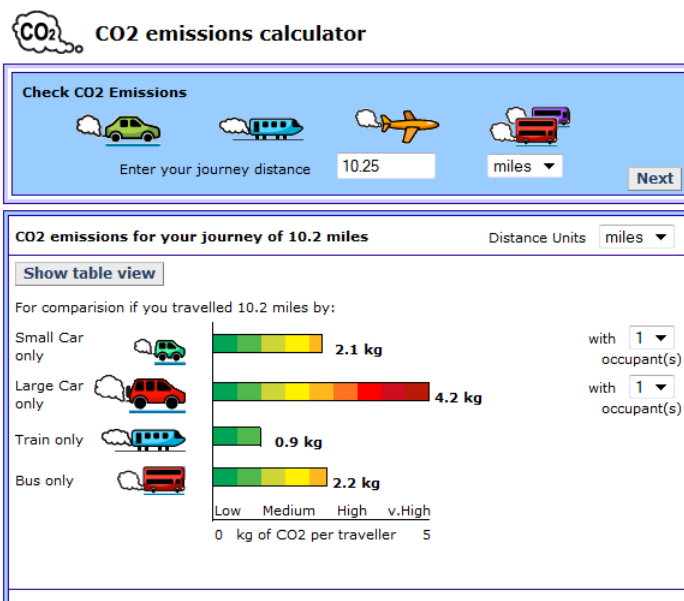


Figure 20, Courtesy www.transportdirect.info

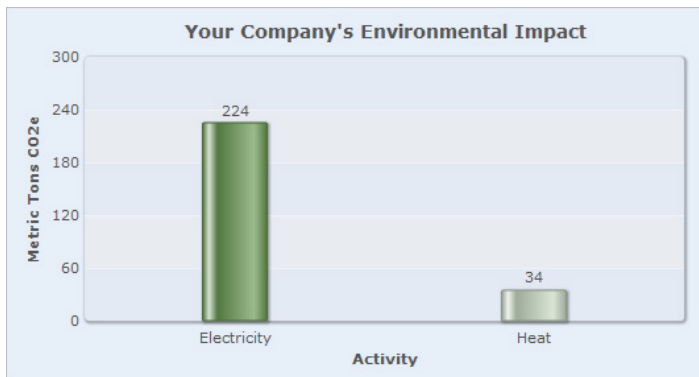


Figure 22, Emissions calculator by land use and square footage, Courtesy www.renewablechoice.com

Land Use	Emissions (annual metric tons)
Residential	337 (9.9 per dwelling unit)
Retail	805
Institutional	436
Office	258
Total	1836

Figure 23, emissions by land use

Building Emissions Comparison: New Castle, IN vs. Portland, OR

Because much of Portland's electricity comes from hydroelectric power, Raintree calculated the emissions for a comparable development, in terms of use and square footage, in Portland, Oregon. Both calculators considered the zip codes of each area to determine the electricity sources. Nonresidential uses were calculated per square foot of land use, based on electricity and heat consumption using the Renewable Choice Energy calculator. Residential emissions were calculated using the EPA Household Carbon Footprint Calculator, based on two people per unit, using average energy and electricity costs, and assuming significant recycling (U.S. EPA, 2012). The average building emissions in downtown Portland are significantly less than that of downtown New Castle, with approximately 37 percent less emissions.

Changes in Emissions

Transit-Oriented

If the development was more transit-oriented than car-oriented, the carbon emissions would drop significantly.

Raintree shall assume that approximately half of the population drives and the other half uses transit, perhaps our proposed trolley system. The result, 4,039 annual metric tons, is approximately 25 percent less than the vehicle-oriented average of 5,414 annual metric tons.

$(3,609 + 7,218 + 1,547 + 3,781) / 4 = 4,039$ annual metric tons of emissions

Pedestrian- and Bicycle-Oriented

If the downtown development was more pedestrian and bicycle-friendly, the transportation carbon emissions would drop significantly. Raintree shall assume that approximately one quarter of the population walks or bikes to their necessary destinations, while the other three quarters use equal amounts of transit and cars. The result, 3,029 annual metric tons, is approximately 44 percent less than the vehicle-oriented average of 5,414 annual metric tons.

$.75 \times \text{car/transit emissions (from previous transit-oriented calculations)} =$

$.75 \times 4,039 = 3,029$ annual metric tons of emissions

Fuel Consumption

The annual fuel consumption used on the downtown New Castle site was determined based on the program type for the new development. Using the Spack Consulting calculator, the calculations for Raintree's final development scenario considered the average daily trips of commuters who travel 260 days per year, and the proposed trolley line, which runs 312 days a year.

Final Development Calculations

In the final plan, based on the calculations made by the Spack average daily trip calculator, there will be 6,610 trips. As in the carbon footprint calculation, we assume 25 percent of these trips, 1,652.5 trips, are associated with commuters who travel from Muncie and 75 percent of the trips, 4,957.5 trips, are created from commuters within the city of New Castle. Assuming a quarter of these commuters travel from the nearest city with a population of 50,000, the commuter would travel 38 miles round trip each day for 260 days per year. This equals 9,880 miles per year for each commuter and a total of 16,326,700 miles per year for all longer-distance commuters. The commuters who travel within New Castle travel 260 miles per year and a total of 1,288,950 miles per year. For all commuters, this equals 17,615,650 miles per year. Assuming that the average car gets 20 miles per gallon, the total of gas

consumed per year would be 880,783 gallons per year for the commuters.

The proposed trolley line will run 68 eight-mile loops a day, the service will run 312 days a year, and the shuttles will get 15 miles per gallon. Therefore, the shuttles will run 544 miles per day and 169,728 miles per year. Assuming the transit gets 15 miles per gallon, the transit service will use 11,315 gallons per year for transit. The fuel consumption total for the final plan for the downtown New Castle development is 937,802 gallons of fuel per year.

Changes in Fuel Consumption

If the development were to change and become either transit-oriented or bicycle- and pedestrian-oriented, the annual fuel consumption would be greatly decreased. The annual gallons per year used in the final plan would be 937,802. Changing the average daily trips to half transit, half car, the new annual gallons per year would decrease to 440,389. If the development would become more pedestrian- and bike-oriented, the new annual gallons of gas used per year would be 330,299.

Conclusion

As a group, Raintree has learned many valuable lessons throughout the entirety of this project. We have completed five phases of analysis that have taught us topics regarding the qualitative analysis of three economies, local economic conditions and performance, economic development strategies, project feasibility, and development impact. Our project is the result of the culmination of all five phases into one final document. Perhaps the most valuable lesson we have learned is that while a design may look good on paper or in a drawing, in many cases, what is originally proposed is not economically feasible. Taking the time to delve deeper into development proposals allowed us to create both a functional and aesthetically pleasing design alternative for a lagging downtown. Downtown New Castle has provided Raintree with an excellent subject for our first in-depth economic study and we would like to thank all of the city officials and other employees who answered our questions and inquires. Without their help and feedback we would not have been able to complete our project to such a caliber. In addition, we would like to thank our professor, Dr. Bruce Frankel, for his continuous input and support; without him, this study would not be feasible.

References

Courier Times. Retrieved from: <http://www.indianaeconomicdigest.net/main.asp?SectionID=31&ArticleID=62183>

Florida, R. (2002). The Rise of the Creative Class: Why cities without gays and rock bands are losing the economic development race. The Washington Monthly. Retrieved from <http://www.washingtonmonthly.com/features/2001/0205.florida.html>

Henry County, Indiana. (2004). Henry County, Indiana Development Code. Title 1 – Zoning. Retrieved from http://www.henryco.net/index.php?option=com_content&view=article&id=50&Itemid=60

Highway capacity/level of service. (2009). Retrieved from <http://www.dot.state.fl.us/planning/systems/sm/los/>

National Bus. National Bus Corporation. Retrieved from <http://www.nationsbus.com/invdetail.php?id=872>

Nelson, Arthur C. (2004). Planner's estimating guide: Projecting land-use and facility needs. Chicago, IL: Planners Press.

New Castle/Henry County Economic Development Corporation. (2012). Retrieved from <http://nchcedc.org/>

New castle historic district. (n.d.). Retrieved from http://www.cityofnewcastle.net/egov/docs/1182537658_957183.pdf

Mauger, B. (2011). \$5.3 million dollar project would put 4 restaurants in Jennings Building downtown.

Renewable Choice Energy. (2011). Business Carbon Calculator. Retrieved from <http://www.renewablechoice.com/business-carbon-calculator.html>

Rural Transit Program. Indiana Department of Transportation. Retrieved from <http://www.in.gov/indot/2816.htm>

Shelter Store. Retrieved from http://www.shelterstore.co.uk/cat_name/bus-shelters.aspx

Transport Direct.Info (n.d.). CO2 Emissions Calculator. Retrieved from <http://www.transportdirect.info/web2/journeyplanning/journeyemissionscompare.aspx>

United States Census Bureau. (2010). State & Census block group Quickfacts: Block group 976000-2, I.N. Retrieved from <http://www.usa.com/IN0659760002.html>.

United States Census Bureau. (2010). State & City Quickfacts: New Castle, IN. Retrieved from <http://www.usa.com/new-castle-in.html>.

United States Census Bureau. (2010). State & County Quickfacts: Henry County, IN. Retrieved from <http://www.usa.com/henry-county-in.html>.

