Infill Development on a Brownfield Site – the City of Kingsport

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Kingsport, Tennessee, started, stopped, and started again near the confluence of the North and South Forks of the Holston River. William King settled in the area near the end of the 18th century and started King's Mill Station. His business was a transportation and supply company that facilitated the transportation of goods to other markets and the sale of goods needed by Northeast Tennessee and Southwest Virginia residents. The location of his business was known as King's Port; as time progressed, the words were combined to form the name of the City as it is today. The first edition of Kingsport was established as a city in 1822 and revolved around the need for access to the Holston River and other areas of the Tennessee River watershed.

Kingsport

Kingsport was the farthest point upstream on the Tennessee River watershed that flatboats could navigate. This created a significant economic downturn for the City when the railroad was built well south of Kingsport in 1859 (Stothard, 2012). Kingsport was immediately isolated from access to cost-effective transportation and began declining in population. In 1879, Kingsport lost its original charter (kingsporttn.gov, 2021). Kingsport's destiny changed in 1908 when rail service was extended to the city. The extension of the railroad connected the coal deposits in southwest Virginia to Kingsport. "Kingsport became an industrial center and experienced rapid growth between 1910 and 1915" (Stothart, 2012). The new growth was focused in an area less than ½ mile upstream from the original site of King's Port.

Local businessmen John B. Dennis and J. Fred Johnson, two visionaries, set a plan in motion that continues to benefit the citizens of Kingsport and the region. They formed what is known as the Kingsport Improvement Company. Due to their leadership and investment, the City was granted a new charter in 1917. During and shortly after World War I, Kingsport continued to see rapid growth. Companies like Tennessee Eastman, Kingsport Press, Kingsport Foundry,

Kingsport Brick, and Kingsport Pulp opened their doors in the heart of the downtown. The downtown industrial sites were convenient for the transportation of products, extension of utilities to residential and business customers, and minimal travel distance to factories for employees. During this rapid growth period, a city planner was brought in to evaluate the growth issues and to design a plan for the City's future growth. Had a planner been brought in earlier, it may have helped prevent some of the development issues Kingsport faces today. The original King's Port was solely dependent on the river for success, and modern Kingsport was almost entirely reliant on industry, which was located in the downtown footprint. Today, only two of the original legacy industries continue to operate, and the other three businesses left the City with three large parcels of land that have been designated as brownfields. However, due to the market demands for housing and a renewed interest in downtown living, these sites are helping provide solutions for today's market needs. Infill development is necessary to meet market demands and protect property values while taking advantage of existing infrastructure to provide a higher quality of life for the residents of Kingsport and the surrounding region.

City Center

John Nolan, the first person in the United States to call himself a “City Planner” (johnnolanproject.com, 2013), was hired by the Kingsport Improvement Company to design a city that had already experienced significant growth. Most primary industries had already been established, and housing could not be provided quickly. Nolan pioneered City Planning, and his concepts are still considered relevant today. The Nolan plan focused on having designated areas for public buildings, greenspace, residential, commercial, and industrial (Figure 1).

The Nolan Plan was meant to benefit all citizens, visitors, and businesses. The plan revolved around large areas of public open space and allowed for the centralized location of

public buildings. The results of the Nolan Plan enhanced quality of life, provided easy access to city offices, and promoted a community that interacts frequently with citizens from all cultures and backgrounds.

The residential neighborhoods were designed to take advantage of the natural topography near the City's commercial area (Figure 1). The strategic location of the early communities helped facilitate the growth that the City was experiencing. The subdivisions could be developed quickly and at a lower cost using natural topography. The proximity to the City Center also made extending utilities significantly less expensive and faster.

The central commercial area was between the coveted residential neighborhoods and the major industries. Workers had to travel through the commercial space going to and from work. Tremendous growth occurred due to businesses' proximity to the City's residential and industrial areas. The ease of access to work, home, and commercial business was a positive force for the City's economic growth.

The industrial boom facilitated by the extension of the railroad benefited not only the existing industries, businesses, and residents of Kingsport but also the surrounding region. The growth benefits were also felt across the nearby state lines of Kentucky and Virginia. Industries all over the south now had access to the rich coal deposits accessed through the Kingsport gateway.

The City Center today remains a vital part of the community. However, it has not maintained the level of use that the Nolan Plan projected. Multiple factors have led to the level of use that exists today. Significant factors are the physical size of the central business district, loss

of major employers, and lack of residential housing units. These factors result from exterior pressures that are often out of the control of individual residents, businesses, and municipalities.

The size of the Central Business District is more than two hundred (200) acres. (Figure 2). This is significantly larger than peer cities in northeast Tennessee. However, as some significant employers began to cease operations, fewer and fewer suppliers were needed by local industries. The result was vacant buildings that required substantial investment for adaptive reuse.

As the industry declined, commercial and retail businesses soon followed. This trend was also mirrored in traffic (pedestrian and vehicular) volume downtown. More buildings became vacant as businesses moved to the high-traffic areas along four-lane highways and interstate off-ramps. At one point, out of frustration, an elected official said, "Last person out needs to turn the lights off" (Hayes, July, 1).

The residential neighborhoods were not affected like the business sector. Residents enjoyed the neighborhoods where they made their homes. The road system was designed to provide ease of transportation in anticipation of future growth. According to the U.S. Census Bureau, Kingsport's current population is 56,150 (Census.gov n.d.). Because of proper transportation planning, residents could remain in the homes they cherished and still have convenient access to city services downtown and the new commercial developments established further from the City Center.

Unforeseen Effects of Nolan Plan on Future City Center Development

The best intentions and design cannot plan for every issue affecting a community. The Nolan Plan could not provide a perfect answer for problems that would arise decades into the

future. The evidence can be seen today in the total physical size of the City. It is much larger at fifty-three square miles (Censu.gov, n.d.), much larger than the size in the first plan Nolan envisioned (Figure 1). These problems have created transportation barriers.

Transportation barriers are typically a result of geographical barriers. The two that most affect the growth of Kingsport are the South Fork of the Holston River and the mountainous terrain. The river, which provided the reason for the original location of Kingsport, limited the ability of the transportation system to expand, and the mountainous terrain affected the efficient expansion of transportation systems in the same manner. The ideal road system would look like a spider web, with spokes extending from the center with circles (beltways) connecting the spokes at intervals as the system expands. Like many cities in mountainous areas, Kingsport's road system might be better described as an octopus.

Natural barriers forced the original roads to find the path of least resistance. The Nolan plan was designed for 50,000 citizens in higher-density residential areas. The plan did not consider the "independent" nature of the residents of northeast Tennessee. They wanted a spacious property where they could enjoy gardening, farming, and other outdoor activities. Developers wanted to build new subdivisions with higher densities, but the lack of available public utilities limited the density of developments.

Modern engineering techniques allow transportation systems to reach challenging areas, but the expense of getting to these areas often far exceeds the benefits. In addition, to the cost of transportation systems, the cost of expanding public utilities also limits growth. Sanitary sewer systems require multiple lift stations before reaching the treatment plant. Due to the distance from the water treatment plant, domestic water systems require additional water storage tanks

and pumping stations. These expenses make the cost prohibitive for developers and municipalities to develop what may be a "great" piece of property.

Without proper transportation and utility systems, large portions of land are limited to large residential lots, farms, and green space. The exception would be when a new company "comes to town," and the incentive covers most if not all, expenses for upgrading roadways and utilities. The ancillary benefits help property owners along the path of the new public infrastructure by helping make their property more economical to develop.

As industry moved out, large factories located on large parcels of land were left unoccupied. Operation practices of industries were not regulated in the late 19th and early 20th centuries like today. These practices resulted in what is known as brownfields. Brownfields are another example of something the original city plan could not have considered. The location of multiple brownfields in the city center has limited the development of these areas, and the cost of demolition, environmental testing, and remediation limited redevelopment.

Brownfields in the City Center

Multiple companies' actions contributed to brownfield locations in downtown Kingsport. The major contributors include the Kingsport Foundry, Kingsport Press, Penn-Dixie Cement, General Shale, and numerous privately owned gas stations. Kingsport has been able to repurpose many of these brownfields. They have been remediated and used for a farmers market, shopping center, chamber of commerce, city school offices, financial institutions, parking lots, public transportation hubs, ball fields, and parks. The redevelopment of these properties has positively affected the business and residents of downtown. Increased traffic volumes have spurred the opening of new restaurants and service providers in the City Center. With the rebirth of the

downtown and the housing shortage in Kingsport, infill development is being looked at as the answer to meet the market demands.