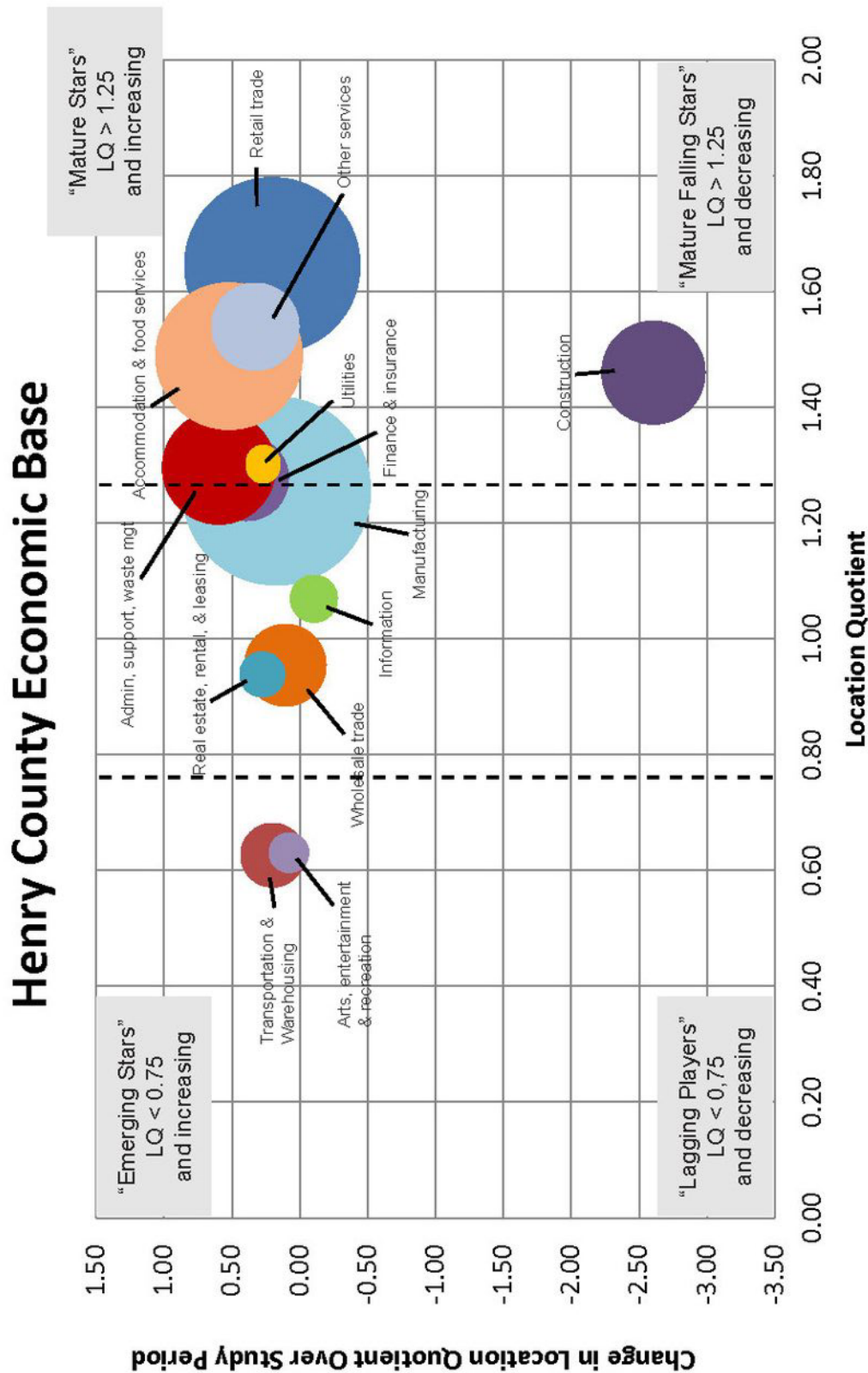
United States Census Bureau. (2010). State Quickfacts: IN. Retrieved from <http://www.usa.com/indiana-state.html>.

United States Department of Labor, Bureau of Labor Statistics. (2011). Annual Covered Employment and Wages over Time. Retrieved from <http://nchcedc.org/documents/henrycounty>

United States Environmental Protection Agency. (2012). Household Carbon Footprint Calculator. Retrieved from http://www.epa.gov/climatechange/ghgemissions/ind-calculator.html#c=transportation&p=reduceOnTheRoad&m=calc_currentEmissions

Walk score. (2013, March 26). Retrieved from http://www.walkscore.com/IN/New_Castle

Appendix A: Economic Base



*LQ change of forestry, fishing, hunting, agriculture, mining, professional, science and technology services, management of companies, educational services, and health care and social assistance is not illustrated due to insufficient data.

Appendix B: Shift-share Analysis

Industry	Reference Share	Industry Mix	Local Factors
Utilities	-3	3	-3
Construction	-130	-372	-1,454
Manufacturing	-130	-314	-313
Wholesale trade	-22	-6	-70
Retail trade	-101	-28	-299
Transportation & warehousing	-10	5	14
Information	-10	-17	-54
Finance & insurance	-19	-8	19
Real estate & rental & leasing	-5	3	3
Admin, support, waste management	-24	31	162
Educational services	-1	2	-12
Health care and social assistance	-75	244	-1,599
Arts, entertainment & recreation	-5	0	-15
Accommodation & food services	-49	46	114
Other services	-22	10	-29

Appendix C: Multiplier Effects

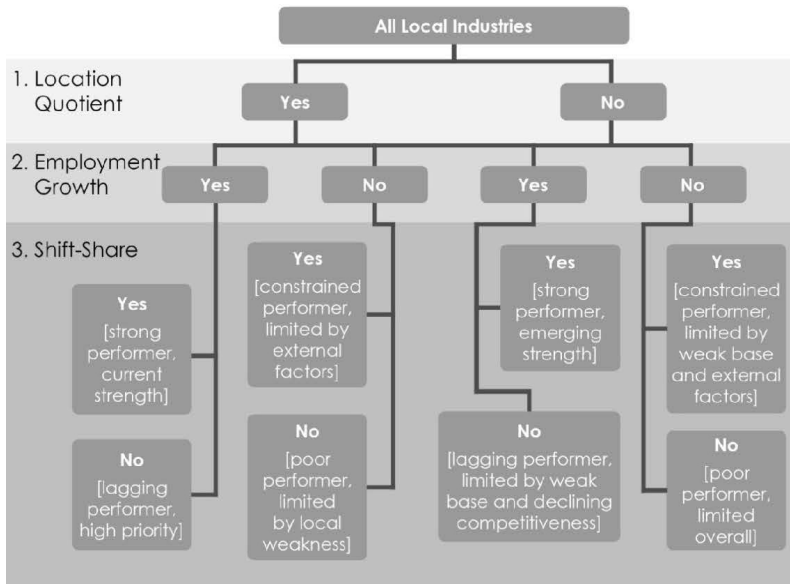
Industry	Employment multiplier	Income multiplier
Forestry, fishing, hunting, agric.	1.56	1.29
Mining	1.40	1.21
Utilities	1.69	1.01
Construction	1.36	1.30
Manufacturing	1.57	1.26
Wholesale trade	1.43	1.28
Retail trade	1.20	1.30
Transportation & warehousing	1.19	1.33
Information	1.74	1.37
Finance & insurance	1.64	1.29
Real estate & rental & leasing	1.46	1.33
Professional, sci. & tech. services.	1.56	1.39
Management. of companies	1.58	1.42
Admin, support, waste management	1.31	1.35
Educational services	1.13	1.37
Health care and social assistance	1.26	1.34
Arts, entertainment & recreation	1.17	1.37
Accommodation & food services	1.19	1.37
Other services	1.20	1.39

Appendix D: Economic Performance

Industry	Economic Base	Location Quotient	Employment Growth	Competitive Share
Utilities	Exporting	1.27	-5%	RS: -3 IM: -3 LF: -3
Construction	Exporting	1.46	-79%	RS: -130 IM: -372 LF: -1,454
Manufacturing	Exporting	1.26	-31%	RS: -130 IM: -314 LF: -313
Wholesale trade	Self-sustaining	0.95	-23%	RS: -22 IM: -6 LF: -70
Retail trade	Exporting	1.65	-22%	RS: -101 IM: -28 LF: -299
Transportation & warehousing	Importing	0.63	5%	RS: -10 IM: 5 LF: 14
Information	Self-sustaining	1.07	-43%	RS: -10 IM: -17 LF: -54
Finance & insurance	Exporting	1.28	-2%	RS: -19 IM: -8 LF: 19
Real estate & rental & leasing	Self-sustaining	0.94	1%	RS: -5 IM: -3 LF: 3
Admin, support, waste management	Exporting	1.30	37%	RS: -24 IM: 31 LF: 162
Arts, entertainment & recreation	Importing	0.63	-21%	RS: -5 IM: 0 LF: -15
Accommodation & food services	Exporting	1.49	12%	RS: -49 IM: 46 LF: 114
Other services	Exporting	1.54	-10%	RS: -22 IM: 10 LF: -29

Appendix E: Decision Tree

Decision Tree



Industry Quadrants

1. Strong Performers	2. Lagging Performers
Emerging Strength	
Transportation and Warehousing	
Real Estate, Rental, and Leasing	
Current Strength	
Administrative, Support, and Waste Management	
Accommodation and Food Services	
4. Poor Performers	3. Constrained Performers
Limited by local weakness	Limited by external factors
Utilities	Manufacturing
Construction	Finance and Insurance
Wholesale Trade	
Retail Trade	
Information	
Other Services	
Limited overall	
Arts, Entertainment, and Recreation	

Appendix F: Demographics

Population Growth Since 2000

Economy	Percent of Growth
Downtown New Castle	No Data
New Castle	1.88%
Henry County	1.97%
Indiana	6.63%

Population by Age

	Under 5 years	5-19 years	20-64 years	65+ years
Downtown N.C.	50	167	501	56
New Castle	1,161	3,557	10,363	501
Henry Co.	2,667	9,643	29,141	8,001
Indiana	434,075	1,372,507	3,836,112	841,108