Infill Locations in the City Center

Infill locations downtown are not limited to brownfield sites. Many of the large vacant buildings have been repurposed as apartments, lofts, boutique retail stores, and new restaurant concepts. This infill success has drawn more people to downtown and fostered new economic growth. This growth does not require any additional public infrastructure. Well-planned transportation systems downtown and abundant public parking keep everything just a short walk away.

Kingsport's philosophy is to get "rooftops" (C. McCartt, City Manager - personal communication June 1, 2019), and everything else will follow. Legacy industries like Eastman Chemical Company, Domtar Paper Mill, and Holston Army Ammunition Plant provide a stable tax and jobs base to support this concept. This philosophy has Kingsport leading the northeast Tennessee region in the number of residential housing units under development and is fostering tremendous commercial growth (Keeling, 2023).

Kingsport has a robust industrial base that helps the City execute plans supporting increasing residential growth. The "rooftop" plan includes recruiting additional industries to the region. Continued development of the rooftop plan will help diversify the economic base and hopefully offset any significant changes an individual company makes. Increasing rooftops will make the region more attractive to businesses wanting to locate in and around Kingsport. The demand generated by housing initiatives and above-average numbers of new people moving to the area has caused the price of existing and new housing inventories to rise (Friedman, 2023).

With the increasing cost of developing a new property and renewed interest in downtown living, infill development is necessary.

A typical phrase heard when it comes to developing is "all the good land is taken." This applies to Kingsport as well. The mountainous terrain has created very few "easy" to develop tracts of land. The same applies to infill development; developers purchase existing buildings or properties with the lowest risk and the highest return. The properties left have a much higher risk, which leaves the potential for little to no return for investors. The risks include undesirable locations, excessive demolition or rehabilitation, and environmental remediation costs.

Specific examples of private investors successfully redeveloping brownfield sites (Figure 3) in Kingsport include a large portion of the Kingsport Press and two former gas station sites. The City of Kingsport has redeveloped a part of the Kingsport Press, the Kingsport Foundry, and a portion of the General Shale site. Below are a few private and public projects that have helped redevelop Kingsports' downtown.

The Kingsport Press site had one million square feet (1,000,000 sf) under its roof and was part of the largest book printing companies in the world (Egan, 2019). The site was given to the City of Kingsport (Administrator W, 2018, June 21). The City had to accept all liability and costs associated with the factory and the twelve and one-half acres that it sat on. Fast forward to 2023, the site is now home to a grocery store, two restaurants, Kingsport Farmers Market, Kingsport Carousel, dentist office, Kingsport City Schools central office, Kingsport Chamber of Commerce, Mountain Region Family Medicine and numerous other medical offices and non-profit organizations. Kingsport shouldered the responsibility of ensuring environmental issues were alleviated and demolished most of the buildings on the site. These steps and incentive programs attracted private investors and created a successful brownfield redevelopment project.

Adjacent to the southeast corner of the Kingsport Press site, two financial institutions took advantage of parcels negatively affected by gas stations that operated decades before. New customer service models use smaller in-person locations, and service remotely via video, kiosk (Smith, 2022), and mobile-only locations make locating these types of businesses on brownfield sites feasible. Smaller building size limits the volume of remediation needed to protect employees and customers alike from potential environmental issues. Regions Bank operates one of these locations and has a drive-through and a small building where banking is completed via video and a kiosk. Eastman Credit Union operates the other site and offers drive-through-only services. These competitors opened for business within three years of each other and precisely reflect the national trends for the future of financial institutions.

The Kingsport Foundry is located on the opposite end of downtown from the Kingsport Press (Figure 3). It began operations in 1927, filed for bankruptcy protection in August 2002, and filed for liquidation of assets in September 2003 (FoundaryMag.com, 2003, November 8). It was located in an out-of-the-way place, even though it was downtown. They were located on the south side of the train tracks that bisect the downtown; this location also ensured access to the river. Residential and commercial areas were located on the north side of the tracks and provided convenient access to highways connecting Kingsport to other regional locations. This all changed when the interstate came to Kingsport. The back door became the front door, and the Kingsport Foundry sat directly in the middle of the front porch.

The City of Kingsport acquired the property to ensure the new front door would be developed to benefit all of its citizens. The needed expansion of public transportation was the answer. Kingsport Area Transit Service (KATS) needed a new facility. It took almost two decades to acquire the property, remediate environmental concerns, and complete construction.

Today, modern public transportation operates out of a facility that provides exceptional service to all community members.

General Shale, formerly known as Kingsport Brick, operated on a site that was almost one hundred (100) acres. The site was used to manufacture brick from 1910 (Smith, 2017) until the plant ceased operations in December 2008 (Douglas, 2008). KEDB purchased the property and began redevelopment of the site located immediately adjacent to Main Street (Figure 4). Most of the property, not used for manufacturing, has been used to improve access to outdoor activities. Amenities include baseball and softball fields, a skate park, and a bicycle pump track. Plans are in place to add mountain bike trails, walking paths, and passive park space. The remaining forty-five (45) acres is a brownfield proposed to be an infill housing development.

Benefits of Infill in the City Center

Infill development of brownfields can be beneficial to residents of municipalities if adequately planned and funded. One without the other would most likely prevent a project's successful completion. Care must be taken to ensure that municipalities and developers understand the risks and benefits of this type of development. Most of the environmental risks can be mitigated with proper testing and permitting. On the other hand, the benefits can be mutually beneficial to all parties. A deal does not have to be 50/50 for it to be mutually beneficial to all concerned. This accurately describes the thought process that is needed for the successful redevelopment of brownfields. Benefits that should be focused on are property values, population growth, and lower cost to develop for all stakeholders.

Property values are affected by multiple external forces, including lack of public infrastructure, the value of the adjoining property, the use of adjoining property, and the

property's condition. These items must be considered during the planning stage to help achieve proper funding, public support, and private investment. Adjoining land owners, municipalities, developers, and residents benefit when properties are improved and updated to current standards. This is especially true with infill development, where property may have sat vacant for decades.

With high demand for housing in the current market, municipalities that invest in housing can achieve higher-than-expected population growth. States with little or no income tax, such as Tennessee, are seeing increased demand for new homes. New home construction combined with high demand usually results in higher sales and property tax collection for cities and more investment opportunities for investors. Population growth attracts new retail and restaurant concepts to growing markets, which then attracts more residents. School systems and the neighborhoods they are in also benefit from population growth. School funding formulas are based on the number of students that attend class. Higher levels of funding allow schools to offer more educational opportunities. This helps the school system's rankings as well. Online search results usually have school quality at or near the top for families choosing a home location. Combining a growing population that is very attracted to downtown living and infill development, where industry once operated, makes for a compelling story that resonates with today's consumer who wants to be part of protecting and improving the environment.

No matter the appeal, need, or reason, getting a development across the finish line always comes down to cost. Does this project make financial sense? Will the return on investment make the effort needed and the risk assumed worth the journey? Infill developments that are also in a brownfield typically have additional costs and risks that a normal development doesn't face. The developer and City must view it as a partnership and work together to ensure the project is beneficial to all stakeholders.

Private capital investment is essential to a city's continued growth. Developers are facing rising costs that are making many projects unviable. Infill developments on brownfields are often more expensive because of extensive demolition and environmental remediation costs. However, these sites typically have public utilities and proper transportation routes to or near the site. This often eliminates off-site costs and lowers risk. The benefit of existing utility infrastructure doesn't normally offset additional on-site costs related to Brownfields. This is where the partnership must come into play. Investors and financial institutions expect market-rate returns for their partners or stockholders. Municipalities have tools to help bridge the gap between below-average returns and a return that attracts investment. These incentive tools vary from state to state and even between municipalities within individual states. Incentive packages may include public infrastructure improvements, grants, tax abatement, financing based on increased property tax collections, and clawbacks to ensure the developer performs as promised. In Kingsport, the most frequently used incentives for brownfield sites are Industrial Development Board (KEDB) grants, Tax Increment Financing (TIF), and Payment in Lieu of Taxes (PILOT). Strong population growth projections, based on the increased number of new housing permits, coupled with strong public support can give developers the confidence to commit resources to a project.