Median Individual Income

Economy	Amount in Dollars
Downtown N.C.	\$16,712
New Castle	\$23,980
Henry Co.	\$27,388
Indiana	\$26,708

Poverty level

	Population in Poverty	Families in Poverty
Downtown N.C.	No data	15 (9.80%)
New Castle	3,512 (19.83%)	714 (15.09%)
Henry Co.	6,318 (13.70%)	1,338 (10.20%)
Indiana	962,775 (15.30%)	181,892 (10.98%)

Appendix G: Historic Demographics

Annual Covered Employment and Wages Over Time (NAICS)	Establishments	Jobs	Average Wage Per Job (*adj)	Rank in State	Pct of State Avg Wage
2011	866	12,127	\$30,807	72	76.5%
2010	865	11,769	\$31,636	70	78.1%
2009	886	12,311	\$31,957	62	79.6%
2008	897	13,200	\$32,945	53	82.1%
2007	909	13,286	\$34,621	45	85.0%
2006	880	13,367	\$34,088	53	83.6%
2005	884	13,526	\$34,423	52	84.4%
2004	899	13,849	\$36,495	35	88.3%
2003	910	13,989	\$40,048	22	98.1%
2002	899	13,858	\$40,381	21	99.1%
2001	913	14,113	\$38,622	24	95.7%
10-Year Change	-47	-1,986	-\$7,815		
10-Year Percent Change	-5.1%	-14.1%	-20.2%		

Population Over Time	Number	Rank in State	Percent of State	State
2011	49,264	29	0.76%	6,516,922
2010	49,462	29	0.76%	6,483,800
2000	48,508	27	0.80%	6,080,485
1990	48,139	25	0.87%	5,544,156
1980	53,336	24	0.97%	5,490,210
2000 to 2010 % change	2.0%	51		6.6%
1990 to 2010 % change	2.7%	68		16.9%
1980 to 2010 % change	-7.3%	78		18.1%

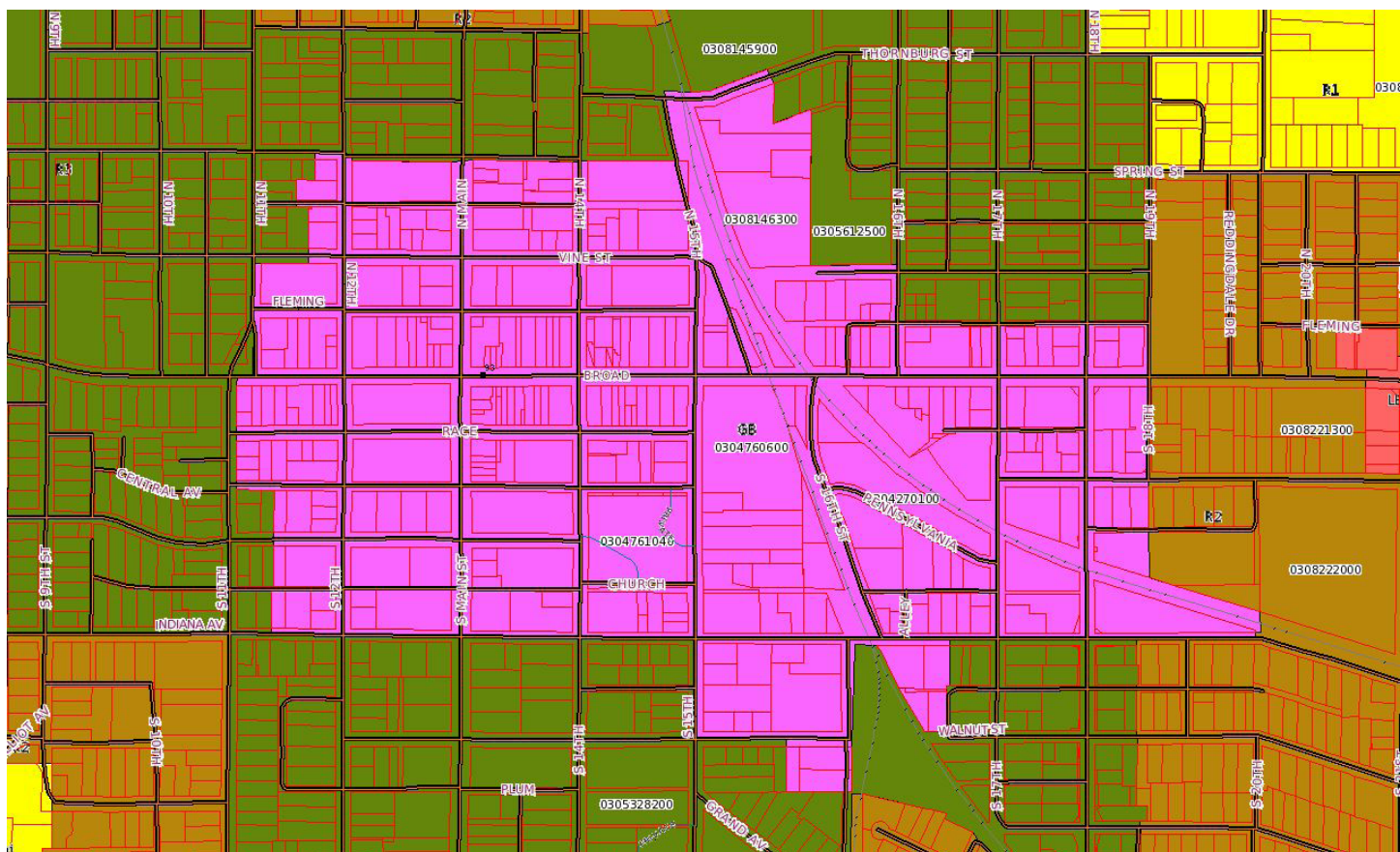
Appendix H: SWOT Analysis

Downtown New Castle	
Strengths	<ul style="list-style-type: none"> Easily accessed via State Road 3 and Broad Street Slow traffic speeds through downtown Court house serves as landmark Cross walks Good signage On street parking Sidewalks in good condition Handicap ramps Pedestrian scale Facades built to the sidewalk Historic character Small scale lighting Trash and recycling receptacles present Mostly locally owned shops Pavillion Library Henry County Arts Center
Weaknesses	<ul style="list-style-type: none"> Vacant upper stories Highly visible utility lines Lack of green spaces/ pocket parks Lack of people in site/ activity Lack of diversity in shops Tailored towards middle aged residents
Opportunities	<ul style="list-style-type: none"> Connect across the train tracks=consistency Transition/Connection to State Road 3 Addition of streetscaping to buffer noise Plant street trees to add sense of security Expand uses of pavilion
Threats	<ul style="list-style-type: none"> Train tracks- visual and audial pollution Collapsed buildings at Broad and 14th Vacant buildings- safety hazard Disinvestment- harmful for future value Underutilized parking and vacant lots





Appendix I: Shared Parking Analysis

STEP 1: DETERMINE ORDINANCE REQUIREMENTS FOR PARKING BY SEPARATE USE					
Use	Per s.f.	Per d.u.	Units	Spaces	
Office	200		18,023	90	
Retail	200		61,968	310	
Institutional		0.82	200	164	
Residential		1.5	34	51	
Total				615	
STEP 2: DETERMINE PERCENTAGES OF MAXIMUM PARKING NEEDED					
Use	Weekday		Weekend		Overnight
	Daytime	Evening	Daytime	Evening	
Office	100%	10%	10%	5%	5%
Retail	60%	90%	100%	70%	5%
Institutional	100%	25%	10%	5%	5%
Residential	25%	100%	90%	90%	100%
STEP 3: Automatically Apply Steps above and total each column					
Use	Weekday		Weekend		Overnight
	Daytime	Evening	Daytime	Evening	
Office	90	9	9	5	5
Retail	186	279	310	217	15
Entertainment	164	41	16	8	8
Residential	13	51	46	46	51
Total	453	380	381	275	79
Select total in Step 3 with highest value			----->		453
Reduction in parking spaces resulting from shared parking --->					162
Percentage savings in parking requirements ----->					26%