Municipalities are "stuck" with their assets and have to figure out a way to make them attractive with limited resources. On the other hand, developers can pick and choose where they invest. Municipalities must ask themselves, what makes us attractive to new investment, and what do we need to do to foster additional growth? Infill development of brownfields often allows for lower costs because they extended infrastructure to these sites years or even decades before. Public services also benefit from lower costs of operation; police and fire stations already

serve the project locations. Leisure services already have established parks, and utilities require little or no upgrades. TIFs can be used to provide upfront dollars for a project while not affecting budgeted tax revenues. PILOTS can be used to lower cash outflows early in a project's life, and if appropriately designed, still provide stable tax revenue for the local municipality. Property tax revenue is often a minor portion of a project's new revenues. Additional economic impacts should be considered, such as increased sales tax collections, job creation, utility revenue, state-shared tax revenue, and state student allotment. The cost will never be exactly where a developer or a municipality wants them to be, but it has to be "mutually beneficial."

Brickyard Village – Example of Infill Development Located on a Brownfield

KEDB with the support of the City of Kingsport purchased almost one hundred (100) acres of property from General Shale (Figure 4), which is locally known as the Brickyard. The purchase was finalized in December 2013 and KEDB began the process of determining the best use for the site. As discussed previously, most of the site was used for outdoor activities, the balance was reserved for housing. TRW developed a downtown master plan in 2018. This plan emphasized the positive economic impact the right projects can have on the City Center and how quality of life should be considered when evaluating public and private projects (TRW, 2018) The TRW plan has been used as a guiding document for multiple downtown improvement projects. A sample of these projects includes streetscape improvements, façade grants, parking lot landscaping, sidewalk improvements, and bike routes.

A committee was appointed by the KEDB board to recommend the best use and develop a request for proposals (RFP) for the 45 acres remaining of the Brickyard property. The committee developed a proposal that required the property to be used for residential housing and focused on economic impact and how the project could improve quality of life for the citizens.

The City Center has vacant commercial space but nothing situated for a large development, other than the Brickyard, for a large residential development. The plan was, to get more rooftops downtown, and the commercial buildings would fill in as investors reacted to increasing demand. The second point of focus was improving quality of life. This was accomplished by connecting the City Center to the Brickyard with an ADA-accessible pedestrian bridge. The bridge would provide the proposed residential development access to the City Center and the existing amenities of Brickyard Park and visitors to the park would have direct access to the City Center. With these priorities in place, the RFP was issued and a developer was selected. A groundbreaking is scheduled for October 2023.

With more than four hundred housing units proposed, the Brickyard Village came to life. The one hundred thirty million dollar development ($130,000,000) will be a mixture of rental and owner-occupied units, made up of multi-family, duplex, townhome, and single-family products. Significant economic impact will be realized for the City of Kingsport and surrounding communities. Property tax revenue is projected to exceed more than one million dollars ($1,000,000) annually. Using National Association Home Builders estimates, the Brickyard Village will create more than 1,100 full-time jobs (Emrath, 2020 July 14.). The infill location is situated so that neither the City of Kingsport nor the developer will have to invest any capital for off-site improvements because the public infrastructure serves the site from multiple locations. Additional benefits are already being felt in the area immediately surrounding Brickyard Village. Property that has sat dormant for decades is being redeveloped and a small mixed-use development, directly adjoining the site to the north, has submitted development plans for Planning Department review. This project includes townhomes, restaurant, bakery, medical office, and professional office space.

The Brickyard Village's direct and indirect economic impacts facilitated a significant incentive package. Tax Increment Financing (TIF) was used to support the project in the amount of 9,500,000. TIF proceeds were allocated for property purchase, brownfield remediation, grading, public amenities, and on-site public infrastructure. Move to Kingsport and Visit Kingsport (non-profits tasked with attracting residents and tourists) estimated that each Brickyard Village housing unit will have an annual economic impact of $22,000. With more than four hundred housing units, the total annual economic impact could exceed ten million dollars ($10,000,000).

The Brickyard Committee did not envision a “cookie cutter” development. The RFP reflected the desire for a community that has excess open space and connectivity between Brickyard Park, Brickyard Village, and the City Center. Development plans focus on quality of life for not just the residents but visitors as well. Amenities include oversized sidewalks, community gathering spaces, a dog park, a perimeter walking path, and a public event space with a public parking lot. The one-mile walking path will connect Brickyard Village to Brickyard Park, downtown, surrounding neighborhoods, public event space, and public parks. Almost ten (10) acres have been set aside for the public event space, five (5) acres will be used for outdoor events. (Figure 5) A public parking lot with a food truck court accounts for the balance of the ten (10) acres. After construction is completed, on the event space and parking lot, the developer will donate the event space to the City of Kingsport. The Brickyard Village won the 2021 American Planning Association’s Donald E. Hunter Award for Economic Development Excellence

Conclusion

Properly executed, infill development is beneficial to all parties. In this case, the City didn’t have to improve public infrastructure but gained residents, public amenities, and

connectivity. The developer was able to offset risk with the incentive. This, in turn, allowed the developer to commit to better amenities. A partnership that balances cost, and quality of life is possible when all parties are committed to doing what is best for a community.

Economic conditions today make infill development in downtowns necessary. The cost of financing for residential development has doubled in the last two years. (jpmorganchase.com 2023, July 27) For cities to continue growing, they must invest their, limited funds, where they can produce the highest return. Redevelopment projects, in City Centers, also encourage investment in surrounding properties. With strategic investment in City Center infill projects, cities, and developers can help multiply their investments.

City Center in-fill projects should receive priority funding. The locations can be more cost-effective than properties located further from downtown. Infill projects typically produce a higher return on investment for cities and developers when they work together. Infill's location usually allows for substantial incentive packages that can garner widespread public support. Existing landowners around these projects benefit because of increased property values and traffic volumes. Support from local governments, business, and retail sectors give developers the confidence to invest in City Center projects. Properly conceived brownfield infill projects executed with strong public/private investment are mutually beneficial to all parties.