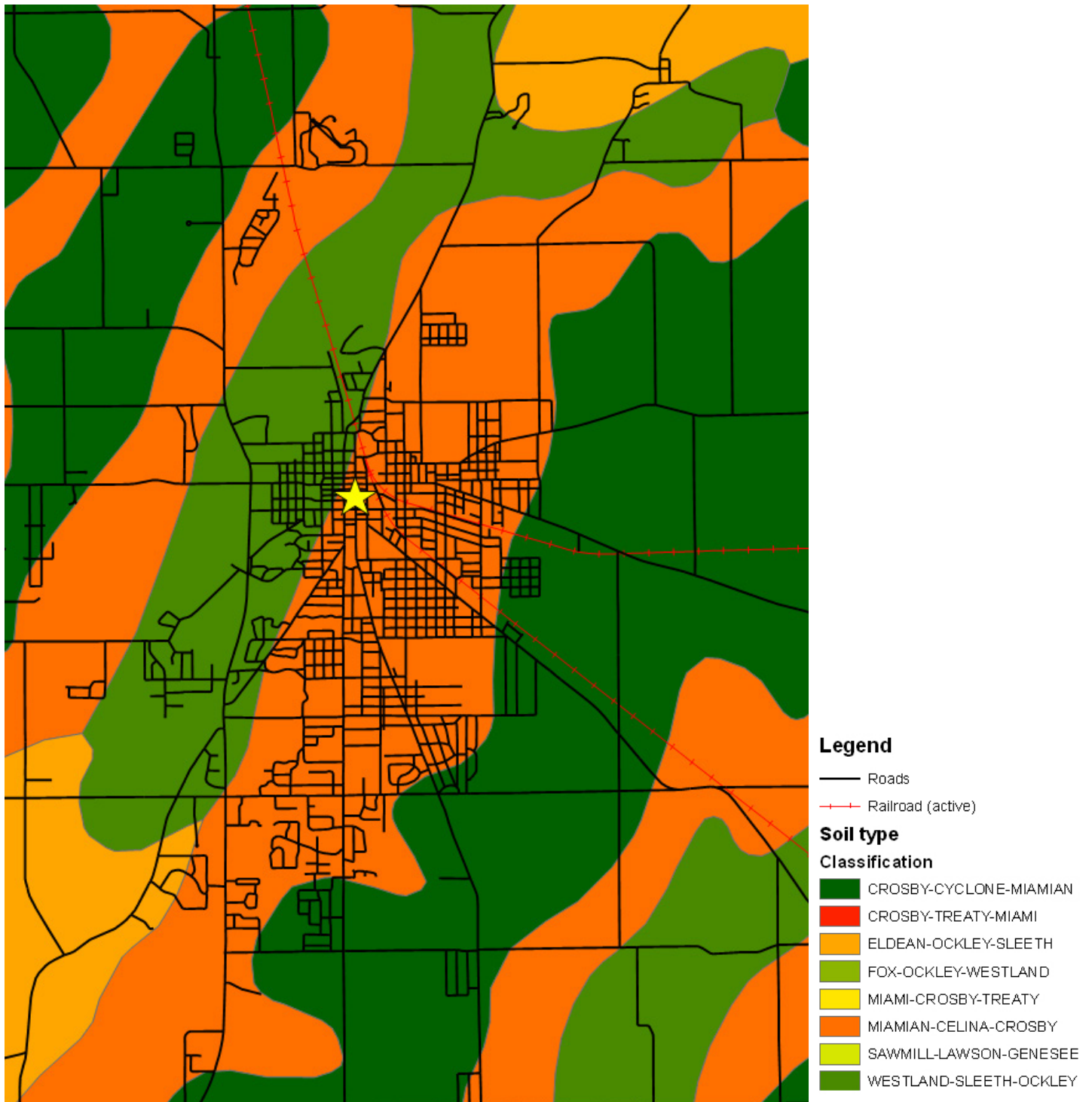
Appendix J: Zoning Map



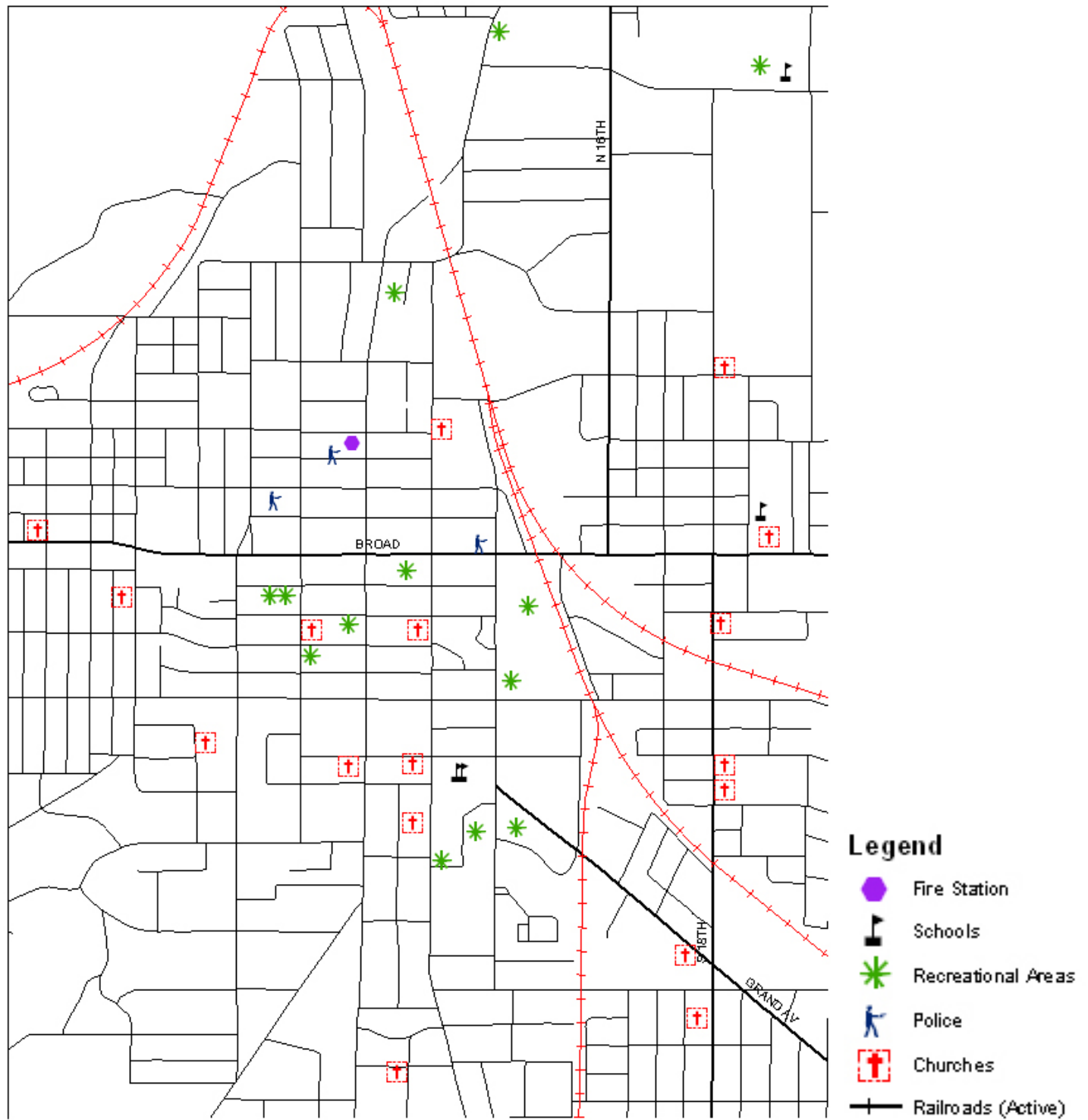
Legend

-  General Business  R3
 R1  Limited Business
 R2

Appendix K: Soils



Appendix L: Public Facilities



Appendix M: Wastewater Capacity Analysis

Land Use	Land Use Unit	Current Units	Proposed Unites	Employee In-Place Percent	Demand Per Unit	Current MGD Sewer Demand	Proposed MGD Sewer Demand
Residential							
Average Residential 1-5 acres	Residential Unit	na	na	na	na	na	na
Detached Urban Unit	Residential Unit	0	0	na	300	0	0
Attached Unit	Residential Unit	5	34	na	200	0.01	0.0078
Group Care	Bed, Unit	0	0	na	143		0
Hotel/Motel	Room	0	0	na	86		0
Subtotal Residential						0.01	0.0078
Employment							
Construction	Employee	2	0	25.00%	35	0.00007	0
Manufacturing	Employee	10	0	100.00%	35	0.00035	0
TCU	Employee	9	0	100.00%	35	0.00032	0
Wholesale	Employee	2	0	100.00%	35	0.00007	0
Retail	Employee	52	160	100.00%	20	0.00104	0.0032
FIRE	Employee	23	0	80.00%	20	0.00046	0
Services	Employee	68	0	80.00%	20	0.00136	0
Government	Employee	91	0	80.00%	20	0.00182	0
Subtotal Employment		257	160			0.00549	0.0032
Education	Student	0	250		24		0.006
Total						0.001549	0.017

Appendix N: Retail Capacity

Henry County Primary Trade Area

Chart 2 Retail Capacity Per Retail Category [Chicago Neighborhoods Study 2009]								
Advanced Components - "Average" Income & Highly Urban Area								
Retail Category	Demand	% Demand	Supply	% Supply	Float	Float as % Demand	Sales/s.f.	s.f. Unmet Demand
1 Automotive dealers	\$ 8,961,064	23.9%	\$ -	0.0%	\$ 50,981,126	568.9%	350	145,660
2 Food	\$ 6,169,333	16.5%	\$ 196,000	5.7%	\$ 25,633,432	415.5%	196	130,783
3 "Department"	\$ 4,350,958	11.6%	\$ 310,000	9.0%	\$ 11,693,307	268.8%	310	37,720
4 Eating & Drinking	\$ 4,937,857	13.2%	\$ 390,000	11.3%	\$ 30,818,730	624.1%	390	79,022
5 Hardware/ Building Materials	\$ 1,860,602	5.0%	\$ 321,000	9.3%	\$ 10,133,890	544.7%	321	31,570
6 Gasoline Service	\$ 2,309,557	6.2%	\$ 275,000	8.0%	\$ (32,212,349)	-1394.7%	275	(117,136)
7 Apparel & Accessory	\$ 2,525,188	6.7%	\$ 293,000	8.5%	\$ 3,407,415	134.9%	293	11,629
8 HH Appliances, Radio & TV	\$ 1,278,190	3.4%	\$ 329,000	9.5%	\$ 6,898,484	539.7%	329	20,968
9 Furniture & Home Furnishings	\$ 1,236,804	3.3%	\$ 331,000	9.6%	\$ 4,747,355	383.8%	331	14,342
10 Drug & Proprietary	\$ 2,963,746	7.9%	\$ 381,000	11.1%	\$ 8,622,810	290.9%	381	22,632
11 General Merchandise excl. [3]	\$ 494,897	1.3%	\$ 310,000	9.0%	\$ 7,055,487	1425.6%	310	22,760
12 Automotive & Home Supplies	\$ 406,107	1.1%	\$ 310,000	9.0%	\$ 4,168,814	1026.5%	310	13,448
13 Combined	\$ 37,494,303	100.0%	\$ 3,446,000	100.0%	\$ 131,948,501	351.9%	319	413,399

Downtown Primary Trade Area

Chart 2 Retail Capacity Per Retail Category [Chicago Neighborhoods Study 2009]								
Advanced Components - "Average" Income & Highly Urban Area								
Retail Category	Demand	% Demand	Supply	% Supply	Float	Float as % Demand	Sales/s.f.	s.f. Unmet Demand
Automotive dealers	\$ 14,612,088	23.9%	\$ -	0.0%	\$ 4,814,640	32.9%	350	13,756
Food	\$ 10,059,838	16.5%	\$ 196,000	6.3%	\$ 1,137,255	11.3%	196	5,802
"Department"	\$ 7,094,759	11.6%	\$ 310,000	9.9%	\$ 2,386,672	33.6%	310	7,699
Eating & Drinking	\$ 8,051,768	13.2%	\$ 390,000	12.4%	\$ 849,119	10.5%	390	2,177
Hardware/ Building Materials	\$ 3,033,935	5.0%	\$ 321,000	10.2%	\$ 600,023	19.8%	321	1,869
Gasoline Service	\$ 3,766,010	6.2%	\$ 275,000	8.8%	\$ 2,869,441	76.2%	275	10,434
Apparel & Accessory	\$ 4,117,622	6.7%	\$ 293,000	9.3%	\$ (158,438)	-3.8%	293	(541)
HH Appliances, Radio & TV	\$ 2,084,242	3.4%	\$ 329,000	10.5%	\$ (221,478)	-10.6%	329	(673)
Furniture & Home Furnishings	\$ 2,016,757	3.3%	\$ 331,000	10.6%	\$ 236,721	11.7%	331	715
Drug & Proprietary	\$ 4,832,743	7.9%	\$ 381,000	12.1%	\$ 112,650	2.3%	381	296
General Merchandise excl. [3]	\$ 806,989	1.3%	\$ 310,000	9.9%	\$ (3,090,275)	-382.9%	310	(9,969)
Combined	\$ 61,138,956	100.0%	\$ 3,136,000	100.0%	\$ 9,536,330	15.6%	302	31,566

Appendix O: Housing Capacity



Housing Profile

Henry County, IN
Henry County, IN (18065)
Geography: County

Census 2010 Owner Occupied Housing Units by Mortgage Status

	Number	Percent
Total	14,055	100.0%
Owned with a Mortgage/Loan	9,206	65.5%
Owned Free and Clear	4,849	34.5%

Census 2010 Vacant Housing Units by Status

	Number	Percent
Total	2,211	100.0%
For Rent	667	30.2%
Rented- Not Occupied	26	1.2%
For Sale Only	368	16.6%
Sold - Not Occupied	203	9.2%
Seasonal/Recreational/Occasional Use	108	4.9%
For Migrant Workers	0	0.0%
Other Vacant	839	37.9%

Census 2010 Occupied Housing Units by Age of Householder and Home Ownership

	Occupied Units	Owner Occupied Units	
		Number	% of Occupied
Total	19,077	14,055	73.7%
15-24	657	201	30.6%
25-34	2,217	1,208	54.5%
35-44	3,220	2,212	68.7%
45-54	3,935	2,984	75.8%
55-64	3,748	3,161	84.3%
65-74	2,711	2,293	84.6%
75-84	1,824	1,471	80.6%
85+	765	525	68.6%

Census 2010 Occupied Housing Units by Race/Ethnicity of Householder and Home Ownership

	Occupied Units	Owner Occupied Units	
		Number	% of Occupied
Total	19,077	14,055	73.7%
White Alone	18,646	13,811	74.1%
Black/African American	159	101	63.5%
American Indian/Alaska	32	13	40.6%
Asian Alone	48	25	52.1%
Pacific Islander Alone	1	0	0.0%
Other Race Alone	38	13	34.2%
Two or More Races	153	92	60.1%
Hispanic Origin	137	62	45.3%

Census 2010 Occupied Housing Units by Size and Home Ownership

	Occupied Units	Owner Occupied Units	
		Number	% of Occupied
Total	19,077	14,055	73.7%
1-Person	5,205	3,276	62.9%
2-Person	6,871	5,629	81.9%
3-Person	3,012	2,184	72.5%
4-Person	2,398	1,808	75.4%
5-Person	1,019	742	72.8%
6-Person	360	257	71.4%
7+ Person	212	159	75.0%

Data Note: Persons of Hispanic Origin may be of any race.

Source: U.S. Census Bureau, Census 2010 Summary File 1.

April 15, 2013

Appendix P: Acquisition Costs

A1	\$44,500	Vacant	C1	0	Occupied
A2	\$98,800	Parking	C2	0	Occupied
A3	\$72,200	Vacant	C3	0	Occupied
A4	\$30,700	Vacant	C4	0	Occupied
A5	\$3,600	Parking	C5	0	Occupied
A6	\$31,700	Parking	C6	0	Occupied
A7	\$3,400	Parking	C7	0	Occupied
A8	\$49,000	Condominium	C8	0	Occupied
A9	\$55,520	Condominium	C9	\$25,360	Condominium
A10	\$17,080	Condominium	C10	\$4,100	Vacant
A11	\$16,400	Condominium	C11	\$27,100	Vacant
A12	0	Occupied	C12	\$20,400	Condominium
	\$422,900	Total	C13	\$35,800	Condominium
			C14	\$42,800	Vacant
				\$155,560	Total
D1	\$20,300	Vacant			
D2	\$13,300	Vacant			
D3	\$34,400	Vacant	Far North Large Parking Lot		\$95,300
D4	\$83,500	Vacant			
D5	\$7,200	Open Space			
D6	\$15,900	Vacant			
D7	\$43,700	Vacant			
D8	\$8,000	Open Space			
D9	\$11,000	Open Space			
D10	\$30,228	Condominium	Total	\$859,688	
D11	\$13,700	Parking			
	\$281,228	Total			

Appendix Q: Development Costs & Revenues

Factor	Project Scenario							
	1	2	3	4	5	6	7	8
Building Size in s.f.	7,680	18,023	5,808	13,992	29,600	18,880	8,800	37,760
Annual Base Contract Rent/ s.f.	\$ 13.00	\$ 10.00	\$ 13.00	\$ 1.00	\$ 13.00	\$ 13.00	\$ 1.00	\$ 15.00
Annual Landlord Operating Cost/ s.f.	\$ 5.50	\$ 4.50	\$ 5.50	\$ 0.25	\$ 5.50	\$ 5.50	\$ 0.25	\$ 5.50
Land Cost	\$ 73,700	\$ 211,700	\$ 15,600	\$ 97,160	\$ 42,800	\$ 105,550	\$ 30,228	\$ 105,550
Development Cost/ s.f.	\$ 45.00	\$ 40.00	\$ 45.00	\$ 30.00	\$ 45.00	\$ 45.00	\$ 30.00	\$ 100.00
Cap Rate per use and location	7.0%	7.0%	7.0%	6.0%	7.0%	7.0%	6.0%	7.0%
Calculation								
Annual Revenue	\$ 99,840	\$ 180,230	\$ 75,504	\$ 13,992	\$ 384,800	\$ 245,440	\$ 8,800	\$ 566,400
Annual Operating Costs	\$ (42,240)	\$ (81,104)	\$ (31,944)	\$ (3,498)	\$ (162,800)	\$ (103,840)	\$ (2,200)	\$ (207,680)
NOI	\$ 57,600	\$ 99,127	\$ 43,560	\$ 10,494	\$ 222,000	\$ 141,600	\$ 6,600	\$ 358,720
Capitalized Value	\$ 822,857	\$ 1,416,093	\$ 622,286	\$ 174,900	\$ 3,171,429	\$ 2,022,857	\$ 110,000	\$ 5,124,571
Development Cost	\$ (345,600)	\$ (720,920)	\$ (261,360)	\$ (419,760)	\$ (1,332,000)	\$ (849,600)	\$ (264,000)	\$ (3,776,000)
Land	\$ (73,700)	\$ (211,700)	\$ (15,600)	\$ (97,160)	\$ (42,800)	\$ (105,550)	\$ (30,228)	\$ (105,550)
Total Cost	\$ (419,300)	\$ (932,620)	\$ (276,960)	\$ (516,920)	\$ (1,374,800)	\$ (955,150)	\$ (294,228)	\$ (3,881,550)
Net Value [Value - Cost]	\$ 403,557	\$ 483,473	\$ 345,326	\$ (342,020)	\$ 1,796,629	\$ 1,067,707	\$ (184,228)	\$ 1,243,021
If > 0, then TRUE, then Viable	TRUE	TRUE	TRUE	FALSE	TRUE	TRUE	FALSE	TRUE
	Block A Retail	Block A Office	Block C Retail	Block C Res.	Block C Dept.	Block D Retail	Block D Res.	Block D Inst.