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Figures

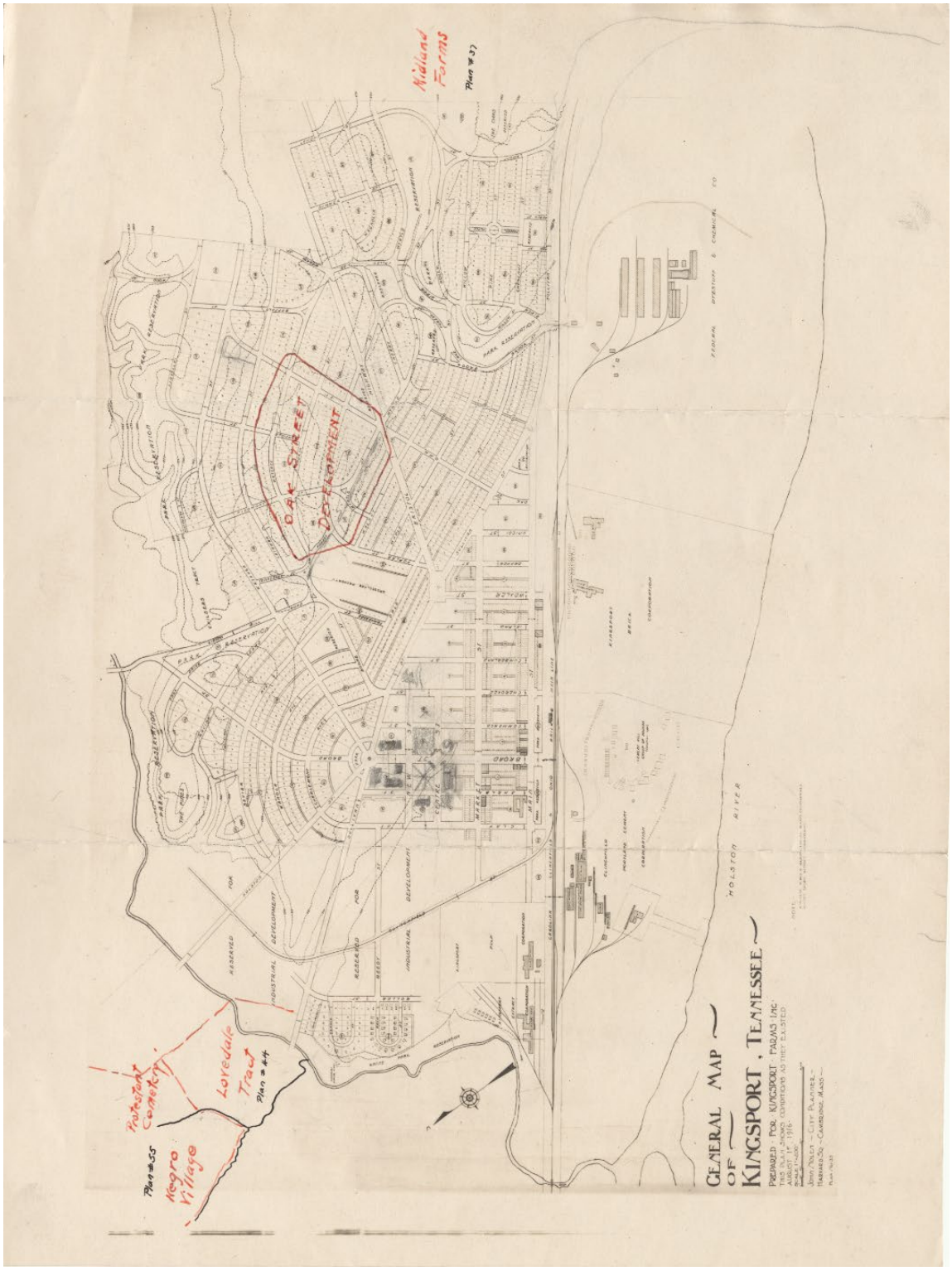

Figure 1 – Nolan Map of Kingsport

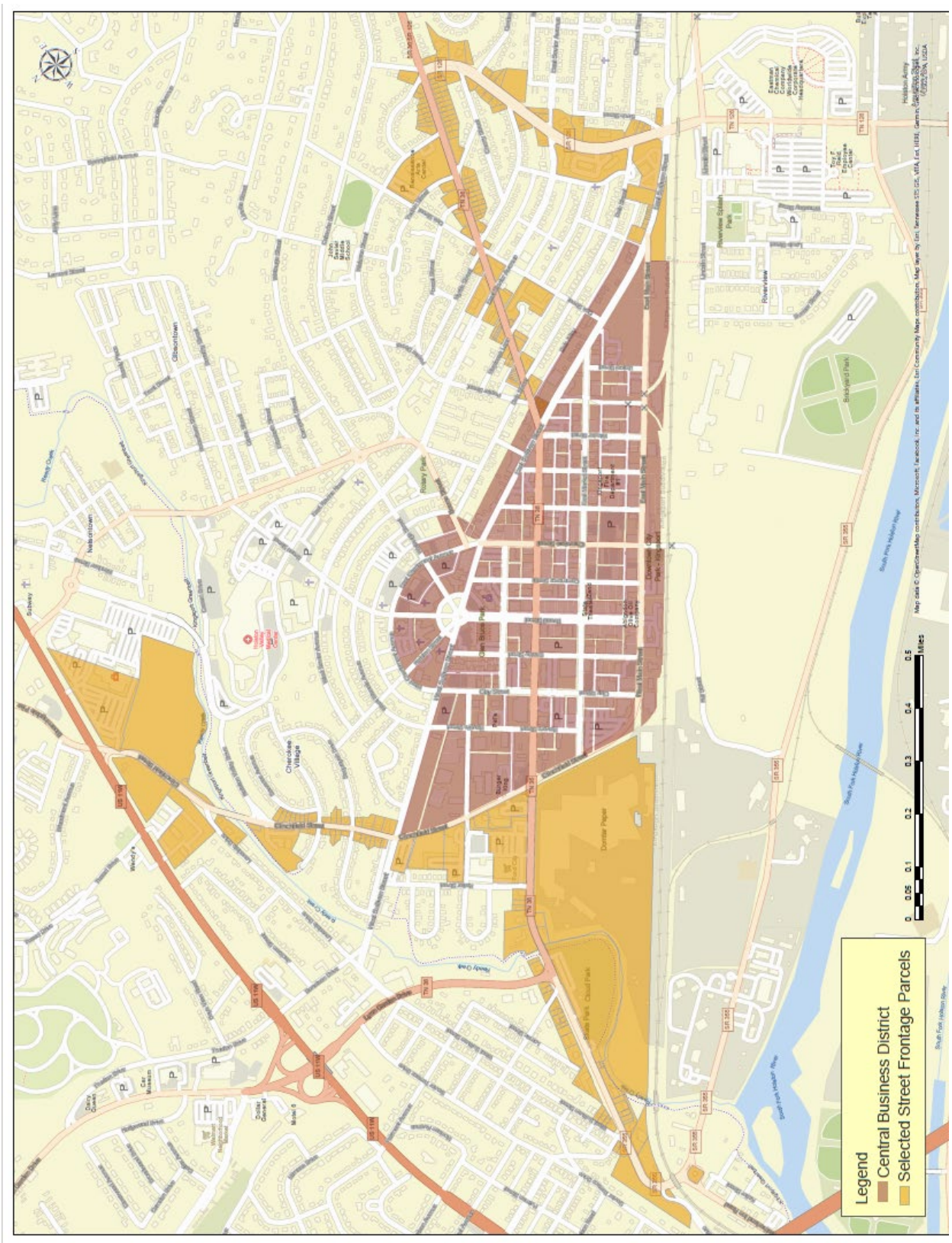

Figure 2 - Central Business District (Approximately 200 acres)

Figure 3 -Kingsport, TN City Center - Brownfield Locations

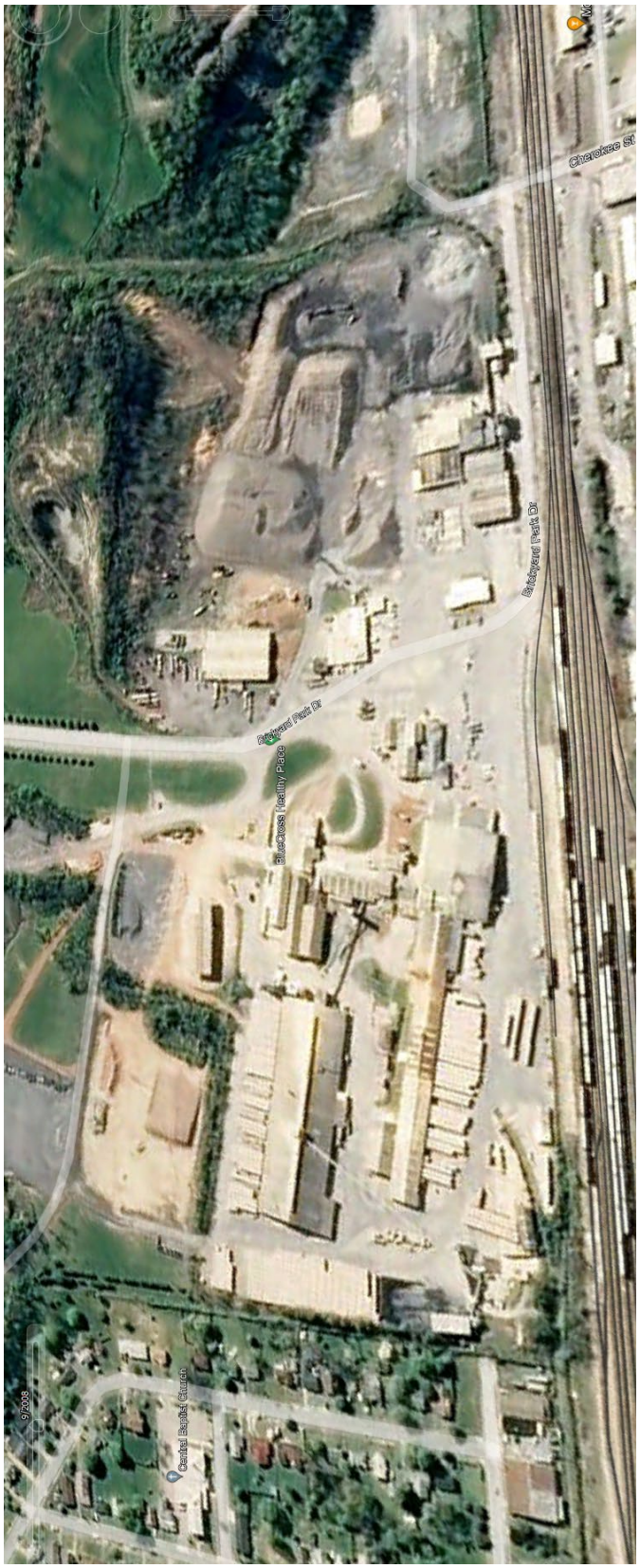

Figure 4 - General Shale Site – 2007

Figure 5 - The Brickyard