Appendix R: Need Gap

Given From Prior Analysis	Formulas	Block A Retail	Block A Office	Block C Retail	Block C Res.	Block C Dept.	Block D Retail	Block D Res.	Block D Inst.
NOI [Net Operating Income]	Gross Potential Revenue - Vacancy Loss in Revenue - Operating Costs (excludes debt service)	\$ 403,557	\$ 483,473	\$ 345,326	\$ (342,020)	\$ 1,796,629	\$ 1,067,707	\$ (184,228)	\$ 1,243,021
Cap Rate	Average of NOI / Price of transacted properties	7.00%	7.00%	7.00%	6.00%	7.00%	7.00%	6.00%	7.00%
Mortgage Interest Rate (APR)	Given from Lender	8.50%	9.00%	8.50%	9.00%	8.50%	8.50%	9.00%	8.00%
Mortgage Amortization Period in Years	Negotiated with Lender	20	15	20	15	20	20	15	20
LTV (Loan to Value Ratio)	Given from Lender	75%	75%	75%	75%	75%	75%	75%	75%
DSCR (Debt Service Coverage Ratio)	As compiled by lender. Includes all direct and indirect costs	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
Total Development Cost		\$ 345,600	\$ 720,920	\$ 261,360	\$ 419,760	\$ 1,332,000	\$ 849,600	\$ 264,000	\$ 3,776,000
ROE Requirement	Given from permanent equity source (industry source) for specific property type	7.00%	8.00%	7.00%	8.00%	7.00%	7.00%	8.00%	8.00%
Calculations									
Capitalized Value	NOI/Cap Rate	\$ 5,765,100	\$ 6,906,757	\$ 4,933,229	\$ (5,700,333)	\$ 25,666,129	\$ 15,252,957	\$ (3,070,467)	\$ 17,757,443
Mortgage Constant	-PPMT [mortgage interest rate, mortgage amortization period, \$1.00]	9.7393%	11.3815%	9.7393%	11.3815%	9.7393%	9.7393%	11.3815%	9.4308%
Mortgage Set for LTV or LTC	Capitalized Value * LTV or LTC	\$ 4,323,825	\$ 5,180,068	\$ 3,699,921	\$ (4,275,250)	\$ 19,249,596	\$ 11,439,718	\$ (2,302,850)	\$ 13,318,082
Mortgage Set to DSCR	NOI / [mortgage constant * DSCR]	\$ 3,603,139	\$ 3,693,797	\$ 3,083,227	\$ (2,613,078)	\$ 16,041,116	\$ 9,532,971	\$ (1,407,526)	\$ 11,461,301
Maximum Mortgage	If mortgage set for LTV < mortgage set for DSCR, then mortgage set for LTV; If mortgage set for LTV > mortgage set for DSCR, then mortgage set for DSCR	\$ 3,603,139	\$ 3,693,797	\$ 3,083,227	\$ (4,275,250)	\$ 16,041,116	\$ 9,532,971	\$ (2,302,850)	\$ 11,461,301
Annual Mortgage Payment	maximum mortgage * mortgage constant	\$ 350,919	\$ 420,411	\$ 300,283	\$ (466,590)	\$ 1,562,286	\$ 928,441	\$ (262,100)	\$ 1,080,868
Need for Equity	Total development cost - maximum mortgage	\$ (3,257,539)	\$ (2,972,877)	\$ (2,821,867)	\$ 4,695,010	\$ (14,709,116)	\$ (8,683,371)	\$ 2,566,850	\$ (7,685,301)
BTCF	NOI - annual mortgage payment	\$ 52,638	\$ 63,062	\$ 45,043	\$ 144,570	\$ 234,343	\$ 139,266	\$ 77,872	\$ 162,133
Maximum Equity	BTCF / ROE Requirement	\$ 751,970	\$ 788,271	\$ 643,465	\$ 1,807,121	\$ 3,347,756	\$ 1,989,516	\$ 973,400	\$ 2,026,665
Financing Gap	Need for Equity - Maximum Equity	\$ (4,009,509)	\$ (3,761,148)	\$ (3,465,331)	\$ 2,887,889	\$ (18,056,872)	\$ (10,672,887)	\$ 1,593,450	\$ (9,711,966)
Proportionate Gap [surplus]	Financing Gap / Total Development Cost	-1160.2%	-521.7%	-1325.9%	688.0%	-1355.6%	-1256.2%	603.6%	-257.2%
		\$ 3,603,139	\$ 3,693,797	\$ 3,083,227	\$ (4,275,250)	\$ 16,041,116	\$ 9,532,971	\$ (2,302,850)	\$ 11,461,301

Appendix S: Proforma

Scenario	Block A Retail	Block A Office	Block C Retail	Block C Residential	Block C Department	Block D Retail	Block D Residential	Block D Institution
Application of Funds	\$ 419,300	\$ 932,620	\$ 276,960	\$ 516,920	\$ 1,374,800	\$ 955,150	\$ 294,228	\$ 3,881,550
Land	\$ 73,700	\$ 211,700	\$ 15,600	\$ 97,160	\$ 42,800	\$ 105,550	\$ 30,228	\$ 105,550
Development Costs	\$ 345,600	\$ 720,920	\$ 261,360	\$ 419,760	\$ 1,332,000	\$ 849,600	\$ 264,000	\$ 3,776,000
Sources of Funds	\$ 432,600	\$ 949,127	\$ 393,560	\$ 610,494	\$ 1,372,000	\$ 816,600	\$ 606,600	\$ 3,733,720
Private Loan	\$ -	\$ 175,000	\$ -	\$ -	\$ 500,000	\$ 250,000	\$ -	\$ 2,500,000
Private Equity from Net Cash Flow	\$ 57,600	\$ 99,127	\$ 43,560	\$ 10,494	\$ 222,000	\$ 141,600	\$ 6,600	\$ 358,720
Public Bond HoTIF	\$ 100,000	\$ 150,000	\$ 100,000	\$ 150,000	\$ 225,000	\$ 100,000	\$ 150,000	\$ 350,000
Private Equity LI/HTC	\$ 50,000	\$ 100,000	\$ 25,000	\$ 25,000	\$ 50,000	\$ 100,000	\$ 25,000	\$ 50,000
Private Equity NMTC	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 150,000	\$ 100,000	\$ 100,000	\$ 100,000
Private Equity HTC	\$ -	\$ 200,000	\$ -	\$ 200,000	\$ -	\$ -	\$ 200,000	\$ 250,000
Purchase Money Mortgage [Seller Finance]	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 150,000	\$ 100,000	\$ 100,000	\$ 100,000
Private Equity Land Owner [Land for Share of ROI]	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000
Over [Under] Finance	\$ 13,300	\$ 16,507	\$ 116,600	\$ 93,574	\$ (52,800)	\$ (138,550)	\$ 312,372	\$ (147,830)
Total Application of Funds	\$ 8,651,528							
Total Source of Funds	\$ 8,864,701							

Appendix T: CLOS

Broad Street

The first access road we analyzed was Broad St., highlighted in the figure below. Its current level of service for automobile traffic is a C because there are few restrictions when it comes to speed. The ability to maneuver in traffic is restricted and drivers must be more careful when making lane changes. There are minimal to no delays found on Broad Street. Broad Street has a pedestrian level of service of an A due to the sidewalk infrastructure that is present. Broad Street has ten foot sidewalks that allow for maximum comfort when walking from destination to destination. According to walkscore.com Broad Street receives a score of 58 which is considered somewhat walkable. Some amenities are within walking distance. When it comes to bicycle transit, the level of service for cyclists earns a grade of E. A grade of E is given because there is no formal bike lane present on Broad St. but there is room present on the road as well as sidewalks for cyclists. There is currently no bus system infrastructure present in the city of New Castle so the level of service for bus transit would receive a grade of F.

Peak Direction		Off-Peak Direction							
	Segment	Thru Mvmt Flow Rate	Adj. Sat. Flow Rate	v/c	Control Delay	Thru Mvmt Intersection LOS	Queue Storage Ratio	Average Speed	Segment LOS
► 1		609	3095	0.447	20.8	C	0.28	25.0	C

Main Street

The second access road that was analyzed was Main Street which is highlighted in the image above. The current level of service for this street would receive a grade of C when it comes to automobile traffic. Main St. receives a grade of C because traffic is stable and flows freely. The ability to maneuver in traffic is only slightly restricted. There are usually minimal to no delays found on Main Street. Main Street has a pedestrian level of service of a B due to the sidewalk infrastructure that is present. Main Street has eight foot sidewalks that allow for both safety and comfort when walking from destination to destination. According to walkscore.com Main Street receives a score of 44 which is considered car dependent. A few amenities are within walking distance. When it comes to bicycle transit, the level of service for cyclists earns a grade of E. A grade of E is given because there is no formal bike lane present on Main Street but there is minimal room present on the road and minimal room present on the sidewalk. There is currently no bus system infrastructure present in the city of New Castle so the level of service for bus transit would receive a grade of F.

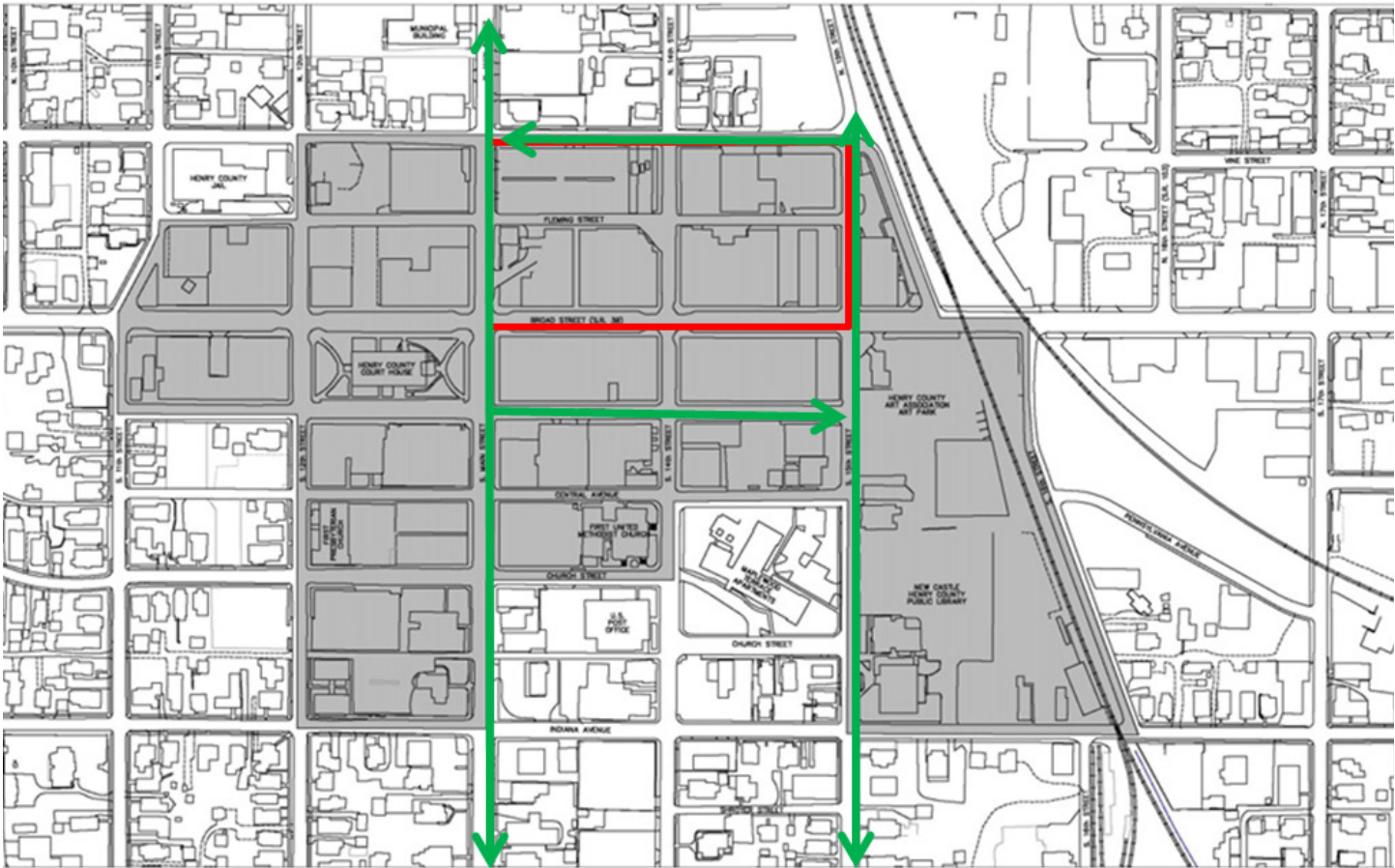
Peak Direction		Off-Peak Direction							
	Segment	Thru Mvmt Flow Rate	Adj. Sat. Flow Rate	v/c	Control Delay	Thru Mvmt Intersection LOS	Queue Storage Ratio	Average Speed	Segment LOS
► 1		304	3047	0.227	18.1	B	0.14	25.4	C

14th Street

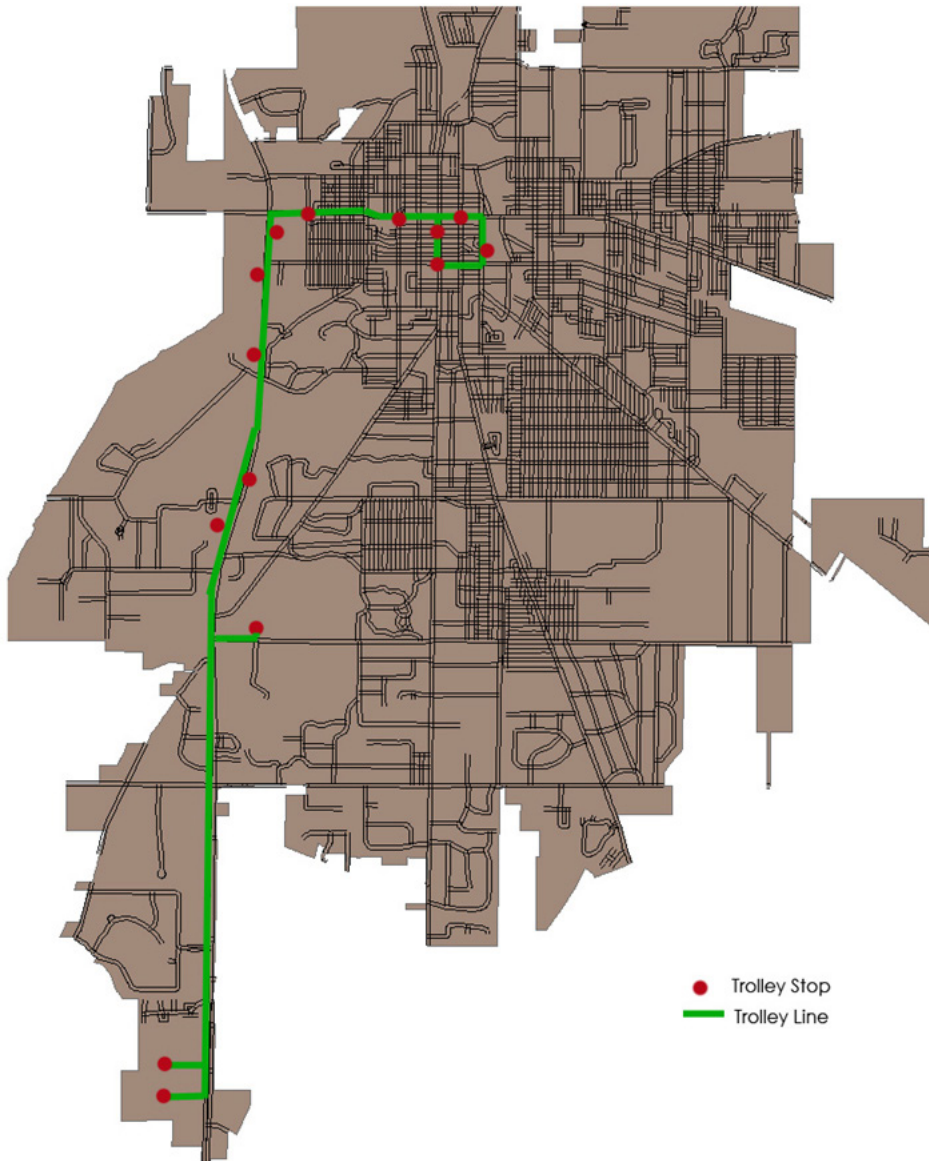
The last road that was analyzed 14th Street, which is highlighted in the image above. The current level of service for this street would receive a grade of C when it comes to automobile traffic. 14th Street receives a grade of C because traffic is stable and flows freely. The ability to maneuver in traffic is only slightly restricted. There are usually minimal to no delays found on 14th Street. 14th Street has a pedestrian level of service of a B due to the sidewalk infrastructure that is present. 14th Street has five foot sidewalks that allow for both safety and comfort when walking from destination to destination. According to walkscore.com 14th Street receives a score of 46 which is considered car dependent. A few amenities are within walking distance. When

it comes to bicycle transit, the level of service for cyclists earns a grade of F. A grade of F is given because there is no formal bike lane present on Main Street and there is minimal room present on the road and no room present on the sidewalk. There is currently no bus system infrastructure present in the city of New Castle so the level of service for bus transit would receive a grade of F.

Appendix U: Proposed Bike Route



Appendix V: Proposed Trolley Line



Appendix W: Private and Public Impact

Private Impact

Block A Impact

Industry	Retail Trade	Office	Total
Square Footage	7,700	18,000	25,700
Multiplier Effect	1.19	1.56	
Direct Jobs	8	46	54
Indirect Jobs	10	72	82
Direct Income	\$328,300	\$2,987,400	3,315,700
Indirect Income (State and Local Governments)	\$47,300	\$96,300	\$143,600
Sales Tax	\$22,500	\$45,800	
Property Tax	\$22,300	\$45,400	
Other Taxes	\$2,500	\$5,100	
Aggregate Income (Direct and Indirect)	\$375,600	\$3,083,700	\$3,459,400

Block C Impact

Industry	Retail Trade
Square Footage	35,400
Multiplier Effect	1.19
Direct Jobs	37
Indirect Jobs	44
Direct Income	\$1,518,300
Indirect Income (State and Local Governments)	\$219,300
Sales Tax	\$104,300
Property Tax	\$103,300
Other Taxes	\$11,700
Aggregate Income (Direct and Indirect)	\$1,737,600

NEW CASTLE

Block D Impact

Industry	Retail Trade	Educational Services	Total
Square Footage	18,900	37,800	56,700
Multiplier Effect	1.19	1.13	
Direct Jobs	20	49	69
Indirect Jobs	29	70	99
Direct Income	\$1,437,700	\$1,235,300	\$2,673,000
Indirect Income (State and Local Governments)	\$77,200	\$43,900	\$121,100
Sales Tax	\$36,700	\$20,900	
Property Tax	\$36,400	\$20,700	
Other Taxes	\$4,100	\$2,300	
Aggregate Income (Direct and Indirect)	\$1,514,900	\$1,618,600	\$3,133,500

Public Impact

Public School Children

	1 BR Units	2 BR Units	Total
# of units	28	6	34
PSC rate	0.250	0.382	
# of PSC	7	2	9

Schools

	Enrollment (2011-2012)	Square Footage Per Student	Total Square Footage Needed	Current Square Footage	Difference (Extra Square Footage)
K-5	1,613	87	140,331	309,300	168,969
6-8	890	96	85,440	143,000	57,560
9-12	1,150	110	126,500	189,000	62,500

Public Park Space (per 1000 people)

	Required Acreage Per 1000 People	Acreage Needed	Existing Acreage	Difference (Extra acreage)
Parks	2.0	36	136.3	100.2

Additional Downtown Population

	1 BR Units
Residents	73
1 BR Units	$28 \times 2.043 = 57$
2 BR Units	$6 \times 2.651 = 16$
Additional Workers	160
Students	150
Total Additional Population	383

Fire and Safety Personnel (per 1000 people)

Service	#	Total Personnel Needed	Current Personnel	Difference
Firemen	1.48	12	28	16
Policemen	1.98	9	24	15

Appendix X: Existing Zoning

Permitted [P]/ Commission-approved [CA]/Special Exception [SP], and Not Permitted [NP] Uses	Height, Density, Minimum Lot Area, Minimum Lot Width	Set-Backs	Parking
Accounting, auditing, and bookkeeping service [P]	35 feet high (3 stories), high density (according to Comprehensive Plan Classification), 4356 sq. ft., 100 ft. width	Front yard setback ¹ , abutting a major collector road=65 ft., abutting a minor collector road=40 ft., abutting a local road=30 ft. Side yard setback (two required) =15 ft. Rear yard setback=25 ft	1 space/200 sq. ft. ²
Apartment for residential use in business building [CA] ³	same requirements as above	same requirements as above	2 spaces/dwelling unit
Apparel shop [P]	same	same	1 space/200 sq. ft.
Attorney's office [P]	same	same	1 space/200 sq. ft.
Bakery, retail, baking and selling [P]	same	same	1 space/200 sq. ft.
Barber or beauty shop [P]	same	same	1 space/200 sq. ft.
Bicycle shop [P]	same	same	1 space/200 sq. ft.
Business service and/or office, professional [P]	same	same	1 space/200 sq. ft.
Camera and/or Photo Supply Store [P]	same	same	1 space/200 sq. ft.
Clothing store, family or rental [P]	same	same	1 space/200 sq. ft.
Delicatessen [P]	same	same	1 space/200 sq. ft.
Drug and/or proprietary store [P]	same	same	1 space/200 sq. ft.
Farm and garden supply store [P]	same	same	1 space/200 sq. ft.
Gift, novelty and/or souvenir shop [P]	same	same	1 space/200 sq. ft.
Grocery store [P]	same	same	1 space/200 sq. ft.
Health foods store [P]	same	same	1 space/200 sq. ft.
Ice cream parlor or store [P]	same	same	1 space/200 sq. ft.
Insurance agent, broker and/or service office	same	same	1 space/200 sq. ft.

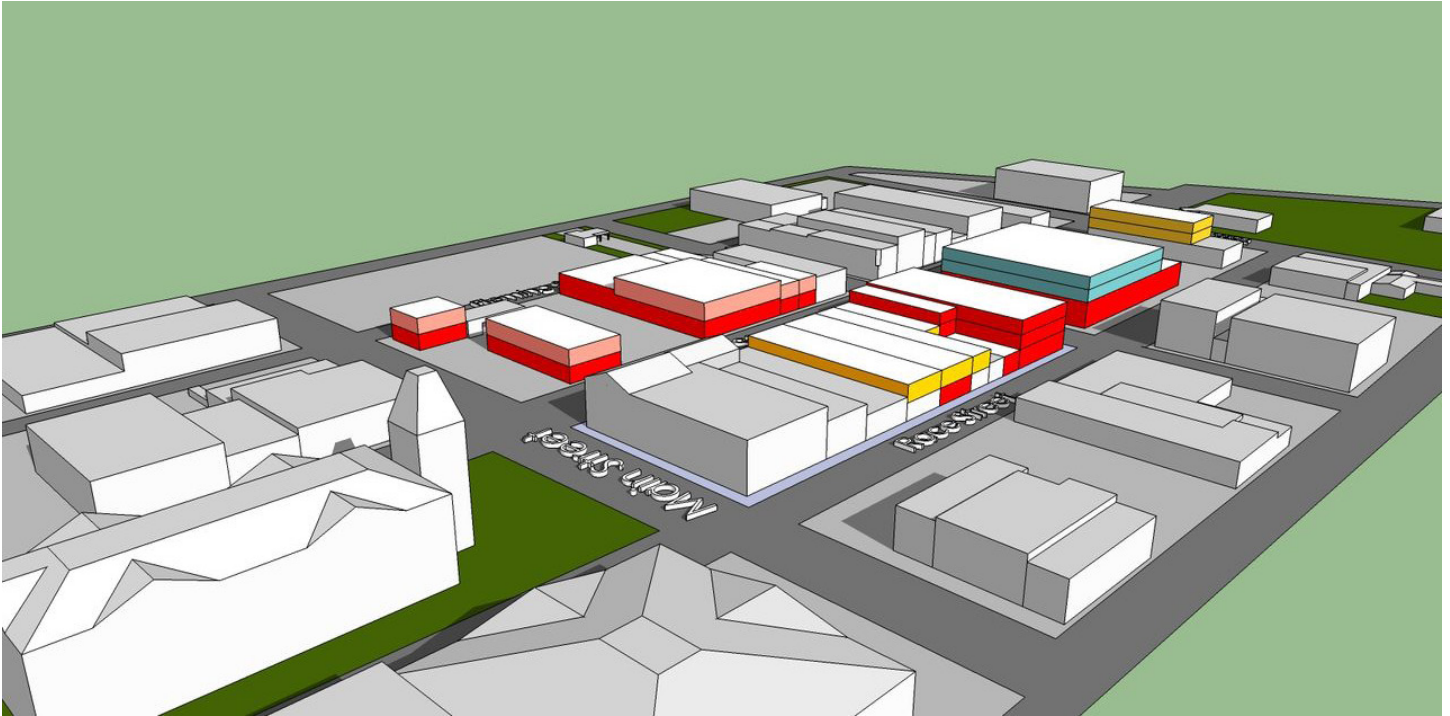
Permitted [P]/ Commission-approved [CA]/Special Exception [SP], and Not Permitted [NP] Uses	Height, Density, Minimum Lot Area, Minimum Lot Width	Set-Backs	Parking
Laundry and/or dry cleaning center, coin-operated [P] or commercial [P]	same	same	1 space/200 sq. ft.
Liquor store [CA]	same	same	1 space/200 sq. ft.
Meat and/or fish shop [P]	same	same	1 space/200 sq. ft.
Medical or dental office [P]	same	same	
Pet shop [P]	same	same	1 space/200 sq. ft.
Pharmacy [P]	same	same	1 space/200 sq. ft.
Photocopying and/or duplicating service [P]	same	same	1 space/200 sq. ft.
Restaurant [P]	same	same	1 space/4 seats
Restaurant, carry-out [P]	same	same	1 space/4 seats
School, trade or business [P]	same	same	.82 space/student, based on the maximum number of students attending classes on the premises at any time during a 24- hour period. If the school provides on-site housing, the requirement may be reduced to .5 space/ student. The school is responsible for providing this information
Specialty food shop [P]	same	same	1 space/200 sq. ft.
Sporting goods store [P]	same	same	1 space/200 sq. ft.
Tavern [P]	same	same	1 space/4 seats
Theater, indoor [P] or dinner [P]	same	same	1 space/5 seats
University, college or other institution of higher education, public or private [P]	same	same	(see School, trade or business requirements above)
Variety store [CA]	same	same	1 space/200 sq. ft.
Watch, clock and/or jewelry repair shop [P]	same	same	1 space/200 sq. ft.

Variances Required

Issue with Code	Desirable Use or Code	Variance Type Needed	Action To Be Taken
Apartments and business mixed – requires that the use of the apartment is limited to persons employed on the premises and the business use complies with the property development standards set forth for one-family residences in R3 districts.	Apartments may be occupied by persons employed on the premises as well as persons not employed on the premises	Use Variance	File application for variance with Zoning Administrator, who will then conduct a Site Plan Review. The Board of Zoning Appeals (BZA) will hold a public hearing, and notices will be sent out at the cost of the applicant. Within 45 days, the BZA will approve, approve with conditions, or disapprove the application. If approved, the BZA shall instruct the Zoning Administrator to issue a Variance Permit.

Appendix Y: Site Model

View looking northeast



Aerial view



View looking southwest



Appendix Z: Asset Mangement

Year	1	2	3	4	5	6	7	8	9	10
Private Loan Cost	\$2,750,000.00	\$3,535,000.00	\$3,156,067.20	\$2,305,020.85	\$1,419,932.64	\$499,440.91	\$(457,870.50)	\$-	\$-	\$-
NOI		\$500,320.00	\$939,701.00	\$939,701.00	\$939,701.00	\$939,701.00	\$939,701.00	\$939,701.00	\$939,701.00	\$939,701.00
Loan Cost Remaining		\$3,034,680.00	\$2,216,366.20	\$1,365,319.85	\$480,231.64	\$(440,260.09)	\$(1,397,571.50)	\$(2,337,272.50)	\$(3,276,973.50)	\$(4,216,674.50)

Assum 4% interest rate

Appendix AA: Emissions Calculations

The following are calculations of annual transportation emissions by transportation type generated by Raintree's development for each scenario and using average daily trip (ADT) calculations from the Spack Consulting calculator. Our development generates approximately 6610 ADTs. We assume that a commuter travels approximately 260 days per year.

Formula (per vehicle type per 1 passenger):

(kg of emissions travelling 10.25 miles x 260 days travelled per year x 6610 ADTs) / 1000 [convert kg to metric tons]

- Small car only: $(2.1 \text{ kg} \times 260 \text{ days travelled per year} \times 6610 \text{ average daily trips}) / 1000 = 3609$ annual metric tons of emissions
- Large car only: $(4.2 \text{ kg} \times 260 \text{ days travelled per year} \times 6610 \text{ average daily trips}) / 1000 = 7218$ annual metric tons of emissions
- Train only: $(0.9 \text{ kg} \times 260 \text{ days travelled per year} \times 6610 \text{ average daily trips}) / 1000 = 1547$ annual metric tons of emissions
- Coach only: $(2.2 \text{ kg} \times 260 \text{ days travelled per year} \times 6610 \text{ average daily trips}) / 1000 = 3781$ annual metric tons of emissions